

# PSITTASCENE

Magazine of the WORLD PARROT TRUST



Spring 2023



Glanmor House, Hayle  
Cornwall TR27 4HB UK  
info@parrots.org +44 (0)1736 751026  
www.parrots.org

**ABOUT THE WPT**

Capture for the live-bird trade, habitat loss and other factors put wild parrots at risk. Nearly 30% of all parrot species are considered by IUCN to be at risk of global extinction.

As an international leader in parrot conservation and welfare, the World Parrot Trust works with researchers, in-country organisations, communities and governments to develop effective solutions that save parrots.

Since 1989 the WPT has grown to become a global force that moves quickly to address urgent issues and support long-term projects. Over that time WPT has led or aided conservation and welfare projects in 45 countries for more than 80 species of parrot.

**CHARITY INFORMATION**

United Kingdom: # 800944  
United States: EIN 62-1561595  
Canada: BN 89004 1171 RR0001

Editor: Desi Milpacher

Layout, Design & Production: Michelle Kooistra  
Fulfillment: Prospect Handling Ltd.

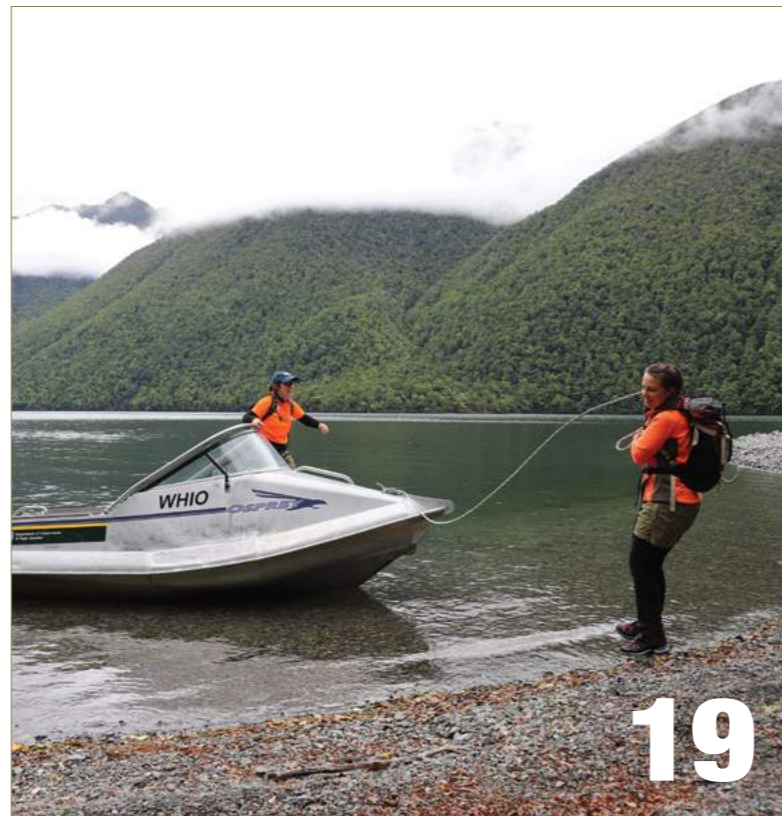
The World Parrot Trust does not necessarily endorse any views or statements made by contributors to *PsittaScene*, and will consider articles or letters from any contributors on their merits. Visit [parrots.org/psittascene](http://parrots.org/psittascene) for Guidelines. Anyone wishing to reprint *PsittaScene* articles in full or in part needs permission from WPT and the author/photographer(s) and must state that it was copied from *PsittaScene*.

All contents © World Parrot Trust

# CONTENTS



5



19



16

- 4** **Project Profile:**  
*Kea Conservation Trust*
- 5** **Project Update:**  
*Saving the Timneh*
- 8** **Parrot Conservation Grants Program**  
*Awardees: Plans and Action*
- 11** **What Does Polly Say?**  
*An examination of parrot mimicry*
- 14** **Species Profile:**  
*Palm Cockatoo*
- 16** **Thick-billed Parrots in the American Southwest:**  
*Exotic imports or native species?*
- 19** **Kea Kingdom:**  
*Update from Nelson Lakes National Park*
- 22** **PsittaNews**  
*Parrot news and updates*  
*WPT contacts*  
*PsittaScene 2022 index*
- 24** **Parrots in the Wild**  
*Rainbow Lorikeet*

**ON THE COVER**

Photo © Anolis01, Getty Images

The spectacular **Alexandrine Parakeet** (*Palaeornis eupatria*) is one of the largest of the Asian parakeets. Its future is not certain — their numbers are declining due to heavy trapping for the wildlife trade.

Learn more in **Parrot Conservation Grants Program**, Page 10.



Partner Spotlight:



KEA  
CONSERVATION  
TRUST

Kea are unique and endangered parrots indigenous to the South Island and Southern Alps of New Zealand. Unfortunately, conflict with humans and predation by introduced mammals has left these parrots in peril. Since 2006, the Kea Conservation Trust has advocated for wild Kea to ensure they get the enriching and sustainable future they deserve. The Trust also advocates for best practice husbandry of captive Kea, which are only allowed to be held by permit holders.

These curious and highly intelligent birds actively seek out interactions with new things, a trait which has ultimately led to their unprecedented persecution. Conflict with high country sheep farmers in the late 1860s led to a legal bounty which resulted in the deaths of approximately 150,000 Kea until the early 1970s. Even now, despite being on the IUCN Red List as Endangered, Kea occasionally still risk being shot. Other ongoing impacts on Kea populations include lead toxicity, attacks from introduced predators such as feral cats, stoats and possums and vehicle strikes.

The Kea Conservation Trust's education and advocacy projects work to increase community engagement and awareness for threats impacting Kea. The organization is also committed to direct threat mitigation projects, focused on removing environmental hazards through hands-on community involvement.

To learn more, visit:  
[www.keaconservation.co.nz](http://www.keaconservation.co.nz)

What will be your legacy?

Let your dedication to parrots live on! Leaving a legacy gift to the parrots through your estate may be one of the most fulfilling contributions you will ever make.

Visit our website at [parrots.org/legacy](http://parrots.org/legacy) or contact an office near you (see page 23.)



Kea © Miles Ray, Getty Images



© Estvillim, Getty Images

Project Update:  
**SAVING THE TIMNEH**

by Rowan Martin, PhD, Director - WPT Africa Conservation Program

**The Timneh Parrots (*Psittacus timneh*) of West Africa are smaller and less showy than their African Grey cousins. Their feathers are darker and more subtly scalloped; their tails less gaudy. They blend more easily in amongst the leaves. But, for the people that live alongside these threatened parrots in Sierra Leone the “fabwe” or “polly” (as they are locally known in Mende and Krio), are special birds and easy to spot.**

Getting a handle on where parrots are (and aren't) and where the most healthy populations remain is fundamental for protecting them in the wild. It's often where conservation starts. Range maps in field guides can paint a misleading picture. Broad brushstrokes are used to indicate where a species is likely to be found but can leave the impression that a species is widespread rather than just eking out an existence in a few patches of suitable habitat.

Gathering the hard data to know where parrots are surviving and thriving, and where they need protecting, can be painstaking work involving months traipsing through remote and challenging

terrain clutching binoculars. Seasonal movements can make the job even harder. What if the parrots only visit an area when the roads are impassable due to rains?

The people that live alongside wildlife can be a treasure trove of valuable information on the species in their local patch. Surveying local ecological knowledge offers a short cut to gathering data on the seasonal presence of parrots in an area. It can also illuminate other issues, help understand people's attitudes and provide a window into the past. This approach works particularly well for animals that are charismatic and readily recognisable — animals such as parrots.



**Above:** Momoh Sesay (seated, in purple) discusses the protection of Timneh Parrots with local community members.



**Left:** Community meetings help to gather and spread information about Timnehs.



**Right:** Alhaji Kamara, of the Fourah Bay College, surveys for Timneh Parrots around local villages.

Surveying the knowledge of local communities can also bring additional benefits besides gathering information. Involving people in research and discussions about conservation at the outset can be vital for long-term success of a project. If people have contributed to the process of collecting information, they are more likely to buy into the findings and act on them.

Rapid surveys conducted in 2018 in Sierra Leone indicated the presence of previously undocumented breeding areas in coastal regions, and suggested some of the highest densities of Timneh Parrots known anywhere in their range (see *PsittaScene 31.4 Winter 2019*). With support from the Mabel Dorn Reeder Conservation Endowment Fund of Atlanta Zoo and the Painted Bunting Fund, a project was launched with the aim of understanding more about how Timnehs use this area and to identify and protect key parrot sites, in particular those used for overnight roosting and breeding. The project

was led by local ornithologists Momoh Sesay and Dr. Okoni-Williams alongside Alhaji Kamara, a student from the University of Freetown, and supported by Paul Robinson of the University of Cardiff UK.

Adapting an approach used by healthcare workers, the team used a specially-designed smart phone app to interview approximately 250 community members across 65 communities. Time, dates and locations were automatically logged and the information uploaded and made immediately available to all team members (things have come a long way since I first started field research!). In each community, people most likely to encounter parrots, such as hunters, were targeted for interviews and each person's ecological knowledge first assessed with a series of basic questions about birds in the area.

The data has revealed the importance of mangrove habitats for Timnehs

in this area, which the parrots use with the seasons. It's also highlighted where populations have declined and critically identified areas, such as breeding habitat, in most need of protection. After several weeks in the field there was much excitement around the "discovery" of an island deep in the mangroves where at least 500 Timneh Parrots gather every evening. This is the largest roost known for Timnehs anywhere in the species' range. Its remoteness is likely the reason why this site persists when similar roosts have been lost to capture for the pet trade or habitat destruction. Armed with this information, the team is working to gain formal recognition for the Sherbro River estuary as an internationally important area for biodiversity conservation.

Alongside the interviews, community meetings were held throughout the region. These gatherings brought together local leaders and members of the public to discuss the conservation plight of Timneh

Parrots and help the team understand people's relationships and attitudes. These two-way conversations revealed how Timneh Parrots consume people's crops, especially millet, as they ripen in the fields. Stories were told of a time when parrots were trapped in large numbers and sold to traders from Freetown and how nowadays, parrots were mostly taken from nests and buyers were harder to find. The team learned how parrot eggs are considered to confer special powers on those that possess them, helping to secure positions of privilege and prestige. And they heard how large trees are felled to make canoes and fuel wood to dry fish so they can be preserved for transport to market. Understanding this context is vital for developing effective ways to protect parrots and their habitat. As a next step, community parrot "champions" have been identified in a number of areas and a lively WhatsApp group now connects communities to share information on parrots. A co-management plan for this area, agreed upon by all 12

Chiefdoms and funded by USAID, has recently been developed and the project findings have led to the inclusion of multiple actions to protect Timneh Parrots.

While this approach provided a means to connect directly with communities, to reach the wider public a sensitisation campaign was also launched. A collaboration between graphic designers working with WPT and local team members developed a billboard poster which was placed in strategic locations in four towns.

On the airwaves an announcement was produced and has been regularly played on local radio stations. Live radio interviews with the conservation team and government representatives from the National Protected Areas Authority were also conducted on local stations. These gave an opportunity for issues to be discussed and considered in greater depth, and for engagement with people's hopes and concerns.

Timneh Parrot conservation is gathering momentum elsewhere. New collaborations in neighbouring Liberia are building a more comprehensive picture of the broader region and identifying sites for potential reintroduction. A tantalising report from Liberia suggests another major roosting site with possibly even more parrots than the site recently discovered in Sierra Leone. And in late 2022, a Salonian (from Sierra Leone) student Abubakar Konneh, studying for an MSc. at the AP Leventis Ornithological Research Institute, started further research into the close association between Timneh Parrots and mangroves.

Working with multiple local partners and communities we're rapidly building a picture of the challenges facing Timneh Parrots, while taking action to protect the most precious sites. Where they cling on it's clear that these are special birds are an important part of the landscape and people's lives. We have to ensure that they remain so. 📍



# PARROT CONSERVATION GRANTS PROGRAM

## Parrot Conservation Grants Awardees: Plans and Action

Beginning last year, the World Parrot Trust (WPT) and Natural Encounters Conservation Fund (NECF) began a partnership to fund individuals and organisations working to save the world's parrots.

Steve Martin, President and CEO of Natural Encounters Inc. and head of non-profit arm NECF, has this to say about the new grantees: "The people and organisations gathered here have such diversity and huge dedication. All of us at NECF are very excited to partner with the World Parrot Trust to help these individuals and groups fulfil their important parrot conservation aims."

Meet the first round of grant recipients below and learn a bit about the work they'll do. We'll introduce the others in the next issue of *PsittaScene*.

## YOUNG PIONEERS FOR DEVELOPMENT



### COUNTRY:

Benin

### SPECIES FOCUS:

Senegal Parrot (*Poicephalus senegalus*)

### PROJECT FOCUS:

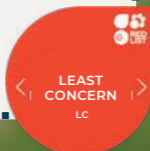
Distribution, habitats and local knowledge of the Senegal Parrot in northern Benin. The Senegal Parrot is recorded in Benin, but very little data is available on the species. The work will provide reliable data on the distribution and ecology of the species in northern Benin, and also on its uses by local communities.

### USE OF FUNDS:

Funding will support research activities on the Senegal Parrot and further develop conservation activities.

### LEARN MORE:

[WWW.YPDGLOBAL.COM](http://WWW.YPDGLOBAL.COM)



© Tane Mahuta, Getty Images

## WILD SUN RESCUE CENTER and ASOPROLAPA



### COUNTRY:

Costa Rica

### SPECIES FOCUS:

Scarlet Macaw (*Ara macao*)

### PROJECT FOCUS:

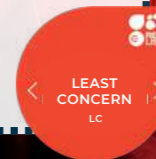
Reintroduction of Scarlet Macaws in the Southern Nicoya Peninsula, Costa Rica. This project is part of a broader breeding and reintroduction programme with the goal of reaching a viable population of Scarlet Macaws in the Southern Nicoya Peninsula of Costa Rica, thereby restoring the natural ecosystem from where they disappeared over 50 years ago. Specifically, the funded project aims to provide a newly reintroduced population of Scarlet Macaws in Cabuya with ample nesting sites and protect these sites from poaching activities.

### USE OF FUNDS:

The funding will allow the assessment of natural nesting sites for Scarlet Macaws in the area, the placement of 10 artificial nest boxes in safe spots, and close monitoring to provide security for the nesting birds and to record vital information about the population.

### LEARN MORE:

[FB.COM/WILDSUNRESCUECENTER](https://www.facebook.com/WILDSUNRESCUECENTER)



### UPDATE:

On the 28th February, the team installed three nest boxes in the area; two in Cabuya and one in Delicias, where two natural nests were spotted recently.



© Patric Gijbers, Getty Images

## EARTH CRUSADERS ORGANISATION



### COUNTRY:

India

### SPECIES FOCUS:

Alexandrine Parakeet (*Palaeornis eupatria*)

### PROJECT FOCUS:

Conservation of Alexandrine parakeet against illegal pet trade through awareness and capacity building programs.

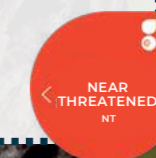
- Liaising with the department to increase awareness about illegal pet trade and due enforcement by the frontline staff.
- Creating awareness among students, educational institutions and the public through Community participation programs.
- Strengthening the network of intelligence and information gathering by forest officials through proper training and capacity building programs.

### USE OF FUNDS:

Grant funding will help the team build rescue aviaries for specific species, gather information and conduct programs with various sections of society, and cover the accommodation, travel expenses and the cost of awareness materials for the project.

### LEARN MORE:

[FB.COM/EARTHCRUSADERS](https://www.facebook.com/EARTHCRUSADERS)



### UPDATE:

Earth Crusaders has now completed their first training workshop on the trade in Alexandrine Parakeets, which is illegal in India, for 30 forest rangers in Odisha. Instruction included handling confiscations, enforcing wildlife laws and species identification for border personnel.



© Anilsoj, Getty Images

## WILD BIRD TRUST: CAPE PARROT PROJECT



### COUNTRY:

South Africa

### SPECIES FOCUS:

Cape Parrot (*Poicephalus robustus*)

### PROJECT FOCUS:

Monitoring Cape Parrot forest habitat. The Cape Parrot is South Africa's only endemic parrot. It is nationally endangered and a flagship species for forest ecosystems in the country given its dependence on these habitats for breeding, feeding and roosting. Effective forest conservation is thus critical to safeguard this species, with this project aiming to make a critical contribution in this regard by developing and implementing a long-term monitoring program through which the condition of Cape Parrot forest habitats may be assessed over time, and necessary conservation actions implemented in a timely manner.

### USE OF FUNDS:

Grant funding will support the crucial purchase of much of the equipment required to conduct forest habitat and biodiversity monitoring, and provide the funds needed to conduct reconnaissance surveys of all forests suggested for monitoring to ensure that the final selection is informed by ground-based insights. Lastly, these funds will allow us to employ community-based field assistants during reconnaissance surveys.

### LEARN MORE:

[FB.COM/CAPEPAROTPROJECT](https://www.facebook.com/CAPEPAROTPROJECT)



© Cape Parrot Project

## ASSOCIATION RIMA'URA



### COUNTRY:

French Polynesia

### SPECIES FOCUS:

Rimatara Lorikeet (*Vini kuhlii*)

### PROJECT FOCUS:

Habitat Creation Study for the Lories of Rimatara. The objective is to determine which nest option Rimatara Lorikeets prefer. Three options, Thermal Haven nest boxes, log hollows and renovated cavities, will be set up on individual trees at five different sites (15 total installations) on Falcata and Java plum trees in areas with confirmed lory populations. Sites will be chosen based on the following criteria: tree species (Falcata or Java plum), a minimum trunk circumference of 1m and minimum height of 4m at the location of the natural cavity, a tree canopy that provides adequate protection from rain and the orientation of the natural cavity to be protected from cavity flooding by wind-blown rain. The study's results will provide valuable insight on nesting habitat preferences. In the face of increased human habitat modification, they will be used to implement future management programs. Key objectives include determining the most effective methods of creating nesting habitats (semi-natural & artificial), contributing to a rebound of the population on the island, and the implementation of an expanded habitat creation program for the upcoming nesting seasons (2024-2026).

### USE OF FUNDS:

Funding received from New Zealand Parrot Trust (NZPT) will support the purchase of Thermal Haven Nesting Boxes and a special battery operated carving tool that will allow for customising nest box entrances, carving salvaged log hollow nests and creating cavities in potential nesting trees. The grant will also partially support the lead Technician role in implementing the project.

### LEARN MORE:

[FB.COM/ASSOCIATIONRIMAURA](https://www.facebook.com/ASSOCIATIONRIMAURA)



© Peter Odekerken

# What Does Polly Say?

by Chris Dahlin, PhD

**A**lthough the ability of parrots to mimic is familiar to those who love and know them well, this ability is indicative of a behavior that is actually rare in the animal kingdom: vocal learning. Only a few other animal taxa engage in this behavior, including dolphins, whales, bats and humans. Many people take the talking of parrots for granted because it's familiar, but we know very little about it.

Wild parrots are incredibly difficult to study; they live in remote environments, fly vast distances during the day, often blend into trees, and it can be very difficult to mark and track individuals both because of their leg physiology and hefty bills (which chew things off). So, scientists like myself have lots of unanswered questions about their mimicry.

Those questions led us to create an original research study. Co-author Lauryn Benedict, professor and associate director of the University of Northern Colorado's School of Biological Sciences, realised there was a large population of data available in the form of companion parrots. If we could survey parrot owners, we could access that data. She recruited me, a lifelong parrot researcher, and our survey was off and running!

With the help of two undergraduates from the University of Northern Colorado, Alexandra Charles and Amirah Brockington, we developed a Google survey and recruited parrot owners to answer questions about the number of sounds, words and phrases their parrots made.

Almost 900 surveyed parrots later, we discovered some pretty fascinating results. “As it turns out, Polly’s species might have a strong impact on what she says,” said co-author Lauryn Benedict. Some species are much better mimics than others. Companion parrot owners have long suspected that African Grey Parrots (*Psittacus erithacus*) were the best at learning human sounds. Our study validated this, and they had the largest repertoires, averaging about 60 human words. Cockatoos, Amazons, and Macaws were also excellent mimics, with repertoires of 20-30 words. Most species learned more words and phrases than sounds. We interpret this to indicate that parrots are mimicking what is most socially relevant, which are words and phrases made by their “flock”, e.g. the people they live with.



There were a few exceptions, including Cockatiels (*Nymphicus hollandicus*) and Fischer’s Lovebirds (*Agapornis fischeri*), who learned more sounds (like whistles). This could potentially indicate limitations; e.g. perhaps those species are more attuned or more capable of learning whistle type sounds, for example.

One of the most interesting results was that parrots know how and when to talk, in other words, they use words, sounds and phrases during appropriate contexts. Human survey-takers reported that a very high proportion of companion parrots (89 %) spontaneously used human mimicry in appropriate contexts, with most birds doing so frequently.

For example, my companion Triton Cockatoo (*Cacatua galerita triton*), Yoko, regularly says “step-up” when I move my hand to pick him up and before I can say the words. He also “wolf whistles” whenever he meets a new person that he likes (this is his version of a friendly greeting), and makes kissing noises when he sees people give a hug (or kiss).

Although parrots are “lifelong” vocal learners, scientists didn’t know whether their repertoires continue to grow throughout their lives or plateau at some point. We only had sufficient data to study this in one species, the

African Grey. We discovered parrots grew their repertoires until age 5. After that, they could acquire new words/sounds, but they appeared to be replacing parts of their repertoires and no longer expanding them. Thus, the repertoires of 50-year-old birds were no different than 5-year-old birds. So, perhaps parrots are like people, having a time-period with lots of learning and then slowing down once they’ve aged?

This brings us to the question of who’s better at mimicry, males or females? In most species, males and females are equally good at mimicry. We found a limited number of interesting exceptions, including a few species such as Budgerigars (*Melopsittacus undulatus*), where males are better mimics, and Yellow-headed Amazons (*Amazona oratrix*), where females learned more sounds. For the most part, there isn’t a lot of research on species to inform as to why some species mimic the same and some do not. Budgerigars represent a great exception, though, because their small size makes them ideal for lab studies.

Unlike many parrots, Budgerigars are dimorphic (males and females differ in appearance), and they use their mimicry to attract mates. They produce long, complex calls to “woo” females, and males change the form of their contact calls to match their mate’s calls. In the case of Budgerigars, males appear to require superior vocal mimicry to compete with other males and gain a mate. Potentially, sex differences in other parrots may also indicate unique ways that their mimicry is used. Our research brought us many new insights but also highlights how much more we still

**Top:** Study co-author Dr. Chris Dahlin and Yoko  
**Middle:** Study co-author Dr. Lauryn Benedict and Dotsy  
**Bottom:** Behavior researcher Dr. Irene Pepperberg and Griffin

have to learn from parrots. Many of the questions cannot be fully answered unless we work with parrots in their natural environments. It’s important to remind us that although mimicry in companion parrots can be delightful, this ability evolved to serve critical functions for wild parrots. It allows them to navigate the complex social environments they live in.

At this moment in time, approximately 30% of parrot species in the wild are declining to the point of being threatened, endangered or critically endangered. The main threats are poaching for the pet trade and habitat loss. Conservation of remaining parrot populations is necessary so we don’t lose the opportunity to understand the evolution of their complex communication. Research into animal communication, after all, is one of the best ways to understand animal minds. I can state from personal experience that studying communication in wild parrots is fraught with difficulty! However, despite the difficulties, we know more about vocal communication in Yellow-naped Amazons (*Amazona auropalliata*) than in many other wild parrots. The amazing mimicry they exhibit in captivity is essential in the wild. It manifests in the form of geographic dialects that are stable over a decade. You can think of a dialect as akin to a human language region. When you cross a border all of the words change! Mated pairs also give complex duets, long signals in which the parrots coordinate their notes and follow precise rules. Duets are only given in certain situations and locations; e.g. they have context.

Hopefully this research will spur more research to discover what amazing thing Polly has to say next! In the meantime, we have more questions to ask and have re-opened our survey. Anyone who lives with a parrot is invited to join the community science team and contribute to this ongoing research by filling out the survey at this link: <https://bit.ly/2S7nx3K>. (My cockatoo, Yoko, is a constant companion and inspiration for my research and indeed was also a contributor to this study.)

We know this research would not be possible without all the companion parrot owners out there. However, if you are in the camp of considering whether get a companion parrot, please adopt it from a reputable parrot rescue organization and don’t forget that they are wild animals that will behave in wild ways. 📧




# PALM COCKATOO

*(Probosciger aterrimus)*

Palm Cockatoos are large, showy birds native to northern Australia, West Papua and Papua New Guinea. These cockatoos are lordly and conspicuous in their demeanour; the males display energetically in their territorial behaviour.

Palm Cockatoos are losing ground to rapidly disappearing forest, a low reproductive rate (Australia) and continued trapping for trade. Increasingly, bush fires are causing the loss of suitable nesting and food trees. Recent research has concluded that in Australia they face a steep decline in at least one subpopulation.

Together with data from New Guinea, it has been found that the species has declined by 10-19% in the past three generations and will likely decrease by 20-29% in the next three. This has prompted scientists to submit a reassessment to the IUCN Red List to uplist Palm Cockatoos to Near Threatened.

WPT has historically supported Palm Cockatoos through a variety of research-based conservation efforts in Australia, including tracking, monitoring nest sites and conducting surveys. 



© Corey Raffel



# Thick-billed Parrots in the American Southwest: Exotic imports or native species?

by John A. Moretti, PhD Candidate, Department of Geological Sciences,  
Jackson School of Geosciences, The University of Texas at Austin, U.S.A.

The remains of animals preserved in archaeological and paleontological sites offer evidence critical for understanding the ecology, distribution and form of extant<sup>1</sup> species. Those remains teach us about the past as well as the present and offer a perspective that aids forecasting of future outcomes. Understanding that evidence, often isolated and incomplete, is not always straightforward and can be biased by our perspective of the present day.

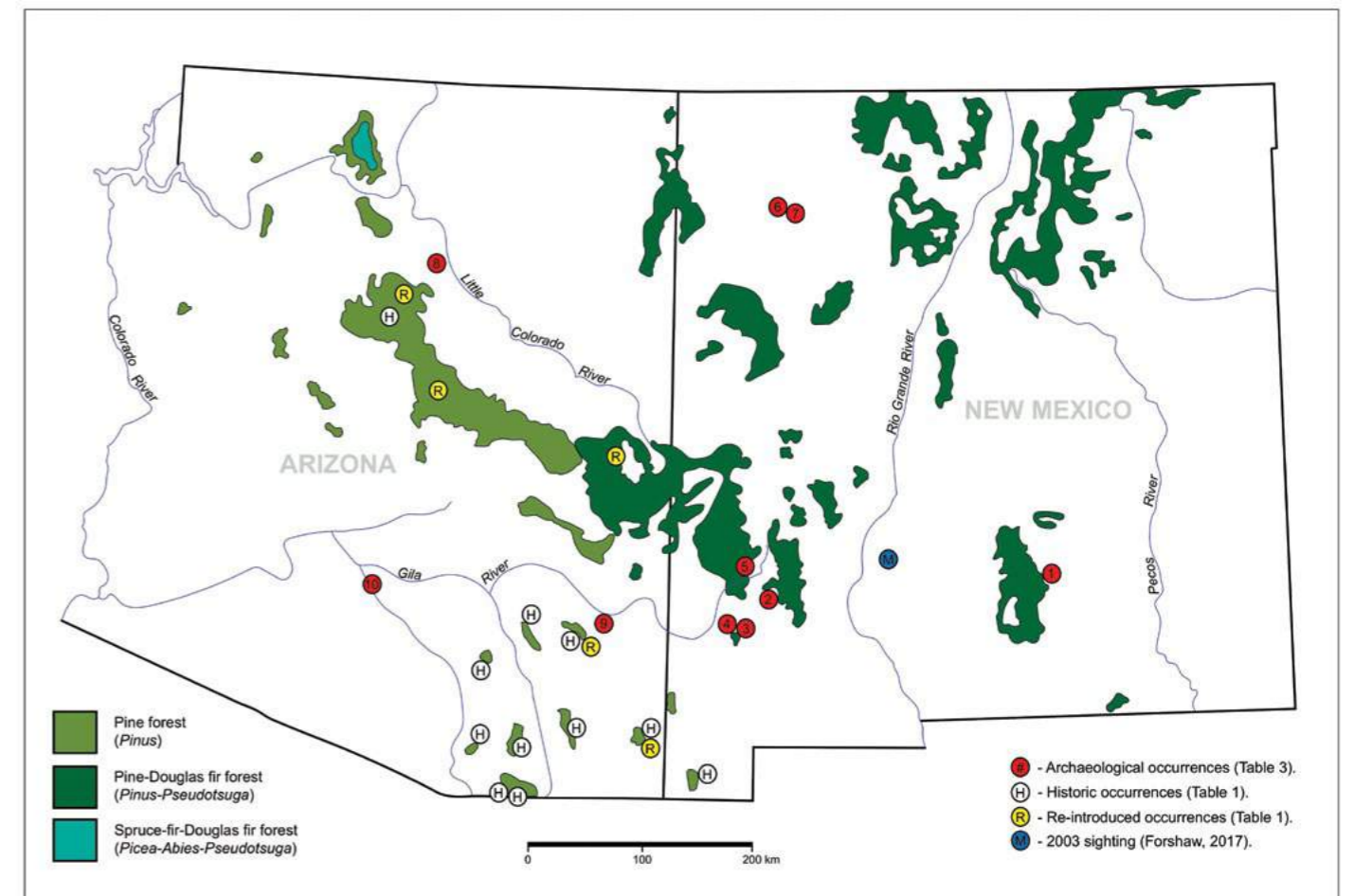
**I**n 2018, I discovered a tarsometatarsus from a small parrot in unprocessed samples of ancient bone in the collections of the Museum of Texas Tech University. Those samples were collected in the 1950s from an archaeological site called Bonnell in southeastern New Mexico. Bonnell was a small, pueblo-style village in the Sacramento Mountains occupied between ~1200-1400 C.E. Although parrot and macaw bones occur in archaeological sites across the American Southwest, none were known from eastern New Mexico.

I began to frame this new find from an old sample as an exciting occurrence of an exotic species, transported into the arid Southwest from tropical Mesoamerica. That perspective was consistent with how psittacid remains in the American Southwest were viewed by many archaeologists. Yet my morphological<sup>2</sup> analysis showed that the bone from Bonnell represented a Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*), a species that I soon found is anything but tropical!

1. Still in existence.  
2. Relating to the form or structure of things.



The tarsometatarsus of a Thick-billed Parrot from Bonnell, an archaeological site in southeastern New Mexico.



The distribution of archaeological sites with Thick-billed Parrot skeletal remains alongside occurrences of wild and re-released flocks from the 20th century. © J. Moretti 2022 Wilson Journal of Ornithology 134(3):438-454.

Studying up on Thick-billed Parrot ecology, I learned that the parrots inhabit temperate, montane, old-growth forests where they specialize in consuming pine-nuts and other conifer seeds. Thick-billed Parrots occur only in the Sierra Madre Occidental today, but were present in the mountains of southern Arizona and southwestern New Mexico during the early 20th century. Those occurrences, viewed as annual migrations, prompted the US Fish and Wildlife Service (USFWS) to release a flock of Thick-billed Parrots in southeastern Arizona in the 1980s.

Data on the ecology and biogeography of Thick-billed Parrots made me think twice about my initial interpretation. Could the parrot from Bonnell have been part of a wild population, once naturally occurring in present-day New Mexico? Are there valid alternatives to interpreting archaeological remains of Thick-billed Parrots as exotic, foreign objects? I addressed those questions through an extensive literature review, seeking to compile all known archaeological occurrences of Thick-billed Parrots in the present-day United States.



I found that Thick-billed Parrots are known from 10 sites, including Bonnell, in Arizona and New Mexico ranging in age from ~600 to ~1400 C.E. Five of those sites, including Bonnell, were located within or nearby (0-10km/0-6mi) montane conifer forests populated with tree species that the parrots feed upon. The remaining five sites were scattered across lowland, desert habitats. That felt like a dead end.

But, digging deeper, I realized that the buildings in those ancient population centers were constructed with conifer timbers. Those timber beams, frequently ponderosa pine and Douglas fir, were cut from distant montane forests. Timber procurement was a large-scale, organized effort and the networks that transported the wood back to the population centers also moved other materials, including corn and stone-tool resources.

Wild game was brought from mountain forest to desert dwellings too, with skeletons of tassel-eared squirrels (*Scirus aberti*) and Clark's Nutcracker (*Nucifraga columbiana*), both pine-cone specialists, present in some sites.

Each of the five sites located in desert habitats relied on resources obtained from adjacent mountains that contain forests with conifer species that are staples of the diet of Thick-billed Parrots. That reliance meant ancient peoples would have spent time in those forests, but could Thick-billed Parrots really have been present? My work revealed that forests associated with sites that contain parrot skeletons were visited centuries later by free-ranging parrot flocks.

Historic and USFWS released flocks visited the Pinaleno Mountains, near Buena Vista Ruin, a site in southeastern Arizona that contained two ancient parrot burials. Another cluster of occurrences centered around the San Francisco Mountains, near Flagstaff. The desert site of Wupatki, east of the mountains, contained parrot remains from the 11th-12th centuries. Spanish explorers observed parrots in the San Francisco range in 1583 and a USFWS released flock foraged in the same forests in 1987.


Those and other occurrences form a remarkable link between ancient parrot skeletons and the



© Mishela via AdobeStock

foraging habitats of live populations. The available evidence is circumstantial but forms a compelling case that Thick-billed Parrots were, or at least could have been, present in old-growth forests across Arizona and New Mexico long before the annual migrations observed in the 20th century.

Parrots and macaws are absent from the United States today and that present-condition can tempt us to view those birds as foreign and exotic. Instead, the evidence that I described in a recent issue of the *Wilson Journal of Ornithology* encourages us to consider a past where the montane conifer forests of the American Southwest were components of the natural range of Thick-billed Parrots.

That understanding, gleaned from the archaeological record, may improve our ability to identify critical habitats and refine conservation strategies for this endangered species. 

# KEA KINGDOM

by Luis Ortiz-Catedral, PhD

*Nelson Lakes National Park, December 2022*

There is light rain, almost imperceptible, causing small ripples on the cold waters of Lake Rotoiti. The engine of our small boat starts, and we head south, gliding on the lake's surface. To our right, a small waterfall. Water in all its forms is all around us: clouds, rain, mist, waves and spray. In the distance, we see the silhouettes of trees behind the mist along steep mountain ridges.

A clearing in the mist reveals a thick, dark green forest covering the hillsides from the lakeshore to the tree line. The forest is reflected in the water. *Tāne* and *Tangaroa*\* look at each other through the mirror of the lake. We approach the shore and disembark. The rain has stopped. The air is humid and cold. The only sounds we hear are the gurgling of a nearby stream and our steps on the shore pebbles. "This place feels magical on days like this," says Melissa Griffin, as we stand on the shore. Ricki Mitchell and I agree in silence as we look around.

With our backpacks ready, we start hiking through a forest where the vegetation has every shade of green. We are entering the Kea's kingdom. Melissa

and Ricki are rangers from the New Zealand Department of Conservation ("DOC") Rotoiti/ Nelson Lakes district, and they know Kea and their habitat very well. Last year, we brainstormed a plan to continue protecting Kea nests from introduced predators in the Nelson Lakes National Park. Our goal this morning is to check a nest to determine the number of Kea chicks still in it. As we begin our climb, I struggle. The ground is slippery.

Half an hour has passed and I'm already covered in sweat. For Melissa and Ricki, this hike is second nature. In a few days, Ricki and Melissa will visit other Kea nests in the park along even steeper hillsides. They hike up steep ridges and down slippery ravines on a regular basis as part of their job, reading the terrain as they move through the forest. Mad respect.

As we continue hiking, Melissa shows me various native plants: a minuscule ground orchid in bloom, a massive cluster of New Zealand mistletoe high in the canopies, a mighty Beech tree. She also tells me fascinating details about the love life of New Zealand's insects. While learning all of this new information, I do my best to keep up the pace, holding onto rocks and

tree roots; bits of moss and dirt accumulating under my fingernails. After an hour or so, we stop in our tracks as we hear a distant piercing cry: "kee-ee-aa-aa....kee-ee-aa-aa". From this point on, we move very quietly. Everywhere we step there is moss, droplets of water, fungi, wet dead leaves, miniature gardens at the base of tall trees - like a forest out of filmmaker Hayao Miyazaki's imagination.

Ricki points in front of us, and there it is: a Kea, the world's only alpine parrot, standing 10 metres away. Its plumage matches the surrounding greenery. The bird has noticed us, and from its perch near the nest entrance it lazily moves along a branch. Eventually it takes to the canopies, keeping an eye on us while preening, unbothered. Another Kea flies overhead in silence and perches on a nearby tree.

I am surprised at how quiet everything is...it feels odd. I have met Kea before, in areas where they are more abundant, and they behave differently: like a gang of cheeky, feathered teenagers up to no good, raiding campsites and stealing granola bars, ripping tents and backpacks, calling loudly.

These Kea antics are legendary.

\**Tāne* and *Tangaroa* are the gods and persona of forests and waters respectively, in the Māori worldview.

More than one traveller in New Zealand's South Island has returned their rental car with Kea damage (with chewed wiper blades, radio antennae, tires...). "The Kea ate my homework" kind of situation. "Kea outsmart me on a daily, if they don't want me to know they are here I won't find them," whispers Ricki, as she prepares to inspect the nest chamber.

Kea are certainly quiet and hard to spot around their nest, a large cavity, over two meters long at the base of a beech tree. Torch in hand, Ricki crawls into the nest, only her legs visible from where Melissa and I stand. We both chuckle at the scene. While Melissa replaces batteries and memory cards on the camera traps set up to monitor this nest, I keep an eye on the two Kea in the trees above, trying to read their leg rings. Kea are long-lived, and many are ringed. Every ring record then can help us estimate a Kea's age and their movements within the park. Ricki returns from her brief underground expedition and points at a side entrance of the nest. I discover another Kea, the matriarch, sitting quietly near the entrance looking up at me, perhaps wondering if we are done with the routine check. Once we've finished, we pack our bags and leave the area. "Mā te wā" (see you later) I whisper to the Kea as we walk away.

On the way down, Melissa and Ricki tell me that this is the second year in a row that this nest has produced three chicks. The key to survival of chicks is intense predator control throughout the nesting season (from July to January). At a landscape scale, introduced predators are kept in very low, practically undetectable numbers at Nelson Lakes National Park, but a single stoat or feral cat incursion to a nest could wipe out a Kea's offspring. Think of the predator control at the nest as micro-scale predator trapping within a macro-scale predator control program.

This collaboration between DOC and the World Parrot Trust aims to protect Kea nests in this park for at least three breeding seasons to build up numbers. Kea severely declined across their range due to the combined effects of introduced predators (stoats, brushtail possums, potentially feral cats) and hunting. Over 150,000 Kea were hunted from the late 1800s to 1970s across their range. Add to this figure a century or more of Kea nests failing due to depredation by introduced predators. Kea only received full legal protection from hunting in 1986. In the Nelson Lakes National Park there are only a few adult Kea left. Unless younger Kea are locally recruited, the species could disappear from this park, so every single chick is precious.



**Top:** Wild Kea interact around a nest burrow. © NZ Department of Conservation

**Bottom:** Ranger Ricki, deep into her work in a Kea nest. © Luis Ortiz-Catedral



Once a Kea chick fledges from the nest, its chances of survival to sexual maturity are very high. Thus, the recovery of the Kea population at the Nelson Lakes National Park depends on protecting their nests from introduced predators to ensure a new generation of Kea replaces its parents.

Back at the office, Ricki and I spend hours going through the memory cards of the nest camera traps. My task before I return home is to find photos of this nest's three chicks with their leg rings clearly visible. This can help us estimate the survival of chicks between nest-checks. Turns out this is not as easy as it seems; there are thousands of images, but the chicks' rings are not always visible. Here, the tip of an outstretched wing covers the rings, there, a Kea chick hides behind a branch with only its quizzical face visible. At last, we find them: recent images of the three with their parents. By the next nest check, the chicks would have fledged. It is great to see the payoff of months of planning and fieldwork.

"I've observed community, *mana whenua*, and our supporters rallying around the Kea in Nelson Lakes National Park. We all share affection for Kea and are dedicated to preserving them in this place," says Biodiversity Ranger Emma McCool as we celebrate this year's Kea breeding season at the park. Emma sports a beautiful Kea tattoo, a bird with wings outstretched, wrapping around her right forearm. But the passion and purpose of Emma, Melissa and Ricki to protect Kea is not skin deep. Protecting Kea is a piece of a massive eco-puzzle to conserve the biodiversity in the Nelson Lakes National Park.

Building up Kea numbers in this park means strengthening ecological interactions and ecosystem processes, too. Kea feed and disperse the seeds of many alpine plants, and they do so more efficiently than other bird species. In their lifetime Kea could disperse millions of seeds. They also dig out insects from decaying wood, assisting in the breakdown of organic matter in the alpine zone, where this process is slower than in warmer areas. I hope that the Kea chicks from the nest I visited a few weeks ago live long enough to learn how to dig out insects from decaying wood. I smile at the thought of them chewing on some tasty grubs.

I also hope that they disperse thousands of seeds and help create future alpine forests. As Ricki puts it just before I say goodbye, "Every chick counts, we cannot afford to not do the work we do." 📷



Kea in flight. © Luis Ortiz-Catedral



The team debarks at a beach near the Kea. © Luis Ortiz-Catedral



The Kea field team, including Mickey Mouse. © Luis Ortiz-Catedral

NEWS

**Bolivia Forest Fire Prevention, Detection and Control Program Update**

Through the support of the Shared Earth Foundation, the World Parrot Trust and the Foundation for the Conservation of Bolivian Parrots, consultant Eric Horstman returned to Bolivia in December 2022 to complete field work. The focus of Eric's efforts (see *PsittaScene Autumn 2022*) was in the San Matias Integrated Management Protected Area. San Matias is Bolivia's second largest protected area and protects important ecosystems and their associated flora and fauna, including the Hyacinth Macaw (*Anodorhynchus hyacinthinus*).

Firefighting training was provided to park guards and local members of the Isla Corazon community. An assessment

was also made of the ongoing forest fire fighting program including the use of donated equipment, and high-risk forest fire areas and important biodiversity sites, roads, rivers and lakes were mapped. In general, nationwide, the number of affected areas by forest fires decreased in 2022, but the late beginning of the rainy season in some regions led to continued forest fires into January in some areas. The goal of the Bolivia Forest Fire Project is to empower local communities to both manage controlled burns for agricultural and grazing purposes as well as prevent uncontrolled forest fires, which in the past have burned more than half the San Matias Protected Area.



© Cecilia Nuñez

**One of Australia's most endangered parrots faces an unusual risk - trees**

The IUCN Endangered Golden-shouldered Parrot (*Psephotellus chrysopterygius*) is a restricted-range species found in NE Australia, with two isolated breeding populations existing on Cape York Peninsula in northern Queensland. It has suffered significant population declines and contraction of its

range since the start of the 20th century. Poorly planned and executed fire regimes by humans, as well as harmful grazing practices, have caused woody plants such as the Broad-leaved tea tree to gain a strong foothold in what would otherwise be a grassy savannah environment.

Golden-shouldered Parrots rely on long, unobstructed sightlines to watch for approaching predators and because the

grassland is now choked with trees the birds often can't see butcherbirds, raptors or lizards that prey on them until it is too late. As few as 700 of these parrots remain and their numbers are still on the decline, despite intensive conservation efforts.

Read more: [tinyurl.com/smithmag-gsp](https://tinyurl.com/smithmag-gsp)



**15th Annual Parrot Lovers Cruise February 6 - 16, 2024: Caribbean Islands**

Imagine cruising crystal blue waters while experiencing some of the most magical sightseeing in the world! Join fellow parrot lovers aboard the Caribbean Princess for ten days of enlightening seminars and exciting excursions visiting a variety of stunning locations, all while supporting parrot conservation. Don't miss out — contact Carol Cipriano to book your cabin today.

**Book today!**  
 📧 [carolstraveltime@gmail.com](mailto:carolstraveltime@gmail.com)  
 ☎ 1-510-200-5665 (USA)

[PARROTLOVERSCRUISE.COM](http://PARROTLOVERSCRUISE.COM)

PSITTASCENE  
2022 INDEX



34.3  
SPRING

- More Good News for Grey Parrots!
- Yellow-chevroned Parakeet rescue
- Malherbe's Parakeets: Estimating the population size on offshore islands
- Rewilding Parrots: The complexities of returning birds to freedom
- Pet Pages: Your feathered friend's beak
- Parrots in the Wild: Red-breasted Parakeet



34.4  
SUMMER

- The fight to save Thick-billed Parrots
- Rimatarā Lorikeet: Nest monitoring program
- Fledgling in the Field: A Puerto Rico travelogue
- Lovebird DNA: Sampling in the Zambezi River Basin
- Africa Anti-Trade Work: Recent developments
- Parrots in the Wild: Vernal Hanging Parrot



34.3  
AUTUMN

- Protecting Macaws from the Threat of Forest Fires: An Experience from Bolivia
- Book Review: Effective Conservation
- Interview: Alisa Davies on Social Media, Trade and New Data
- Can You Teach an Old Parrot New Tricks?
- Do Wild Parrots Self-medicate?
- Parrots in the Wild: Little Corella



34.4  
WINTER

- Kākā Conservation: Field Update
- Exploring the Distributional Range of the Santa Marta Parakeet
- Interview with Ann Brooks: Phoenix Landing Foundation
- Parrot Trafficking in Mexico: Large Seizure Prompts New Actions
- Parrots in the Wild: Yellow-tailed Black Cockatoo

ACCESS PAST ISSUES AT: [PSITTASCENE.ORG](http://PSITTASCENE.ORG)  
 English, Dutch, German, Italian, Portuguese, Spanish and Swedish

WPT CONTACTS

ONLINE

[parrots.org](http://parrots.org)  
[facebook.com/WorldParrotTrust](https://facebook.com/WorldParrotTrust)  
[twitter.com/parrottrust](https://twitter.com/parrottrust)  
[instagram.com/world\\_parrot\\_trust](https://instagram.com/world_parrot_trust)

MAIN BRANCHES

**UNITED KINGDOM (Main Office)**  
 Karen Whitley, Administrator  
 Glanmor House, Hayle,  
 Cornwall, TR27 4HB  
 Tel: (44) 01736 751026  
[admin@parrots.org](mailto:admin@parrots.org)

UNITED STATES

Lauren Schmalz, Administrator  
 PO Box 985, Travelers Rest, SC 29690  
 Tel: (1) 864 610 2129  
[usa@parrots.org](mailto:usa@parrots.org)

CANADA

Michelle Kooistra, Administrator  
 PO Box 41104 RPO Winfield S,  
 Lake Country, BC V4V 1Z7  
 Tel: (1) 250 800 3202  
[canada@parrots.org](mailto:canada@parrots.org)

ADDITIONAL BRANCHES

Africa	Rowan Martin <a href="mailto:africa@parrots.org">africa@parrots.org</a>
Australia	Carolyn Pradun <a href="mailto:australia@parrots.org">australia@parrots.org</a>
Benelux	Ruud Vonk <a href="mailto:benelux@parrots.org">benelux@parrots.org</a>
Belgium	Ronald Coens <a href="mailto:belgium@parrots.org">belgium@parrots.org</a>
Brazil	André Saidenberg <a href="mailto:brazil@parrots.org">brazil@parrots.org</a>
Indonesia	Oka Dwi Prihatmoko <a href="mailto:indonesia@parrots.org">indonesia@parrots.org</a>
Italy	Cristiana Senni <a href="mailto:csenni@parrots.org">csenni@parrots.org</a>
Japan	TSUBASA <a href="mailto:japan@parrots.org">japan@parrots.org</a>
Netherlands	Ria Vonk <a href="mailto:netherlands@parrots.org">netherlands@parrots.org</a>
Latin America	Rosa Elena Zegarra <a href="mailto:centralamerica@parrots.org">centralamerica@parrots.org</a>
Sweden	Maria Rogstadius <a href="mailto:sweden@parrots.org">sweden@parrots.org</a>



## **PARROTS IN THE WILD: Rainbow Lorikeet**

*(Trichoglossus moluccanus)*

These playful lorikeets are highly social with members of their own species, as well as with mixed flocks of parrots. They use their vibrant colours to great advantage, displaying frequently.

© Corey Raffel