Po’ouli case study

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**An attempt to recover the Po'ouli by translocation and an appraisal of recovery strategy for bird species of extreme rarity**

The small, stocky, brown bird with a partial black face described as a bandit's mask was discovered in 1973 by a group of University of Hawaii students conducting research on the east slope of Haleakala volcano. It is so unique that is has its own genus, and is the only Hawaiian forest bird to rely heavily on native tree snails for food.

Historically, Po**’**ouli have been confined to a 1300

hectare (ha) area of wet montane forest on the northern

and eastern slopes of Haleakala, east Maui (Mountainspring

et al., 1990), but fossil evidence indicates they

once also inhabited drier forests at lower elevation on

the leeward slope of Haleakala (James and Olson, 1991).

The population was estimated at approximately

140**\_**+/- 280 (+/-280**.** 95% C.I. calculated from pooled

variance estimates obtained from transect count data) in

1980 (Scott et al., 1986), but this estimate of population

size and density is likely to be imprecise because of the

species**\_**  low density and cryptic behavior.

**How many individuals is it OK to collect?**

Field surveys indicate that Po**’**ouli numbers and range declined from

an estimated 76/km2 in 1975 to approximately 15/km2 in

1981, and to 8/km2 by 1985 (Scott et al., 1986; Mountainspring

et al., 1990; Fig. 1). The detection and monitoring

of two consecutive nests constructed by a single

pair in 1986 provide the only data on reproductive parameters;

these nests produced one and two nestlings,

respectively, but only one offspring fledged from the

second nest (Kepler et al., 1996). Surveys in 1994–1995

found six Po**\_** ouli at four locations, while surveys from

1997 to 2000 located only three birds (Reynolds and

Snetsinger, 2001). No other Po**\_** ouli have been located

since these three remaining birds were color-banded in

1997 and 1998 (Hawai**\_** i Department of Land and Natural

Resources, unpubl. data). The last three birds,

thought to consist of one male and two females, occur in

the Hanawi Natural Area Reserve (NAR), in separate,

non-overlapping home ranges between 1500 and 1950 m

elevation (Figs. 2a and b). There are no known breeding

pairs, and the last documented reproduction occurred in 1995 (Reynolds and Snetsinger, 2001).

**Nine Po\_ ouli individuals were found at the species\_ initial**

**discovery, of which two were subsequently collected as**

**voucher specimens (Casey and Jacobi, 1974).** Since then,

recovery efforts and plans have followed a logical progression

from less invasive strategies focusing on habitat

protection, basic research, and monitoring, toward more

‘‘hands on’’ actions involving direct manipulation of

individuals.

The last surviving individual, a male, died in captivity in November 2004. It had recently contracted avian malaria. The rare Hawaiian honeycreeper had been kept at the Maui Bird Conservation Center in Olinda since it was captured for breeding on Sept. 9. Biologists failed to capture a mate for the aging bird, which was found in the Hanawi Natural Area Reserve.

The remaining two po'ouli, believed to be a male and a female, haven't been seen since 2003. They might also have died, moved to another area or have just been missed by wildlife officials.

The po'ouli's numbers have dwindled because of habitat loss and introduced predators like rats, cats and mongoose. Nonnative diseases carried by mosquitoes have also taken a toll on the Hawaiian birds.