



OIA 18-E-1060/docCM 5665384

31 January 2019

Mr Tim Benseman
fyi-request-9267-41ac1b89@requests.fyi.org.nz

Dear Mr Benseman

Thank you for your Official Information Act request to the Department of Conservation, dated 15 December 2018. You requested the following:

- 1. Please list how many Kakariki have been tested for toxins.*
- 2. Please list the results, time and date of discovery of death, and time and date of testing.*
- 3. Please list what kind of testing methods were used and which agencies carried out these tests.*
- 4. If the time between discovery of the carcass and testing is greater than 3 days please explain why and who made the decision to not test for 1080 in the bone, when it is common knowledge that 1080 dissipates in 3 days in tissue but is stored for hundreds of days in bone. We have actually discussed this with Landcare and they state DOC have never asked them to test for 1080 in bone.*
- 5. In particular please provide the details of this debacle from the document DOC 5641292 Quote "after the poison drop on 6 October 2007. Dead chicks from the failed nest were found to have traces of 1080 in their tissues and the female was not seen after the nest failed, though the male was."*
- 6. How many chicks died from 1080. Given that the male gathers food for the female which then feeds the chicks, how authentic is it that the male survived, please provide the evidence that this assumption was based on.*
- 7. Please provide the pesticide application histories of the control blocks that DOC used in 1080 trials between 2010 and 2015.*

8. *Please list all the agencies that contribute to the VPRD.*

Context:

This request is mostly for information about department research carried out between 2006-2008 that aimed to test the effect of predator control regimes for protecting kākārīki karaka/orange-fronted parakeets.

The project took advantage of scheduled pest control operations to measure nesting success with and without predator control in the North and South Branches of the Hurunui Valley. The South Branch received predator control including stoat and rat trapping, brodifacoum bait stations and aerial 1080. The North Branch had no rodent or stoat control but had previously received occasional localised possum control.

The research monitored a total of 79 yellow-crowned parakeet nests over 3 nesting seasons in the two areas. Yellow-crowned kākārīki were used as proxies for the threatened kākārīki karaka, which has similar habits.

The project concluded that:

“Some parakeets are killed by aerial 1080 poison of the type used in the Dart and Hurunui Valleys, but given the rate of nest predation observed when no predator control was carried out in the North Branch of the Hurunui, the net effect of a predator control regime that includes aerial 1080 is undoubtedly positive”.
Rhodes M, Elliot G, Kemp J 2008. Parakeet nesting success with and without predator control in the Hurunui Valley, North Canterbury. Unpublished report DOC DM-384475. Department of Conservation.

This research paper has been released previously under the OIA and is attached for your information.

Your questions and our responses are listed below:

1. *Please list how many Kakariki have been tested for toxins.*

The Vertebrate Pesticide Residue Database (VPRD) contains a single record of a dead yellow-crowned kākārīki tested for exposure to 1080.

2. *Please list the results, time and date of discovery of death, and time and date of testing.*

The result was less than the Method Detection Limit (MDL) of 0.001µg/g. The sample was taken 19/11/09. Sample analysed 5-7/5/10.

3. *Please list what kind of testing methods were used and which agencies carried out these tests.*

The determination was carried out using TLM005, the assay of 1080 in water, soil and biological materials by gas liquid chromatography (GLC). The MDL is 0.001µg/g and the uncertainty (95% c.i.) is ± 9%. The testing was done by Landcare Research Toxicology Laboratory.

4. *If the time between discovery of the carcass and testing is greater than 3 days please explain why and who made the decision to not test for 1080 in the bone, when it is common knowledge that 1080 dissipates in 3 days in tissue but is stored for hundreds of days in bone. We have actually discussed this with Landcare and they state DOC have never asked them to test for 1080 in bone.*

As we have answered in a previous letter, the department does not run a toxicology laboratory. We defer to the accredited expertise of Manaaki Whenua Landcare Research Toxicology Laboratory on the best way to test for 1080 residues.

That said, we believe your question is based on a false premise. You assert the department should ask for bone to be tested for 1080 because 1080 dissipates quickly in tissue. In fact, the department does not consider it necessary to ask for tests of bone, for two reasons.

Firstly, your question confuses the difference between testing for 1080 residues in dead carcasses versus live animals.

It is true that in living, sub-lethally dosed animals, 1080 does “dissipate”, as it is quickly metabolised and excreted. The amount of time this takes depends on the species. For example, the elimination half-life of 1080 in plasma and muscle of a sub-lethally dosed possum can be as little as 9 hours ¹.

In dead animals, however, numerous studies have demonstrated that 1080 does not “dissipate” after 3 days. If an animal has ingested a lethal amount of 1080, this will not all be metabolised and tissue could contain residues for many months, depending on the species and the climactic conditions. (This is why the department places warning signs in treatment areas.)

Hence, we do not consider there is a need to test bone from carcasses for 1080 residue when muscle tissue is still available.

¹ Eason, C. T., Ross, J., & Miller, A. (2013). Secondary poisoning risks from 1080-poisoned carcasses and risk of trophic transfer—a review. *New Zealand Journal of Zoology*, 40(3), 217-225. doi:10.1080/03014223.2012.740488)

In addition, we assume tests for the presence of 1080 in bone would be inconclusive. This is because it is the metabolites of fluoroacetate such as fluoride, not sodium fluoroacetate, that accumulate in bone. Therefore, the assay would need to be for fluoride, which would then make it impossible to tell whether this came from sodium fluoroacetate poisoning or other sources of fluoride in the environment.

5. *How many chicks died from 1080. Given that the male gathers food for the female which then feeds the chicks, how authentic is it that the male survived, please provide the evidence that this assumption was based on*

The research was not intended to count chicks, rather it monitored the stages of nesting and estimated nest successes and failures. There was no need to ascertain the numbers of chicks or eggs for this research.

Yellow-crowned kākārīki lay eggs in clutches of between 2-9 eggs and the fledging period can take 37-47 days. All but one of the 15 monitored nests continued successfully after the 1080 drop in October 2007. The method for monitoring the nests is described in the report attached. Field notes that may have commented on the number of chicks observed in the failed nest no longer exist, since the research was over a decade ago.

The survival of the male is not an assumption. The report states the male was seen after the nest failed. Because both sexes of yellow-crowned kākārīki feed chicks, the survival of one of a pair is quite feasible.

6. *Please provide the pesticide application histories of the control blocks that DOC used in 1080 trials between 2010 and 2015.*

This information does not exist because the department has not carried out 1080 trials using control blocks.

7. *Please list all the agencies that contribute to the VPRD.*

This information does not exist because the VPRD is a department database that other agencies do not actively contribute to. We record results of tests reported by other agencies when these are available, for example when they are published in scientific papers.

The following documents fall within the scope of your request and are attached:

Item	Date	Document description	Decision
1	2008	Rhodes M, Elliot G, Kemp J 2008. Parakeet nesting success with and without predator control in the Hurunui Valley, North Canterbury. Unpublished report DOCDM-384475. Department of Conservation	Released in full

Please note that this letter (with your personal details removed) and enclosed documents will be published on the Department's website.

Yours sincerely



Matt Barnett
Director Threats, Biodiversity (Acting)
for Director-General