

Edwards Air Force Base
Sensitive Avian Species Inventory
Citizen Science Plan, Recreational Survey Data

The Piute Ponds are perhaps the most popular birding destination in the Antelope Valley and are frequently visited by local birders and field trips. The citizen science portal eBird is used by many of these recreational birders to keep their daily checklists. It is also being used to compile this project's survey data. This citizen science component to the sensitive avian species surveys of Edwards Air Force Base is intended to supplement the formal surveys with the data collected by the skilled birders who thoroughly cover the some or all of the ponds during their regular visits. These data will be valuable in documenting the rare or infrequently observed species that the regular surveying may miss.

Methods and Procedures:

Target species

Though all observed bird species and numbers of each are to be recorded during each visit, there is particular interested in the occurrence and status of a number of target species on Edwards Air Force Base. Those species are: Cinnamon Teal, Redhead, American Bittern, Least Bittern, White-faced Ibis, Northern Harrier, Black Rail, Snowy Plover, Forster's Tern, Short-eared Owl, Willow Flycatcher, Bell's Vireo, Tricolored Blackbird, and Yellow-headed Blackbird. These species are among those for which occurrence in the area is historic, hypothetical, irregular, local, and/or threatened.

If any of the target species or threat species to the target species is observed, the following information is to be collected and included in the species notes of the eBird checklist:

1. Position (location within survey area, *e.g.* GPS coordinate or described location)
2. Description of occurrence
 - a. Habitat usage (*e.g.* open water, mud flat, reed line, tamarisks)
 - b. Behavior (*e.g.* foraging, displaying, nest-building, flying, sleeping, *etc.*). Breeding information to be added to the eBird checklist as breeding codes.
3. Confirmed or potential threats (*e.g.* Common Ravens present near nesting site or adult seen feeding a Brown-headed Cowbird chick)

Survey visit timing

Surveys are to begin as early as possible, ideally at or near dawn, and may continue as conditions remain amenable as per the surveyor's discretion.

Survey methods

Areas may be covered both on foot and by car as feasible with the intent of maximum and thorough coverage. Binoculars and a spotting scope are standard pieces of equipment and thorough knowledge of bird vocalizations is necessary. The survey route is to be as consistent as possible between visits, but may vary with seasonal changes to the survey area (*e.g.* flooding). Notes describing the survey route and basic conditions are to be taken with each visit and can be included in the comments in the eBird checklist.

Though thorough coverage of the entire complex is ideal, it is not a requirement for the citizen science portion of the project. Volunteers should be instructed to, at least, cover some of the ponds thoroughly, making an effort to get as much data as possible for even a single pond or point. Birds should be detected audibly and visibly, and a spotting scope should be used to view open areas and distant backwaters.

Broadcast recordings to elicit response are to be used sparingly and only when necessary (and according to USFWS protocols for applicable species) and not in the immediate presence of threat species or in other situations that may needlessly endanger the target birds.

Point counts

Defined observation points are located throughout the Piute Ponds complex. At each point the surveyor will collect a complete list of bird species detected over a period of ten minutes. All bird species identified by sight or sound at an infinite radius will be noted. A spotting scope may be necessary when counting at open aquatic environments.

The points at the Piute Ponds Complex are as follows:

- Point 1 (C-dike parking area): 34.7917, -118.1200
- Point 2 (NE corner Duckbill Lake): 34.7955, -118.1119
- Point 3 (C-dike pavilion): 34.7919, -118.1118
- Point 4 (Big Piute outflow): 34.7918, -118.1081
- Point 5 (SE corner Big Piute): 34.7898, -118.1042
- Point 6 (SE corner DU Pond): 34.7802, -118.1198
- Point 7 (NE corner DU Pond): 34.7855, -118.1159
- Point 8 (DU pond – SW corner): 34.7805, -118.1280
- Point 9 (Coot Chute culvert): 34.7801, -118.1308
- Point 10 (Little Piute): 34.7858, -118.1267

Point count data is compiled in separate eBird checklists as discussed below.

Data collection

As mentioned above, all data is to be compiled within eBird checklists and shared with the Edwards Air Force Base eBird account (EdwardsAFB). A complete survey of the Piute Ponds will result in eleven eBird checklists: one containing a comprehensive list of bird species detected with numbers of each and notes (and breeding codes) for each of the target species observed and ten more for each of the ten-minute stationary point counts. Volunteers are encouraged to collect complete data with each visit, but any data with information on the occurrence of the target species will be of value.