

FIVE-YEAR STATUS REPORT

I. COMMON NAME: Inyo Brown Towhee
SCIENTIFIC NAME: Pipilo fuscus eremophilus
CURRENT CLASSIFICATION: Endangered

II. RECOMMENDED ACTION:

Retain Endangered classification

III. SUMMARY OF REASONS FOR RECOMMENDED ACTION:

Retention of the Endangered classification for the Inyo Brown Towhee (IBT) is warranted, based on the current knowledge of the small range and fragile character of its ecosystem.

IV. NATURE AND DEGREE OF THREAT:

The only known threat to the continued existence of the IBT continues to be the destruction or degradation of its habitat. The IBT is a resident of dense riparian vegetation, which is naturally limited in extent in the arid Mojave Desert. Loss or degradation of its habitat can result from water diversions or ground water pumping, grazing by large exotic mammals, mining, and recreational activities. "Destruction of some portions of the habitat has been documented in the past and is continuing at the present time. Feral burros have already had some impact at some springs by grazing and trampling of the vegetation" (U.S. Fish and Wildl. Serv. 1984). Burros probably are less of a threat to the IBT now, because an active burro removal program has greatly reduced the population.

Although it is known that the IBT is an occasional victim of a nest-parasite, the Brown-headed Cowbird, the extent of parasitism is not known. The cowbird may have proliferated in IBT habitat because of the presence of burros.

V. HISTORIC AND CURRENT DISTRIBUTION:

The IBT is a completely isolated sub-species of the Brown Towhee in the southern Argus Mountains of Inyo County. There is no information on whether the geographic range of the IBT was greater in the Argus Mountains or the Mojave Desert than at present. The northern Argus Mountains may once have had an IBT population, but mining activities and burros may have caused the elimination of the bird. Cord and Jehl (1979) found that "[i]n the northern Argus many water sources have been and still are used by miners, with a general trampling of vegetation and packing of soil." "Uncontrolled livestock pose further problems. Wild

burros occur throughout the entire Argus Range, except at Water Canyon which is apparently too steep and rocky for them" (Cord and Jehl 1979). These researchers found that "[t]heir 'burro baths', which may be 10 feet in diameter, destroy all vegetation and create miniature dust bowls." "[T]hey trample plants, compact soils, and make mudholes out of beautiful springs" (Cord and Jehl 1979). Wild Burros are now known to occur in Water Canyon (D. LaBerteaux, pers. commun.).

VI. HISTORIC AND CURRENT ABUNDANCE:

There is no estimate of the size of the historic population. In 1978-79 the maximum number of the IBT was calculated to be 138 birds (Cord and Jehl 1979). The U.S. Fish and Wildlife Service (FWS) (1984) has stated that the estimated population is less than 175 individuals. Another 1984 estimate was 117-200 IBT (LaBerteaux 1984).

VII. SPECIES DESCRIPTION AND BIOLOGY:

The IBT is a member of the avian Family Emberizidae, a large family which includes wood-warblers, bananaquits, tanagers, cardinals and grosbeaks, certain finches, sparrows, towhees, and blackbirds. The particular subfamily (Emberizinae) to which the towhees belong also includes various cardinals, some finches, sparrows, seedeaters, juncos, and longspurs.

The IBT is one of 12 subspecies of the Brown Towhee, which breeds from southwestern Oregon and southeastern Colorado south to southern Mexico and the tip of Baja California. All subspecies are resident. The Brown Towhee is a bird of "[b]rushlands, arid scrub, chaparral, mesquite, riparian thickets, and around human habitation" (Amer. Ornithol. Union 1983).

Six of the subspecies of the Brown Towhee, including the IBT, have geographic ranges entirely or partly in California. Cord and Jehl (1979) stated that the range of the subspecies nearest in distance to the IBT is 65 km due west of the Argus Mountains in the Walker Basin of the Sierra Nevada. D. LaBerteaux states (pers. commun.) that the population of the Brown Towhee nearest to the IBT occurs in several canyons on the eastern slope of the Sierra Nevada, west southwest of IBT range. She has observed Brown Towhees in Ninemile, Sand, Grapevine, Short, Indian Wells, and Cow Heaven canyons. Brown Towhees possibly could occur in canyons along the eastern side of the Sierra Nevada from the vicinity of Lone Pine south to Mojave. Ms. LaBerteaux states that the smallest distance separating the eastern Sierra Brown Towhee from the IBT is 38.5 km. This is the distance from Sand Canyon in the Sierra to Wilson Canyon in the Argus range.

The IBT, like other Brown Towhees, is a dull gray-brown bird with a moderately long dark tail. It is distinguished from other Brown Towhees by having a smaller bill, shorter toes and tarsi, and paler coloration.

The IBT "has become adapted to a rigorous desert environment not fully duplicated within the range of the [full] species. It is a yearlong resident of its limited habitat, all of which is included within the confines of a circle approximately 11 miles in diameter. Nesting occurs in dense vegetation at springs and along water courses, and the birds forage for seeds and insects in open areas adjacent to the riparian scrub" (USFWS 1984).

The IBT seems "to feed mainly on insects in spring, but the only specific food seen was a bluish-green insect, which an adult carried to the nest. Virtually all their time spent on the desert [away from the riparian areas] seems to be spent in active foraging. Towhees were never seen foraging within the riparian vegetation, either on the ground or among the branches" (Cord and Jehl 1979). "During the breeding season, towhees were never observed pecking the ground and presumably spent most time foraging for insects. In winter on the same hillsides they do peck the ground, feeding on seeds" (Cord and Jehl 1979). D. LaBerteaux observes (pers. commun.) that the IBT is an opportunist when foraging, eating any seed or insect which is available and by any means. It will jump up to take Bromus seeds, scratch leaf litter and bare ground, peck the ground, glean shrub branches, chase insects, harvest succulent Lycium andersonii fruit, and hawk Sphinx moths. She has seen the IBT forage within riparian vegetation, scratching litter, gleaning Salix catkins, and harvesting Forestiera neomexicana fruit. She concludes that, contrary to the findings of Cord and Jehl (1979), foraging is not restricted to the desert hillsides surrounding riparian areas, although most of the foraging is done on hillsides. Ms. LaBerteaux has also observed the IBT pecking the ground for seed during the breeding season, but most of the time is spent gathering insects for the young. Although Cord and Jehl (1979) stated that they never observed the IBT drinking, Ms. LaBerteaux has seen on several occasions the IBT drink from and bathe in standing water, both during the winter and summer months.

One IBT nest found in 1978 was 1 m above the ground in a shrub and had three small young and one egg (Cord and Jehl 1979). LaBerteaux (1984) observed that the birds "were not specific in the shrub or tree that they nested in, but they were specific in locating their nests in dense cover and adjacent to willows and/or desert olive." LaBerteaux (1984) found three nests in 1984, two of which had two eggs each and one had three eggs. In 1985 LaBerteaux (1985) examined 15 nests; two had two eggs each, three had three eggs each, and 10 had four eggs each. In 1986 she (LaBerteaux 1986) examined 17 nests; one had two eggs, three had three eggs each, and 13 had four eggs each. The IBT will lay a replacement clutch if its first nest is destroyed. Second attempts are more susceptible to Brown-headed Cowbird parasitism, due to the arrival date of the cowbirds in IBT habitat.

VIII. HABITAT REQUIREMENTS:

The IBT "is restricted within its range to the proximity of dense riparian vegetation (particularly arroyo willow, Salix lasiolepis)" (USFWS 1984). The birds "forage among the sparse, widely-spaced vegetation on the desert hillsides. The substrate there is largely

decomposed granite with little soil and little or no litter. The dense, shrubby thickets required for nesting and shelter occur only where there is a year-round supply of water, which only a spring can provide. When the flow is sufficient, it may generate a small stream a foot or two wide, bordered by dense patches of Arroyo Willow (*Salix lasiolepis*) or, in a few areas, Yellow Willow (*S. lutea*) or Narrow-leaf Willow (*S. exigua*). If the stream continues below the surface, the willows are replaced by Tanglebrush (*Forestiera neomexicana*)" (Cord and Jehl 1979). These workers found that "[i]n these thickets the substrate consists of a shallow soil layer and a thin layer of litter, usually less than 6 mm deep." "Evidently the willow species and Tanglebrush provide preferred habitat for towhees during the breeding season" (Cord and Jehl 1979).

A component of the habitat of the IBT which is usually not emphasized is the desert hillsides adjacent to riparian vegetation. Cord and Jehl (1979) believed that "most foraging is done [on the hillsides] within about 250 m of the nesting areas" and that riparian areas which lay below steep canyon walls might offer roosting habitat but not nesting habitat.

Cord and Jehl (1979) estimated "that the minimum riparian area required for nesting is 4000-5000 ft.²" They stated that "[t]he configuration of the habitat is also important. In the Argus most patches of riparian vegetation are strongly linear and form a fringe along the stream course." "[A] minimum of 450 feet of riparian habitat [per nesting pair] is required in areas where the vegetation is linear" (Cord and Jehl 1979).

IX. CURRENT AND RECOMMENDED MANAGEMENT:

The protection of riparian vegetation and the springs which support it is the most important management task in the conservation of the IBT. The bulk of the habitat is administered by the U.S. Navy (USN) and the U.S. Bureau of Land Management (BLM). It is largely the responsibility of the federal agencies to protect habitat for the IBT and other wildlife species by prohibiting the following activities in desert riparian areas: building of roads or structures, issuing of mining permits, grazing of livestock, pumping or diversion of water, and recreational vehicle use. In addition, the USN and the BLM must continue to remove Wild Burros from federal lands, particularly those which have riparian vegetation and springs.

After the IBT was classified as Endangered by the Fish and Game Commission in October 1980, the Department of Fish and Game (DFG) encouraged the FWS to prepare a listing package for the bird. A package was prepared in 1984, and a proposed rule to classify the IBT as Threatened appeared in the Federal Register of 23 November 1984 (USFWS 1984). The advantage of a federal classification as Endangered or Threatened for the IBT is that federal agencies which permit, finance, or undertake projects would be required to avoid or compensate for impacts to the IBT and its habitat. In addition, the habitat on non-federal lands (only a tiny portion is in private ownership and not subject to public management) would have a measure of protection under the federal Endangered Species Act, if an action to destroy or alter IBT

habitat on these lands required federal approval, funding, or a permit. No such habitat protection is available under the California Endangered Species Act.

The DFG would have preferred an Endangered classification of the IBT by the federal government, because of the low population size (a minimum of 117 birds reported by LaBerteaux 1984). However, we stated in a letter of 15 January 1985 to the FWS that "We can support the Threatened designation at this time, with the proviso that an Endangered classification be sought if the estimated minimum population falls to 100 or below." On 3 August 1987 the federal government designated the IBT as a Threatened species (USFWS 1987a) and, at the DFG's suggestion, proposed additional acreage as Critical Habitat (USFWS 1987b).

The final rule published in 1987 included approximately 2700 acres of riparian scrub habitat and adjacent hillsides on, or in the vicinity of, the USN's China Lake Naval Weapons Center as Critical Habitat. The Critical Habitat designation requires federal agencies which permit, finance, or undertake actions that could affect the Critical Habitat to enter into consultation with the FWS to avoid or compensate for impacts.

The BLM has established the Great Falls Basin Area of Critical Environmental Concern (ACEC), specifically to aid in the protection and management of IBT habitat. The BLM prepared a management plan for the ACEC and is implementing it.

Further field surveys are required in order to determine the complete distribution of the IBT. Such surveys should be repeated annually to monitor the status of the IBT. Further information on breeding biology is required, as is information on habitat requirements, food habits, foraging behavior, movements between riparian areas, dispersion of young, seasonal movements, predation, nest parasitism, and other aspects of life history. Such studies would add information to that found by Cord and Jehl (1978, 1979) and LaBerteaux (1984, 1985, 1986).

A recovery plan which would incorporate elements of the management needs discussed herein should be prepared.

In summary, the management needs of the IBT in priority are as follows:

1. Protection of riparian vegetation, related springs, and adjacent hillsides on public lands by the USN and the BLM.
2. Elimination of Wild Burros from riparian areas in the southern Argus Mountains.
3. Preparation of a recovery plan which would incorporate the elements of restoration and protection of habitat, surveys and studies, and elimination of Wild Burros from riparian areas.
4. Continued research on breeding biology, habitat requirements, other life history requirements, and distribution.

5. Annual surveys to determine the status of the IBT, in terms of distribution and numbers.
6. Designation of additional Critical Habitat.

X. SOURCES OF INFORMATION:

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- U.S. Fish and Wildlife Service. 1987b. Proposed Determination of Additional Critical Habitat for the Inyo Brown Towhee. Fed. Register 52(148):28787-28788, 3 Aug. 1987, Proposed Rule.

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