United States Department of the Interior
U.S. Fish and Wildlife Service
2626 W. Thomas, Suite 6
Phoenix, Arizona 85019

June 23, 1989

2-21-89-F-008

Gilbert N. Burnet
Environmental Planning Division
Headquarters Tactical Air Command/DEEV
Langley Air Force Base, Virginia 23665

Dear Mr. Burnet:

This responds to your request dated May 5, 1989 to initiate formal consultation pursuant to Section 7 of the Endangered Species Act of 1973 (Act) as amended on the F-15E Beddown Project, Goldwater Range, Luke Air Force Base, Maricopa, Pima and Yuma Counties, Arizona. The species ot concern are the Sonoran pronghorn (Antilocapra americana sonoriensis) and Sanborn's long-nosed bat (Sanborn's bat) (Leptonycteris sanborni) The 90- day consultation period began on May 15, 1939, the date your request was received by the Fish and Wildlife Service (Service).

This biological opinion is based on information provided in project descriptions, the assessment of impacts, data in our tiles, discussions with knowledgeable individuals and other sources of information.

BIOLOGICAL OPINION

It is my biological opinion that the operation of F-15E aircraft under the terms of the proposed project is not likely to jeopardize the continued existence of the Sonoran pronghorn or Sanborn's bat.

BACKGROUND INFORMATION

The Sonoran pronghorn was listed as an endangered species on March 11, 1967. Historic range of this smallest and palest of the pronghorn species included southwestern Arizona and western Mexico as far south as Guaymas. Present distribution is on the Goldwater Air Force Range, Cabeza Prieta National Wildlife Refuge (NWR), Organ Pipe Cactus National Monument (NM) and the extreme southwest corner of the Tohono O'Odham Nation in Arizona and northwestern

Sonora in Mexico. In the early 1980's, populations were estimated at 50-150 in Arizona and 200-250 in Mexico (USD1, FWS 1982) More recent figures estimate the population at 85-100 in Arizona and 33-93 in Mexico (AGFD 1986)

Sonoran pronghorn are low desert dwellers found in both the palo verde-mixed cacti and creosote-bursage vegetation types. Typical habitat in Arizona is found in the broad, alluvial valleys between small block faulted mountain ranges. Pronghom do move seasonally within their range and in recent years have been most frequently reported in the Growler, Mohawk, San Cristobal and Childs Valleys on the Goldwater Range; Cabeza Prieta NWR; and Organ Pipe Cactus National Monument. Present information suggests the animals do not freely cross into Mexico, and thus, populations are considered resident.

Listed as endangered October 31, 1988, Sanborn's long-nosed bat is a subtropical species that summers in southern Arizona and northwest Mexico. Sanborn's bat feeds on nectar and pollen from columnar cacti and some paniculate agaves while in Arizona. Pregnant females arrive in southwest Arizona in late April and early May to set up matemity colonies in caves and mines near areas with good populations of saguaro and organ pipe cacti. These rnaternity roosts break up in mid- to late July and the female and juveniles then move to higher elevations to utilize the agave blooms. Males arrive later in the year than the fema1es and utilize higher elevation areas. By the end of September, all the bats have left Arizona and are heading south to the wintering grounds in the subtropical forests of southern Mexico (Cockrurn 1989) The range of the species in Arizona extends north through the Aqua Dulce Mountains to Gila Bend and east to the New Mexico border.

DESCRIPTION OF THE ACTION

The U.S. Air Force proposes to replace some F 15 A/B aircraft currently used for training purposes with the F-15E aircraft. These new airplanes would be equipped with the Low Altitude Navigation and Targeting Infrared System for Night (LANTIRN) and while total numbers of training flights would not increase significantly, there would be an increase in the percentage of night flights and in low altitude flights down to 100 feet above ground level (AGL) Night flights would be made in the sunset to 10:00PM window currently used. Only those flights essential for the mission would occur beyond 10:00PM. No new target areas would be established and laser targeting using LANTIRN would only be used to guide operations to previously identified targets.

Established Military Training Routes (MTRs) would be used by the F-15E aircraft to access the two Military Operations Areas (MOAs) to be used for training. An increase of 35 flights per day using the MTRs is anticipated under this project.

Only LANTIRN equipped aircraft are allowed to fly at 100 feet AGL either day or night. Of the additional 35 daily flights, 60% will take place at or above 500 feet AGL, 30% at 300 ffeet AGL and only 10% at 100 feet AGIIJ. Of the three 100—foot AGL flights, two would occur during

the day and one at night. Project documents further state that existing altitude restrictions an MTRs, MOAs and the Goldwater Range would apply to LANTIRN flights.

EFFECTS OF THE ACTION

Operation of the F-15E beddown on the Goldwater Range would affect Sonoran pronghorn in the Growler, San Cristobal and Childs Valleys as well as pronghorn utilizing any other area contained within R-2301E. Range use involves both air to aix and air to ground operations with subsonic and supersonic speeds and use of ordinance on designated targets.

One of the MTR's to be used in the project, VR244, crosses the Growler Mountains, a range that contains at least one maternity colony of Sanborn's bats. Other populations of this bat may exist within the area covered by R-2301E and R-2304.

The primary impact of the F-15E operations on pronghorns and bats would be noise resulting from flights at low altitudes. Vibration from the noise may also be an impact for young bats during the night when no adult is present to keep them from falling off roost ceilings. When a young bat falls, it usually dies.

Because Sanborn's bats do not go into torpor in their roosts, they are more prone to disturbance at any time of day, since they can react quickly to a disturbance event. If adults are startled, they may loose hold of the young bat.

Considerable research has been done on the effect of low level aircraft flights on pronghorn and the results are often confusing and unclear. Reaction of an individual animal to an aircraft may vary with acclimatization, time of year, age of animal and other factors. Overall, the literature suggests that antelope are an overflight sensitive species.

Sonoran pronghorn fawns are born in March on the northern end of the valleys. These areas also contain the North and South TAC (Tactical Air Command) areas and the target ranges. Very young pronghorn may be more vulnerable to noise events or may become separated from the adult if the animals scatter as the result of an overflight.

In summary, the extent of impacts due to the low level overflights is unclear. With the ability of LANTIRN equipped F-15E aircraft to fly at altitudes to 100 feet AGL where older models were restricted to 500 feet AGL or higher, the noise levels on the ground become more significant. Exactly what these impacts are, and their long term consequences must be determined.

INCIDENTAL TAKE

Section 9 of the Endangered Species Act of 1973 as amended, prohibits any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such

conduct) of listed species without a special exemption. Harm is further defined to include significant habitat modification and degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding or sheltering. Under the terms of 7(b) (4) and 7(o) (2) taking that is incidental to and not intended as part of the agency action is not considered taking within the bounds of the Act provided such taking is in compliance with the incidental take statement contained in the biological opinion.

The Service expects that an unknown number of Sonoran pronghorn antelope will be harassed by the operation of the F-15E beddown on the Goldwater Range. We also anticipate that an unknown number of Sanborn's long-nosed bats will be harassed and possibly killed as a result of the project.

We understand Luke Air Force Base is implementing a long-term study of low level overflights on the Goldwater Range. The Air Force studies will be coordinated with Cabeza Prieta NWR. A proposal to establish an enclosed pronghorn population for research purposes has been developed by the NWR in cooperation with the Air Force. This enclosure would be useful in evaluating impacts of overflights on pronghorns.

The opportunity to determine the extent of take for Sanborn's bats exists as well under the Air Force program. Explorations for available roost sites within the project area can be done when the bats are not present with likely sites examined for occupancy by experienced bat researchers. The Cabeza Prieta NWR and Organ Pipe Cactus NM have already initiated collecting this information, and we are aware of Air Force efforts to do so on the Goldwater Range portion of the project area. With the roost baseline and flight path information already existing, areas of concern can be identified and monitoring of noise and vibration accomplished.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the take:

1. The Air Force will cooperate with Cabeza Prieta NWR and other interested entities to develop long term studies on the effects of low level overflights on both Sonoran pronghorn and Sanborn's.

2. All work involving contact with either Sonoran pronghorn or Sanborn's bats will be accomplished by persons holding appropriate state and federal permits for such work.

3. If effects of the overflights on Sonoran pronghorn or Sanborn's bats are observed, the Air Force will work with the Service to develop strategies to eliminate them.

Because of the nature of the taking and lack of data on its extent, no level of incidental take is established. If studies show that taking is occurring, and it cannot be completely eliminated by modifications to the project, then reinitiation of formal consultation would be required to avoid a violation of Section 9 of the Act.

Any specimen salvaged of either Sonoran pronghorn or Sanborn's bat should be reported to the Service and disposed of under Service authority. Disposal may include, but is not limited to, placement in a scientific or educational institution.

This concludes formal consultation on this project. Reinitiation of formal consultation is required if the amount or extent of incidental take is exceeded, if new information reveals effects of the action that may effect listed species or critical habitat in a manner or to an extent not considered in this opinion, and/or if a new species is listed or critical habitat designated that may be affected by the action.

Thank you for your efforts to preserve endangered species. If we may be of further assistance, please contact Ms. Lesley Fitzpatrick or me (Telephone 602/261-4720; FTS 261-4720).

Sincerely

/s/ Sam F. Spiller
Field Supervisor

Enclosure (Literature Cited)

cc: Regional Director, Fish and Wildlife Service, Albuquerque, New Mexico (Fish and Wildlife Enhancement)
Director, Arizona Game and Fish Department, Phoenix, Arizona Chief, Division of Endangered Species and Habitat Conservation, EWS,
Washington, D.C.

LITERATURE CITED

Arizona Game and Fish Department, 1986. Final Report on Sonoran Pronghom Status in Arizona. Contract report ~FO260483MSl43, Phoenix, Arizona. 132 pp.

Cockrum, E.L., 1989. Seasonal distribution of northwestern populations on the long-nosed bats, Genue Lentonycteris, Family Phyllostomidae, Manuscript. Tucson, Arizona. 33 pp.

Department of the Interior, Fish and Wildlife Service. 1983. Sonoran Pronghorn Recovery Plan. Denver, Colorado. 20 pp.