

The Kaka parrot (*Nestor meridionalis*)

Name: _____

Read through the information provided and complete the table provided to determine in which categories the Kaka fits.

Generally heard before they are seen, kaka are large, forest-dwelling parrots that are found on all three main islands of New Zealand and on several offshore islands. Much reduced in range and abundance in the North and South islands due to forest clearance and predation by introduced mammals, kaka are most abundant on offshore islands that have no introduced mammals, or at least no stoats. They remain locally common at some sites on the main islands that are close to offshore island refuges, and have increased in abundance at others where mammalian pests have been controlled. Kaka can be found in a wide variety of native forest types including podocarp and beech forest. They are a common sight in Wellington city, having spread from Zealandia/Karori Sanctuary.



Identification

A large, olive-brown parrot with grey-white crown, red-orange underwing and deep crimson belly and under-tail coverts. Males have a noticeably longer and deeper upper mandible and bigger head than females but this is generally only apparent when the two sexes are seen side by side.

Voice: a harsh, repeated, rhythmic “ka-aa” when flying above the forest canopy, harsh grating “kraak” alarm call when disturbed. In addition, a variety of loud, musical whistles, but these vary markedly from place to place. Males give a soft “tsee-tsee-tsee” call during the pre-copulatory display and when showing potential nest sites to females. Females soliciting food from their mates, and juveniles soliciting food from their parents, utter a guttural, repeated “aa-aa” call.

Similar species: the only species likely to be confused with the kaka is the kea, which is larger, olive-green rather than olive-brown, and confined to the South Island.

Distribution and habitat

Kaka are rare to uncommon in native forest throughout the three main islands of New Zealand except for areas adjacent to offshore island strongholds such as the Hen and Chicken Islands, Little Barrier Island, Kapiti Island, Ulva Island and Codfish Island. They are also common on Great Barrier and Mayor Islands, and have recovered at some sites where control of mammalian predators is undertaken, such as the Wangapeka valley in Kahurangi National Park, and the Eglinton Valley and Waitutu in Fiordland National Park. Reintroduction programs have been remarkably successful at a few sites. A large wild kaka flock is a feature at the Pukaha Mt Bruce National Wildlife Centre in the Wairarapa, and kaka are commonly seen throughout the Wellington city green belt, following their reintroduction to Zealandia / Karori Sanctuary. Kaka also visit Auckland and Hamilton cities during winter, but there are few sites there where they are regularly seen.

Population

Probably fewer than 10,000 birds. There appears to be sufficient gene flow between most populations to prevent the development of significant genetic differences between them.

Threats and conservation

Although forest clearance has destroyed all but a fraction of the kaka’s former habitat, the biggest threat to their survival is introduced mammalian predators, particularly the stoat, but also the brushtail possum. It is predation by these pests, particularly of nesting females, that is the reason for general rarity of kaka on the main islands compared to their forested offshore island strongholds. Kaka can coexist with rats, and possibly also with possums, but not with stoats. Kaka populations can, however, recover when stoats and other pests are controlled by trapping or poisoning.

Breeding

Kaka mainly breed in spring and summer, but occasional second broods can extend breeding into winter. Nests are generally in tree cavities over 5 meters above the ground, but can be at ground level on offshore islands. The nest floor is lined with small wood chips. The typical clutch size is 4 chicks. The female alone incubates the eggs and cares for the



nestlings but is fed by the male throughout the breeding season. Both parents feed the fledglings, which often fledge before they are able to fly, or even climb, effectively.

Behavior and ecology

Kaka are obligate forest birds that obtain all their food from trees. They are adept fliers, capable of weaving through trunks and branches, and can cover long distances, including over water. Radio-tracking and banding studies revealed that the kaka of the Hen and Chickens, Little Barrier and Great Barrier Islands are effectively one population, even though these islands are separated by as much as 25 km of open water. Kaka congregate at localized food sources such as flowering rata, but often forage alone for wood-boring insect larvae, fruit or seeds. As conspicuous as they can be when in a group, kaka are typically cryptic when alone, often the only thing to betray their presence is the sound of wood or seed fragments dropped by the bird as it forages.

Food

Kaka consume seeds and nuts, fruit, nectar, sap, honeydew and tree-dwelling, especially wood-boring, invertebrates. There are also two records of kaka preying on the eggs of small passerines. Kaka are seasonal specialists, moving from food source to food source as different fruits, seeds and nectar become available.

Adapted from: <http://nzbirdsonline.org.nz>

Factor	<i>Kaka's role</i> <i>(terms used in presentation – use all terms that apply)</i>	<i>Evidence from article</i>
<i>Feeding niche</i>		
<i>Trophic level</i>		
<i>Habitat type</i>		
<i>Active time</i>		
<i>Thermoregulation</i>		
<i>Modes of locomotion</i>		
<i>Method of reproduction</i>		
<i>Ecological relationships</i>		



Read about the five factors that contribute to a decline in biodiversity by causing a species' numbers to decline. Then determine which of these are affecting the Kaka parrot.

What is habitat loss?

Habitats are the places where animals, plants, and people live. Habitats provide living things with food, water, and other essentials that they need to survive. Living things are adapted to specific physical conditions, like light, temperature, and moisture. Over time, species adapt to the specific physical conditions in their habitats. The relationships that develop among the animals and plants in their habitats help them survive. When a habitat is changed, specific conditions change too, and some living things cannot live there anymore. For example, when trees are cut down, animals or plants that cannot tolerate sunlight will have difficulty surviving. People can help the animals and plants in these ecosystems by protecting and restoring natural lands.

What are introduced species?

Introduced species are plants or animals that were not originally found in an area. Introduced species either survive very well, or die off quickly if their new living conditions are not right. When they survive, they can cause a lot of damage to the native species. The native species often do not have any natural defenses to compete or protect themselves against the introduced species or the diseases they carry. Since "invaders" usually have no natural predators or diseases in the new habitat, they often take over and drive out the native species. The introduced species may be brought in by accident or on purpose. (People have found that introducing certain plants or animals into a region to combat a problem may cause a worse problem.)

What is pollution?

When people change the environment by adding something to it—chemicals, trash, spilled oil, even noise—it is a form of pollution. These additions can create harmful effects on living things. Some pollution problems are easy to see, but others are not as obvious. People can reduce pollution problems by switching to less-harmful products, increasing energy efficiency, and developing less-polluting technologies.

What is population growth?

The world is full of people. In the year 2000, the world's population reached six billion people and it is growing fast! Rapid growth of the human population means that more natural resources (like food, water, and fuel) are used up. In many areas of the world, people cannot find enough resources to meet their needs. Sometimes, the struggle to survive causes people to exploit other natural areas to find additional resources. A fast-growing population means that all the other reasons for animals becoming endangered increase, too. Finding ways to reduce population growth is not easy.

What is over-consumption?

With the ever-growing number of people that populate the Earth, our natural resources are in such increasing demand that sometimes they can't replenish themselves fast enough. Not only are there more people, but advances in technology have made it easier to take natural resources, which means that less is left behind to help restore the supply. This makes it even more difficult for those resources to be replaced. Some forests take thousands of years to mature, and fossil fuels, like oil, take millions of years to form and can never be replaced. We need to develop a plan for responsible use of natural resources.

Which of the factors above seem to be contributing to the decline of the Kaka parrot? Write your claim below:

Your claim: The factors that are contributing to the decline of the Kaka include _____
_____.

Your evidence: Please provide evidence for each factor you listed in your claim.



Conservation programs like those implemented to preserve wild Kaka populations are critical for their survival. You have been given a grant of \$750,000 to use to continue these programs. However, it is not enough to continue all of the conservation efforts. You will review the programs below and determine which programs are most critical to saving the species.

Artificial Nesting Sites—\$100,000 is needed to continue this project.

The potential for artificial nest sites to provide safe breeding refuges for Kaka is high, particularly if natural nest cavities are scarce. This, however, requires a design that can keep introduced predators out as well as being acceptable to Kaka. A previous trial of wooden nest boxes for kaka was hampered by the relatively small numbers produced and the unwieldy nature of the boxes themselves. Nest “boxes” manufactured from pieces of lightweight PVC pipe could, however, provide a serviceable alternative. Studies in South America have shown that this type of “box” is readily accepted by several parrot species particularly where suitable nest sites are scarce. A significant advantage of this nestbox design is the very smooth outer surface typical of PVC pipes, which may help keep predators from entering.

• **Pest-proof Fence Construction & Maintenance** — \$500,000 is needed to continue this project.

Sanctuary Mountain repaired fences last year and reported almost no deaths from invasive predators. Local workers monitor the fence, which helps to increase community awareness about this solution. Biologists would like to add to the fence to enclose more area in the surrounding areas to provide safe “islands” for the different populations of Kaka.

• **Community Education Program** — \$300,000 is needed to start this project.

The farmers and families that live near these protected areas may be unaware that their regular activities affect these birds. However, the problems of crop interference by the birds, poaching, and other kaka deaths can have a very negative impact on the population. Money is needed to develop programs that take into account the culture of the local people and for biologists to travel to the different schools and communities to run the programs. One part of the project will involve researching the foraging patterns of the Kaka — where do they go, how far do they fly, and which areas they prefer. With this information, it might be easier for scientists to make compromises with local people as to how they can help with conservation efforts. This would allow a “safe zone” for the Kaka, but enable the local people to continue to live without interfering with the wildlife.

• **Annual Census (Kaka population counts)**—\$200,000 is needed to continue this project.

In order to determine how many Kaka exist every year, biologists need to count these parrots. This helps them figure out whether the population is increasing, decreasing, or staying the same. Recently, the Kaka have been counted after their breeding season, when most of the chicks have already fledged from their nests. This seems to be producing more accurate counts than in previous years. Money is needed to send more biologists to protected areas to ensure counts are as accurate as possible.

Conservation Programs Chosen	Funding Needed	Your Rationale
	\$	
	\$	
	\$	
TOTAL FUNDING REQUESTED	\$	

