[redacted]

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Ref: OIAD-5215

17 June 2025

Tēnā koe [redacted]

Thank you for your request to the Department of Conservation (DOC), received on 13 May 2025, in which you asked for:

1. *Scientific necropsy records proving that feral cats are the primary and direct cause of adult pukunui deaths.*
2. *Data logs identifying predator species at time of nest predation.*
3. *Independent, peer-reviewed confirmation of cause-of-death reports.*
4. *Toxicological risk assessments proving 1080 poses no direct or indirect harm to pukunui, kiwi, native invertebrates and birds, aquatic species, and pollinators.*
5. *Acknowledge contradiction between your claim at the 25 March 2025 meeting and OIA disclosures confirming 143+ positive 1080 tests in worker urine samples.*
6. *All studies on 1080 residues in native species (e.g., ruru, kiwi), and confirmation of testing practices post-operation.*
7. *Water table and run-off risk assessments for aerial bait exposure during winter drops, including marine food chain contamination risks.*
8. *Provide publicly accessible consultation record and all risk disclosures made to the Rakiura community."*

We have considered your request under the Official Information Act 1982 (the OIA).

Your questions and our responses are listed below:

1. *Scientific necropsy records proving that feral cats are the primary and direct cause of adult pukunui deaths*
2. *Data logs identifying predator species at time of nest predation*

While Southern New Zealand dotterel/pukunui remains are rarely found, these remains are generally consistent with expected field sign from a medium to large mammalian predator, rather than avian or rat predation.

Year to year pukunui population changes are driven mostly by differences in adult survival which indicates that predation by feral cats is a key factor. Other known threats or pressures (nest predation by rodents and deer, disturbance from other birds, infertility) are more likely to affect population recruitment. Nest monitoring, rather than necropsy reports, has confirmed a high rate of feral cat predation of adults and eggs, while interaction from other predators is rare.

All ten pukunui nests found in the 2021/22 season were monitored by trail camera. Of these, three nests failed due to recorded predation by feral cats, including predation of two adults. Less rigorous camera monitoring of nests in previous seasons had also detected predation by feral cats, along with less frequent predation or disturbance by rats, other bird species, and white-tailed deer. Subsequent analysis of trail camera images has shown that feral cats are the most common interactor with nesting sites.

I am providing you with copies of images from this nest monitoring. Please refer to item 1 in the document schedule below.

Pukunui are particularly vulnerable to feral cat predation for the following reasons:

- Pukunui are of modest size and are no match for feral cats
- Pukunui nest on the ground
- Feral cats are active at night and typically roam for extensive periods throughout pukunui breeding habitat, meaning they have more opportunities to encounter nests.

Australasian harrier, spur-winged plover and southern black-backed gulls are also known to prey upon dotterel eggs and chicks.

3. *Independent, peer-reviewed confirmation of cause-of-death reports.*

An independent consultant undertook an assessment of the pukunui conservation programme following the observed population decline between 2010-2015. They noted:

> "*in the absence of loss of adults to cats, SNZD appear to be long-lived. If the population really has declined as quickly as Figure 1 suggests, it argues to me that reduced adult survival is much more likely to be behind the decline than lowered productivity (if adult survival were normal and productivity reduced, the decline should be more gradual). If adult survival has fallen, the implication must be that a larger predator (i.e. one capable of taking adult dotterels easily) is involved. If mustelids are still absent from the island, cats must be the most likely suspect'*

Impact Assessment of 1080 Use

4. *Toxicological risk assessments proving 1080 poses no direct or indirect harm to pukunui, kiwi, native invertebrates and birds, aquatic species, and pollinators.*

   I am sharing with you DOC's Pesticide Review Report. This outlines the science that supports the use of 1080 to protect native species along with risk assessments.

Worker Safety Evidence

5. *Acknowledge contradiction between your claim at the 25 March 2025 meeting and OIA disclosures confirming 143+ positive 1080 tests in worker urine samples.*

   DOC's view is that the risk to people from working with 1080 is well managed.

   You have referred to OIA disclosures of 143+ positive 1080 tests in urine samples. That information comes from a summary of 647 urine samples tested for 1080 by Manaaki Whenua Landcare Research over a 10-year period, from January 2009 to April 2019. However, the summary is for all samples collected across New Zealand, with no contextual information about where, when, or how samples were collected, whether the samples came from humans or other animals, the number of individuals sampled, the agencies involved, or the pesticide handling practices that were followed by any workers being sampled.

   The report also has no information about the concentration of residue detected in positive results. Intuitively, you might assume that any detection of 1080 residue in a urine sample represents a health risk. However, testing can detect traces of 1080 down to extremely low levels, well below the level that poses any threat to health. It is important to note the difference between the Minimum Detection Limit (MDL), which is the lowest level at which 1080 can be detected, and the Biological Exposure Index (BEI), which is a substance-specific concentration below which nearly all workers should not experience adverse health effects from exposure to 1080. The MDL value for 1080 is 0.001µg/ml, while the BEI value is 0.015µg/ml.

   The Department undertakes health monitoring of staff and contractors that use 1080, through urine sampling. The purpose of this testing is to ensure that workers are safe, and the Safe Handling of Pesticides Standard Operating Procedure (SOP) is protecting those involved in 1080 operations from exposure to 1080.

   Since 2009, urine sampling of DOC staff and contractors has detected 12 positive samples. Of these, only 1 sample was above the BEI. The subsequent investigation established the cause was hot conditions leading to ill-fitting personal protective equipment. All of the remaining 11 positive urine samples were below the BEI.

The testing described above confirms that with adherence to the SOP, workers are well protected from exposure to 1080.

Ecological Consequences

6. *All studies on 1080 residues in native species (e.g., ruru, kiwi), and confirmation of testing practices post-operation.*

Monitoring results and independent research have proven that 1080 effectively protects New Zealand's native wildlife. DOC's operational practices include measures to mitigate risks to native species, which are based on many years of research and development. For example, cereal pellets incorporate 1080 into a complex 'bait matrix' to minimise chaff, baits are dyed green to deter birds and scented with a cinnamon lure to attract possums and rats but not birds, and bait is sown at low densities of 1–3 kg per hectare.

All published studies of 1080 residues detected in native species are recorded in the attached "Sodium fluoroacetate Pesticide Information Review". Please refer to Section 3 "Effects on Non-Target Native Species", particularly pages 34 to 60 for this information.

Native species are tested for a toxin when they are found dead and there is a possibility that they may have been exposed to that toxin. The circumstances of the bird's death (e.g. obvious signs of the cause of death), and the state of the decomposition of the dead bird are also taken into account.

Hydrological Contamination Modelling

7. *Water table and run-off risk assessments for aerial bait exposure during winter drops, including marine food chain contamination risks.*

All published studies of the fate of 1080 in the environment are recorded in the attached "Sodium fluoroacetate Pesticide Information Review". Please refer to Section 2 "Fate in the Environment", particularly 2.3 "Fate in water" on pages 14 to 17 for this information.

Zero Invasive Predators and Te Puka Rakiura Trust have been engaging closely with representatives of both the wild and farmed fishing industry to work through any of their concerns.

The fishing industry have specifically asked for water testing to take place at the mouths of two main river catchments, to determine whether toxin can be carried into the marine environment. Samples will be taken prior to and at set intervals post operation. The Cawthron Institute has also been contracted to undertake a study investigating how 1080

behaves in sea water. The results of this work will determine if further research is needed with species of commercial and recreational interest.

Public Disclosure and Consent

8. *Provide publicly accessible consultation record and all risk disclosures made to the Rakiura community*

   I am providing you with a summary of consultation on effects for the Pukunui operation, please refer to item 3.

Item	Date	Document description	Decision
1		Photographic Evidence	*Released in full*
2	9 September 2024	Sodium fluoroacetate Pesticide Information Review	*Released in part*
3	June 2025	Summary of consultation on effects, Pukunui 2025 operation	*Released in full*

I have decided to release the relevant parts of the documents listed above, subject to information being withheld under the following sections of the OIA:

- preventing undue pressure on officials, under section 9(2)(g)(ii) – to protect Ministers, officials, or employees from improper pressure or harassment.

In making my decision, I have considered the public interest considerations in section 9(1) of the OIA and determined there are no public interests that outweigh the grounds for withholding.

You are entitled to seek an investigation and review of my decision by writing to an Ombudsman as provided by section 28(3) of the OIA.

Please note that this letter (with your personal details removed) and attached documents may be published on DOC's website.

Nāku noa, nā

Ben Reddiex
Director National Programmes
Department of Conservation
Te Papa Atawhai