

# The Kea

New Zealand's endangered alpine parrot

*Developed by Kate Akers and Tamsin Orr-Walker  
(Kea Conservation Trust)*

## Introduction

- Kea are a unique and endangered parrot (psittacine) species endemic to the Southern Alps of New Zealand.
- Fossil evidence indicates they previously lived on the North Island and the Chatham Islands (Holdaway et al 1993).



*Photo: Corey Mosen 2008*

- Kea have a high-pitched 'kee-aa' call, often heard in flight, and they also have a variety of quieter whistling calls.
- Kea are highly inquisitive and adaptive and are considered by scientists to be one of the most intelligent bird species in the world.
- Kea are also the only alpine parrot species and now number an estimated 1000 - 5000 individuals in the wild.
- Numbers of kea were substantially reduced with the introduction of a bounty which resulted in over 150,000 birds being culled as late as the 1970's.
- Kea are now listed as a nationally endangered species and the status of the wild kea population remains unclear.

## Threats

- Continued threats include predation of nests by introduced pest species (particularly possums and stoats) and human impacts (inclusive of lead poisoning).
- Potential threats include introduction of exotic avian diseases (such as avian malaria) and the unknown effects of global warming on New Zealand's alpine habitat.

## What's in a Name?

- Kea (*Nestor notabilis*), along with the kaka (*Nestor meridionalis*) and kakapo (*Strigops habroptilus*), are thought to together form the sole members of a distinct parrot family, Nestoridae, within the avian order Psittaciformes [parrots and cockatoos].
- The Norfolk Island kaka (*Nestor productus*) is now extinct (ref: [www.zoo.org](http://www.zoo.org)).
- It seems likely that the Nestoridae lineage diverged from that of other parrots some 80 million years ago, perhaps as a result of geographical isolation associated with the separation of 'Zealandia' (the precursor to New Zealand) from Gondwanaland.
- Its species name Nestor is from Greek mythology. Nestor was said to be a wise old counsellor to the Greeks at Troy.
- Notabilis (latin), means, 'that worthy of note'.
- Maori gave the name "kea", describing the sound of its call.
- Māori would have encountered kea when crossing the Southern Alps in search of pounamu (greenstone), and named the bird. To some tribes, kea were seen as kaitiaki (guardians). However, there is little mention of kea in Māori poetry and tradition, compared with their more widespread forest relatives, kākā (*Nestor meridionalis*). (Ref: [www.teara.govt.nz](http://www.teara.govt.nz)).

## Where do they hang out?



Juveniles at Mt Cook - Corey Mosen

- The habitat of the kea extends from South Island beech forests to alpine meadows and mountain scree slopes.
- This environment is extensive, extremely harsh and variable and the kea has evolved to cope with the associated survival pressures this environment presents.

## What do they munch on?

- Food habits vary, depending on season.
- Kea are predominantly vegetarian opportunistic feeders, eating roots, stems, and leaves, buds, flowers, seeds, fruits, berries and nectar. A lot of these foods are low in energy, but kea have

also been seen feeding on worms, grubs, insects and their larvae, sea-bird chicks and lizards which provide a boost of fat and protein.

- As opportunistic feeders, keas also eat carrion and many have adapted to eating garbage left by humans.
- With the event of human settlement they have adapted to eat almost anything.



*Adult kea with rubbish  
Photo: Vicky Nall*



*Photo: Andrew Walmsley*

### **Bird Brains?**



*Curious juvenile kea. Photo: Vicky Nall*

- Kea are considered by researchers to be one of the most intelligent bird species in the world.
- This intelligence and curiosity has created difficulties with humans, resulting in severe persecution of the species over the last 150 years.

There have been many studies of wild and captive kea working on complicated puzzles in New Zealand and overseas.

You can find details of these experiments and how the kea worked them out on the Kea Conservation Trusts Resources page.

- Check out the Kea Conservation Trust's *Resources* page for some amazing Audio and Video where there is access to a video of kea working on puzzles as well as the audio to listen to kea calls.

Kea Conservation Trust  
[www.keaconservation.co.nz](http://www.keaconservation.co.nz)  
April 2009



*Kea working on a puzzle!  
Photo Rachel Johnston*

## Family Tree

- Other New Zealand parrot species in the family Nestoridae include the endangered species of South and North Island Kakas (*Nestor meridionalis*) and the critically endangered Kakapo (*Strigops habroptilus*).
- The kea is thought to have developed its own special characteristics during the last great ice age by using its unusual powers of curiosity in its search for food in a harsh landscape (reference: DOC).



NZ Kakapo Photo: Department of Conservation



NZ Kaka

## Physical Description of Kea

### Colour

- Both male and female kea are predominately olive green and black with blue primaries allowing for camouflage in the wild. Adult kea have black beaks, eye and nostril surrounds. Juvenile kea have distinct yellow colouration in these areas which fade as they mature.



Adult female - Heaphy Track.  
M. Evers (Bush and Beyond Guided Walks)



Juvenile kea with yellow colouration (T. Orr-Walker)

- Viewed from beneath, however, the under-wings of the keas are a striking orange-red with black and yellow striped primary feathers.



*Juvenile kea in flight at Mt Cook - Corey Mosen 2008*

- Rare sightings of yellow or albino kea have also been recorded.

### Size

- Kea are the largest flighted terrestrial bird in New Zealand.
- Males are up to 20% larger than females and weigh over 1 kilogram.
- They are the second largest parrot in New Zealand – the kakapo is the largest at 2 kilograms.
- The kea is a strong flier with a wing span of over 1 metre.
- The trademark hooked black beak is also longer in the male kea and can reach up to 5 ½ centimetres in length.



### How old's the oldest?

- The oldest known kea in captivity is 50 years old (2008).
- Juvenile kea can be differentiated from adults through a distinctive yellow coloration around their eyes, mandible and nostrils (cere) which gradually fades to black/brown by 3-4 years of age.

## Social Behaviour of Kea

- Kea are highly gregarious, forming large social flocks in the wild with non-linear hierarchies.



*Kea playing together. Photo: Vicky Nall*

- Once adult kea reach breeding age - around 3 to 4 years of age - they tend to leave the main flock and pair up for breeding and raising of chicks.



*Adult male feeding female - Mt Aspiring National Park  
Gary and Iris - [www.alpinismski.co.nz](http://www.alpinismski.co.nz)*

## Reproduction

(ref: [www.zoo.org](http://www.zoo.org))

- Male kea become sexually mature at 4 - 5 years, while females reach sexual maturity as early as 3 years old.
- Males fight amongst themselves for dominance and follow a strict hierarchy.
- Only the most dominant males will breed.
- A male will breed with several females in his defended territory, and breeding pairs last throughout the birds' lives.
- Observers have seen kea breeding at all times of the year; however, kea breed mostly from July to January with peak breeding season in October.
- Kea may not breed on an annual basis; females may go two or more years before breeding again. This is likely due to the severe conditions of their habitat.
- The combination of male hierarchy with infrequent female breeding results in less than 20% of all males breeding annually.

- The male and female build their nest in forests, in a burrow under rocks, among tree roots or in a hollow log.
- The nest consists of a flightpath 3-18 feet (0.9 - 5.5 m) long, which leads to a wide nesting chamber.
- The breeding pair lines the nesting chamber with moss, leaves, twigs or rotten woodchips.
- The female lays a clutch of two to four smooth, white, oval eggs approximately 2 inches (5 cm) in diameter.
- She incubates the eggs for about four weeks.
- When the female is incubating, she usually waits for the male to feed her.
- The female may leave once or twice a day to feed, but she rarely strays far from her nest and the male guards it in her absence.

## Life Cycle

(ref: [www.zoo.org](http://www.zoo.org))

- Upon birth, hatchlings are helpless and require the care of both parents.
- Progeny have an extended juvenile period and are dependant on their parents for up to 6 months.
- The male doesn't help feed the young until they are about 1 month old; until that time, the female primarily feeds the young.
- The male also helps raise the chicks by playing with them, teaching them to fly, and watching them if they leave the nest.
- Chicks begin exploring outside the nest as early as two weeks after birth.
- The young stay nearby the nest until they fledge, which occurs 10-13 weeks after birth.
- After fledging, the chicks venture out on their own.
- Mortality rates are high; less than 40% live beyond their first year.
- Young kea are somewhat clumsy in flight, and until they become stronger flyers, tend to walk around to forage for food.
- Even as adults, they may spend more time on the ground than in the air.
- Kea live with their brothers and sisters until they reach sexual maturity, whereupon females remain in the area of their birth, while young males disperse to form their own flocks.
- Once separated, males and females establish organized groups of about 10 birds.
- There exists a social hierarchy in these flocks, where one bird becomes the dominant kea by beating other challengers.
- In order to get food and keep desirable objects to themselves, the dominant kea controls the subordinates.
- During the breeding season, flock dynamics drastically change when both sexes form large flocks of 50 - 100 birds.
- Kea are semi-nocturnal; in the summer they are often active well past sunset.
- In addition to the night time hours, kea may be more active during cloudy or stormy weather conditions.

## Master of the Mountains

(ref: [www.zoo.org](http://www.zoo.org))

- The kea has several adaptations that help it survive in cold, windy and snowy conditions.
  - Its plumage is thick and reduces exposure to the elements;
  - The kea's long and slender bill can fit between rocks or probe through snow to extract roots, bulbs and shoots;
  - Their talons are also quite long and sharp, which they use to dig for food;
  - On the ground, keas manoeuvre around obstructions by hopping sideways or easily rolling around in the snow.
- Keas are intelligent and inquisitive birds. Groups of keas quickly flock around a newfound object, examining it to see if it is a possible source of food or play.
- Researchers theorize that this fascination with novelty allows these birds to easily adapt to changing environmental conditions as well.
- Another adaptation for the kea is its social structure; in certain situations, kea within a group will cooperate to find food. Kea that are closely related tolerate each other, and may even share food once it is found. By searching for food together, individuals in the group learn where and how to find food.

## Survivalists

(ref: [www.zoo.org](http://www.zoo.org))

- The natural history of kea in New Zealand is filled with fact and fiction.
- In order to survive at high altitudes, kea must layer on enough body fat to survive freezing conditions.
- While their diet is mainly of plant origin, kea also resort to a somewhat omnivorous diet.
- For example, even though they experience little competition from other bird species, kea raid the nests of coastal birds to rob them of their eggs or young chicks.
- Some people even claim that kea once ate the extinct flightless moa.
- As Europeans settled in New Zealand, they brought sheep with them to graze the inhospitable landscape.
- This provided kea with a new source of food, as sheep are a potential source of fat and protein.
- Kea occasionally harass or scavenge sick, injured or dead sheep caught in snowdrifts or fallen from cliffs.
- The amount of damage caused to sheep by kea is much less than injuries caused by the steep and dangerous terrain.
- Nowadays, ranchers can also treat their livestock with antibiotics to reduce infection caused by kea attacks.



# Wild Kea

## Kea conservation status

- Kea only gained full protection status in 1986 under the Wildlife Act, 1953.
- The kea is now listed as a Nationally Endangered species by the Department of Conservation and is listed as an endangered species by the IUCN.
- Kea are therefore regarded as facing a high risk level of extinction in the wild with an estimated number of 1000-5000 individuals remaining.
- This uncertainty in estimates of population size is due to the extended range and behaviour of kea resulting in problems in surveying and monitoring of the remaining population.

## Historical human impacts on Kea populations

- Prior to 1971, a Government bounty for kea was in place.
- The legal culling of kea was primarily due to concerns by the sheep farming community of attacks by rogue kea on valuable stock in the high country.
- This resulted in over 150,000 keas being killed between 1860 and 1970.



*This kea beak brooch was made from two kea bills by silversmith W. McBride of Canterbury, around 1905. At that time kea were not protected – in fact, they were killed for a bounty.*  
(ref: [www.teara.govt.nz](http://www.teara.govt.nz))

- The effect of this on the remaining kea population is unclear as is the continued removal of individual nuisance birds from areas of human habitation today.



*The kea's natural curiosity has created problems with humans*

## Present day issues for Kea

- The kea's intelligence and natural curiosity has continued to cause conflict with people who live in or utilise the South Island alpine areas.



*Photos: Andrew Walmsley*

- Priority should therefore be given to monitoring of the remaining wild kea population to ensure numbers are stable as well as developing techniques to minimise kea damage to human property.
- Informing people on the endangered status of kea and human impacts on their continued survival should also be a priority.



*Juvenile with toy. Photo: Vicky Nall*



*Photo: Ray Goldring*

If you live in or visit the South Island high country here are three steps that you should take to keep kea safe:

1. Put anything away that can be put away. Kea are very inquisitive!
2. If it can't be put away, cover it with a durable cover to stop kea damage
3. Bring farm animals down from the high country and ensure they are vaccinated.

## Kea food availability

- The South Island high country areas are now under the management of the Department of Conservation, however, it should not be assumed that this engenders absolute protection for the wild kea population.
- Severe degradation of this environment and therefore the natural food sources of kea through historical clearing and farming practices of settlers have already raised issues of keas' ability to survive in the altered landscape.
- The transfer of high country sheep stations to conservation estate may have inadvertently reduced the availability of foods normally accessible through human habitation.
- Without such food supplementation, kea may face one of their biggest threats yet.
- This is highlighted by historical studies conducted by Jackson (1969) which listed starvation and direct human interference as the greatest causes of death in kea in the wild.

## Potential and immediate threats to Kea which must continue to be investigated include:

- \* Human - kea conflict
- \* Lead toxicity
- \* 1080 poisoning
- \* Global warming and effect on alpine habitats
- \* Introduced infectious diseases



*Juvenile with a model kea. Photo: Corey Mosen*

## In-situ (wild) Research

- The status of kea in the wild is not well known.
- As such it is vitally important that research into the remaining population is conducted to ensure that appropriate management decisions are made in the future.
- The **Summer Wild Kea Population Survey** - funded by NZ Lottery Grants Board – will take place in 3 key selected-breeding areas, prior to dispersal of young, across the species range. This study will utilise experienced bird handlers paired with keen volunteers to fulfil the following aims:

- (1) To count the number of breeding pairs of kea that reside within a defined area of mountain range at Nelson Lakes, Arthur's Pass and the Borland Range, Fiordland. Surveys in three consecutive years will be required to reach the desired level of accuracy. 2009 is the first year. The Nelson Lakes count will be compared to previous data from the same area in the 1990s;
- (2) To individually mark, with colour bands, the resident adult and sub-adult kea within the defined area. Colour banding resident adults will aid the counts of breeding pairs by preventing double counting. Survivorship may also be estimable if enough adults can be banded;
- (3) To radio tag up to ten fledglings per site. These birds will be tracked by airplane for three years to determine their survivorship and movements;
- (4) To satellite tag up to 2 fledglings per site;
- (5) To collect blood samples for research into lead poisoning and for baseline disease screening (avian malaria);
- (6) To collect blood serum for conservation genetics research;
- (7) To record kea food types eaten by kea for additional research.



*Photo: Chris Goldring - Department of Conservation*

### **1080 and Kea - Bird Repellent Research**

- This research is funded by T-GEAR Trust and Department of Conservation (DOC).
- The Kea Conservation Trust in conjunction with DOC is investigating bird repellents which may be used to prevent kea ingesting 1080 toxic baits during aerial pest control drops.
- The project methodology has been developed by the KCT (Tamsin Orr-Walker, Dr. Nigel Adams and Dr. Lorne Roberts), in collaboration with

Department of Conservation Josh Kemp and based on a review of bird repellents by Eric Spurr of Landcare Research.

- A combination of 2 known bird repellents will be incorporated into non-toxic cereal pellets and initially trialled by the KCT (under strict containment protocol) on captive kea to establish repellence to kea. Wild rat and possum trials will be undertaken by DOC to establish non-repellence to target pest species.



# Captive Population

## How many kea are held in captivity?

- 88 kea are held in approximately 30 captive facilities around New Zealand (2008).
- This number has reduced from 102 in 2002 due to an aging population.
- The remaining kea are either wild caught (founder) birds or their progeny. Many of these kea are genetically important and may potentially be used in future breeding programmes.

## Who coordinates the captive kea?

- The Kea Captive Management Coordinator (species coordinator) appointed by the Department of Conservation (DOC).
- The Species Co-ordinator manages the studbook for all captive kea in New Zealand and liaises with both kea holders and DOC regarding management of the captive kea population.

## Captive breeding of kea

- At present there is limited and highly selective breeding of kea as directed by the Species Coordinator.
- This is necessary to preserve maximum genetic diversity and normal kea reproductive behaviours to ensure sustainability of any future captive breeding programme.
- The Kea Conservation Trust believes that those facilities recommended to breed kea should be proven to have the following:
  - the highest of husbandry standards (inclusive of a highly variable enrichment and training programme);
  - a high standard of enclosure design (with enough complexity to ensure optimal mental and physical health);
  - a detailed advocacy strategy (inclusive of a a captive environment which engages the viewing public and increases empathy for the species and displayed information which is informative, accurate and encourages positive public involvement).

## New Arrivals

- Hamilton Zoo was the first facility to welcome a new kea chick for the 2008 breeding season (the last time Hamilton Zoo bred kea was 15 years ago).
- Three eggs were hatched by the pair and, as per captive breeding recommendation, 2 out of 3 eggs were pricked to allow only 1 egg to develop (this allows other pairs with important genetics throughout New Zealand facilities, the opportunity to raise



*Hamilton Zoo kea chick - September 2008*

chicks. Pricking eggs stops any development of eggs, is humane and does not stress the adults).

- Unfortunately the chick that developed and subsequently hatched, only survived for 11 days. Hamilton Zoo Director, Stephen Standley has stated that a preliminary autopsy report has revealed kidney damage most probably due to a bacterial infection.
- Wellington Zoo successfully hatched out three male kea chicks on the 1st November, 2008.
- The more adventurous of the brothers broke his leg during fledging and is presently in the zoos hospital facility with his leg in plaster!
- He will be back with his parents and siblings by the end of March 2009.



*Wellington Zoos 2008 chicks (photo courtesy of Wellington Zoo)*



*2007 season's chick at Auckland Zoo (photos courtesy of the Natives Section Auckland Zoo)*

### **Kea Advocacy**

- Whilst there is no “breed to release” programme for kea, the main justification for holding kea in captivity is for advocacy and research purposes to benefit the species in the wild.
- This can only be achieved through ensuring that individual facilities enclosures and husbandry techniques are of a standard that positively fulfills the species physical and psychological requirements and immerse and enthuse the public.

### **Captive Research**

- Research into how kea should be best managed in captivity can be accessed from our Resources page on our website (under Manuals and Papers).

# Enclosure Designs

- Just under 90 Kea are held in 30 captive facilities around New Zealand (2008).
- These include wild caught birds and their progeny. Many of these birds are genetically important and may potentially be used in future breeding programmes.
- The way in which Kea are held in captivity is extremely important to not only ensure both mental and physical health of captive individuals but also for advocacy purposes - highlighting Kea issues in the wild.
- This page will highlight innovations in Kea enclosure design and provide a visual resource for holders of Kea who wish to increase their minimum standards.

## Featured Enclosures

### Orana Park, Christchurch

- One of the newest walk-through kea enclosures on the block is to open mid 2009 at Orana Park.



*The new kea enclosure at Orana Park, well on its way to being completed*

*Photo credit: Orana Park 2009*

- This enclosure will also have an interpretive area with information on kea and alpine ecosystems. Definitely worth a look!
- Great work to the Orana natives team!



## Willowbank Wildlife Reserve - Christchurch

[www.willowbank.co.nz](http://www.willowbank.co.nz)



*Willowbank Enclosure walk –through (photo credit KCT)*

- Willowbank is a privately owned facility that does not claim to be a zoo but, as stated on its web-site, "accepts the responsibility and guardianship that goes with preserving and promoting wildlife conservation within New Zealand."
- The Kea enclosure at Willowbank, along with Staglands in Wellington, is presently one of the best examples in New Zealand. It incorporates a large walk-through aviary (highly recommended for kea) with variable substrates, vegetation, and furniture (including its own alpine tramping hut). It also features a large lake which has a long boardwalk area for visitors to walk across.



*Lorne Roberts (KCT) with a couple of new found friends!!*

- Willowbank has the largest group of kea anywhere in New Zealand providing maximum opportunities for socialisation of the species.
- On the Trust's visit to the facility in 2007, kea were observed bathing in the water and interacting positively amongst themselves and with the public. There were ample off display areas for the kea to go to, and, a variety of natural enrichment for them to explore.



*Willowbank Staff keeping an eye on things*

### **Staglands Wildlife Reserve - Upper Hutt, Wellington**



- "Staglands was established by John Simister in 1972.
- Staglands is involved in several aspects of conservation including threatened native species and rare breeds of animals. The reserve is home to several important native species of birds and liaison with the Department of Conservation takes place to ensure the long term survival of such species" ([www.staglands.co.nz](http://www.staglands.co.nz))
- Kea are held in an extensive and naturalistic walk through enclosure which allows an exciting public experience. Close encounters in this situation increase empathy for species and are therefore a powerful advocacy tool.
- Kea, naturally curious, benefit from the constant stimulation (humans as enrichment!) but have ample off display areas to move to if desired.

- Just as important is the way this enclosure is set out with:
  - \* variable substrates (grass, stones, large rocks and soil to dig in etc)
  - \* flowing water (kea love to bathe!);
  - \* different vegetation types (larger trees, grasses, flaxes and shrubs);
  - \* extensive free-flight area
  - \* interactive furniture (stumps/logs house insects which kea love to pick out).



*Walk-through macrocarpa arch*



*Close encounter!*



*Checking things out...*

## Captive Kea Issues

### Kea as a High Priority Species

- Kea in the wild have evolved to take advantage of their extreme environment and their curiosity and the need to explore novel items within their environment is an integral part of kea behaviour.
- Kea have complex environmental demands make them a high priority species.
- Species considered high priority are those which have complex environmental demands in their wild state. These demands potentially impact on survival

probability and, as such, the ability of the individual to make complex cognitive decisions is crucial for survival.

- High priority species held in captivity have a greater requirement for enrichment as they are considered more likely to develop atypical behaviours such as stereotyping.

### **Kea Captive Behaviours**

- Creating an environment which allows expression of natural behaviours is one of the main challenges captive facilities all over the world face.
- This is important for the mental and physical health of the animal and is particularly important if release programmes are in place.
- These challenges are amplified when holding high priority species.
- Captive facilities and Zoos around New Zealand are becoming increasingly aware of the need to provide complex and highly variable environments for their kea.
- Kea have evolved to take advantage of their extreme environment and as such curiosity and the need to explore novel items within their environment is an integral part of kea behaviour.
- Kea which are unable to fulfill this and other basic needs such as ability for flight, social interaction and foraging may begin to show signs of unnatural behaviours such as stereotypes.
- Stereotypic behaviours are unvarying repetitive behaviours performed with seemingly no obvious goal or function. They are only ever performed by captive animals that are unable to express natural behaviour patterns correctly. As such stereotypic performance is considered to indicate a deficit in the animal's environment.
- Studies on repetitive behaviours in captive kea within New Zealand (Orr-Walker et al, 2005) have shown high levels of this behaviour in the captive kea population (77.8%) signifying potential welfare problems. Facilities are aware of these problems and are working towards increasing performance of natural behaviours through enrichment of the captive environment.
- Additional research is now necessary to ascertain what constitutes best management practice for kea in captivity to ensure optimum psychological and physical health.

## **Kea Captive Management Plan**

### **Kea Captive Management Plan**

- The Kea (*Nestor notabilis*) Captive Management Plan and Husbandry Manual (Pullar, 1996) was set up to provide information on species status, biology, minimum standards and holder requirements including advocacy and research for this species.
- Its goal is to “manage a self-sustaining population of kea in captivity of a minimum size needed to maintain adequate genetic diversity to support the conservation of the species in the wild” (p.5).
- This document may be viewed in full from our Literature Page on our website.

Kea Conservation Trust

[www.keaconservation.co.nz](http://www.keaconservation.co.nz)

April 2009

# Kea in the News

## Curiosity kills the kea, study shows

*The Dominion Post*

*Last updated 12:59 22/04/2009*

**HEAVY METAL:** Science student Clio Reid found kea were sometimes getting a lethal dose of lead when nibbling at buildings or sneaking into wheelie bins.

A science student is calling for lead nails to be removed from old buildings in alpine area, after she found they pose a threat to curious kea.

Clio Reid found kea were sometimes getting a lethal dose of lead when nibbling at buildings or sneaking into wheelie bins.

"Many kea live near human- populated areas so they are at risk from all sorts of hazards when they go exploring, the main one being lead poisoning. Young kea are like little kids - they'll get into anything. Exposure to lead paint or nails in old buildings can kill them."

Ms Reid, a masters of science student at Victoria University, has just completed a study on kea in Aoraki/Mt Cook National Park that focused on the relationship between the personality traits of kea and the level of lead in their bloodstream.

"Once lead is in their bloodstream, it can do a lot of internal damage and even kill them.

Ms Reid found that although kea with curious personalities are more likely to have high levels of lead in their blood, the less explorative ones are at risk too.

"You'll often find that a really explorative kea will take the first step and check out new objects like lead head nails, and then the others will follow. Replacing lead nails in old buildings, refraining from feeding kea, and securing objects like wheelie bins will help keep them healthy and safe."

To explore the personalities of kea, Ms Reid presented different wild birds with a bright fluffy toy and watched their reaction.

Originally from Canada, Ms Reid has been fascinated by kea since her first encounter with one.

"They are always doing things that you don't expect, they are hilarious. They do somersaults, play tug-of-war and do all these crazy things. They are a unique species and most people know them for their clownish behaviour."



*Curious kea at Mt Aspiring checking out Clios toys!  
(KCT 2007)*

Kea Conservation Trust

[www.keaconservation.co.nz](http://www.keaconservation.co.nz)

April 2009

## Plea to give kea a chance

By Melissa McDonnell - The Press  
Last updated 05:00 20/03/2009

Drivers are being warned to watch out for kea on South Island alpine roads after several of the endangered birds were killed in Arthur's Pass.

Freelance photographer Andrew Walmsley this week saw a large truck run over two kea as they fed on the state highway near Arthur's Pass.

He said the truck was travelling at a normal speed and did not attempt to stop.



Andrew Walmsley ([www.awimages.net](http://www.awimages.net))

"The birds were in the middle of the road and the driver made no attempt to slow down. He didn't even touch the brakes, but just ram-roaded straight through.

"It was so shocking to see."

Another kea had been killed on the road in the past two weeks, and there had been several near-misses recently, the Kea Conservation Trust reported. It wants signs warning drivers about kea placed in townships along the trans-alpine route.

The endangered alpine parrot is unique to the South Island, where 1000 to 5000 live in the wild. The trust believed the number of kea had substantially reduced after about 150,000 birds were culled in the 1970s.

Trust chairwoman Tamsin Orr-Walker said the recent deaths were distressing, considering the low kea population and the environmental pressures on the bird.

"The unknown number of kea being killed by lead poisoning, 1080 poisoning, road incidents and accumulative human interaction could be having a larger impact than we know."

Orr-Walker said there was a public perception that kea were pests, despite the 1986 wildlife order "to absolutely protect the kea throughout New Zealand".

Orr-Walker hoped to raise awareness for drivers entering the kea habitat. She acknowledged "a driver's own safety is always the first priority, but on these often quiet, rural roads there is no reason why a vehicle can't beep its horn and give the birds a chance to fly to safety".

Kea Conservation Trust  
[www.keaconservation.co.nz](http://www.keaconservation.co.nz)  
April 2009

## Kea numbers may be in decline

The Kea Conservation Trust says the birds may be declining in number.

Keas were counted at 90 sites in Nelson Lakes National Park, Arthur's Pass and the Borland Range in Fiordland last month.

Compared to data collected by DOC in the 1990s, trust chair Tamsin Orr-Walker says there seems to be a major decline in their numbers and the birds may be under much more serious threat than first thought.

Threats include predators such as possums, and lead and 1080 poison.

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## Possoms take toll on kea at Nelson Lakes



*KCT workers banding kea at Nelson Lakes Jan 2009*

*By Simon Bloomberg - Nelson  
Saturday, 21 February 2009*

The kea population in Nelson Lakes National Park appears to be under serious threat from possum predation, with the latest surveys suggesting that numbers of the alpine parrot have declined significantly in the past 10 years.

Last month, 50 researchers and volunteers from the Kea Conservation Trust and the

Department of Conservation surveyed kea numbers at 90 sites in Nelson Lakes National Park, Arthur's Pass in Canterbury and the Borland Range in Fiordland.

Although the three-year study is being conducted mainly to compare populations between the three locations, kea numbers at Nelson Lakes appear to be much lower than those recorded in an earlier survey.

DOC researchers Josh Kemp and Graeme Elliott found that there had been a high level of kea nesting success at Nelson Lakes from 1993 to 1999. They identified 36 nesting sites, and also found that predation of the birds was low during the study period.

In contrast, only 12 kea were caught and banded at Nelson Lakes during last month's survey.

The researchers said it was also a concern that only three fledglings were seen during the 10-day observation period.

Kea Conservation Trust  
[www.keaconservation.co.nz](http://www.keaconservation.co.nz)  
April 2009



*Josh Kemp (DoC) checking out a kea nest*

Mr Kemp said the main reason for the apparent decline in numbers was predation of kea eggs and chicks.

Possoms were thought to be the main predator, because they lived in the same types of holes and crevices kea used for nesting, although stoats and rats also preyed on the parrots.

"There were possums in the vicinity of all the nest sites we surveyed this summer, and we

saw possum sign and dead possums in some of the kea nests.

"The requirements for possums and kea nest sites are very similar, so we think the possums go in there to live and find the eggs and eat them -- they aren't actively seeking out the eggs."

The decline in kea numbers was consistent with an increase in the number of possums at Nelson Lakes, although more surveys were needed to reach a definitive conclusion, he said.



*Kea eating lead nail heads at Mt Cook – Corey Mosen 2008*

Tamsin Orr-Walker, of the Kea Conservation Trust, said lead poisoning of kea ingesting nailheads and flashings on buildings might also be a problem closer to settlements.

Although kea in other areas had been inadvertently poisoned by 1080 baits laid for pests, this wasn't a problem at Nelson Lakes, where 1080 poisoning in

areas inhabited by kea was minimal, she said.

She said researchers were hoping to gain an insight into the reasons for the decline after fitting a satellite transmitter to a one-year-old kea and a fledgling at Nelson Lakes. Two adult females were also fitted with VHF transmitters to enable their progress during the next breeding season to be tracked.

She said researchers were also trying to develop a bird repellent for 1080 baits.



## 1080 solution to avert kea deaths

*By Helen Murdoch - The Press*

*Last updated 23:08 28/01/2009*

*David Hallett*

ENDANGERED NATIVE: Bird repellent may be added to 1080 pest bait to prevent kea deaths.

Bird repellent may be included in 1080 pest bait this year to prevent more deaths of the endangered kea.

Seven monitored kea died after an aerial 1080 drop in the Franz Josef area on the West Coast last year during a preliminary Department of Conservation (DOC) study on the impact of 1080 on kea.

The deaths jolted DOC, the Animal Health Board and the Kea Conservation Trust into committing to the annual \$250,000 study.

DOC Nelson science officer Josh Kemp said the study used radio-tagging and kea counts to monitor populations at various pest-control sites.

Bird numbers illustrated the impact of combinations of pest-control methods used at the sites, including aerial 1080 drops and trapping, he said.

Applications have been lodged with the Environmental Risk Management Authority to run the trials and have repellents included in the bait.

The two repellents registered in New Zealand would be trialled next spring.

"The hard part will be putting kea off taking the baits without putting off rats and possums," Kemp said.

If the registered repellents were ineffective, research for alternatives could take five to 10 years, he said.

Kemp said he had been worried about the impact of aerial 1080 operations on kea since the 1990s.

The Franz Josef kea deaths had "shocked and stunned" DOC, he said. Kea were susceptible to trapping and poisoning because they were inquisitive, intelligent, not scared of new food and a similar size and weight to possums, he said.

One thousand to 5000 of the ground-nesting alpine parrots range across three million hectares of the South Island. One million hectares is rotationally treated with 1080.

"If kea populations are on the slippery downhill slope, we need to assess the role of 1080, the need for a bird repellent and if a repellent works," Kemp said.

Kea Conservation Trust

[www.keaconservation.co.nz](http://www.keaconservation.co.nz)

April 2009

## **The Kea Parrot: New Zealand's Distinct Bird**

*By Angela Pham - Jan 2009*

"Famed for its olive-green plumage, scarlet underwings, keen intelligence and its rare attempts to feed on both dead and live sheep, the unique kea parrot of New Zealand draws attention from bird lovers and conservationists throughout the world"

"Inarguably, humans play a significant role in the population numbers of kea birds. [Josh] Kemp said that lead poisoning, car accidents, entrapment in garbage bins, angry farmers, critter traps and pet poisons have all contributed to kea deaths in past years. However, introduced predators like the stoat, a ferret-like animal, also threaten ground-breeding birds like the kea, [Gyula] Gajdon said.

Thankfully, conservation and research efforts have been extended recently to help ensure that kea parrots are thoroughly studied and can thrive safely in their forested environments."

"In collaboration with the Kea Conservation Trust and the Animal Health Board, we [DOC] will be radio-tracking four lots of 20 to 30 kea parrots through four aerial 1080 operations next winter," Kemp said. "Then, at two of the sites, we will be monitoring nesting success after the aerial 1080 and comparing it with nesting success in adjacent areas where pets are not controlled."

Kemp recommends visiting the KCT website for more details on the upcoming projects."

*For the full article visit [www.birdchannel.com](http://www.birdchannel.com) or follow the following link to the article:*

*<http://www.birdchannel.com/bird-magazines/bird-talk/2009-january/kea-parrots.aspx>*

# How You Can Help!

(ref: [www.zoo.org](http://www.zoo.org) and [www.keaconservation.co.nz](http://www.keaconservation.co.nz))

- Don't feed wild birds human foods.  
Many tourists visit our national parks to see wildlife. In order to attract their attention or to get a picture, some tourists feed kea or other wild birds. Feeding wild birds prevents them from seeking natural foods; they also become dependent on handouts from humans. To help kea and other wild birds, remove artificial food sources and they will lose interest in you and your possessions.
- If you see a banded bird, note its actions and report the band colour combination or numbers to the nearest DOC office and the Kea Conservation Trust. In an effort to track and identify kea, the Department of Conservation (DOC) and researchers puts bands on many kea.
- If you see a dead kea, note the date, time, location and contact the Kea Conservation Trust immediately. Dead kea can be used for research (if they are preserved as soon as possible after death) to help us understand why they are dying.
- To further reduce confrontations between wild birds and humans, remove tempting items and brightly coloured objects.
- The effort to save animal species requires cooperation and support at the international, national, regional and individual levels. You can help in this cause:
  - Become a “Kea crusader” or kea volunteer and help our feathered friends!!
  - Join the Kea Conservation Trust and find out how you can help us to help Kea
  - Donate funds for important Kea conservation projects



[www.keaconservation.co.nz](http://www.keaconservation.co.nz)