



13 May 2019

Kathy White

Waikato Regional Councillor for Taupo-Rotorua Chair, Environmental and Services Performance Committee (WRC)

By email: fyi-request-10106-09c9f2a4@requests.fyi.org.nz

Dear Councillor White,

Official Information Act 1982 (Act) request – Increased use of 1080 (sodium fluoroacetate) in Predator Free 2050 – calculation of adverse effects

We refer to your email of 14 April 2019 (received 15 April 2019) requesting certain information from the National Institute of Water and Atmospheric Research Limited (NIWA). We respond as follows:

Questions b – d

- b. *Should water monitoring and sampling follow the Landcare Research protocol, which includes a recommendation to test water at 5-8 hours, because this is the time that 1080 is most likely to be detected? (Note: Most pest control agencies only test water at 24 hours)*

Yes. Monitoring data suggest that most water samples with detectable concentrations of 1080, and certainly the higher ones (>1 ng/mL), were collected within 48 hours of aerial bait application. Research by Suren (2006) showed that 1080 was rapidly leached from pellet baits placed in small streams (>90% of 1080 leached within 24 hours), and 1080 was detectable in the water only for a short period of time. Based on this Suren suggested that water samples taken within 8 hours of bait application are expected to provide the greatest likelihood of detecting any residual 1080.

- c. *Are concentrations of toxin introduced by 1080 baits likely to be higher and more persistent in relatively still water environments, than in rivers?*

Yes. 1080 is leached from baits and dispersed in water largely by a dilution effect. The dilution capacity of a stream will be dependent on the flow rate/volume of water.

- d. *Are the measured concentrations in NZ water samples you have referred to from streams and rivers (rather than relatively still water environments)?*

Yes. The measurements referred to in Suren (2006) and in other NIWA papers on 1080 were only from streams and rivers.

Questions a and e – m

You have requested the following information:

- a. *What level of confidence do you have in the historic water sampling results from routine monitoring in NZ?*
- e. *What has been documented (researched or proposed) regarding effects of 1080 baits in relatively still water environments?*
- f. *Given that the few studies that have been carried out show that aquatic plants and invertebrates are sensitive to 1080 poison, what effects are likely when baits land in relatively still water environments?*

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- g. *When aquatic plants and aquatic organisms metabolise 1080 to fluorocitrate is this likely to poison up the food chain (eg snails, fish)?*
- h. *Is 1080 likely to enter aquifers?*
- i. *What monitoring of 1080 in aquifers [has] been carried out?*
- j. *How are modern practices (including not avoiding waterways and double bait sowing under the new ZIP method (ZIP, 2017)) likely to affect levels in water?*
- k. *How might the double bait sowing under the ZIP method affect aquatic invertebrates/zooplankton?*
- l. *What research has been done to assess risk in terms of a reduced aquatic invertebrate population causing algal growth to go unchecked?*
- m. *What research has been done on the production of fluoro-methane in the biodegradation process and has this been calculated in a risk assessment connected with increased use of sodium fluoroacetate in the Predator Free 2050 programme (especially with the double bait sowing method of ZIP)?*

We do not hold any information on questions a and e – m and have checked with Landcare Research and OSPRI and they have both advised that they do not hold any information requested on these questions. We have no grounds for believing the information requested is held by, or connected more closely with, the functions of another department, Minister of the Crown, organisation or local authority. Therefore, in accordance with section 18(g) of the Act, no information is being provided in response to these questions.

If you are not satisfied with NIWA's decision in relation to the request, there is a right, by way of complaint to the Ombudsman under section 28(3) of the Act, to seek an investigation and review of this decision.

Yours sincerely,



Annabelle Watson
Senior Legal Counsel

Reference:

Suren AM 2006. *Quantifying contamination of streams by 1080 baits, and their fate in water*. New Zealand Journal of Marine and Freshwater Research 40:159-167