

Appendix

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# **BIOLOGICAL ASSESSMENT**

**DRAFT**

**BIOLOGICAL ASSESSMENT OF THE GRAND CANYON**

**WEST (GCW) LANDING STRIP AREA,**

**HUALAPAI INDIAN RESERVATION, ARIZONA.**

Submitted to:  
Armstrong Consulting

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## INTRODUCTION

A biological assessment was conducted March 11-13, 1997 to survey for threatened or endangered animal/plant species and to identify potential environmental impacts at the Grand Canyon West Airport on the Hualapai Indian Reservation for the Hualapai Tribe (Tribe). The Tribe is in planning to asphalt the existing dirt landing strip in order to promote better safety and increase use by commuter and private airlines. The biological assessment was conducted by a biologist of the Hualapai Wildlife, Fisheries and Parks Program.

The U.S. Fish and Wildlife Service (USFWS) provided a list of endangered and threatened plant and animal species that might occur in that area (USFWS publications, 1997). Additional species of concern were added to the search on recommendation by this department.

## DESCRIPTION OF SPECIES

### Animals

The animal species of concern include:

#### Endangered

American peregrine falcon (*Falco peregrinus anatum*)  
Hualapai Mexican Vole (*Microtus mexicanus hualapaiensis*)

#### Threatened

Bald eagle (*Haliaeetus leucocephalus*)

#### Additional

Desert Bighorn sheep (*Ovis canadensis nelsoni*)  
Pronghorn Antelope (*Antilocapra americana*)

The American peregrine falcon is a member of the falcon family Falconidae. It has pointed wings, a narrow tail, and quick wing beats. It is about the size of a crow with dark facial markings. Adults are slate-gray backed and pale colored below. The young birds are dark brown above and heavily striped below (Peterson, 1961). It inhabits areas with cliffs and steep terrain near water or woodlands. It may be found from 3500-9000 feet (USFWS, 1991).

The Hualapai Mexican Vole is a member of the family, Cricetidae. It is a small, cinnamon-brown, mouse-sized mammal with a short tail. Recent research on the vole suggests that they may inhabit areas associated with the pine/oak belt. They are also thought to use moderate to steep slopes with a north facing aspect (Kime, 1991).

The Bald eagle is member of the family Accipitridae. The adult eagle has a white head and tail. The immature are brown, mottled irregularly with white until their fourth year. The legs are feathered halfway down the tarsus (Robbins, 1983). The bald eagle has been regularly sighted on the Hualapai Indian Reservation.

The Desert Bighorn sheep is a member of the family Bovidae. It inhabits the rocky slopes of the Grand Canyon on the Hualapai Indian Reservation. The bighorn sheep are both culturally and economically important to the Hualapai Tribe and the conservation of the species is of upmost importance to the tribe.

The Pronghorn Antelope is a member of the family Antilocapridae. It is a year round resident of the Hualapai Reservation and inhabits the sagebrush-grassland habitats near GCW.

## Plants

The plant species of concern include:

### *Candidate Category 2*

Tusayan rabbitbrush (*Chrysothamnus molestus*)

Ripley wild buckwheat (*Eriogonum ripleyi*)

Freckled milk vetch (*Astragalus lentiginosus* var. *ambiguus*)

Tusayan rabbitbrush is a low subshrub belonging to the sunflower family, Compositae. It has whitish stems and leaves which are sand-papery to the touch due to stiff hairs. The leaf edges are ciliated at the lower 1/3 of the stem, and the leaves are erect along the stem versus perpendicular. It is known to occur in pinyon/juniper woodland or associated grass/shrubland on calcareous deposits between 5900-6900 feet. Habitat is frequently found in association with alluvial drainage systems. The species ranges from the Hualapai Indian Reservation, east to Greasewood, and from Interstate 40 north to Grand Canyon National Park (Rutman, 1992).

Ripley wild buckwheat is a low subshrub, with numerous woody stems belonging to the buckwheat family (Polygonaceae). Plants are 2-8 inches tall and 12 inches across. Leaves are less than 1/4 inch long, very narrow, edges turned over, dark green, sparsely hairy on top, and densely white-hairy underneath. The leaves occur in clusters on short, woody shoots along the stem. Flowers occur in clusters in a involucre which arises on a slender stem singly from the tip of each branch. Flowers are hairless, about 0.15 inch long and are white with the

center and base of each reddish-brown petal (Phillips, 1993). It is known to occur near Frazier Wells on the Hualapai Indian Reservation (Rutman, 1992).

Freckled milk vetch is a perennial or biennial herb, rather large and coarse, with several stems from a single base. The stems are light green or yellowish, 12-18 inches long, with numerous leaves, and clusters of flowers at the upper end. The leaves are 3-6 inches long, compound with 13-21 oval-shaped leaflets, each 1/4 to 5/8 inch long. The flowers are purple and approximately 5/8 inch long. The pods are 5/8 to 1 inch long, inflated, nearly spherical, and green to yellow in color (Phillips, 1993). It can be found on open hillsides, 4000-4800 feet, on limestone or granite, local but there are sometimes many plants where it is found. It was collected in Peach Springs in 1904.

## **SURVEY METHODS**

The surveyor walked the existing landing strip area and surrounding buffer area looking for any of the above endangered, threatened, or sensitive animal species.

## **RESULTS**

### **Animals:**

#### **Birds**

There was no direct observation of an individual peregrine falcon or bald eagle at the time of the survey although there is suitable habitat available. There has been peregrine falcons sighted on a regular basis in the Grand Canyon corridor .

#### **Mammals**

There was no habitat found for the Hualapai Mexican Vole within the survey area but there was potential for vole habitat in the surrounding areas. We found vole-like runways and tunnels in the area. We conducted small mammal trapping for two consecutive nights and no voles were trapped. We concluded that HMV's were not in the area since the area did not consist of characteristic HMV habitat.

There was no direct signs of Desert bighorn sheep in the survey area (i.e. fecal material, tracks, game trails, etc.) or the perimeter. In surveys performed by the Wildlife, Fisheries and Parks Program, desert bighorn sheep are found in limited numbers on land surrounding GCW.

We did not have any direct observations of pronghorn antelope however there was several hoof tracks and pellet groups of pronghorn antelope in the survey area.

**Plants:**

We did not find any of the plant species of concern on the survey area at the time of the survey.

**RECOMMENDATIONS**

The Hualapai Wildlife, Fisheries and Parks Program recommend approval of the project to the Interdisciplinary Team (IDT) and Hualapai Tribal Council contingent on the following conditions:

- 1) We recommend the tourist stay within the GCW building area to limit human disturbance to the surrounding area.