

WPT ACTION GRANTS 2007

Our Action Grant program began in 2002 with the award of four grants for projects on the conservation of the world's globally-threatened parrots as outlined in the Parrot Action Plan. We are proud to continue this tradition with the award of five new grants.



Dispersal, habitat use and population connectivity in the threatened Yellow-naped Amazon of Costa Rica

The Yellow-naped Amazon (*Amazona auropalliata*) is considered endangered throughout its range. It is listed in Appendix I of CITES and the long term status is regarded as critical according to the Parrot Action Plan. Many populations of the YNA occur outside of protected areas, making them vulnerable to poaching and isolation through habitat loss.

The objectives of this study are threefold. First, I propose to study movement dynamics of the YNA in the Guanacaste Province of Costa Rica to elucidate the importance of maintaining connectivity between populations in protected and non-protected areas. Individuals will be tracked from two non-protected populations and one protected population in Costa Rica for two years. Information acquired on parrot movements will enable us to identify movement patterns between key habitats, and areas used by parrots to breed and roost in both protected and non-protected areas.

Second, I propose to develop an innovative GPS-based tracking package, which will enable us to evaluate parrot movements along with traditional radio-telemetry techniques. Development of the GPS package will not only be advantageous in this study, but it will also be of value to other studies on parrot movements as it will lead to a better understanding of spacing biology of parrot populations. For example, this new technology could be used to gather information on species that undergo long distance migrations. Tracking these species with traditional radio-telemetry techniques is especially difficult.

Third, local awareness of YNA conservation status and the impacts of poaching will be raised through educational programs in one of the non-protected areas with a high YNA poaching rate. The program will consist of a school-based education module targeting protection of nests and a web-based camera for monitoring nestling behaviour (p 6-7).

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Phylogeography of the Burrowing Parrot: What is the conservation status of its sub-species in Argentina and Chile?

Burrowing Parrots (*Cyanoliseus patagonus*) are colonial parrots found in South America. Three sub-species are proposed for Argentina and one in central Chile. In Argentina, the conservation status of Burrowing Parrots was studied for the last time in the late 1970s. No information is available and no monitoring has been carried out since, with the only exception of a single colony of *C. p. patagonus*.

This species has suffered a clear decline since the early 19th century due to trapping for trade, hunting, conversion of grassland to croplands and persecution as crop pest. They have difficulty re-colonising a region once they disappear, making them fragile in a global sense. Their cliff-nesting breeding habitat requirement also makes this species potentially vulnerable and may promote genetic isolation and differentiation among populations.

The analysis of genetic diversity is becoming a key facet of conservation biology. There is a recognised need to identify genetic discontinuities and identify populations of conservation concern.

Given long enough, isolated populations such as *C. p. blaxami* in Chile may evolve into separate subspecies or even species. Many populations isolated by habitat fragmentation, however, will not persist for long. As a consequence, different populations could require separate management or different conservation efforts.

We propose a phylogeographic study of Burrowing Parrots based on sequencing DNA from molted feathers. The first part of the project will consist of finding appropriate genetic markers. Following this, the aims of this study are to:

1. Characterize the proposed sub-species using DNA sequences,
2. Determine sub-species genetic diversity,
3. Reconstruct phylogeographic history based on genetic findings,
4. Determine if the genetic differences between the Chilean and Argentinean sub-species warrant the revision of their taxonomical hierarchy

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Photo: (c) Melissa Perrin

Conservation of the Cape Parrot and associated remnant afro-montane forest (South Africa)

The Endangered Cape Parrot (*Poicephalus robustus*) is endemic to South Africa. The population is highly fragmented and only lives in Afromontane *Podocarpus* forest patches. Cape Parrots are dietary specialists feeding primarily on the endocarps of *Podocarpus* fruits. Nests are almost always secondary cavities high up in dead forest trees, usually *Podocarpus* species. Low reproductive rate and poor breeding success make the species demographically susceptible to declines in their numbers. Selective felling of *Podocarpus* species for the furniture industry and capture of nestlings for the avicultural market has pushed the species towards a wild population which numbers less than 1,500 individuals. There is an urgent need for the development and implementation of conservation strategies for both the Cape Parrot and the Afromontane forest. Before such strategies can be developed and implemented, baseline data on the forest ecosystem dynamics and the impact of harvesting on the Cape Parrots distribution needs to be collected. This data will then be used to inform the development and implementation of these strategies, as well as providing baseline data for the ongoing monitoring, evaluation and revision of these strategies.

To develop a Species Action Plan for Cape Parrots and their associated forest habitat. Our objectives are:

1. To provide alternative development opportunities for the communities living close to the forests within the Parrot's range in order to enhance the livelihoods of adjacent communities.
2. Develop an environmental education programme.
3. To set up a comprehensive national policy on the conservation and sustainable use of the Cape Parrot in captivity and the wild
4. To reduce the ongoing legal felling of Yellowwood trees within the Cape Parrot's range
5. To study Cape Parrot movements, social organisation, breeding biology, status as a crop pest, disease and habitat quality in terms of Cape Parrot requirements
6. Enable the CPWG to develop an infrastructure to realise the objectives of the action plan.

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Photo: (c) Rosemary Lov

Translocation of the Kuhl's Lory from Rimatara, Austral Islands, French Polynesia to Atiu, Cook Islands

The fossil record and oral traditions show that the Kuhl's Lory (*Vini kuhlii*) was formerly a native bird on most of the Southern Cook Islands. It was much prized for its small red feathers, which were used for chiefly adornments and for decorating ceremonial headdresses. Until recently, the Kuhl's Lory survived only on Rimatara and in the northern Line Islands, where it was introduced in historical times. It is listed in the IUCN Red List as Endangered, because of its small population and limited distribution.

It is believed that if invasive ship rats should ever invade Rimatara, the endemic Kuhl's Lory would soon become extinct in its natural range. The CRES Applied Animal Ecology Division is working with Cook Islands Natural Heritage staff to increase quarantine procedures and awareness to prevent the introduction of the ship rat and to establish a backup population of Lories on an island within its former natural range, namely Atiu in the Southern Cook Islands.

Staff mist-netted 27 Kuhl's Lories, maintained them in field cages and sent them to Atiu for release. The process included health evaluations of each of the birds as well as a general surveillance and evaluation of the health of the avifauna on the island. Approximately one year post-release, staff will participate in a collaborative island-wide survey to determine numbers of release birds, reproductive activity, distribution and habitat utilisation and cultural implications. Also, it is our hope to do a survey of the human community on Atiu to ascertain their knowledge of the birds, their feelings about the re-establishment of the species on the island and their perspective for future conservation of the species.

>> Zoological Society of San Diego, Ministry of Environment, FP and Cook Islands Natural Heritage Department. c/o Alan Lieberman, Conservation and Research for Endangered Species, San Diego Zoo, (alieberman@sandiegozoo.org)



Photo: (c) Paradise P

Conservation genetics of the Yellow-shouldered Parrot

The Yellow-shouldered Parrot (*Amazona barbadensis*) is a globally threatened species affected by the illegal pet trade and habitat loss. This species is patchily distributed throughout the arid zones of coastal Venezuela, and on the islands of Margarita, La Blanquilla and Bonaire. A conservation program conducted on Margarita Island since 1990 has compiled substantial information about the biology of this parrot, but data on genetic patterns is lacking.

Genetic diversity influences the ability of local populations to survive and to thrive. The populations of this parrot are small and probably isolated as its range is currently restricted to specific arid lands in northern Venezuela and the nearby islands. As habitat destruction is rampant in most of the areas where this parrot still survives, it is critical to determine the genetic identity of each of these populations before they are extirpated. To address the lack of genetic data for the Yellow-shouldered Parrot, blood and feather samples will be collected from parrot nestlings from all of the extant populations of the species, and tissue samples (especially from extinct populations) will be obtained from museums. Mitochondrial DNA analyses and complementary lab work will be conducted at University of Missouri-St. Louis. Those will be used to determine what population genetic parameters are important to conservation biology, such as the genetic variation within and among the population, the gene flow between populations, and the genetic distinctiveness of geographically-isolated populations. As a result, we can identify the most genetically distinctive populations and those populations can be given higher priority for conservation. Additionally, if individuals are translocated from one area to another within the species range, mtDNA analyses can be used to develop guidelines and to avoid undesirable consequences such as the erosion of the species' overall genetic diversity.

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