

THE RAINBOW LORIKEET PROBLEM IN NEW ZEALAND

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Rainbow Lorikeet (*Trichoglossus haematodus*) are widely distributed from Bali through the Lesser Sunda islands, Papua New Guinea and surrounding islands, Solomon islands, Vanuatu, New Caledonia and throughout the north, east and south-east Australia (Forshaw 1989, Bregulla 1992, Higgins 1999). A brightly colored strongly gregarious parrot feeds primarily on nectar and pollen, but also consumes a number of cultivated crops (Forshaw 1989, Bregulla 1992, Higgins 1999). Almost always seen in pairs or groups. Large flocks, which can contain up to 1000 birds, may congregate at concentrated food sources. Foraging flocks often commute daily to and from communal roosts (Crome and Shields 1992, Higgins 1999). They are prolific with pairs known to rear up to three successive broods in a single season.

A local resident has deliberately and illegally (not authorized under the NZ Wildlife Act 1953) released significant numbers of captive birds on the North Shore of Auckland. The birds have been supported with feeders and additional infusions from captive stock over the past few years. The birds have now been recorded in flocks of up to 50 and appear to have bred in the wild. The feral population is currently estimated to be 150-200 birds with small pockets distributed around the wider Auckland area. Some of these populations are not being supported with supplementary food and breeding has been detected in the wild. In Perth, Western Australia six birds were released in 1968. By 1980 their range and numbers had expanded significantly and they had become nuisance.

Australian evidence supported by our observations and reports from the North Shore is that these birds are generally aggressive to and often dominate all other birds trying to use the same food source. Lorikeets are also capable of dislodging much larger birds than themselves. The common use of food sources such as nectar and fruits overlap with that of NZ honeyeaters tui, bellbird and hihi (stitchbird). Observations at bird feeders have confirmed that suburban tui formerly using these nectar feeders have been excluded by groups of lorikeets. The hihi and NZ parrot species such as kakariki and kaka are obligate cavity nesting species as well as the endemic mammals short- and long-tailed bats. Rainbow Lorikeets also use tree cavities for roosting sites and compete vigorously for them with their own and other species. All the above mentioned birds are found only in NZ. These birds are not gregarious, generally defend resources in singles or pairs or adopt a pecking order at food sources. Stitchbirds are a threatened species with the majority of the world's population found on two islands of Hauraki Gulf. Bellbirds are restricted in range due to impact of predators. Tui have adapted to suburban gardens. Kakariki and kaka are confined to offshore islands and larger mainland forests. Rainbow Lorikeets therefore have the potential to impact negatively on endemic species in NZ through competition for nesting sites.

With the presence of feeders, many gardens providing suitable winter food sources and an abundance of Australasian plants, there is potential for the lorikeet high productivity in Auckland area. Rainbow

Lorikeet were noted feeding from more than 20 species of plants (e.g. Eucalyptus, Wattles, Calistemon, Banksia, Flame tree, Protea, Honeysuckle, Mulberries, Figs, Casuarina, Grevillia) with seeds, fruits, nectar, pollen and flower parts being eaten. There are also a number of weed and exotic species that provide abundant seasonal nectar and pollen resources.

Rainbow Lorikeet are strong flyers (Higgins 1999) and dispersal over water does not appear to be a barrier. They have been recorded flying between the islands of Torres Strait, and from offshore islands to the mainland to feed (recorded distance - 25 km). In Auckland dispersal to sensitive offshore island habitats including Tiritiri Matangi Island Scientific Reserve (3.5 km from the mainland) and Little Barrier Island Nature Reserve (24 km) would be easily achieved. In comparison many of the species at threat from competition with Rainbow Lorikeet have limited dispersal abilities and find water a significant barrier. Of particular concern is the fact that 80% of the threatened hihi population resides on these two Reserves (Rasch et. al. 1996).

Australian horticulturists regard Rainbow Lorikeet as a significant pest. In Darwin 80-90% of rambutan tropical fruit crops and more than 60% of mango crops in 1992 were lost to Rainbow Lorikeet damage. Queensland authorities estimate more than \$1 million of damage to lychee. Soft fruit crops such as peaches and apricots are suffering losses in Northern Victoria and Adelaide (Lamont 1996). Recent reports from South Australia suggest that Rainbow Lorikeet are quickly developing as the principal pest of commercial orchards. They are becoming greater pest than Common Starling (Lamont, 2000). Recently there has been increasing concern about the burgeoning population in Perth. "It may be that we are about to see the threat to agriculture realised. In early January this year a housholder in the northern suburb of Perth reported Rainbow Lorikeet to have eaten his entire crop of red seedless grapes". This is the first report of them eating grapes in that area. "Rainbow Lorikeet is a highly social species and there is a high potential for the use of a new food resource to spread quickly. Having now learnt that grapes can be utilised as a component of an already diverse diet it may be only a matter of time before the commercial grape growing areas adjoining Perth are utilised by Rainbow Lorikeet" (Lamont, 2000). In Western Australia Rainbow Lorikeets have been designated as "Unprotected species" and may be shot under permit (Higgins 1999).

Aucklanders already report damage to their fruit trees from the birds. The western region of Auckland harbours productive orchards and vineyards that are at risk from the lorikeets. In times of ecological stress where resources are limiting or fail they may well find such concentrated crop foods highly attractive. They would have a serious economic impact on NZ horticulture industry.

Australian study (Lamont, 2000) as well as our one show that critical elements for the RL successful establishment are:

- the existence and continued expansion of an under utilised and evolving habitat, consisting of a mosaic of exotic and native vegetation;
- tendencies of RL with regard to diet, nest requirements and their aggressive nature;
- their colorful plumage that have evoked ready community acceptance
- inaction by government agencies whilst their population numbers were low (in Australia).

Reports and observations suggest that the largest numbers are on the North Shore with smaller concentrations in Mt Albert/Remuera, Glendowie and sightings of pairs from other locations including Clevedon, Howick, Glen Eden, Henderson Valley, and Waiheke Island.

Rainbow lorikeets in the wild have been declared an “Unwanted Organism” under the Biosecurity Act 1993. Birds may still be kept as pets in secure aviaries, but heavy penalties may result if they are released.

The Department of Conservation has now initiated a live capture eradication program aimed at removing all of the lorikeets from the wild.