Report of Activities

Natural Area Reserves System, Special Use Permit, issued to the Zoological Society of San Diego

Permit effective May 23, 2017 – May 22, 2018

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Principal Investigators:

Douglas G. Myers
President/CEO
Zoological Society of San Diego
dba San Diego Zoo Global (SDZG)
2920 Zoo Drive
San Diego, CA 92101

Bryce Masuda
Conservation Program Manager
Zoological Society of San Diego
dba San Diego Zoo Global (SDZG)
P.O. Box 39
Volcano, HI 96785

Report Overview:

As per Natural Area Reserves System Special Use Permit effective May 23, 2017 – May 22, 2018, this report details "progress to date". This report intends to provide information regarding activities that occurred during the current permitting period, and to inform the permit renewal application. A permit renewal application form detailing future plans will be submitted separately.

Project Purpose:

To reintroduce ʻAlalā (*Corvus hawaiiensis*) into the Puʻu Makaʻala Natural Area Reserve. This large, once abundant bird was declared extirpated from the wild in 2002. The San Diego Zoo Global (SDZG), working as a Cooperator with the State Division of Forestry and Wildlife as well as other partners, has cared for ʻAlalā in breeding facilities with the ultimate goal of re-introducing the birds back into the wild in managed habitat that provides the greatest chances for re-establishment. After careful consideration of numerous sites with a long list of specific criteria, the Forest Bird Recovery Team determined that this area was the top site for this action. Staff from SDZG will be conducting this re-introduction in

collaboration with many partners. All facilities are of a temporary nature, and will be located only in previously disturbed sites, as determined by the Hawaiʻi Island NARS Manager.

Infrastructure

The abandoned Mauna Loa Boy's Home structure was used as a temporary field camp site. A temporary weather port, contained sanitation system, water filtration system, and a solar panel array were installed in previously disturbed sites agreed upon with the Hawaii Island NARS Manager. All infrastructure was installed by SDZG staff, except for the solar panel system, which was installed by Yamamoto Electrical Services LLC. The temporary field camp site met the needs of the SDZG team and allowed the SDZG team to not have to traverse in and out of the field each day. From this field camp the team is able to access the release area on foot or by 4wd truck on accessible reserve roads, which was permitted by the Hawaii Island NARS Manager.

A temporary, greenhouse style, pre-release flight conditioning aviary (referred to in the permit as a field aviary, or holding aviary) continued to be used for holding ʻAlalā prior to release.

One release aviary (i.e. hack tower) was constructed in Summer 2017 by SDZG staff, with brief assistance from local contractor Bilcol Builders. The release aviary was constructed using pre-fabricated metal panels. The release aviary was constructed at a previously disturbed site, with approval by the Hawaii Island NARS Manager. Following the release of 11 ʻAlalā in September and October 2017 (see below), the gradual deconstruction of this release aviary began in December 2017 in preparation for moving and building a new release aviary in 2018.

A total of four automated VHF telemetry towers were installed. One tower was installed on 7/10/17 and a second tower was installed on 8/4/17. The two remaining towers were installed prior to the permitting period. These towers were installed together with the NARS Endangered Forest Bird Field Supervisor and the U.S. Geological Survey, with approval from the Hawaii Island NARS Manager.

All infrastructure as described above was approved in a site plan submitted to the Office of Coastal and Conservation Lands (SPA# HA16-57) as of August, 2016.

Pre-release activities

On May 3, 2017, eleven ʻAlalā were moved into the flight aviary from the Keauhou Bird Conservation Center where the birds were temporarily housed while maintenance and renovations was conducted on the flight aviary. These eleven individuals were selected to be part of two release groups based on previous time spent in the wild, socializing behaviors, sex, and rearing method. The first release group of six birds was moved from the flight aviary to the release aviary on September 11, 2017. This first release group was released into the wild on September 26, 2017. The second release group of five birds was moved from the flight aviary to the release aviary on September 27, 2017. This second release group was released into the wild on October 11, 2017.

Release and post-release monitoring

The day after the first release (September 27, 2017), one bird moved up to 2km away from the release site alone but returned to the release site in the late afternoon. Otherwise, the initial movements of the birds within the first several days after release was limited to within approximately 200m of the release site. As time progressed, the ʻAlalā have ranged farther and farther from the release site. As of January 2018, the ʻAlalā typically remain within 600m from the release site each day but some birds have made brief trips up to ~2km from the release site. ʻAlalā have also briefly entered the Waiakea Forest Reserve as well as Kamehameha Schools property (Keauhou) before returning to the release site within a few hours. On both occasions, land managers of these parcels were notified that the ʻAlalā entered the lands.

Post-release monitoring is primarily conducted using hand-held antennas to locate the VHF radio transmitter attached to each bird. Location data is also obtained from the automated VHF telemetry towers.

ʻAlalā have been observed feeding on a variety of food items in the wild. Some of these wild food items include kawaʻu, kolea, ʻolapa, pilo, pukiawe, and maile. In addition, the ʻAlalā have been observed spending significant amounts of time searching for food items under tree bark and in crevices of branches, as well as increasingly on the ground. ʻAlalā are receiving supplemental food in four covered food trays, or "hoppers", which are placed on stand-alone feeder stands. Each morning, SDZG staff place fresh food into the hoppers, and each evening SDZG staff remove remaining food. ʻAlalā visit and feed from the supplemental food throughout the day.

ʻAlalā have also continued to remain socialized and in close proximity to each other after being released into the wild. The birds are regularly observed feeding individually, as well as together in pairs or small fluid groups. Over time, it appears that some birds are beginning to spend an increased amount of time either alone or in pairs, and this behavior will likely increase as the birds reach sexual maturity, which typically occurs at 2-3 years of age.

Two interactions between ʻAlalā and ʻIo have been observed. Three ʻAlalā were observed chasing an ʻIo and circling high above the release site. In the second instance, four ʻAlalā were observed chasing an ʻIo above the canopy before returning to the forest shortly thereafter. These observations of ʻAlalā exhibiting anti-predator behavior in the wild were extremely encouraging.

Summary

During the permitting period, eleven ʻAlalā were successfully prepared for release and released into the wild. As of January 2018, all eleven ʻAlalā remain alive and well in the wild. Field logistics and operations are running smoothly and in close coordination with State of Hawaii DOFAW through the Project Coordinator, who in turn communicate with the Hawaii Island NARS Manager and his staff. The ʻAlalā

Working Group, of which SDZG is a major partner, is currently planning the next release of ‘Alalā in 2018 in Pu’u Maka’ala NAR.