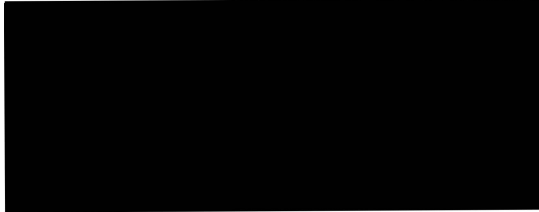




19-E-0005 - 5674105

13 February 2019



Official Information Act request - paralytic shellfish poisoning warning in the Bay of Islands

I refer to your Official Information Act request to the Minister and Ministry of Primary Industries dated 7 December 2018. Questions 3 and 4, and part of question 5 have been transferred to the Department of Conservation under section 14 of the Act for response, as per the Ministry's advice to you (ref OIA-0862).

At the outset I note that the monitoring regime put in place for the Russell and Cape Brett aerial 1080 operation was driven by human/cultural elements, rather than potential effects on marine or in-stream biota, which are not considered to be at risk due to the very high tolerance most fish species have to 1080. Your questions and my responses are listed below:

3) *"any information, research, testing, analysis and/or other information assessing any possible effects on the Bay of Islands coastal and estuary environment from recent aerial 1080 poison drops in the Russell state forest area, including into water catchments and water courses in this area, including any assessments **before and/or after the aerial poison discharges** about what effects there might be in the coastal environment including from:*

- a) the 1080 poison baits, from metabolites and/or from other breakdown products from those baits and/or*
- b) from E coli and/or other contaminants from poisoned possum, rat, bird, deer, wild pig and other carcasses that ended up in watercourses and/or*
- c) from a combination of these and/or other sources of contamination"*

3a) Water from the Waikare, Waihaha, Tangatapu, Waitui, Otutea and Ahitapu Streams, all of which flow into the Bay of Islands coastal environment, was tested by Landcare Research Ltd for the presence of sodium fluoroacetate (1080).

The first Russell Forest samples were taken on the day of the operation (28 September 2018), three from the Waikare catchments and one from the Waihaha Stream. They were all negative for the presence of 1080.

The first Cape Brett samples were taken on 30 September 2018 from the Tangatapu, Waitui, Otutea and Ahitapu streams and were repeated on 1 October 2018. All were negative for the presence of 1080.

Further samples (3) were taken at known drinking water intakes in the Waikare catchment the day after the completion of the operation (29 September 2018) and were all negative for the presence of 1080. However, one sample from a disconnected

water intake point within the treatment area feeding the Waiotu stream had a positive sample of 1 ppb (parts per billion).

Further samples (3) were taken at the same Waikare catchment water intakes on the 30 of September and were all negative for the presence of 1080. All other water intakes, including the previously positive sample from Waiotu were also re-tested on 30 September and were negative for the presence of 1080.

Final samples were taken from the Waikare Stream on 15 October following 10mm of rainfall, and all four of the Cape Brett streams on 28 October 2018. These all tested negative for the presence of 1080.

Documents associated with this application are attached and outlined in Table 1 following this letter. Please note that some information has been withheld from the attached documents in order to protect the privacy of natural persons. This decision is made under section 9(2)(a) of the Official Information Act.

3b) While not a requirement of the Public Health consent, water from the Waikare Stream was sampled by local Iwi on 30 September and tested for the presence of *Escherichia Coli* (E. coli). This was only two nights after the operation, so is unlikely to have been affected by the decomposition of carcasses associated with the poison operation. The result, 327 MPN (most probable number) /100ml, showed that the water was already well over the maximum drinking water standard of 200 MPN / 100ml. The source of this contamination is not known but is likely to be related to the very high pig numbers reported within this catchment at the time.

Local Iwi also searched the lower catchments of the Waikare Stream on 4 October 2018 for a distance of approximately 1.5 km from the edge of the treatment area and removed any animal carcasses found in waterways.

The final treatment area boundaries were agreed to after consultation with adjoining Hapu and marae representatives. Controls and precautions included agreed setbacks from some entire catchments (e.g Karetu Stream and Tangitapu Stream) as well as setbacks from the lower end of the larger catchments. These decisions around setbacks were made in response to requests by Iwi and adjoining landowners.

3c) While not a requirement of the Public Health consent, Hapu representatives requested that eels taken from the vicinity of the aerial operation also be tested for the presence of 1080 in their flesh. To that end, local Iwi captured one eel from each of the three main catchments (Waikare, Punaruku and Waiotu), and flesh samples were tested for the presence of 1080. Only one of the samples was positive (7 ppb) for the presence of 1080 (Waiotu stream) and that sample had been sourced from within the aerial treatment area. The eel was also taken from within the area under caution not to “take animals for eating” until the minimum caution period of at least 4 months has elapsed. The two negative samples were from eels caught between 1 and 3 kilometres downstream of the treatment area.

The concentration detected (7ppb) was similar to what was found in a captive experiment by Lyver et al (noting that the 1080 residue level in the Russell Forest eel was about half that reported in the experimental captive eel on day 9.

To put this positive result into context, at the level of 1080 detected in the eel, a 60kg person would have to eat over 5,000 kg of eel flesh in one sitting to ingest an estimated Minimum Lethal Dose (MDL) of 1080.

No further information was collected relevant to the aerial operation or any other sources of potential contamination.

4) *“any controls or precautions taken before the aerial poison discharge to try to avoid or manage all such affects”*

Arrangements for the above measures to be put in place were made before the aerial operation.

5) *“any information that assess the environmental ~~and/or~~ economic cost of the discharge of aerial poison on the Bay of Islands environment and/or on the shellfish industry”.*

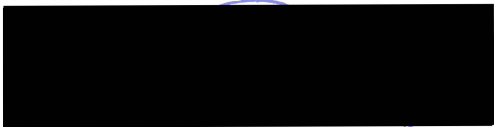
This response does not address the economic aspect of your question. The Assessment of Environmental Effects (AEE) prepared for the Russell and Cape Brett operation identifies a number of fresh water fish species as being present within the operational area, however they are not considered to be at risk due to the very high tolerance most fish species have to 1080 (Bauermeister et al. 1977): and contamination of water by 1080 has rarely been detected and only at extremely low level when it has occurred. An excerpt from the AEE of information relevant to your question is attached and outlined in Table 1 below.

Documents associated with this application are attached and outlined in Table 1 below. Please note that some information has been withheld from the attached documents in order to protect the privacy of natural persons. This decision is made under section 9(2)(a) of the Act.

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

You are entitled to seek a review of my decision by writing to an Ombudsman pursuant to section 28(3) Official Information Act.

Yours sincerely



Sue Reed-Thomas
Director, Operations
Northern North Island

Table 1

Item	Date	Document description	Decision
1	3 October 2018	Russell Catchment water results from 28 Sept 2018	Released in part
2	4 October 2018	Russell water results from 29/30 Sept 2018	Released in part
3	18 October 2018	Russell water results from 15 Oct 2018	Released in part
4	24 October 2018	Cape Brett Water results from 30 Sept and 1 Oct 2018	Released in part
5	1 November 2018	Cape Brett water results from 28 Oct 2018	Released in part
6	21 November 2018	Tuna flesh laboratory analysis report from 18-20 October 2018	Released in part
7	13 November 2018	Russell water coliform analysis report from 30 September 2018	Released in part
8	August 2018	Excerpts from Assessment of Environmental Effects	Released in part