

From: 9(2)(a), 9(2)(g)(ii)
To: 9(2)(a), 9(2)(g)(ii) Matthew Hall: 9(2)(a), 9(2)(g)(ii)
Subject: 10th Bait Improvement Initiatives meeting minutes
Date: Monday, 20 October 2014 3:15:51 p.m.
Attachments: [Bait Improvement meeting minutes 15 Oct 2014.docx](#) [code-of-practice-aerial-1080-kea-habitat.pdf](#) [image001.png](#) [image002.png](#)

Please see Appendix 1 and 2 for attachments

Afternoon all,

Attached are the minutes from last week's bait improvement initiatives meeting. Also attached is DOC's code of practice for aerial 1080 in kea habitat which was discussed in the meeting.

Please let me know if there are any corrections/omissions/ additions.

The next meeting will be scheduled for the 28th of January – meeting request to follow.

Kind Regards

9(2)(a), 9(2)(g)(ii)

Senior Operations Advisor

OSPRI New Zealand

DDI 9(2)(a), 9(2)(g)(ii)

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From: [NPCA](#)
To: 9(2)(a), 9(2)(g)(ii)
Subject: 25 September Meeting Papers
Date: Friday, 19 September 2014 4:49:47 p.m.
Attachments: [3b. Management Committee Teleconference Meeting Minutes.docx](#) [3a.Schedule of 24 June Meeting Actions.doc](#) [2b.5 Sept Teleconference minutes.docx](#) [2a. NPCA minutes 24 June 2014.doc](#) [1. Agenda 25 September Mgmt Cmte meeting.doc](#)

Appendix 3 - 2a. NPCA minutes 24 June,
Remaining attachments are out of scope.

Hi All,
Meeting papers attached as promised in a second tranche.
Hopefully they will go through and project papers and the newsletter will go out shortly.

The newsletter is completed but is subject to one minor change in the the RCC article and will be ready on Monday.

Please notify any additional items and you will receive the balance of the precirculated papers early next week.

Cheers

9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)(g)(ii)
To: [Matthew Hall](#)
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Wednesday, 12 March 2014 2:16:59 p.m.

Hi Matthew

Thanks for your time on the phone yesterday. 9(2)(a), 9(2)(g)(ii) and I are available to meet with you to discuss the proposed new compulsory performance standard recommended by the Pesticides Advisory Group on the 3rd April, when I understand that you, 9(2)(a), 9(2)(g)(ii) and possibly others will be coming into Christchurch for a meeting the following day. Please let me know what time suits you. I suggest we plan for 1-2 hours, assuming that:

- We send you the draft Code of Practice a week beforehand
- We talk you through the proposed standard and the reasons behind it
- You folks help to identify which operations (this year and into the future) could be affected
- You folks help us to identify issues that could arise in meeting the standard

As I explained yesterday, the existing performance standard is recommended to continue to prevent kea deaths. The proposed new standard restricts the timing of aerial 1080 operations that include high elevation (>700m) areas, because these are places where mice and rats can be scarce. The aim is to ensure kea benefit from all aerial 1080 operations, so that even where some kea die from consuming 1080 baits there is at least a neutral population effect. This kea benefit is contingent on effective secondary poisoning of stoats via poisoned mice and rats.

The current draft wording of the performance standard (subject to help from DOC staff and yourselves on identifying issues and refining) is:

For operations that include beech forest on the [High altitude kea habitat map \(hyperlink\)](#), 0.15% 1080 Pellets and 0.2% 1080 Pellets may be aerielly applied from July in a mast year to August of the following year. At other times, it may be applied only if rodents are widespread, as defined below.

For operations that include other areas on the [High altitude kea habitat map \(hyperlink\)](#), 0.15% 1080 Pellets and 0.2% 1080 Pellets may be aerielly applied only if rodents are widespread. Widespread means at least 2 or more tunnels tracked by rats or mice on 90% of monitoring transects (following Gillies and Williams 2013) prior to the operation

I think I said on the phone that this is easily met in a mast year without specifically monitoring for rat and mouse abundance. After our phone call I realised that I didn't point out that the proposed wording in the standard refers to 'July in a mast year to August of the following year' as a timeframe. From the DOC feedback, I think that the Mt Arthur operation may be the only planned TBfreeNZ aerial operation planned for before July, but that there is rat and mouse tracking planned for May. It's probably unlikely that the 'widespread' criteria would not be met in this monitoring, but I appreciate that it is probably too far down the track to cancel it if it isn't. This is the sort of thing we need to talk through.

Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

Kind regards

9(2)(a), 9(2)(g)(ii)

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED] <[REDACTED]@tbfree.org.nz>
To: [Matthew Hall](#)
Cc: [REDACTED]
Subject: Accepted: Proposed new standard for aerial 1080 in kea habitat

Released under the Official Information Act (1982)

From: <[REDACTED]@tbfree.org.nz>
To: [Matthew Hall](#)
Subject: Accepted: Proposed new standard for aerial 1080 in kea habitat

Released under the Official Information Act (1982)

From: <[REDACTED]@tbfree.org.nz>
To: [Matthew Hall](#)
Subject: Accepted: Proposed new standard for aerial 1080 in kea habitat

Released under the Official Information Act (1982)

From: 9(2)(a), 9(2)(g)(ii)
To: 9(2)(a), 9(2)(g)(ii)
Subject: Automatic reply: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Wednesday, 12 March 2014 2:17:20 p.m.

Hi

I am on Annual Leave 9(2)(a), 9(2)(g)(ii) and 9(2)(a), 9(2)(g)(ii) is acting Programme Manager. If your enquiry is urgent please contact the Christchurch or Greymouth TBfree New Zealand Offices.

Regards

9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: Automatic reply: your feedback please by Wed 9th April - draft DOC Code of Practice for aerial 1080 in kea habitat
Date: Monday, 31 March 2014 11:16:55 a.m.

I am out of the office until Monday 31st March. Please try my cell phone if you need me. [REDACTED]

Regards
[REDACTED]

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From: 9(2)(a), 9(2)(g)(ii)
To: Matthew Hall; 9(2)(a), 9(2)(g)(ii)
Subject: Bait improvement initiatives meeting
Date: Friday, 10 October 2014 1:04:17 p.m.
Attachments: [R-10756 Milestone 3.docx](#) [Bait Improvement meeting minutes 16July2014.docx](#) [image001.png](#) [image002.png](#) **Appendix 4**

Afternoon all,

Our next bait improvement initiative meeting is being held on Wednesday 15th of October between 10.30am and 12.30pm. You are able to join the session via videoconference from our Wellington, Hamilton, Greymouth, or Christchurch offices.

The agenda for the meeting is as below. Please let me know if you have any discussion topics you would like me to add.

Agenda Items	Time	Session Chair
Review minutes from last meeting	10.30 – 10.45	9(2)(a), 9(2)(g)(ii)
Update & discussion on each of the following key topics: <ul style="list-style-type: none">- Bait specification- Optimum bait size- Bait hardness and palatability- Fragmentation & dust- Bird repellent- Deer repellent	10.30 – 12.00	9(2)(a), 9(2)(g)(ii)
Research reports and new research projects/initiatives	12.00 – 12.15	9(2)(a), 9(2)(g)(ii)
Next steps	12.15 – 12.30	9(2)(a), 9(2)(g)(ii)

I have attached the minutes from our last meeting for your reference. I have also attached the recent milestone report on bait size which will be discussed at the meeting.

Please get in touch if you have any questions.

Kind regards,
9(2)(a), 9(2)(g)(ii)
Senior Operations Advisor
OSPRI New Zealand
DDI 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: Baton/Arthur 1080 op and kea
Date: Thursday, 17 April 2014 8:55:19 a.m.

Hi [REDACTED]

As discussed yesterday I have now spoken to [REDACTED] at Tasman Forests. He would be happy to meet with us to discuss possible risk to kea (and management of that risk) in our planned Baton-Arthur 1080 operation. How are you placed for Friday 2 May? That's the earliest we can both do. Meeting would be at [REDACTED] office in Mapua – I could give you a ride out there

Cheers

[REDACTED]

[REDACTED]
Senior Operational Policy Advisor
TBfree New Zealand
DDI [REDACTED] • M [REDACTED]

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From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: DOC aerial 1080 campaign release
Date: Monday, 15 December 2014 12:19:09 p.m.
Attachments: [DOCDM-1532956 - rat tracking graph.doc](#)
[DOCDM-1533076 - DOC BFOB release Dec 2014.doc](#) Appendix 5

Hi All

Here's a press release which DOC will be putting out early this afternoon about the completion of this year's aerial 1080 beech mast response operations.

As you can see the release focuses on rat tracking results from our South Island operations over the past four months.

It also deals with results from our monitoring of kea and rock wren.

I've included the messages we will be using around rock wren issue for those interested.

Come back to myself or [redacted] if you have any queries.

Cheers

[redacted]
Media Advice Manager
Department of Conservation | Te Papa Atawhai
DD [redacted]
[redacted]@doc.govt.nz

- DOC has been unable to find about 25 rock wren under study through a 1080 operation in the Kahurangi National Park.
- Rock wren are small alpine birds that mainly eat insects and are therefore unlikely to eat 1080 cereal baits.
- In the week straight after the 1080 operation 30 birds of 39 being monitored in the Grange Range were initially sighted but several weeks later, after a heavy snowfall in the area, 14 birds were counted.
- No dead rock wren have been found and the small birds are very difficult to sight in the alpine environment where they live so DOC does not have a clear picture of the situation
- At this point there is no direct evidence about what has caused the observed

reduction in rock wren numbers, whether it has been the baits, the bad weather or predators – we do not have a clear picture

- DOC will continue to assess the situation but as a precautionary measure it has decided to exclude rock wren habitat from future 1080 operation.
- It is disappointing to lose any birds but stoat predation is a major threat to rock wren and without some form of protection their numbers are steadily declining.
- Trapping stoats is not practical over large areas of difficult alpine terrain where rock wren live.

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From: [REDACTED]
To: [REDACTED]
Subject: DOCDM-1281172 - Otira Kea Report 2013
Date: Tuesday, 25 March 2014 8:50:40 a.m.
Attachments: [DOCDM-1281172 - Otira Kea Report 2013.pdf](#)

This report is available online - a link is found in our response letter

Hi [REDACTED]

Sorry for the delay. This is the final Otira kea mortality trial report

Cheers

[REDACTED]

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From: 9(2)(a), 9(2)(g)(ii)
To: 9(2)(a), 9(2)(g)(ii) [Andy Cox](#)
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: EPA registration limits for bird repellents
Date: Wednesday, 17 December 2014 9:26:12 a.m.

Hi all

We've had great service from the EPA applications team who have come back with the maximum concentrations that would trigger a hazard classification for prefeed pellets and would alter the hazard classification for 0.15% 1080 pellets (and therefore require reassessment). Please see below.

This says to me that the range we were considering for tannic acid (2-4%) would be fine, as would 0.9% for OAP (we'd talked about 1%).

Garlic oil might be ruled out by this advice, though, as the literature suggested a starting concentration of 2%, which would be more than double the concentration allowed by the current approvals.

It's occurred to me that it would be good to let the Kea Conservation Trust know about the potential trial and what repellents could be looked at. Perhaps after TBfreeNZ's final feedback I could let them know. My understanding is that 9(2)(a), 9(2)(g)(ii) will look at some design options and broad costs after that.

Kind regards

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii)@epa.govt.nz
Sent: Tuesday, 16 December 2014 1:57 p.m.
To: 9(2)(a), 9(2)(g)(ii)
Subject: RE: Further to phone message: change notification and SOS applications for bird repellents

Hi 9(2)(a), 9(2)(g)(ii)

Tannic Acid can be added to a non-toxic prefeed at up to 9.9% without triggering a hazard classification (at 10% it would cause the prefeed to trigger a 6.4A).

This would also be the limit for adding tannic acid to the bait, as it does not possess an eye irritancy classification.

We don't have any information in our database for 2-aminoacetophenone, but if we were to classify it based on [this safety data sheet](#) we would get classifications of: 6.1D(O), 6.1E (aspiration), 6.3A, 6.4A

These are likely to be conservative. This would trigger a skin irritation classification (6.3B) at 1%, so you could add 0.9% to a non-toxic bait before it became hazardous, or to the 1080 baits before their classification was changed.

Garlic oil is also classified as 6.3A, so would face the same limits as 2-aminoacetophenone (0.9%).

Hopefully that helps to give you some guidance.

Let me know if you have any further questions.

Cheers,

9(2)(a), 9(2)(g)(ii)

9(2)(a), 9(2)(g)(ii)

Advisor, Hazardous Substances

APPLICATIONS AND ASSESSMENT

Environmental Protection Authority • Level 10 • 215 Lambton Quay • Private Bag 63002 • Wellington 6140 • New Zealand Tel • +64 4 916 2426 • Fax +64 4 914 0433 • DDI 9(2)(a), 9(2)(g)(ii) • www.epa.govt.nz

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From: 9(2)(a), 9(2)(g)(ii)

Sent: Friday, 12 December 2014 1:00 p.m.

To: 9(2)(a), 9(2)(g)(ii)

Subject: Further to phone message: change notification and SOS applications for bird repellents

Hi 9(2)(a), 9(2)(g)(ii)

Further to my phone message I would like your advice on the best way to package a request for hazard classification advice. I would like to determine the maximum concentration of the three bird repellents below, that could be added to:

Non-toxic prefeed cereal pellets without triggering any hazard classification

0.15% 1080 cereal pellets without changing the hazard classification

The repellents are

Tannic acid (CAS 1401-55-4)

2-aminoacetophenone (CAS 551-93-9) [This does not appear to be in the approved hazardous substances register but I didn't want to assume it is non-hazardous?]

Garlic oil (CAS 8000-78-0)

At this stage we are evaluating the use of the repellents individually (i.e., one repellent would be used in both prefeed and toxic in

When I did this once before (see below and attached), I asked about specific concentrations and completed a separate HS6A form for each repellent combination with non-toxic cereal pellets and a separate HS6C form for the 0.15% 1080 cereal pellets. What we really want to know is the maximum concentration that we could use without requiring a new approval or reassessment. We are looking at concentrations

Do I need to do a separate form for each (6 in total)?

I wondered/hoped that I might be able to do 1 HS6A form for the non-toxic prefeed (asking about the 3 repellents) and 1 HS6C form for the 0.15% 1080 pellets.

Any advice gratefully received.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)(g)(ii)

Sent: Friday, 9 March 2012 10:21 a.m.

To: 9(2)(g)(ii)@epa.govt.nz'

Cc: 9(2)(a), 9(2)(g)(ii)

Subject: change notification and SOS applications - 0.15% 1080 cereal pellets containing 0.17% d-pulegone and 0.10% anthraquinone

Hello

Please find attached applications for:

HS6A for cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6A for cereal pellets containing 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.17% d-pulegone

Also attached are:

-MSDS for d-pulegone (CAS 89-82-7)

-MSDS for anthraquinone (CAS 84-65-1)

-Authorisation from Animal Control Products to access technical data on the existing formulation for 0.15% 1080 cereal pellets

-A published paper outlining a captive study with kea (*Nestor notabilis*) to determine the effectiveness of the proposed bird repellents

One point I need to clarify with respect to the anthraquinone. Our existing approval includes the ability to import up to 5kg Avipel 95 for the purposes of the trial. If we were to pursue full release of either of the two substances above that include anthraquinone, do we also need to apply for a release approval for this product? I see that there are existing approvals for anthraquinone but perhaps they do not cover this product?

Please issue an invoice by email as soon as possible, ideally today. If I have the invoice on Monday I can have it paid on Tuesday 13th. Otherwise the next payment run will be on 20th March.

Kind regards

9(2)(a), 9(2)(g)(ii)

Senior Technical Support Officer Threats - *Kai-matanga Matua - Koiora Morearea*
Department of Conservation - *Te Papa Atawhai*

DDI: 9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)
To: 9(2)(a), 9(2)(g)(ii)
Subject: FW: Bait improvement initiatives meeting
Date: Monday, 13 October 2014 9:55:41 a.m.
Attachments: [R-10756 Milestone 3.docx](#)
[Bait Improvement meeting minutes 16July2014.docx](#)
[image001.png](#)
[image002.png](#)

Hi

Will you guys be coming to the Greymouth office for this meeting?

Cheers

9(2)(a),
9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii)
Sent: Friday, 10 October 2014 1:04 p.m.
To: 9(2)(a), 9(2)(g)(ii)

Subject: Bait improvement initiatives meeting

Afternoon all,

Our next bait improvement initiative meeting is being held on Wednesday 15th of October between 10.30am and 12.30pm. You are able to join the session via videoconference from our Wellington, Hamilton, Greymouth, or Christchurch offices.

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Research reports and new research projects/initiatives	12.00 – 12.15	9(2)(a), 9(2)(g)(ii)
Next steps	12.15 – 12.30	9(2)(a), 9(2)(g)(ii)

I have attached the minutes from our last meeting for your reference. I have also attached the recent milestone report on bait size which will be discussed at the meeting.

Please get in touch if you have any questions.

Kind regards,
9(2)(a), 9(2)(g)(ii)
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DDI 9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)
To: 9(2)(a), 9(2)
Subject: FW: Ferny Gair 1080 drop
Date: Thursday, 27 February 2014 5:39:56 p.m.

Hi 9(2)(a), 9(2)(g)(ii),
9(2)(a)(iii),
Forwarding this to you FYI.

Regards

9(2)(a)

From: 9(2)(a), 9(2)(g)(ii)
Sent: Thursday, 27 February 2014 5:39 p.m.
To: 'Marlborough Branch NZ Deerstalkers Association'
Subject: RE: Ferny Gair 1080 drop

Hi 9(2)(a), 9(2)(g)(ii)

Many thanks for your email and I am very pleased to hear that the meeting with TBFreeNZ was successful.

9(2)(a), 9(2)(g)(ii) has indicated that she is keen to meet with NZDA and DOC to put a line around an area to deer repellent use.

The earliest I can do this is 1st April. Are you and your team able to meet us that evening?

Kind regards

9(2)(a)

From: Marlborough Branch NZ Deerstalkers Association [<mailto:marlborough.nzda@gmail.com>]
Sent: Wednesday, 19 February 2014 9:05 p.m.
To: 9(2)(a), 9(2)(g)(ii)
Subject: Ferny Gair 1080 drop

hi 9(2)(a)

Just had a really good meeting with TBFree NZ .

Out of Scope

[REDACTED]

Also there was talk that large open areas could/would be excluded from the drop if kea's were present. One of our members can provided evidence of kea's in the area if required.

Out of Scope

[REDACTED]

[REDACTED]

[REDACTED]

Regards

9(2)(a), 9(2)(g)(ii)

From: [redacted]
To: [redacted]
Subject: FW: Ferny Gair 1080 drop
Date: Tuesday, 4 March 2014 4:50:12 p.m.

Hi [redacted]
[redacted]
Does this time and date suit you?

Cheers

[redacted]
[redacted]

From: Marlborough Branch NZ Deerstalkers Association [mailto:marlborough.nzda@gmail.com]
Sent: Thursday, 27 February 2014 8:09 p.m.
To: [redacted]
Subject: Re: Ferny Gair 1080 drop

Hi [redacted]
[redacted]

I'm sure we can get a few there for that, so lock it in for 5.30pm?

cheers

[redacted]
[redacted]

On Thu, Feb 27, 2014 at 5:39 PM, Phil Bradfield <[redacted]@doc.govt.nz> wrote:

Hi [redacted]
[redacted]

Many thanks for your email and I am very pleased to hear that the meeting with TBFreeNZ was successful.

[redacted] has indicated that she is keen to meet with NZDA and DOC to put a line around an area to deer repellent use.

The earliest I can do this is 1st April. Are you and your team able to meet us that evening?

Kind regards

[redacted]
[redacted]

From: Marlborough Branch NZ Deerstalkers Association [mailto:marlborough.nzda@gmail.com]
Sent: Wednesday, 19 February 2014 9:05 p.m.
To: [redacted]
Subject: Ferny Gair 1080 drop

hi [redacted]
[redacted]

Just had a really good meeting with TBFree NZ .

Out of Scope
[redacted]

Also there was talk that large open areas could/would be excluded from the drop if kea's were present. One of our members can provided evidence of kea's in the area if required.

Out of Scope
[redacted]

Overall very constructive and they were receptive to our concerns.

Obviously some of this will take time so we look forward to further developments.

Regards

9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)(g)
To: 9(2)(a), 9(2)(g)(ii)
Subject: FW: Final report R-80719-03
Date: Friday, 2 May 2014 11:02:16 a.m.
Attachments: [DOCDM-1314934 - Kea repellent pest efficacy field trial REPORT 240414.pdf](#) **Appendix 6**

Hi 9(2)(a), 9(2)(g)(ii), As requested 9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii)
Sent: Thursday, 24 April 2014 11:05 a.m.
To: 9(2)(a), 9(2)(g)(ii)
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: Final report R-80719-03

Hi 9(2)(a), 9(2)(g)(ii) I am pleased to submit the final report for our project agreement R-80719-03, Pest efficacy of repellent aerial 1080 cereal operations. My apologies that it is a few days late.

I will submit this report to be published in the DOC Research & Development series, along with 3 other reports relevant to the bird repellent project. I hope to submit this by mid-May, once the final bait stability monitoring results is available from Landcare Research.

An invoice for the final milestone should be sent to you next week.

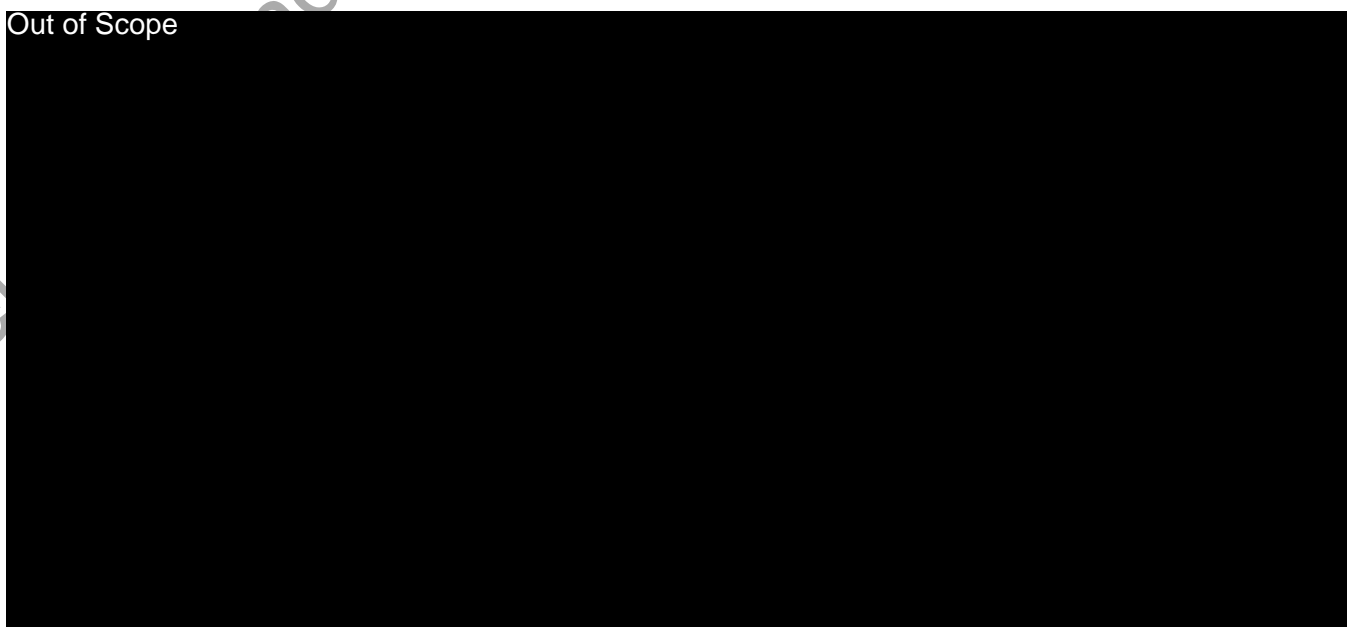
Kind regards

9(2)(a), 9(2)(g)(ii)

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: 9(2)(a), 9(2)(g)(ii)
Conservation for prosperity *Tiakina te taiao, kia puawai*
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Out of Scope

9(2)(a), 9(2)(g)(i)

Research Coordinator

DDI

9(2)(a), 9(2)(g)(ii)

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From: 9(2)(a), 9(2)(g)
To: 9(2)(a), 9(2)(g)
Subject: FW: Kea repellent stakeholder meeting between 10 March -- agenda and more reading
Date: Monday, 10 March 2014 9 07:43 a.m.

Sorry 9(2)(a), - have found the agenda.

9(2)

9(2)(a), 9(2)(g)
Research Coordinator
DDI 9(2)(a), 9(2)(g) • M 9(2)(a), 9(2)(g)

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From: 9(2)(a), 9(2)(g)
Sent: Monday, 10 March 2014 8:20 a.m.
To: 9(2)(a), 9(2)(g)
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thanks 9(2)(a), - my skype address is: 9(2)(a), 9(2)(g)(ii)

Is there an agenda for the meeting?

9(2)(a), 9(2)(g)
Research Coordinator
DDI 9(2)(a), 9(2)(g) • M 9(2)(a), 9(2)(g)

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From: 9(2)(a), 9(2)(g)(ii) @doc.govt.nz
Sent: Wednesday, 5 March 2014 9:28 a.m.
To: 9(2)(a), 9(2)(g)
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thank 9(2)

The Skype name for our meeting room is:
9(2)(g)(ii)

Let me know when you have a skype name at your end.

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) @tbfree.org.nz
Sent: Tuesday, 4 March 2014 2:31 p.m.
To: 9(2)(a), 9(2)(g)(ii)
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thanks 9(2)(a), - I will be skypeing in for this one. Just need to get it set up.

Will be in touch.

9(2)(a), 9(2)(g)(ii)
Research Coordinator
DDI 9(2)(a), 9(2)(g) • M 9(2)(a), 9(2)(g)

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From: 9(2)(a), 9(2)(g)(ii) @doc.govt.nz
Sent: Tuesday, 4 March 2014 2:19 p.m.
To: 9(2)(a), 9(2)(g)(ii); Kea Conservation Trust; 9(2)(a), 9(2)(g)(ii) Andy Cox
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Hi there

- Please find attached the remaining reports for our stakeholder meeting:
-Draft MS Stability of bird repellents and 1080 in RSS cereal baits (docdm-1290516)
-Preliminary results from a captive takahē feeding trial using combined repellent prefeed baits 9(2)(a), 9(2)(g)(ii), DOC Te Anau
-A quick update on literature on other repellents (docdm-1360759)
-An updated agenda

Here is a summary of the advice I have had from some of my colleagues on the level of rat suppression achieved in the combined repellent treatment in the Mataketake pest efficacy field trial (draft report supplied 17th February):
-The degree of rat suppression achieved would not be sufficient for species where rats are the key predator.
-It would, however, be sufficient to achieve an effective reduction in stoat numbers for species where stoats are the key predator (including kea).
-We should be able to meet the efficacy standards in the registration process on the strength of the pest efficacy trial, but we would caution against using the combined repellents where rats are the target pest.

Please let me know if you have any special diet needs for lunch; I know 9(2)(a), 9(2)(g)(ii) please let me know whether you are attending in person or wanting to Skype.

I look forward to seeing most of you on Monday.

Kind regards

9(2)(a),
9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii)
Sent: Monday, 17 February 2014 11:00 a.m.
To: 9(2)(a), 9(2)(g)(ii); Kea Conservation Trust; 9(2)(a), 9(2)(g)(ii)
Cc: 9(2)(a), 9(2)(g)(ii); Andy Cox; 9(2)(a), 9(2)(g)(ii)
Subject: Kea repellent stakeholder meeting between 7, 10 or 11 March -- date, participants and reading

Hi there

I am writing to ask for your involvement in reviewing recent results from the pest efficacy and bait stability trials, to support DOC's Science & Capability Threats managers to make the best decision about the next steps in the project to develop a bird repellent to protect kea at aerial 1080 operations. You may recall that we agreed in August to complete some trial work and then re-evaluate (see email below from 22/8/13). The pest efficacy trial and more bait stability monitoring has been completed.

In summary:

-The pest efficacy trial occurred very soon after bait manufacture, so repellent levels were good at the time of the trial but dropped soon afterwards. There were no significant differences in the reduction of possum BMI between standard, primary repellent and secondary repellent treatments. There were significant differences in the reduction of ship rat tracking rates; standard 1080 was most effective and combined repellent treatment was least effective. We need advice on whether the level of rat suppression achieved in the combined repellent treatment is enough to protect native animals preyed by rats or stoats.
- Using a higher nominal concentration of d-pulegone did not lower loss in manufacture or give certainty about maintaining the repellent in storage. These batches lost a greater proportion of d-pulegone in the manufacturing process than the earlier batches prepared with 0.17% d-pulegone. The LCR8 prefeed and toxic baits and the Mataketake AQDP prefeed baits had relatively steep decay curves, whereas the Mataketake 1080 bait levelled off at 0.11% d-pulegone over the period from 4 to 12 weeks after manufacture.

Please let me know who is available to take part in a meeting at the DOC office on Moorhouse Avenue, and which dates suit in the window of Fri 7th to Tues 11th March. Timing would be 1030am—230pm to allow for travel. The meeting room available for Monday 10th March is set up for Skype so remote participation is an option on that day. I will confirm a date as soon as I've heard back from everyone. I attach a draft agenda, allowing about an hour for each meeting objective. By the time we meet, a DOC technical group ("PAG") will have reviewed the relevant DOC risk assessments against 9(2)(a) last few years of kea research. The outcomes of the PAG meeting may have a bearing on our discussion.

Recommended reading

Attached:

-Draft MS Pest efficacy of bird repellent at an aerial 1080 cereal operation (docdm-1314934) **Appendix 6**
-Repellent literature reviews by 9(2)(a), 9(2)(g)(ii) (2008, docdm-1094747) and 9(2)(a), 9(2)(g)(ii) (2012, docdm-1118511) **Appendix 7 and 8**

To be supplied by 3rd March:

-Collation of advice from DOC pest scientists on the rat results in the combined repellent blocks
-Draft MS Stability of bird repellents and 1080 in RS5 cereal baits (docdm-1290516)
-Preliminary results from a captive takahē feeding trial using combined repellent prefeed baits

Additional reading available on request:

-Draft MS Kea survivorship through a 1080 cereal operation with the bird repellent d-pulegone at Otira (docdm-1281172)
-Introduction for the other 3 draft MSs: Bird repellents investigated to protect kea at aerial 1080 cereal operations (docdm-1334857)

I look forward to hearing from you as soon as possible, so that I can book us a meeting room.

Kind regards

9(2)(a),
9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
DDI: 9(2)(a), 9(2)(g)(ii)
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From: 9(2)(a), 9(2)(g)(ii)
Sent: Thursday, 22 August 2013 2:38 p.m.
To: Andy Cox
Subject: for tomorrow

Recommendations for this project decision point

We recommend that:

1. The kea repellent project continues to the next stage (field testing of pest efficacy).
2. The current car park trials are stopped.
3. Additional bait stability monitoring is carried out urgently, to determine a higher concentration of d-pulegone to use at manufacture in order to reach the target concentration by the time the operation goes ahead.
4. The pest efficacy field trial proceeds at Whakapohai Mataketake Moeraki with full design (3 treatments) and using the higher concentration of d-pulegone. *We will get a better picture of how anthraquinone might affect the pest control results than what we can work out from 9(2)(a) previous trial and the pen trial.*
5. At the next decision point, choice of repellent strategy is re-evaluated. *If the treatment that includes anthraquinone in prefeed provides moderate to good rat control results, we would be inclined to shift to this strategy.*

It is likely that these recommendations can be carried out within the current budget (with TBfree support for #4).

Note that if the project continues beyond the next decision point, extra resources will be required for:

- A replicate of the Otira case study using the selected repellent strategy (either d-pulegone only or d-pulegone plus anthraquinone in the prefeed), ideally at one of the sites identified at the debrief.
- An aviary or re-designed car park trial to quantify the repellency of the d-pulegone strategy, if the d-pulegone only strategy is chosen. (This has already been demonstrated for the treatment including anthraquinone in Orr Walker et al 2012.) This must take place prior to the replicate case study.

Note that registration and implementation is contingent on the outcome of the additional aviary/car park trial (if required) and additional case study.

9(2)(a), 9(2)(g)(ii)
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
DDI: 9(2)(a), 9(2)(g)(ii)
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From: [REDACTED]
To: [REDACTED]
Subject: FW: Kea-1080 report
Date: Wednesday, 14 May 2014 2:19:01 p.m.
Attachments: [Effects of 1080 on kea populations 16Aug2013.pdf](#) See Appendix 9

[REDACTED]
Community Relations Advisor
TBfree New Zealand
DDI [REDACTED]

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PO Box 535, Greymouth 7840
T 03 769 9098 • W ospri.co.nz

From: [REDACTED]@doc.govt.nz]
Sent: Thursday, 20 March 2014 9:15 a.m.
To: [REDACTED]
Subject: FW: Kea-1080 report

[REDACTED]
Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: [REDACTED]
VPN: [REDACTED]
Kaitiaki whakamahere (Kanorau koiora)
www.doc.govt.nz

From: [REDACTED]
Sent: Friday, 16 August 2013 2:55 p.m.
To: [REDACTED]; [REDACTED]
[REDACTED]
Cc: Andy Cox; [REDACTED]
Subject: Kea-1080 report

Hi all,

Here it is again with a hastily assembled section on population modeling to weigh cost against benefit. Hopefully this helps.

A run of the non target risk logistic regression including the preliminary Otira data doesn't support the notion that the d-pulegone has improved things – the death rate is similar to Okarito 2011. However, it's still better than Franz-Fox 2008, strengthening support for the notion that Fox-Franz was particularly bad and therefore that using RS5 is making a difference. The Otira result also strengthens support for the 'Junk food' hypothesis, as the Otira is about as junky as they come. An implication of the promotion of the Junk Food hypothesis is that keas at remote sites without junk food (i.e. most keas) are fairly safe. However, we may wish to improve our confidence in this conclusion by monitoring more keas through 1080 in a remote site, with better representation of young (ie. pre-adult) keas.

See you Monday,

9(2)(a),
9(2)(g)

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From: [REDACTED]
To: [REDACTED]
Subject: FW: Kea-1080 report
Date: Thursday, 20 March 2014 9:15:31 a.m.
Attachments: [Effects of 1080 on kea populations 16Aug2013.pdf](#) Appendix 9

[REDACTED]

Biodiversity Planner Hokitika, Department of Conservation-*Te Papa Atawhai* DI: [REDACTED]

Kaitiaki whakamahere (Kanorau koiora)
www.doc.govt.nz

From: [REDACTED]
Sent: Friday, 16 August 2013 2:55 p.m.
To: [REDACTED] [REDACTED]
Cc: Andy Cox; [REDACTED]
Subject: Kea-1080 report

Hi all,

Here it is again with a hastily assembled section on population modeling to weigh cost against benefit. Hopefully this helps.

A run of the non target risk logistic regression including the preliminary Otira data doesn't support the notion that the d-pulegone has improved things – the death rate is similar to Okarito 2011. However, it's still better than Franz-Fox 2008, strengthening support for the notion that Fox-Franz was particularly bad and therefore that using RS5 is making a difference. The Otria result also strengthens support for the 'Junk food' hypothesis, as the Otira is about as junky as they come. An implication of the promotion of the Junk Food hypothesis is that keas at remote sites without junk food (i.e. most keas) are fairly safe. However, we may wish to improve our confidence in this conclusion by monitoring more keas through 1080 in a remote site, with better representation of young (ie. pre-adult) keas.

See you Monday,

[REDACTED]
[REDACTED]

From: [redacted]
To: [redacted]
Subject: FW: Message from C280 C28003296
Date: Thursday, 7 August 2014 2:31:35 p.m.

Hi [redacted]. Not straight forward. Ill take a look at the maps to determine if this area is within the zone where we have concerns and ill get back to them re the rest of the stuff below. It might be worth you looking at the code of practice and seeing what is required for standards 1-3.

Cheers, [redacted]

[redacted]
Senior Ranger Biodiversity
Department of Conservation Te Papa Atawhai
Wakatipu District Office, Queenstown
DDI [redacted]
Email: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
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From: [redacted]
Sent: Wednesday, 6 August 2014 10:06 a.m.
To: [redacted]
Subject: RE: Message from C280 C28003296

Hi [redacted]. The map wasn't attached. Can you please clarify a few points so we can work through the flow chart in the Code of Practice?

1. Have you checked the shapefile 'kea habitat where rats may be scarce' (on Natis, the geoportal or DOC GIS)? Does this operation overlap with this shapefile? If not then the flowchart for 0.15% aerial 1080 cereal shows you that only standards 1-3 apply (not 4 or 5 which restrict operational timing).
2. Assuming that the operation does overlap with the shape file, is there rodent tracking in the operational area? I know TBfree won't have done this but perhaps we have?
3. Is the forest where they are planned to work considered to be in mast? E.g. if it's a beech forest has any seed counting taken place?

In regard to the other methods, hand laid 1080 baiting is also covered by the Code of Practice. The standards for each handlaid method are given just after the aerial standards, so check it out.

For feratox in bait stations and cyanide paste on spits, check out the performance standards sheets; I recall that there is usually a standard for bait stations to use a design that is resistant to kea access. The non-target exposure section of the Cyanide Pesticide Information Reviews would record any evidence of kea deaths associated with feratox and cyanide paste. I don't recall significant concerns. [redacted]

Kind regards
[redacted]

From: [redacted]

Sent: Wed 6/08/2014 9:38 a.m.

To: [redacted]

Subject: FW: Message from C280 C28003296

Hi Team. I'm hoping you can advise me as to whether the site detailed on the attached map will require an exemption from the Kea code of practice. Im not sure if this area would hold many kea, or any?

The areas in pink are DOC administered. The blue areas are where TB free wish to apply aerial 1080 to DOC admin. The Green areas are where 1080 will be applied to pastoral lease. The control method will be swaths up to 30m wide 150m apart. They may also carry out other control methods, such as ground baiting with 1080. Feratox in bait stations or cyanide paste on spits. Do we have concerns about these other activities?

The TB free rep is hoping to have a heads up re our view of this before the end of the week?

Thanks, [redacted]

[redacted]
Senior Ranger Biodiversity
Department of Conservation Te Papa Atawhai
Wakatipu District Office, Queenstown

DDI + [redacted]

Email: [redacted]@doc.govt.nz

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From: [redacted] [mailto:[redacted]]

Sent: Wednesday, 6 August 2014 8:11 a.m.

To: [redacted]

Subject: Message from C280 C28003296

From: [redacted]
To: [redacted]
Subject: FW: Tasman Forests & kea
Date: Wednesday, 30 April 2014 8:11:01 a.m.

Hi [redacted]

Please see below

Would you be able to check this out with [redacted], or would you like me to do that?

[redacted]

Senior Operational Policy Advisor
TBfree New Zealand

• M [redacted]

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PO Box 3429, Richmond, Nelson 7050

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From: [redacted]
Sent: Wednesday, 30 April 2014 7:23 a.m.
To: [redacted] Matthew Hall; [redacted]
Cc: [redacted]
Subject: RE: Tasman Forests & kea

Hi [redacted],

I'd check with [redacted] re use of athraquinone in prefeed. If used at the rates trialed, it shouldn't impact on effectiveness of possum kill.

Given you are dealing with pine forests, would this be an area where you could use aerial prefeed in swathes 15 – 20 m and a flight path of 125 m and then apply either 1080 or cholecalciferol cereal baits (would need to get approval to apply chole on ground) every 20 m along the prefeed swathes. Based on previous trial this has achieved as good a possum kill as has aerial sown 1080. If you want more information about the latter can you let me know.

Thanks, [redacted]

[redacted] **QSO, BAgSc, BVSc, MPVM**

Manager TB Eradication & Research

DDI [redacted] • M [redacted]

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From: [redacted]
Sent: Tuesday, 29 April 2014 11:29 a.m.
To: Matthew Hall; [redacted]
Cc: [redacted]
Subject: Tasman Forests & kea

I have set up a meeting on Friday with [redacted] from Tasman Forests and [redacted] of DOC to discuss concerns about risk to kea in the coming Barron-Mt Arthur operation. [redacted] has advised this has come up as an issue in obtaining agreement to treat at least some of the Tasman Forest lands.

I have had some preliminary discussion with [redacted] on this and he has made the following points

- We know very little about risks to kea in a plantation forest environment
- The birds that that would be at risk would be mobile juveniles moving outside core breeding territory (which will be back up in the higher altitude DOC estate)
- Treating the lower level pine forest might thus put those birds at risk without any benefit from protecting kea breeding areas – so adds to risks without creating benefit to the kea population

[redacted] is struggling to find any positives for us in this scenario other than a tentative suggestion to use anthraquinone as repellent on the pre-feed only; over the pine forest only.

Apparently this can be incorporated into the prefeed bait at little extra cost.

Key issue for us would be logistics and bait production – could we manage this, or is it too late?

There might also be a question around lack of data on how this might effect possum control and thus control efficacy – [redacted] thinks maybe not a problem but we would need to review what info is available.

Should we follow this up or is out of the question?

[redacted]

Senior Operational Policy Advisor
TBfree New Zealand

- M [redacted]

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From: [redacted]
To: [redacted]
Subject: FW: draft kea tracking plan
Date: Monday, 17 March 2014 10:28:23 a.m.
Attachments: [Proposal and field plan for exploratory aversion training study on kea with Anthraquinone and cinnamon.doc](#)

Appendix 10

Hi [redacted] and [redacted]

I am circulating this to you in case you wish to comment on [redacted] proposal to trial aversion training, as indicated in his email to the group on Friday. I noticed that you three had been missed on his circulation list.

Kind regards

[redacted]

From: [redacted]
Sent: Friday, 14 March 2014 5:04 p.m.
To: [redacted]; Andy Cox; [redacted]
[redacted] 'Kea Conservation Trust'; [redacted]
Cc: [redacted]
Subject: RE: draft kea tracking plan

Hi all,

Please find attached a hurriedly assembled proposal to see if this stuff is actually any good for training keas.

[redacted] I hope you don't feed like your toes are trodden on – I can understand this work not fitting the objectives of your project. However, I think it fits the objectives of the department and we need to get on to it straight away.

[redacted] is available to start this work as of next week if we give it the go ahead. We have all the necessary gear, such as Aq pellets, cinnamon oil, Aq powder and a cake mixer.

I await your feedback with interest.

[redacted]

From: [redacted]
Sent: Friday, 14 March 2014 2:15 p.m.
To: [redacted]; Andy Cox; [redacted]
Subject: draft kea tracking plan

Hi all,

I have hurriedly written this note in an attempt to justify focusing kea tracking into the Kahurangi NP and not in other sites. It's a bit of a wicked problem which I find tricky to navigate in words, so hopefully it makes sense. This is for internal use and I haven't time to polish it up, so I hope you can understand it and will call me if you need further clarification of anything.

In the meantime I am about to write a short proposal for some car park trials to potentially

commence immediately on the Milford Road around aversion training for use at junk food sites this year.

§(2)(e),
§(2)(g)

Released under the Official Information Act (1982)

From: [REDACTED]
To: [REDACTED]
Subject: FW: kea repellent strategy report July 2014.docx
Date: Monday, 21 July 2014 9:34:06 a.m.
Attachments: [DOCDM-1438761 - kea repellent strategy report July 2014.docx](#) See Appendix 11

From: [REDACTED]
Sent: Monday, 21 July 2014 9:24 a.m.
To: [REDACTED]; Andy Cox; [REDACTED]; Kea Conservation Trust; [REDACTED]
Subject: kea repellent strategy report July 2014.docx

Hello all,

Please find attached a draft of the report on two of the kea repellent trials that have focused on bird-bait interactions. It's very much a draft report so please forgive it's style. Looking forward to discussions this Wednesday.

Many thanks, [REDACTED]

[REDACTED]
Science Advisor
Department of Conservation
PO Box 29
Te Anau, 9640

[REDACTED]

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From: [redacted]
To: [redacted]
Subject: FW: meeting notes from kea repellent wrap up meeting
Date: Tuesday, 29 July 2014 9:51:21 a.m.
Attachments: [DOCDM-1436810 - Kea repellent debrief wrap up Meeting Notes 230714.doc](#) **Appendix 12**

Thanks for the reminder to send this to you [redacted], I knew I would need it! ☺

Note that I may receive feedback to update some points. Otherwise the recommended research summary on page 7-8 is most relevant. There was also some discussion around bait quality in the morning session, with a suggestion that DOC, TBfree and manufacturers have a debrief at the end of this season to review processes around this.

[redacted]

From: [redacted]
Sent: Monday, 28 July 2014 8:57 a.m.
To: [redacted]; Andy Cox; [redacted]; 'Kea Conservation Trust'; [redacted]
Cc: [redacted]
Subject: meeting notes from kea repellent wrap up meeting

Hi there

Please find attached the meeting notes from our gathering last week, including recommended next research steps on pages 7-8. Please let me know of any comments sometime this week, so that the notes can be finalised.

Thanks again for making the meeting and the project successful. Although we have not delivered an effective bird repellent we have laid the ground work for future development work. It's been a pleasure to work with you all—hopefully there will be more opportunities to do so in the future.

Kind regards,

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
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From: [redacted]
To: [redacted]
Subject: FW: next steps in repellent development to protect kea at aerial 1080 operations
Date: Friday, 28 March 2014 9:06:41 a.m.

From: [redacted]
Sent: Friday, 21 March 2014 10:55 a.m.
To: [redacted]; 'Kea Conservation Trust'; [redacted]
 [redacted] Andy Cox; [redacted]
Subject: next steps in repellent development to protect kea at aerial 1080 operations

Hi there

We recently met with stakeholders to review results from the pest efficacy, bait stability and other trials, in order to support DOC's Science & Capability Threats managers to make a decision about the next steps in the project.

[redacted] has decided to proceed with:

- A. Research to progress the four information needs identified at the meeting, which all relate to using repellents in the prefeed and toxic baits broadcast in the operation (see below); AND
- B. Looking into practicalities of develop a protocol for aversion training of kea (i.e., feeding kea cereal baits with anthraquinone prior to operations with the aim of deterring them from sampling baits). At this stage, [redacted] is scoping the design and logistical requirements to test whether kea can be trained on to cereal pellets and then trained off them again with anthraquinone pellets (most likely with captive kea). If such a trial had promising results, the aim would be to use this method at some operations this year. We expect to decide within a week whether this will proceed to a kea trial, and I will let you know the outcome.

The meeting outcome is outlined below.

Meeting outcome:

We continue to work toward the project criteria for an effective bird repellent. There are some gaps and some known issues for the primary and combined repellent treatment under investigation

Project criteria	Primary repellent (0.17% D-pulegone in prefeed and toxic)	Combined repellent (Primary repellent plus 0.1% anthraquinone in prefeed)
<i>Kea consume very little (if any) repellent toxic bait</i>	<i>Not trialled for repellence but 5 kea died at Otira In the Orr-Walker et al 2012 trial, it is unknown whether acting as a repellent or salient cue for secondary repellent</i>	<i>Repellence demonstrated in aviary trial Not tested in a field operation</i>
<i>Possum and rat kills continue to be high when repellent is</i>	<i>Criteria met</i>	<i>Possum kills high Rat kills not high enough</i>

<i>used</i>		
<i>No welfare concerns are raised</i>	<i>Untested for target pests</i>	<i>Untested for target pests</i>
<i>Repellents are effective for 4–12 weeks after bait manufacture</i>	<i>Not stable for this timeframe</i>	<i>Anthraquinone stable, d-pulegone is not.</i>

We continue to work on a broadcast repellent strategy. Aversion training (i.e., secondary repellent in prefeed delivered to kea prior to operations) would have merit if the risk of exposing kea was higher at sites where kea were habituated to human food. Aversion training will be looked at again after kea survival and nest monitoring associated with this year's mast. In the meantime we propose to do more work to see if we can overcome the shortcomings of anthraquinone, d-pulegone as well as do some initial screening of other potential repellents.

Recommendations:

ANTHRAQUINONE

1. Is there an anthraquinone concentration that will deliver high rat kills and still repels kea? This involves first defining the highest concentration of anthraquinone that does not repel rats. A gavage trial could give an indicative level or levels, for repellence testing with kea (ideally with wild birds). The repellence trial involves a second visit to look for secondary repellence. The rat result would then need confirmed in a field efficacy trial. If gavage is too costly, we could do the pest efficacy field trial (e.g. 0.05%, 0.025%) prior to the kea repellence trial.

D-PULEGONE

2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix. For example, Food Technology Massey, Plant & Food. This advice would be reviewed to decide whether to pursue the repellence trials outlined in 3 and whether to invest in stabilisation.
3. Carry out captive or car park repellence trials with kea, to confirm whether d-pulegone to find out whether it is contributing to the repellent effect or whether it is just a cue for anthraquinone. If it is a repellent, then we need to invest in stabilisation. If it is just a cue we could use something else with anthraquinone. The trial involves a second visit to look for evidence of habituation.

OTHER REPELLENTS

4. Carry out preliminary field screening of other potential repellents. Put the repellent on known attractive bait (butter, cheese, live huhus) and see how wild kea react. Huhus have benefit that it would be recognised as a food. We can rule out any repellents where kea seem to feed on the food readily. Small quantities would need to be sourced of the candidate repellents:

- Tannic acid
- Caffeine (LCR)
- Cinnamamide
- Garlic oil

Thanks for your ongoing support,

9(2)(a), 9(2)(g)(ii)



Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: ^{s(2)(a), s(2)(g)(ii)} [REDACTED]

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: Final report R-80719-03
Date: Thursday, 24 April 2014 11:05:26 a.m.
Attachments: [DOCDM-1314934 - Kea repellent pest efficacy field trial REPORT 240414.pdf](#) Appendix 6

Hi [REDACTED], I am pleased to submit the final report for our project agreement R-80719-03, Pest efficacy of repellent aerial 1080 cereal operations. My apologies that it is a few days late.

I will submit this report to be published in the DOC Research & Development series, along with 3 other reports relevant to the bird repellent project. I hope to submit this by mid-May, once the final bait stability monitoring results is available from Landcare Research.

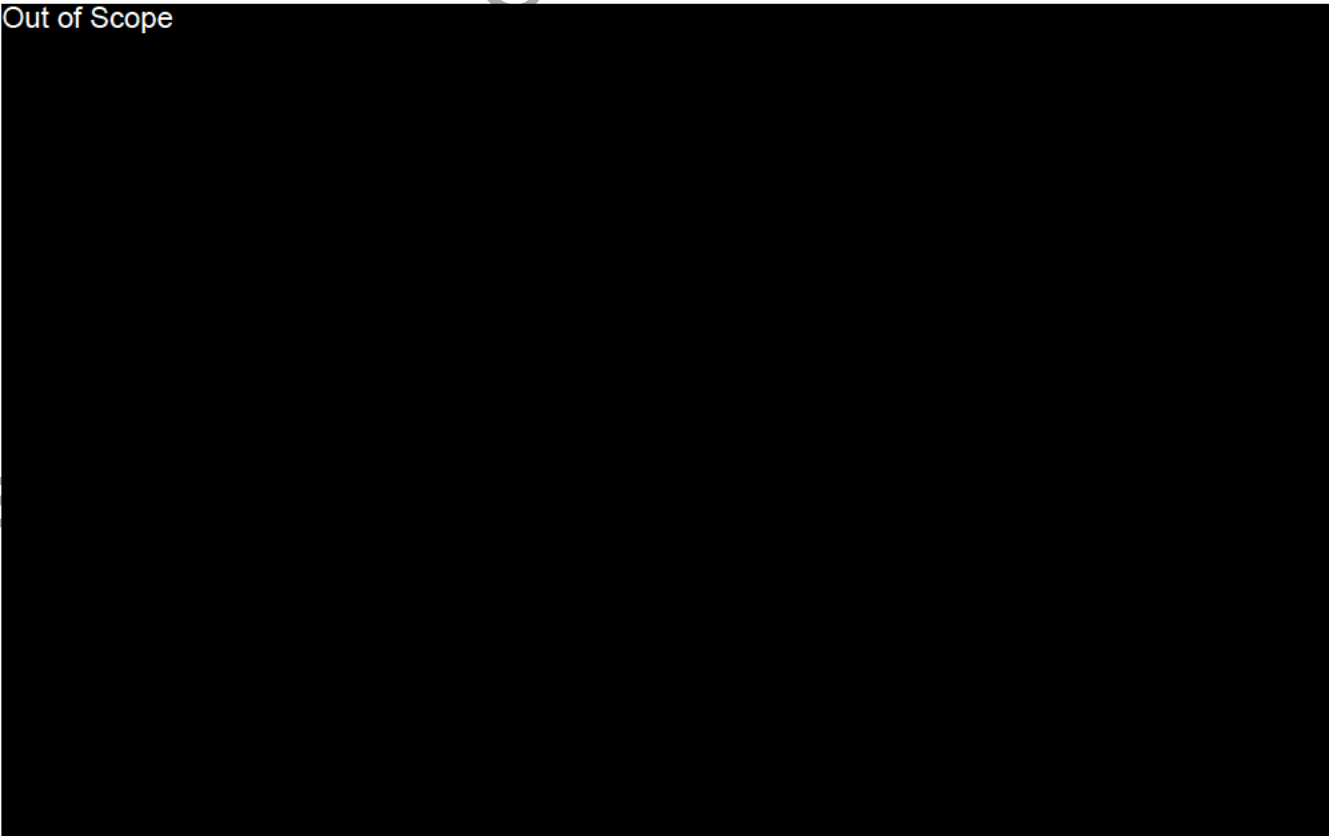
An invoice for the final milestone should be sent to you next week.

Kind regards

[REDACTED]

[REDACTED]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [REDACTED]
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From: [redacted]
To: [redacted]
Subject: Identifying possible projects to fund
Date: Thursday, 21 August 2014 9:49:48 a.m.

H [redacted]

We have had a discussion with our Group Manager for Pest Management in order to identify a few potential projects we would like to fund.

Initially it seems the ideal project would be the Kea focussed one "Level of acute survival through 1080 operation". Was it primarily the repellent work that had been halted or was it all Kea monitoring projects?

Should the Kea project not be available this financial year we would be interested in allocating the funding towards Stoat control. So we can acquaint ourselves with any progress in this area, who would be the best person to talk to about current developments in stoat control and baiting?

It looks like we will be able to set up a follow up meeting for approximately 24th October as this appeared to suit both yourself and [redacted], however [redacted] will be away then.

Looking forward to hearing from you.

Cheers,

[redacted]

[redacted]
Research Coordinator

DDI [redacted]

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From: [redacted]
To: [redacted]; Kea Conservation Trust; [redacted]; Andy Cox
Cc: [redacted]
Subject: Kea repellent stakeholder meeting between 10 March -- agenda and more reading
Date: Tuesday, 4 March 2014 2:18:42 p.m.
Attachments: DOCDM-1359346 - Project stakeholder meeting kea repellent March 2014.doc
DOCDM-1290516 - Stability of repellents and 1080 in RS5 cereal baits REPORT.pdf
DOCDM-1360759 - Repellent literature update February 2014.pdf
Greaves Draft takahe feeding trial report.pdf

Appendix 13, 14, 15.
Please note "Greaves Draft..."
is excluded as out of scope

Hi there

Please find attached the remaining reports for our stakeholder meeting:

- Draft MS Stability of bird repellents and 1080 in RS5 cereal baits (docdm-1290516)
- Preliminary results from a captive takahe feeding trial using combined repellent prefeed baits [redacted], DOC Te Anau)
- A quick update on literature on other repellents (docdm-1360759)
- An updated agenda

Here is a summary of the advice I have had from some of my colleagues on the level of rat suppression achieved in the combined repellent treatment in the Mataketake pest efficacy field trial (draft report supplied 17th February):

- The degree of rat suppression achieved would not be sufficient for species where rats are the key predator.
- It would, however, be sufficient to achieve an effective reduction in stoat numbers for species where stoats are the key predator (including kea).
- We should be able to meet the efficacy standards in the registration process on the strength of the pest efficacy trial, but we would caution against using the combined repellents where rats are the target pest.

Please let me know if you have any special diet needs for lunch; I know [redacted] [redacted] please let me know whether you are attending in person or wanting to Skype.

I look forward to seeing most of you on Monday.

Kind regards

[redacted]

From: [redacted]
Sent: Monday, 17 February 2014 11:00 a.m.
To: [redacted]; Kea Conservation Trust; [redacted]
Cc: [redacted]; Andy Cox; [redacted]
Subject: Kea repellent stakeholder meeting between 7, 10 or 11 March -- date, participants and reading

Hi there

I am writing to ask for your involvement in reviewing recent results from the pest efficacy and bait stability trials, to support DOC's Science & Capability Threats managers to make the best decision about the next steps in the project to develop a bird repellent to protect kea at aerial 1080 operations. You may recall that we agreed in August to complete some trial work and then re-evaluate (see email below from 22/8/13). The pest efficacy trial and more bait stability monitoring has been completed.

In summary:

- The pest efficacy trial occurred very soon after bait manufacture, so repellent levels were good at the time of the trial but dropped soon afterwards. There were no significant differences in the reduction of possum BMI between standard, primary repellent and secondary repellent treatments. There were significant differences in the reduction of ship rat tracking rates; standard 1080 was most effective and combined repellent treatment was least effective. We need advice on whether the level of rat suppression achieved in the combined repellent treatment is enough to protect native animals predated by rats or stoats.
- Using a higher nominal concentration of d-pulegone did not lower loss in manufacture or give certainty about maintaining the repellent in storage. These batches lost a greater proportion of d-pulegone in the manufacturing process than the earlier batches prepared with 0.17% d-pulegone. The LCR8 prefeed and toxic baits and the Mataketake AQDP prefeed baits had relatively steep decay curves, whereas the Mataketake 1080 bait levelled off at 0.11% d-pulegone over the period from 4 to 12 weeks after manufacture.

Please let me know who is available to take part in a meeting at the DOC office on Moorhouse Avenue, and which dates suit in the window of Fri 7th to Tues 11th March. Timing would be 1030am—230pm to allow for travel. The meeting room available for Monday 10th March is set up for Skype so remote participation is an option on that day. I will confirm a date as soon as I've heard back from everyone. I attach a draft agenda, allowing about an hour for each meeting objective. By the time we meet, a DOC technical group ('PAG') will have reviewed the relevant DOC risk assessments against [redacted]'s last few years of kea research. The outcomes of the PAG meeting may have a bearing on our discussion.

Recommended reading

Attached:

- Draft MS Pest efficacy of bird repellent at an aerial 1080 cereal operation (docdm-1314934)
- Repellent literature reviews by Eric Spurr (2008, docdm-1094747) and James Reardon (2012, docdm-1118511)

To be supplied by 3rd March:

- Collation of advice from DOC pest scientists on the rat results in the combined repellent blocks
- Draft MS Stability of bird repellents and 1080 in RS5 cereal baits (docdm-1290516)
- Preliminary results from a captive takahe feeding trial using combined repellent prefeed baits

Additional reading available on request:

- Draft MS Kea survivorship through a 1080 cereal operation with the bird repellent d-pulegone at Otira (docdm-1281172)
- Introduction for the other 3 draft MSs: Bird repellents investigated to protect kea at aerial 1080 cereal operations (docdm-1334857)

I look forward to hearing from you as soon as possible, so that I can book us a meeting room.

Kind regards

[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
DDI: [redacted]

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From: 9(2)(a), 9(2)(g)(ii)
Sent: Thursday, 22 August 2013 2:38 p.m.
To: Andy Cox
Subject: for tomorrow

Recommendations for this project decision point

We recommend that:

1. The kea repellent project continues to the next stage (field testing of pest efficacy).
2. The current car park trials are stopped.
3. Additional bait stability monitoring is carried out urgently, to determine a higher concentration of d-pulegone to use at manufacture in order to reach the target concentration by the time the operation goes ahead.
4. The pest efficacy field trial proceeds at Whakapohai Mataketake Moeraki with full design (3 treatments) and using the higher concentration of d-pulegone. *We will get a better picture of how anthraquinone might affect the pest control results than what we can work out from 9(2)(a), previous trial and the pen trial.*
5. At the next decision point, choice of repellent strategy is re-evaluated. *If the treatment that includes anthraquinone in prefeed provides moderate to good rat control results, we would be inclined to shift to this strategy.*

It is likely that these recommendations can be carried out within the current budget (with TBfree support for #4).

Note that if the project continues beyond the next decision point, extra resources will be required for:

- A replicate of the Otira case study using the selected repellent strategy (either d-pulegone only or d-pulegone plus anthraquinone in the prefeed), ideally at one of the sites identified at the debrief.
- An aviary or re-designed car park trial to quantify the repellency of the d-pulegone strategy, **if the d-pulegone only strategy is chosen**. (This has already been demonstrated for the treatment including anthraquinone in Orr Walker et al 2012.) This must take place prior to the replicate case study.

Note that registration and implementation is contingent on the outcome of the additional aviary/car park trial (if required) and additional case study.

9(2)(a), 9(2)(g)(ii)
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
DDI: 9(2)(a), 9(2)(g)(ii)
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From: [redacted]
To: [redacted]@tbfree.co.nz
Subject: projects with DOC
Date: Friday, 8 August 2014 3:08:59 p.m.
Attachments: [Doc1.doc](#)
[DOCDM-1397230 - battle for our birds monitoring.docx](#) **Appendix 16, 17**

Hi [redacted]

I was just trying to ring you folks and typing up this email when your email came in. Good timing!
Cheers [redacted]

Hi [redacted]

I rang to see if we could set up a meeting to talk about possible joint funding of research projects of mutual interest.

Some months back we were talking about Tbfree's possible interest in our Mast Response Monitoring and Research Projects (now branded Battle for our Birds). We now have more clarity around the projects within the programme and their likely cost. It would be good to see if any of them could be of interest to your needs. We don't have detailed project plans for each of the projects but I think I sent you the overview document earlier. Updated costings are in the second document.

[redacted] met up with [redacted] at NETS recently and he mentioned to [redacted] that Tbfree might be interested in pursuing kea repellent research.

When would suit you to meet up Dr Busy?
Cheers

[redacted]

[redacted]
Threats Science & Technical Manager (Central) | Science & Capability
Department of Conservation – *Te Papa Atawhai*
DDI: [redacted]

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From: [REDACTED]
To: [REDACTED]
Subject: Muzzle Station
Date: Friday, 27 June 2014 4:05:59 p.m.
Attachments: [Muzzle 2015.jpg](#)
[Muzzle 2014.jpg](#)

Hello [REDACTED],

I am emailing in follow up to a phone call you received on Wednesday morning from [REDACTED] TBFree NZ. The conversation was regarding potential Kea numbers in an area to be treated with aerial 1080. I have attached a map of the intended application areas for stage one due to commence September 2014 and the second stage May 2015. At this point a query has arisen about Kea within these areas, are you able to provide us with any further information on this?

Thank you

[REDACTED]
Vertebrate Pest Management
Contractor to TBFree NZ
[REDACTED]

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From: [REDACTED]
To: Matthew Hall, [REDACTED]
Subject: New DOC Code of practice for aerial 1080 in kea habitat effective from 1st June 2014
Date: Wednesday, 7 May 2014 11:06:51 a.m.
Attachments: [DOCDM-1389410 - DOC code of practice for aerial 1080 in kea habitat.pdf](#) Appendix 2

Hello there

Please find attached a new DOC Code of practice for aerial 1080 in kea habitat, which comes into effect for all aerial 1080 operations on public conservation land from 1st June 2014. This affects TBfreeNZ aerial 1080 operations in kea habitat, as discussed with Matthew, [REDACTED] during consultation.

All DOC performance standards sheets on the Status List and DOC website have been updated to refer to the Code of Practice and must be used for all DOC permissions issued for operations planned to occur after 1st June. The Code will be reviewed within 20 months, to ensure that we learn from the rodent, stoat and kea monitoring carried out in association with pest operations this winter and next.

Please forward this message to your contractors who work in kea habitat.

Compulsory performance standards

0.15% 1080 Pellets

Two sets of performance standards apply to aerial operations using 0.15% 1080 Pellets: standards 1-3 aim to reduce kea deaths and standards 4-5 restrict the timing of operations in places where rats can be scarce.

Standards 1-3 have been in place since 2010, restricting the bait type (cinnamon-lured RS5s) and sowing rates for prefeed and toxic baits. One previous standard has been removed, which prevented baits being sown in open areas above the treeline. Instead, the alpine boundary will be evaluated as part of the DOC permission process, to weigh up the potential risk of visible baits in open areas against the benefit of alpine predator control to protect species like rock wren. Kea survival will be monitored in areas where alpine sowing occurs in operations in Kahurangi National Park.

Standards 4 and 5 apply to kea habitat where rats can be scarce, defined as all areas over 700m elevation and all pure beech forest (shapefile available on DOC NATIS and the geoportal on the DOC website). 0.15% 1080 aerial operations in these areas can proceed if either:

- Rodent monitoring has taken place and thresholds of rat or mouse density have been met, as described in Standard 4 of the Code. In the year following a forest or tussock mast, toxic bait application must occur prior to 31st August (i.e. prior to kea nesting, to get best benefit from stoat control). OR
- Where rodent monitoring has not been done, toxic bait application can only occur within a prescribed 14 month period scanning a forest or tussock mast (seedfall) year and the

year after (post-seedfall). See Standard 5 in the Code.

0.08% 1080 Pellets and 0.08% 1080 Rodent Pellets

Aerially applied 0.08% 1080 Pellets and 0.08% 1080 Rodent Pellets continue to be prohibited, as these products are only available in the cereal type preferred by captive kea in aviary trials (Wanganui #7).

Other forms of aerial 1080

For aerial application of other 1080 cereal pellets (targeting wallabies or rabbits) and 1080 carrot, kea must be monitored for survival before and after the operation, following the methods outlined in the Code. We have minimal survival data for these bait types so all future operations need to be monitored to help quantify the risk to kea.

Key points from the research summary in the Code

- Kea were re-classed from 'Not threatened' to 'Nationally Endangered' in 2012, which means that their numbers are expected to decline by 50-70% over the next 10 years.
- Stoats are the most important predator of kea, particularly following mast events when kea nest failure and predation of juveniles and adults are at their greatest. Aerial 1080 is one of the main methods of rat and possum control at the scale required to target stoats via secondary poisoning.
- Research shows that the benefits to kea from increased nesting success after well-timed pest control are significant. For example after a West Coast rimu mast, kea in a forest treated with aerial 1080 fledged four times the number of young as compared to a similar forest with no predator control.
- A total of 150 kea have been monitored in 10 operations since 2008 and 20 kea deaths occurred in 3 of these operations. Further kea monitoring is planned for operations in Kahurangi National Park and at Abbey Rocks on the West Coast.
- Work continues to develop bird repellents that can be used in 1080 operations, however none of the repellents is available for broadcasting in operations this year. We are working to overcome the shortcomings of the current repellents (d-pulegone and anthraquinone) and to screen some potential new repellents.
- We are preparing for an aviary trial to test whether kea learn to avoid cereal pellets when treated with anthraquinone. If successful, we will look at feeding kea non-toxic repellent baits at car parks and huts prior to some operations.

Feel free to contact me with any questions.

Kind regards

9(2)(a), 9(2)(g)(i)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: [REDACTED]

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From: [REDACTED]
To: [Matthew Hall](#)
Subject: Out of Office AutoReply: Proposed new standard for aerial 1080 in kea habitat
Date: Wednesday, 2 April 2014 4:40:58 p.m.

Hi, I'm in the field at Maruia. Back in the office thursday March 3. I should have cell coverage in the evenings. Cheers,

[REDACTED]

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From: [REDACTED]
To: [REDACTED]
Subject: Out of Office AutoReply: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Tuesday, 29 April 2014 9:36:36 a.m.

I am out of the office at a meeting on 29th April. For urgent matters, contact my manager Andy Cox on:

[REDACTED] @doc.govt.nz or [REDACTED]
Regards, [REDACTED]

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From: [Matthew Hall](mailto:Matthew.Hall@btfree.org.nz) ^{s(2)(a), s(2)(g)(i)} [@btfree.org.nz](mailto:Matthew.Hall@btfree.org.nz)
To: ^{s(2)(a), s(2)(g)(i)} [\[REDACTED\]](#)
Subject: Proposed new standard for aerial 1080 in kea habitat
Attachments: [3rd April to discuss proposed new standard for aerial 1080 in kea habitat.msg](#) Attached below

Good afternoon all

As per ^{s(2)(a), s(2)(g)(i)} email to Matthew this afternoon (see attached), here is an appointment to discuss the proposed new standard for aerial 1080 in kea habitat.

Please let me know if this time doesn't suit.

Kind regards

^{s(2)(a), s(2)(g)} [\[REDACTED\]](#)

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From: [REDACTED]
To: [Matthew Hall](#)
Cc: [REDACTED]
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Wednesday, 12 March 2014 2:17:14 p.m.

Hi Matthew

Thanks for your time on the phone yesterday. [REDACTED] and I are available to meet with you to discuss the proposed new compulsory performance standard recommended by the Pesticides Advisory Group on the 3rd April, when I understand that you, [REDACTED] and possibly others will be coming into Christchurch for a meeting the following day. Please let me know what time suits you. I suggest we plan for 1-2 hours, assuming that:

- We send you the draft Code of Practice a week beforehand
- We talk you through the proposed standard and the reasons behind it
- You folks help to identify which operations (this year and into the future) could be affected
- You folks help us to identify issues that could arise in meeting the standard

As I explained yesterday, the existing performance standard is recommended to continue to prevent kea deaths. The proposed new standard restricts the timing of aerial 1080 operations that include high elevation (>700m) areas, because these are places where mice and rats can be scarce. The aim is to ensure kea benefit from all aerial 1080 operations, so that even where some kea die from consuming 1080 baits there is at least a neutral population effect. This kea benefit is contingent on effective secondary poisoning of stoats via poisoned mice and rats.

The current draft wording of the performance standard (subject to help from DOC staff and yourselves on identifying issues and refining) is:

For operations that include beech forest on the [High altitude kea habitat map \(hyperlink\)](#), 0.15% 1080 Pellets and 0.2% 1080 Pellets may be aerially applied from July in a mast year to August of the following year. At other times, it may be applied only if rodents are widespread, as defined below.

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I think I said on the phone that this is easily met in a mast year without specifically monitoring for rat and mouse abundance. After our phone call I realised that I didn't point out that the proposed wording in the standard refers to 'July in a mast year to August of the following year' as a timeframe. From the DOC feedback, I think that the Mt Arthur operation may be the only planned TBfreeNZ aerial operation planned for before July, but that there is rat and mouse tracking planned for May. It's probably unlikely that the 'widespread' criteria would not be met in this monitoring, but I appreciate that it is probably too far down the track to cancel it if it isn't. This is the sort of thing we need to talk through.

Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

Kind regards

§(2)(a), §(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: §(2)(a), §(2)(g)(ii)

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From: [Matthew Hall](mailto:Matthew.Hall@s(2)(a),s(2)(g)(ii)@tbfree.org.nz) [s\(2\)\(a\), s\(2\)\(g\)\(ii\)@tbfree.org.nz](mailto:s(2)(a),s(2)(g)(ii)@tbfree.org.nz)
To: [s\(2\)\(a\), s\(2\)\(g\)\(ii\)](mailto:s(2)(a),s(2)(g)(ii)@tbfree.org.nz)
Subject: Proposed new standard for aerial 1080 in kea habitat
Attachments: [3rd April to discuss proposed new standard for aerial 1080 in kea habitat.msg](#)

Note venue change.

Good afternoon all

As per [s\(2\)\(a\), s\(2\)\(g\)\(ii\)](mailto:s(2)(a),s(2)(g)(ii)@tbfree.org.nz) email to Matthew this afternoon (see attached), here is an appointment to discuss the proposed new standard for aerial 1080 in kea habitat.

Please let me know if this time doesn't suit.

Kind regards
[s\(2\)\(a\), s\(2\)\(g\)\(ii\)](mailto:s(2)(a),s(2)(g)(ii)@tbfree.org.nz)

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Released under the Official Information Act (1982)

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RC130080 AEE and Kea exclusion areas
Date: Friday, 5 September 2014 11:06:59 a.m.

Hi [REDACTED]

We have just noted that the AEE for RC13080 in Section 5.3.1 “Proposed conditions to avoid, remedy or mitigate adverse effects in non-target native species” states: In areas where kea are present : will avoid sowing baits in areas of low structural vegetation cover (e.g. alpine herb fields, tussock, river flats) above and below the tree line.

The proposed condition relates to the Department’s Kea code of practice (although not stated explicitly in the AEE) which required the exclusion of such areas. However, the code of practice was amended on 7/5/2014 to allow sowing of bait in alpine and low stature vegetation areas under certain circumstances. This operation meets the criteria for this to occur. Consequently no exclusion for kea has been included for the Oparara operation.

Does the WCRC have any issues with this change given the wording the AEE as a proposed condition, and which has not been included as an actual condition of RC13080, and the change in the kea code of practice subsequent to the issuing the consent?

Note: This same proposed condition was also included in the Mokihinui 1080 consent RC11051 and the same issue exists.

Regards

[REDACTED]

[REDACTED]

Senior Ranger Biodiversity *Kaitiaki Matua (Kanorau Koiora)*
Department of Conservation, Kawatiri / Westport Office
DDI: [REDACTED]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [REDACTED]
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Monday, 14 April 2014 12:27:51 p.m.
Attachments: [TBfree Aerial Blocks WCT.jpg](#) [image001.png](#) **Appendix 18. Please note image 001.png is attached below**

Hi [REDACTED]

Attached is a map showing our aerial blocks on the coast and Tasman with your shapefile overlaid.

It's quite hard to get much detail due to the scale but you will get the idea of how many of our operations will fall into this area.

I have had a look at some of our Marlborough/north Canterbury blocks and some of these are affected as well but not as much as the coast/tasman ones.

Cheers

[REDACTED]

From: [REDACTED] [REDACTED]@doc.govt.nz]
Sent: Monday, 14 April 2014 9:23 a.m.
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [REDACTED]

I am at my desk all day through to 230pm so either name a time or just ring when you are ready ([REDACTED]).

It is essentially the same from a TBfree perspective and the map is the same. The differences from the first draft are that:

- rodent monitoring is stated first as the primary method for determining whether stoat by-kill is likely, at any time. If rodent monitoring has not been done, then TBfree NZ would need to wait until the next mast; so you'd have a choice between setting up monitoring or waiting
- we dropped the reference to 'agreed stoat control' and replaced this with factors that need to be considered for any possible exemption to the code

Thanks

[REDACTED]

From: [REDACTED] [REDACTED]@tbfree.org.nz]
Sent: Friday, 11 April 2014 2:57 p.m.
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [REDACTED]

Thanks for this.

I shall have a look over it. Would be good to schedule some time on Monday to have a chat about it just so I know I have my head around it.

Cheers

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) [redacted]@doc.govt.nz]
Sent: Friday, 11 April 2014 2:35 p.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi 9(2)(a), 9(2)(g)(ii) [redacted]

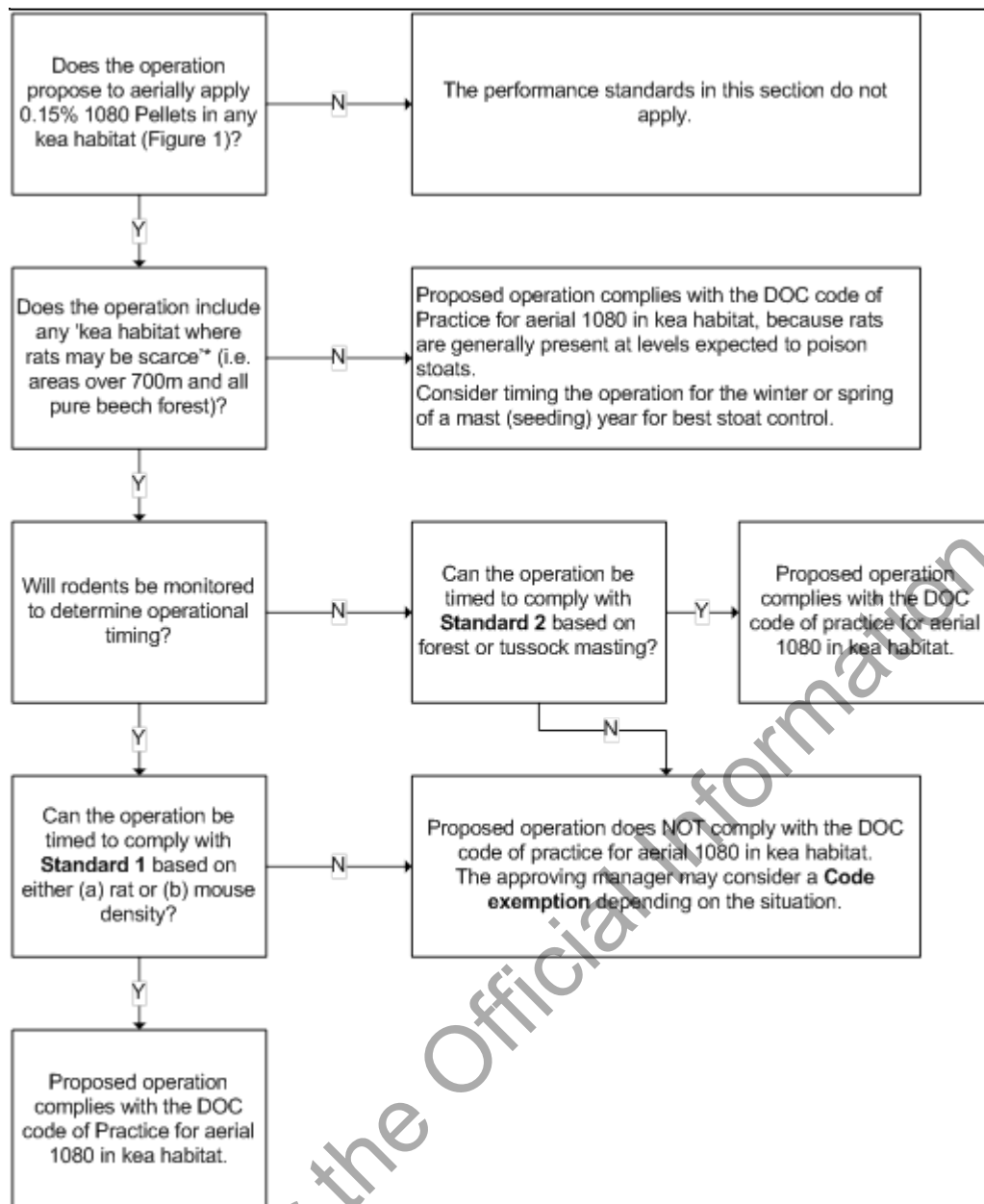
How are you getting on with the shapefile? At the meeting we thought that it was probably only the one eradication zone (the 50000 ha around Greymouth) that would overlap with the 'kea habitat where rats may be scarce.' My recollection is that a good chunk of this would be treated next year (i.e. in the post seedfall year) which would leave an area that could cause a problem if it flared up before the next mast?

I have re-worked the standard quite a lot based on feedback. Standard 1 allows for tracking of rats (or mice, but there is more work involved there) to determine operational timing. Standard 2 would be the one that TBfree would work under most often (i.e. defer operations to a mast seedfall or post-seedfall year). Then there is a Code exemption provision. We have moved away from suggesting stoat control as the mitigation and have instead given criteria to be considered for exemptions.

Let me know how the eradication area compared to the DOC shapefile. I'm heading off for the weekend (yay!) so Monday morning would be great.

9(2)(a), 9(2)(g)(iii) [redacted]

Compulsory performance standards to ensure that kea benefit from stoat control:



*A shape file of 'kea habitat where rats may be scarce' is available on NATIS (DOC) and on the DOC geoportal (<http://geoportal.doc.govt.nz/geoportal/catalog/main/home.page>).

Standard 1: Where rodent monitoring has been done, toxic bait application can occur when either (a) or (b) are met:

(a) Within 6 months prior to the operation, the tracking index for **rats** is 20% or higher on 8 out of 10 transects monitored in the operational area (following Gillies and Williams 2013).

Or

(b) Within 6 months prior to the operation, the tracking index for **mice** is 20% or higher on 8 out of 10 transects monitored in the operational area (following Gillies and Williams 2013). In this case, rats and mice must be monitored (ideally 2 weeks) before and after the operation; this monitoring should also include stoats where suitable transects are in place. Monitoring results must be reported and raw data made available, including any pre- and post-operational monitoring of possums (where completed, to allow the role of possums in secondary poisoning of stoats to be evaluated).

In both (a) and (b) where operations occur in the year following a forest or tussock mast, toxic bait application must occur prior to 31st August in the post-seedfall year (i.e. prior to kea nesting, see Figure 3).

The above rodent-based thresholds are based on our current understanding of stoat poisoning via aerial 1080 operations. Stoats do not eat 1080 baits but can be poisoned when they prey on rats (and possibly mice and possums) that have taken bait. These thresholds will be revised over time as we learn from future operations.

Because stoats are the main predators of kea, we expect that nest survival and kea productivity to improve in the two years following an effective stoat knockdown (Kemp et al. 2014). Timing operations to benefit kea should offset any kea deaths that might occur at some operations.

Standard 2: Where rodent monitoring has not been done, toxic bait application can occur when: The operation includes forest or tussock in a mast (seedfall) year or in the year following (post-seedfall), as determined either by seed monitoring or by expert judgement. In this case toxic bait must be applied in the 14 month period between 1st July of the mast (seeding) year and 31st August of the following year.

This standard allows mast seeding to be used as a proxy for rodent density where rodent monitoring data is not available, such as for some possum operations. The timeframe is based on the trend of rodent and stoat abundance observed in previous beech and rimu masts (Figure 3-5).

Code exemption: Where standards 1 or 2 have not been met, aerial operations using 0.15% 1080 Pellets can only proceed in kea habitat where rats can be scarce at the discretion of the manager approving the permission. The approving manager will take the following factors into consideration:

- Potential number of kea put at risk
- Existing data on pest numbers (possum, stoat, rat, mouse)
- Other measures in place to control stoats
- Any early indications of upcoming mast seeding events

From: [REDACTED]@tbfree.org.nz
Sent: Monday, 7 April 2014 9:32 a.m.
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [REDACTED]

Yeah the CD is fine and you are right it is quite limiting for me not being able to overlay anything.

[REDACTED]

From: [REDACTED]@doc.govt.nz
Sent: Monday, 7 April 2014 9:21 a.m.
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [REDACTED], I will find out for you, but my geospatial advisor was expecting it to take 2-3 weeks a week ago, owing to steps involved in approving the data before it could go on the NATIS (internal) and geoportal (external) systems. Was the CD okay? I am guessing it's the inability to overlay that is limiting you?

[REDACTED]

From: [redacted] <[redacted]@tbfree.org.nz>
Sent: Friday, 4 April 2014 4:35 p.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Do you know when the shapefile showing the kea areas/rats scarce will be available?

Would make things easier for me so I can overlay our control areas and get more of an idea on how much of our operations would be effected?

Cheers

[redacted]

From: [redacted] <[redacted]@doc.govt.nz>
Sent: Thursday, 3 April 2014 10:59 a.m.
To: Matthew Hall
Cc: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hello, I have drafted an agenda for this afternoon's meeting. I will have copies when you arrive and we can make any changes required

Kind regards

[redacted]

From: [redacted] <[redacted]@tbfree.org.nz>
Sent: Wednesday, 12 March 2014 2:17 p.m.
To: Matthew Hall
Cc: [redacted]; [redacted]
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi Matthew

Thanks for your time on the phone yesterday. [redacted] and I are available to meet with you to discuss the proposed new compulsory performance standard recommended by the Pesticides Advisory Group on the 3rd April, when I understand that you, [redacted] and possibly others will be coming into Christchurch for a meeting the following day. Please let me know what time suits you. I suggest we plan for 1-2 hours, assuming that:

- We send you the draft Code of Practice a week beforehand
- We talk you through the proposed standard and the reasons behind it
- You folks help to identify which operations (this year and into the future) could be affected
- You folks help us to identify issues that could arise in meeting the standard

As I explained yesterday, the existing performance standard is recommended to continue to prevent kea deaths. The proposed new standard restricts the timing of aerial 1080 operations that include high elevation (>700m) areas, because these are places where mice and rats can be scarce. The aim is to ensure kea benefit from all aerial 1080 operations, so that even where some kea die from consuming 1080 baits there is at least a neutral population effect. This kea benefit is contingent on effective secondary poisoning of stoats via poisoned mice and rats.

The current draft wording of the performance standard (subject to help from DOC staff and yourselves on identifying issues and refining) is:

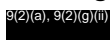
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Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

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Department of Conservation - *Te Papa Atawhai*
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DDI: 

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [REDACTED]
To: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Monday, 14 April 2014 9:22:50 a.m.
Attachments: [image001.png](#) Attachment available below

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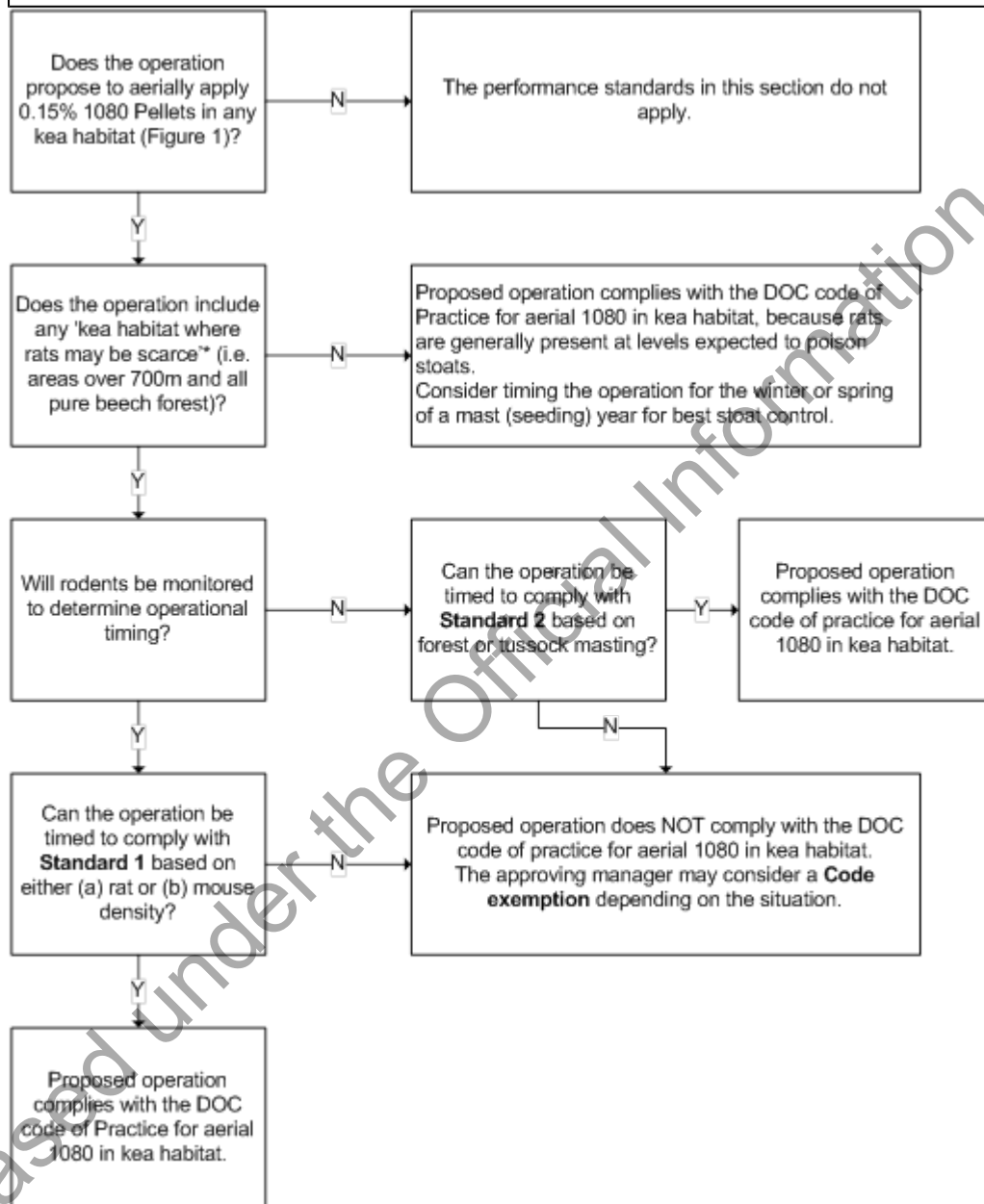
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9(2)(a), 9(2)(g)(iii)

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Sent: Monday, 7 April 2014 9:32 a.m.

To: 9(2)(a), 9(2)(g)(ii) [redacted]

Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

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Cc: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

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[redacted]

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Sent: Wednesday, 12 March 2014 2:17 p.m.
To: Matthew Hall
Cc: [redacted] <[redacted]@tbfree.org.nz>; [redacted]
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

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For operations that include beech forest on the [High altitude kea habitat map \(hyperlink\)](#), 0.15% 1080 Pellets and 0.2% 1080 Pellets may be aerially applied from July in a mast year to August of the following year. At other times, it may be applied only if rodents are widespread, as defined below.

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I think I said on the phone that this is easily met in a mast year without specifically monitoring for rat and mouse abundance. After our phone call I realised that I didn't point out that the proposed wording in the standard refers to 'July in a mast year to August of the following year' as a timeframe. From the DOC feedback, I think that the Mt Arthur operation may be the only planned TBfreeNZ aerial operation planned for before July, but that there is rat and mouse tracking planned for May. It's probably unlikely that the 'widespread' criteria would not be met in this monitoring, but I appreciate that it is probably too far down the track to cancel it if it isn't. This is the sort of thing we need to talk through.

Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [REDACTED]
To: [Matthew Hall](#)
Cc: [REDACTED]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Thursday, 3 April 2014 10:59:26 a.m.
Attachments: [DOCDM-1384077 - Consultation TBfreeNZ draft aerial 1080 COP for kea areas.doc](#) Appendix 19

Hello, I have drafted an agenda for this afternoon's meeting. I will have copies when you arrive and we can make any changes required

Kind regards

[REDACTED]

From: [REDACTED]
Sent: Wednesday, 12 March 2014 2:17 p.m.
To: Matthew Hall
Cc: [REDACTED]
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [REDACTED]

Thanks for your time on the phone yesterday. [REDACTED] and I are available to meet with you to discuss the proposed new compulsory performance standard recommended by the Pesticides Advisory Group on the 3rd April, when I understand that you [REDACTED] and possibly others will be coming into Christchurch for a meeting the following day. Please let me know what time suits you. I suggest we plan for 1-2 hours, assuming that:

- We send you the draft Code of Practice a week beforehand
- We talk you through the proposed standard and the reasons behind it
- You folks help to identify which operations (this year and into the future) could be affected
- You folks help us to identify issues that could arise in meeting the standard

As I explained yesterday, the existing performance standard is recommended to continue to prevent kea deaths. The proposed new standard restricts the timing of aerial 1080 operations that include high elevation (>700m) areas, because these are places where mice and rats can be scarce. The aim is to ensure kea benefit from all aerial 1080 operations, so that even where some kea die from consuming 1080 baits there is at least a neutral population effect. This kea benefit is contingent on effective secondary poisoning of stoats via poisoned mice and rats.

The current draft wording of the performance standard (subject to help from DOC staff and yourselves on identifying issues and refining) is:

For operations that include beech forest on the [High altitude kea habitat map \(hyperlink\)](#), 0.15% 1080 Pellets and 0.2% 1080 Pellets may be aerially applied from July in a mast year to August of the following year. At other times, it may be applied only if rodents are widespread, as defined below.

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I think I said on the phone that this is easily met in a mast year without specifically monitoring for rat and mouse abundance. After our phone call I realised that I didn't point out that the

proposed wording in the standard refers to 'July in a mast year to August of the following year' as a timeframe. From the DOC feedback, I think that the Mt Arthur operation may be the only planned TBfreeNZ aerial operation planned for before July, but that there is rat and mouse tracking planned for May. It's probably unlikely that the 'widespread' criteria would not be met in this monitoring, but I appreciate that it is probably too far down the track to cancel it if it isn't. This is the sort of thing we need to talk through.

Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [redacted]
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat
Date: Monday, 14 April 2014 1:37:40 p.m.
Attachments: [image001.png](#) Attached below

Thanks, that does give me a good idea. [redacted]

From: [redacted].org.nz]
Sent: Monday, 14 April 2014 12:26 p.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Attached is a map showing our aerial blocks on the coast and Tasman with your shapefile overlaid.

It's quite hard to get much detail due to the scale but you will get the idea of how many of our operations will fall into this area.

I have had a look at some of our Marlborough/north Canterbury blocks and some of these are affected as well but not as much as the coast/tasman ones.

Cheers

[redacted]

From: [redacted]@doc.govt.nz]
Sent: Monday, 14 April 2014 9:23 a.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

I am at my desk all day through to 230pm so either name a time or just ring when you are ready

[redacted]

It is essentially the same from a TBfree perspective and the map is the same. The differences from the first draft are that:

- rodent monitoring is stated first as the primary method for determining whether stoat by-kill is likely, at any time. If rodent monitoring has not been done, then TBfree NZ would need to wait until the next mast; so you'd have a choice between setting up monitoring or waiting
- we dropped the reference to 'agreed stoat control' and replaced this with factors that need to be considered for any possible exemption to the code

Thanks

[redacted]

From: [redacted]@tbfree.org.nz]
Sent: Friday, 11 April 2014 2:57 p.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Thanks for this.

I shall have a look over it. Would be good to schedule some time on Monday to have a chat about it just so I know I have my head around it.

Cheers

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) [redacted] <[redacted]@doc.govt.nz>
Sent: Friday, 11 April 2014 2:35 p.m.
To: 9(2)(a), 9(2)(g)(i) [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi 9(2)(a), 9(2)(g)(ii) [redacted]

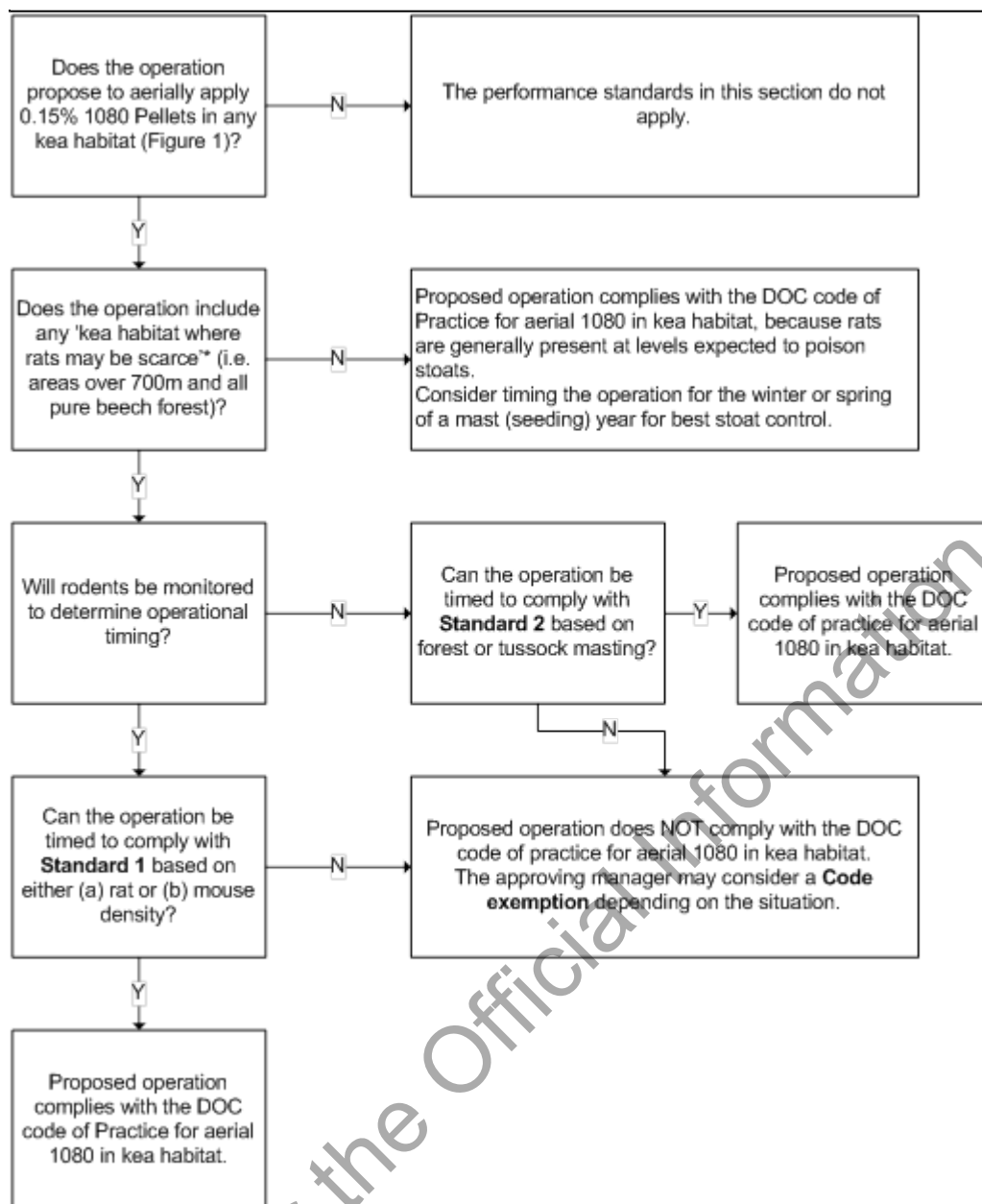
How are you getting on with the shapefile? At the meeting we thought that it was probably only the one eradication zone (the 50000 ha around Greymouth) that would overlap with the 'kea habitat where rats may be scarce.' My recollection is that a good chunk of this would be treated next year (i.e. in the post seedfall year) which would leave an area that could cause a problem if it flared up before the next mast?

I have re-worked the standard quite a lot based on feedback. Standard 1 allows for tracking of rats (or mice, but there is more work involved there) to determine operational timing. Standard 2 would be the one that TBfree would work under most often (i.e. defer operations to a mast seedfall or post-seedfall year). Then there is a Code exemption provision. We have moved away from suggesting stoat control as the mitigation and have instead given criteria to be considered for exemptions.

Let me know how the eradication area compared to the DOC shapefile. I'm heading off for the weekend (yay!) so Monday morning would be great.

9(2)(a), 9(2)(g)(iii) [redacted]

Compulsory performance standards to ensure that kea benefit from stoat control:



*A shape file of 'kea habitat where rats may be scarce' is available on NATIS (DOC) and on the DOC geoportal (<http://geoportal.doc.govt.nz/geoportal/catalog/main/home.page>).

Standard 1: Where rodent monitoring has been done, toxic bait application can occur when either (a) or (b) are met:

(a) Within 6 months prior to the operation, the tracking index for **rats** is 20% or higher on 8 out of 10 transects monitored in the operational area (following Gillies and Williams 2013).

Or

(b) Within 6 months prior to the operation, the tracking index for **mice** is 20% or higher on 8 out of 10 transects monitored in the operational area (following Gillies and Williams 2013). In this case, rats and mice must be monitored (ideally 2 weeks) before and after the operation; this monitoring should also include stoats where suitable transects are in place. Monitoring results must be reported and raw data made available, including any pre- and post-operational monitoring of possums (where completed, to allow the role of possums in secondary poisoning of stoats to be evaluated).

In both (a) and (b) where operations occur in the year following a forest or tussock mast, toxic bait application must occur prior to 31st August in the post-seedfall year (i.e. prior to kea nesting, see Figure 3).

The above rodent-based thresholds are based on our current understanding of stoat poisoning via aerial 1080 operations. Stoats do not eat 1080 baits but can be poisoned when they prey on rats (and possibly mice and possums) that have taken bait. These thresholds will be revised over time as we learn from future operations.

Because stoats are the main predators of kea, we expect that nest survival and kea productivity to improve in the two years following an effective stoat knockdown (Kemp et al. 2014). Timing operations to benefit kea should offset any kea deaths that might occur at some operations.

Standard 2: Where rodent monitoring has not been done, toxic bait application can occur when: The operation includes forest or tussock in a mast (seedfall) year or in the year following (post-seedfall), as determined either by seed monitoring or by expert judgement. In this case toxic bait must be applied in the 14 month period between 1st July of the mast (seeding) year and 31st August of the following year.

This standard allows mast seeding to be used as a proxy for rodent density where rodent monitoring data is not available, such as for some possum operations. The timeframe is based on the trend of rodent and stoat abundance observed in previous beech and rimu masts (Figure 3-5).

Code exemption: Where standards 1 or 2 have not been met, aerial operations using 0.15% 1080 Pellets can only proceed in kea habitat where rats can be scarce at the discretion of the manager approving the permission. The approving manager will take the following factors into consideration:

- Potential number of kea put at risk
- Existing data on pest numbers (possum, stoat, rat, mouse)
- Other measures in place to control stoats
- Any early indications of upcoming mast seeding events

From: [redacted] <[redacted]@tbfree.org.nz>
Sent: Monday, 7 April 2014 9:32 a.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Yeah the CD is fine and you are right it is quite limiting for me not being able to overlay anything.

[redacted]

From: [redacted] <[redacted]@doc.govt.nz>
Sent: Monday, 7 April 2014 9:21 a.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted] I will find out for you, but my geospatial advisor was expecting it to take 2-3 weeks a week ago, owing to steps involved in approving the data before it could go on the NATIS (internal) and geoportal (external) systems. Was the CD okay? I am guessing it's the inability to overlay that is limiting you?

[redacted]

From: [redacted] <[redacted]@tbfree.org.nz>
Sent: Friday, 4 April 2014 4:35 p.m.
To: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Do you know when the shapefile showing the kea areas/rats scarce will be available?

Would make things easier for me so I can overlay our control areas and get more of an idea on how much of our operations would be effected?

Cheers

[redacted]

From: [redacted] <[redacted]@doc.govt.nz>
Sent: Thursday, 3 April 2014 10:59 a.m.
To: Matthew Hall
Cc: [redacted]
Subject: RE: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hello, I have drafted an agenda for this afternoon's meeting. I will have copies when you arrive and we can make any changes required

Kind regards

[redacted]

From: [redacted] <[redacted]@doc.govt.nz>
Sent: Wednesday, 12 March 2014 2:17 p.m.
To: Matthew Hall
Cc: [redacted]
Subject: 3rd April to discuss proposed new standard for aerial 1080 in kea habitat

Hi [redacted]

Thanks for your time on the phone yesterday. [redacted] and I are available to meet with you to discuss the proposed new compulsory performance standard recommended by the Pesticides Advisory Group on the 3rd April, when I understand that you, [redacted] and possibly others will be coming into Christchurch for a meeting the following day. Please let me know what time suits you. I suggest we plan for 1-2 hours, assuming that:

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Let me know whether the 3rd in Christchurch still suits and what time would work for your team.

Kind regards

9(2)(a), 9(2)(g)(iii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [redacted]
To: [redacted]
Cc: [redacted] @tbfree.org.nz
Subject: RE: DOC Permission Aorangi operation
Date: Friday, 20 June 2014 4:55:12 p.m.

Hi [redacted]

Thank you very much for this permission, however I do question our ability to comply with some conditions as listed below.

Can these conditions please be removed as we cannot comply with them.

- Aerial application
 - Condition 18. Use bait sowing buckets with retractable legs. Please be aware that new buckets have been developed for this operation in order to sow bait at 0.6kg/ha, they do not have retractable legs.
- Hand laying
 - Condition 10. The DOC code of practice for aerial 1080 in Kea habitat must be followed. Are you sure it is meant to be included here. Can you please provide a copy of the COP.
- Bait stations
 - Condition 10. Bait station design must prevent access to baits by inquisitive birds. We intend to use the Kilmore or Sentry bait station, neither have that ability. If we can't use these bait stations we cannot use this method. Can you please confirm if the use of Kilmore or Sentry bait stations is permitted within this operation.

Please don't hesitate to ring me for further clarification or discussion if required, as I remain concerned with the conditions imposed.

Cheers

[redacted]

From: [redacted] @doc.govt.nz
Sent: Friday, 20 June 2014 8:31 a.m.
To: [redacted]
Cc: [redacted] @epa.govt.nz; [redacted] [WairDHB]
Subject: DOC Permission Aorangi operation

Hi [redacted]

Please find attached the DOC permission letter for the proposed Aorangi Aerial Project.

Cheers.

[redacted]

From: [redacted] @doc.govt.nz [mailto:[redacted]@doc.govt.nz]
Sent: Friday, 20 June 2014 8:17 a.m.
To: [redacted]
Subject: Message from KMBT_C280_C28002495

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Released under the Official Information Act (1982)

From: [REDACTED]
To: [Kea Conservation Trust](#); [REDACTED] [Andy Cox](#)
Cc: [REDACTED]
Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting
Date: Thursday, 13 March 2014 2:11:57 p.m.
Attachments: [DOCDM-1359346 - Project stakeholder meeting kea repellent March 2014.doc](#) **Appendix 13**

Hi all

In regards to [REDACTED] comments yesterday, we discussed aversion training a couple of times at the meeting and we concluded that the broadcast repellent strategy was the priority for now. Some of the discussion is captured in the meeting notes (attached). I am happy to alter the paragraph about aversion in the meeting outcomes to show we will review it again within the next year, e.g.

Aversion training (i.e., secondary repellent in prefeed delivered to kea prior to operations) would have merit if the risk of exposing kea was higher at sites where kea were habituated to human food. Aversion training will be looked at again after kea survival and nest monitoring associated with this year's mast.

However we did identify these 4 areas for immediate work in the repellent research program; resourcing for this program would not allow aversion training to be investigated at the same time.

Let me know of any comments on this revision.

Kind regards

[REDACTED]

From: Kea Conservation Trust [mailto:info@keaconservation.co.nz]
Sent: Wednesday, 12 March 2014 10:24 a.m.
To: [REDACTED] [Andy Cox](#)
Cc: [REDACTED]
Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting

Hi [REDACTED],
My only comment relates to the paragraph on aversion training. It was my understanding that this could be pursued whilst the repellent research was ongoing? It might be difficult to ethically argue the benefits of continuing to monitor kea through future drops, whilst not taking the opportunity to trial other methods of reducing the risks. We know kea are at risk from 1080, and that AQ and d-P repel kea from eating pre-feed pellets. We also have an idea that increased risk of exposure may be linked to human habituated behaviour in kea -however it also may be linked to other factors we can't control or predict for such as individual kea behaviour in a population (as [REDACTED] found in her lead poisoning research) or increased vulnerability at certain life stages/lifecycles (eg are kea in backcountry areas more likely to be resident breeding adults while unpaired adults and sub-adults are attracted to human areas during their periods of flocking)? Although the junk food versus wild site theory is very interesting (and would provide an ability to provide surety around enforcing protocols at different site types) how many additional samples of kea deaths would be needed to prove it with surety and is it something we

have the luxury of doing at this stage?

As such, it would be in everyone's best interests, whilst we are focusing attention on answering questions in relation to repellent stability and concentrations (which it has been agreed may take substantial time (ie years) and resources), that we take any opportunities to initiate aversion training (ie trial alternative delivery method for the repellent/s which take rodents out of the equation) as and when sites become available.

Setting up covered, raised feeding stations to deliver AQ laced pre-feed (potentially with another primary repellent or other cue already in the toxic (such as higher concentrations of cinnamon)) in proposed 1080 sites would be relatively straight forward. The feed stations could be remotely monitored to identify those kea which visited the stations as well as to ascertain repeat visitations by banded/Tx kea. Any dead kea post drop could then be checked to see if they had previously been exposed to the AQ pre-feed (recognising that some kea may have picked up dropped pellets away from the stations).

At the very least, the trials would be considered a positive effort to try to minimise kea deaths and where study sites are potentially in areas of high community interest (such as the Matukituki) would be particularly important to engender community buy in.

Cheers

9(2)(a), 9(2)(g)(ii)

[Redacted]

KCT, Chair

Kea Conservation Trust

www.keaconservation.co.nz

Ph 9(2)(a), 9(2)(g)(ii)

Email: xxxx@xxxxxxxxxxxxxxxxxx.xx

From: 9(2)(a), 9(2)(g)(ii) [Redacted] @doc.govt.nz]

Sent: 11 March 2014 11:59 AM

To: 9(2)(a), 9(2)(g)(ii) [Redacted] Kea Conservation Trust; 9(2)(a), 9(2)(g)(ii) [Redacted]

Andy Cox

Cc: 9(2)(a), 9(2)(g)(ii) [Redacted]

Subject: Draft meeting outcomes from Kea repellent stakeholder meeting

Hi there

I have tidied up the meeting notes from yesterday and formalised the draft meeting outcomes. Please let me know if you have any comments this week. I would like to communicate this to ACP and others by the end of the week or early next week.

Meeting outcome:

We continue to work toward the project criteria for an effective bird repellent. There are some gaps and some for the primary and combined repellent treatment under investigation

Project criteria	Primary repellent (0.17% D-pulegone in prefeed and toxic)	Combined repellent (Primary repellent plus 0.1% anthraquinone in prefeed)
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Kea consume very little (if any) repellent toxic bait	Not trialled for repellence but 5 kea died at Otira In the Orr-Walker et al 2012 trial, it is unknown whether acting as a repellent or salient cue for secondary repellent	Repellence demonstrated in aviary trial Not tested in a field operation
Possum and rat kills continue to be high when repellent is used	Criteria met	Possum kills high Rat kills not high enough
No welfare concerns are raised	Untested for target pests	Untested for target pests
Repellents are effective for 4–12 weeks after bait manufacture	Not stable for this timeframe	Anthraquinone stable, d-pulegone is not.

We continue to work on a broadcast repellent strategy. Aversion training (i.e., secondary repellent in prefeed delivered to kea prior to operations) would have merit if we knew that the risk of exposing kea was higher at sites where kea were habituated to human food. Aversion training will be looked at again when larger samples of kea have been monitored at remote sites. In the meantime we propose to do more work to see if we can overcome the shortcomings of anthraquinone, d-pulegone as well as do some initial screening of other potential repellents.

Recommendations:

ANTHRAQUINONE

1. Is there an anthraquinone concentration that will deliver high rat kills and still repels kea? This involves first defining the highest concentration of anthraquinone that does not repel rats. A gavage trial could give an indicative level or levels, for repellence testing with kea (ideally with wild birds). The repellence trial involves a second visit to look for secondary repellence. The rat result would then need confirmed in a field efficacy trial. If gavage is too costly, we could do the pest efficacy field trial (e.g. 0.05%, 0.025%) prior to the kea repellence trial.

D-PULEGONE

2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix. For example, Food Technology Massey, Plant & Food. This advice would be reviewed to decide whether to pursue the repellence trials outlined in 3 and whether to invest in stabilisation.
3. Carry out captive or car park repellence trials with kea, to confirm whether d-pulegone to find out whether it is contributing to the repellent effect or whether it is just a cue for anthraquinone. If it is a repellent, then we need to invest in stabilisation. If it is just a cue we could use something else with anthraquinone. The trial involves a second visit to look for evidence of habituation.

OTHER REPELLENTS

4. Carry out preliminary field screening of other potential repellents. Put the repellent on known attractive bait (butter, cheese, live huhus) and see how wild kea react. Huhus have benefit that it would be recognised as a food. We can rule out any repellents where kea seem to feed on the food readily. Small quantities would need to be sourced of the candidate repellents:

- Tannic acid

- Caffeine (LCR)
- Cinnamamide
- Garlic oil
- Aluminium ammonium sulphate (maybe Curb)

Follow up actions

[redacted] – Brief [redacted] and communicate any comments from TBfree NZ. A follow up video conference with [redacted] is an option. The meeting outcomes will be finalised once we have feedback from TBfree NZ

[redacted] – Provide feedback on which parrots in McIlroy (1984) should be included in an estimation of a lethal dose for a kea. Provide methodology for preliminary field screening of repellents.

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[redacted] – Cost proposed gavage trial and indicate possible timing. [redacted] and [redacted] to discuss the pest welfare trial in the contract.

[redacted] – Confirm meeting outcomes with Andy Cox after TBfreeNZ feedback and progress recommendations. Communicate meeting outcomes to wider stakeholders including ACP Ltd.

Many thanks for your ongoing support for the project. The meeting went very well from our perspective.

Kind regards

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

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From: [Kea Conservation Trust](#)
To: [redacted]; [Andy Cox](#)
Cc: [redacted]
Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting
Date: Wednesday, 12 March 2014 10:24:26 a.m.

Hi [redacted]

My only comment relates to the paragraph on aversion training. It was my understanding that this could be pursued whilst the repellent research was ongoing? It might be difficult to ethically argue the benefits of continuing to monitor kea through future drops, whilst not taking the opportunity to trial other methods of reducing the risks. We know kea are at risk from 1080, and that AQ and d-P repel kea from eating pre-feed pellets. We also have an idea that increased risk of exposure may be linked to human habituated behaviour in kea -however it also may be linked to other factors we can't control or predict for such as individual kea behaviour in a population (as [redacted] found in her lead poisoning research) or increased vulnerability at certain life stages/lifecycles (eg are kea in backcountry areas more likely to be resident breeding adults while unpaired adults and sub-adults are attracted to human areas during their periods of flocking)? Although the junk food versus wild site theory is very interesting (and would provide an ability to provide surety around enforcing protocols at different site types) how many additional samples of kea deaths would be needed to prove it with surety and is it something we have the luxury of doing at this stage?

As such, it would be in everyone's best interests, whilst we are focusing attention on answering questions in relation to repellent stability and concentrations (which it has been agreed may take substantial time (ie years) and resources), that we take any opportunities to initiate aversion training (ie trial alternative delivery method for the repellent/s which take rodents out of the equation) as and when sites become available.

Setting up covered, raised feeding stations to deliver AQ laced pre-feed (potentially with another primary repellent or other cue already in the toxic (such as higher concentrations of cinnamon)) in proposed 1080 sites would be relatively straight forward. The feed stations could be remotely monitored to identify those kea which visited the stations as well as to ascertain repeat visitations by banded/Tx kea. Any dead kea post drop could then be checked to see if they had previously been exposed to the AQ pre-feed (recognising that some kea may have picked up dropped pellets away from the stations).

At the very least, the trials would be considered a positive effort to try to minimise kea deaths and where study sites are potentially in areas of high community interest (such as the Matukituki) would be particularly important to engender community buy in.

Cheers

[redacted]

[redacted]

KCT, Chair

Kea Conservation Trust

www.keaconservation.co.nz

Ph [redacted]

Email: xxxx@xxxxxxxxxxxxxxxx.xx.xx

From: [redacted]@doc.govt.nz
 Sent: 11 March 2014 11:59 AM
 To: [redacted] Kea Conservation Trust; [redacted];
 Andy Cox
 Cc: [redacted]
 Subject: Draft meeting outcomes from Kea repellent stakeholder meeting

Hi there

I have tidied up the meeting notes from yesterday and formalised the draft meeting outcomes. Please let me know if you have any comments this week. I would like to communicate this to ACP and others by the end of the week or early next week.

Meeting outcome:

We continue to work toward the project criteria for an effective bird repellent. There are some gaps and some for the primary and combined repellent treatment under investigation

Project criteria	Primary repellent (0.17% D-pulegone in prefeed and toxic)	Combined repellent (Primary repellent plus 0.1% anthraquinone in prefeed)
Kea consume very little (if any) repellent toxic bait	Not trialled for repellence but 5 kea died at Otira In the Orr-Walker et al 2012 trial, it is unknown whether acting as a repellent or salient cue for secondary repellent	Repellence demonstrated in aviary trial Not tested in a field operation
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Recommendations:

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1. Is there an anthraquinone concentration that will deliver high rat kills and still repels kea? This involves first defining the highest concentration of anthraquinone that does not repel rats. A gavage trial could give an indicative level or levels, for repellence testing with kea (ideally with wild birds). The repellence trial involves a second visit to look for secondary

repellence. The rat result would then need confirmed in a field efficacy trial. If gavage is too costly, we could do the pest efficacy field trial (e.g. 0.05%, 0.025%) prior to the kea repellence trial.

D-PULEGONE

2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix. For example, Food Technology Massey, Plant & Food. This advice would be reviewed to decide whether to pursue the repellence trials outlined in 3 and whether to invest in stabilisation.
3. Carry out captive or car park repellence trials with kea, to confirm whether d-pulegone to find out whether it is contributing to the repellent effect or whether it is just a cue for anthraquinone. If it is a repellent, then we need to invest in stabilisation. If it is just a cue we could use something else with anthraquinone. The trial involves a second visit to look for evidence of habituation.

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 - Tannic acid
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 - Cinnamamide
 - Garlic oil
 - Aluminium ammonium sulphate (maybe Curb)

Follow up actions

[REDACTED] – Brief [REDACTED] and communicate any comments from TBfree NZ. A follow up video conference with [REDACTED] is an option. The meeting outcomes will be finalised once we have feedback from TBfree NZ

[REDACTED] – Provide feedback on which parrots in Mcllroy (1984) should be included in an estimation of a lethal dose for a kea. Provide methodology for preliminary field screening of repellents.

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[REDACTED] – Cost proposed gavage trial and indicate possible timing. [REDACTED] to discuss the pest welfare trial in the contract.

[REDACTED] – Confirm meeting outcomes with Andy Cox after TBfreeNZ feedback and progress recommendations. Communicate meeting outcomes to wider stakeholders including ACP Ltd.

Many thanks for your ongoing support for the project. The meeting went very well from our perspective.

Kind regards

9(2)(a), 9(2)(g)(ii)

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

DDI: 9(2)(a), 9(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

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Released under the Official Information Act (1982)

From: [redacted]
To: [redacted]; [Kea Conservation Trust](#); [redacted] [Andy Cox](#)
Cc: [redacted]
Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting
Date: Friday, 14 March 2014 3:49:45 p.m.

Hi all,

I'm agreeable that the aversion training shouldn't be pursued as part of [redacted] project, given the terms of reference for that project.

However, I agree with [redacted] that the risk of doing business as usual at the junk food sites up for treatment this year (Milford Track, West Matukituki, Waimakariri) is too great, both three perspectives 1) kea population 2) ethics and 3) political.

I am proposing another project to quickly test whether Aq can be used as an aversion trainer with cinnamon oil as a cue. I'm about to prepare a brief proposal for this work and if we can get sign off for it [redacted] can make a start next week on the Milford road.

Cheers,

[redacted]

From: [redacted]
Sent: Thursday, 13 March 2014 2:12 p.m.
To: Kea Conservation Trust; [redacted];
Andy Cox
Cc: [redacted]
Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting

Hi all

In regards to [redacted] comments yesterday, we discussed aversion training a couple of times at the meeting and we concluded that the broadcast repellent strategy was the priority for now. Some of the discussion is captured in the meeting notes (attached). I am happy to alter the paragraph about aversion in the meeting outcomes to show we will review it again within the next year, e.g.

Aversion training (i.e., secondary repellent in prefeed delivered to kea prior to operations) would have merit if the risk of exposing kea was higher at sites where kea were habituated to human food. Aversion training will be looked at again after kea survival and nest monitoring associated with this year's mast.

However we did identify these 4 areas for immediate work in the repellent research program; resourcing for this program would not allow aversion training to be investigated at the same time.

Let me know of any comments on this revision.

Kind regards

[Redacted]

From: Kea Conservation Trust [<mailto:xxxx@xxxxxxxxxxxxxxxx.xx.x>]

Sent: Wednesday, 12 March 2014 10:24 a.m.

To: [Redacted] Andy Cox

Cc: [Redacted]

Subject: RE: Draft meeting outcomes from Kea repellent stakeholder meeting

Hi [Redacted]

My only comment relates to the paragraph on aversion training. It was my understanding that this could be pursued whilst the repellent research was ongoing? It might be difficult to ethically argue the benefits of continuing to monitor kea through future drops, whilst not taking the opportunity to trial other methods of reducing the risks. We know kea are at risk from 1080, and that AQ and d-P repel kea from eating pre-feed pellets. We also have an idea that increased risk of exposure may be linked to human habituated behaviour in kea -however it also may be linked to other factors we can't control or predict for such as individual kea behaviour in a population (as [Redacted] found in her lead poisoning research) or increased vulnerability at certain life stages/lifecycles (eg are kea in backcountry areas more likely to be resident breeding adults while unpaired adults and sub-adults are attracted to human areas during their periods of flocking)? Although the junk food versus wild site theory is very interesting (and would provide an ability to provide surety around enforcing protocols at different site types) how many additional samples of kea deaths would be needed to prove it with surety and is it something we have the luxury of doing at this stage?

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Cheers

[Redacted]

[Redacted]

KCT, Chair

Kea Conservation Trust

www.keaconservation.co.nz

Ph [redacted]

Email: xxxx@xxxxxxxxxxxxxxxxxx.xx.xx

From: [redacted] [redacted]@doc.govt.nz]
Sent: 11 March 2014 11:59 AM
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 Andy Cox
Cc: [redacted]
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Follow up actions

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our perspective.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

DDI: 9(2)(a), 9(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [redacted]
To: [redacted]
[Andy Cox](#)
Cc: [redacted]
Subject: RE: EPA registration limits for bird repellents
Date: Thursday, 18 December 2014 4:04:41 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Hi [redacted]

That is sort what I've been considering doing – a sort of range finder test with possum and rats to give us an idea whether compounds are repellent and what concentrations might be appropriate to test in detail.

[redacted]

[redacted]
Science Team Leader
Wildlife Ecology & Management
Landcare Research
PO Box 69040, Lincoln 7640, NEW ZEALAND

[redacted] [@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz)

[redacted]

[redacted]

[redacted]

[redacted]

From: [redacted]@tbfree.org.nz]

Sent: Thursday, 18 December 2014 3:27 p.m.

To: [redacted]

[redacted]; Andy Cox

Cc: [redacted]

Subject: RE: EPA registration limits for bird repellents

Hi [redacted]

I've just had a chance to review [redacted] and [redacted] *Review of potential kea repellents* and agree with the proposed potential candidates to consider as bird repellents (tannic acid, Ortho-aminoacetophenone and garlic).

With regard to the potential order of investigation, would it be possible for Landcare to use a simple test method as a further aid to prioritising which of these compounds should be trialled first on kea. A suggested simple test method would be for Landcare researchers to separately spray the agreed dilution of each of these compounds onto current fruit items being presented to say five of the currently caged possums and rats at their animal unit and observing whether these food items are eaten. If not, it may suggest that that particular compound should have a lower priority for testing on kea.

Regards, [redacted]

[redacted] QSO, BAgSc, BVSc, MPVM

Manager TB Eradication & Research

DDI [redacted]

OSPRI New Zealand | Operational Solutions for Primary Industries

Level 9 CallActive House, 15 Willeston Street

PO Box 3412, Wellington 6140

T 04 474 7100 • W ospri.co.nz  

From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)

Sent: Wednesday, 17 December 2014 9:26 a.m.

To: [redacted]

Andy Cox

Cc: [redacted]

Subject: EPA registration limits for bird repellents

Hi all

We've had great service from the EPA applications team who have come back with the maximum concentrations that would trigger a hazard classification for prefeed pellets and would alter the hazard classification for 0.15% 1080 pellets (and therefore require reassessment). Please see below.

This says to me that the range we were considering for tannic acid (2-4%) would be fine, as would 0.9% for OAP (we'd talked about 1%).

Garlic oil might be ruled out by this advice, though, as the literature suggested a starting concentration of 2%, which would be more than double the concentration allowed by the current approvals.

It's occurred to me that it would be good to let the Kea Conservation Trust know about the potential trial and what repellents could be looked at. Perhaps after TBfreeNZ's final feedback I could let them know. My understanding is that [redacted] will look at some design options and broad costs after that.

Kind regards

[redacted]

From: [redacted] [@epa.govt.nz](mailto:[redacted]@epa.govt.nz)

Sent: Tuesday, 16 December 2014 1:57 p.m.

To: [redacted]

Subject: RE: Further to phone message: change notification and SOS applications for bird repellents

Hi [redacted]

Tannic Acid can be added to a non-toxic prefeed at up to 9.9% without triggering a hazard classification (at 10% it would cause the prefeed to trigger a 6.4A).

This would also be the limit for adding tannic acid to the bait, as it does not possess an eye irritancy classification.

We don't have any information in our database for 2-aminoacetophenone, but if we were to classify it based on [this safety data sheet](#) we would get classifications of: 6.1D(O), 6.1E (aspiration), 6.3A, 6.4A

These are likely to be conservative. This would trigger a skin irritation classification (6.3B) at 1%, so you could add 0.9% to a non-toxic bait before it became hazardous, or to the 1080 baits

before their classification was changed.

Garlic oil is also classified as 6.3A, so would face the same limits as 2-aminoacetophenone (0.9%).

Hopefully that helps to give you some guidance.

Let me know if you have any further questions.

Cheers,

9(2)(a),
9(2)(g)(ii)

Advisor, Hazardous Substances

APPLICATIONS AND ASSESSMENT

Environmental Protection Authority • Level 10 • 215 Lambton Quay • Private Bag 63002 • Wellington

6140 • New Zealand Tel • +64 4 916 2426 • Fax +64 4 914 0433 • 9(2)(a), 9(2)(g)(ii) www.epa.govt.nz

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From: 9(2)(a), 9(2)(g)(ii) @doc.govt.nz

Sent: Friday, 12 December 2014 1:00 p.m.

To: 9(2)(a), 9(2)(g)(ii)

Subject: Further to phone message: change notification and SOS applications for bird repellents

Hi 9(2)(a),
9(2)(g)(ii)

Further to my phone message I would like your advice on the best way to package a request for hazard classification advice. I would like to determine the maximum concentration of the three bird repellents below, that could be added to:

Non-toxic prefeed cereal pellets without triggering any hazard classification

0.15% 1080 cereal pellets without changing the hazard classification

The repellents are

Tannic acid (CAS 1401-55-4)

2-aminoacetophenone (CAS 551-93-9) [This does not appear to be in the approved hazardous substances register but I didn't want to assume it is non-hazardous?]

Garlic oil (CAS 8000-78-0)

At this stage we are evaluating the use of the repellents individually (i.e., one repellent would be used in both prefeed and toxic in

When I did this once before (see below and attached), I asked about specific concentrations and completed a separate HS6A form for each repellent combination with non-toxic cereal pellets and a separate HS6C form for the 0.15% 1080 cereal pellets. What we really want to know is the maximum concentration that we could use without requiring a new approval or reassessment. We are looking at concentrations

Do I need to do a separate form for each (6 in total)?

I wondered/hoped that I might be able to do 1 HS6A form for the non-toxic prefeed (asking about the 3 repellents) and 1 HS6C form for the 0.15% 1080 pellets.

Any advice gratefully received.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - Te Papa Atawhai

Otautahi/Christchurch Office

DDI: [REDACTED]

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From: [REDACTED]

Sent: Friday, 9 March 2012 10:21 a.m.

To: [REDACTED]@epa.govt.nz'

Cc: [REDACTED]

Subject: change notification and SOS applications - 0.15% 1080 cereal pellets containing 0.17% d-pulegone and 0.10% anthraquinone

Hello

Please find attached applications for:

HS6A for cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6A for cereal pellets containing 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.17% d-pulegone

Also attached are:

-MSDS for d-pulegone (CAS 89-82-7)

-MSDS for anthraquinone (CAS 84-65-1)

-Authorisation from Animal Control Products to access technical data on the existing formulation for 0.15% 1080 cereal pellets

-A published paper outlining a captive study with kea (*Nestor notabilis*) to determine the effectiveness of the proposed bird repellents

One point I need to clarify with respect to the anthraquinone. Our existing approval includes the ability to import up to 5kg Avipel 95 for the purposes of the trial. If we were to pursue full release of either of the two substances above that include anthraquinone, do we also need to apply for a release approval for this product? I see that there are existing approvals for anthraquinone but perhaps they do not cover this product?

Please issue an invoice by email as soon as possible, ideally today. If I have the invoice on Monday I can have it paid on Tuesday 13th. Otherwise the next payment run will be on 20th March.

Kind regards

[REDACTED]

Senior Technical Support Officer Threats - *Kai-matanga Matua - Koiora Morearea*
Department of Conservation - *Te Papa Atawhai*

DDI: [REDACTED]

Conservation for prosperity *Tiakina te taiao, kia puawai*

www.doc.govt.nz

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Released under the Official Information Act (1982)

From: [redacted]
To: [redacted] [Andy Cox](#)
Cc: [redacted]
Subject: RE: EPA registration limits for bird repellents
Date: Friday, 19 December 2014 10:06:51 a.m.
Attachments: [image002.png](#)
[image001.png](#)

Hi [redacted],

Thanks for your reply, I think that's a good way to evaluate the repellents first.

Regards, [redacted]

[redacted] **QSO, BAgSc, BVSc, MPVM**
Manager TB Eradication & Research
DDI [redacted]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz  

From: [redacted] [redacted]@landcareresearch.co.nz]
Sent: Thursday, 18 December 2014 4:05 p.m.
To: [redacted]
[redacted] Andy Cox
Cc: [redacted]
Subject: RE: EPA registration limits for bird repellents

Hi [redacted],

That is sort what I've been considering doing – a sort of range finder test with possum and rats to give us an idea whether compounds are repellent and what concentrations might be appropriate to test in detail.

[redacted]

[redacted]
Science Team Leader
Wildlife Ecology & Management
Landcare Research
PO Box 69040, Lincoln 7640, NEW ZEALAND
[redacted] [@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz)

[redacted]
[redacted]
[redacted]

From: [redacted] [redacted]@tbfree.org.nz]
Sent: Thursday, 18 December 2014 3:27 p.m.
To: [redacted]
[redacted] Andy Cox
Cc: [redacted]

Subject: RE: EPA registration limits for bird repellents

Hi [redacted]

I've just had a chance to review [redacted] and [redacted] *Review of potential kea repellents* and agree with the proposed potential candidates to consider as bird repellents (tannic acid, Ortho-aminoacetophenone and garlic).

With regard to the potential order of investigation, would it be possible for Landcare to use a simple test method as a further aid to prioritising which of these compounds should be trialled first on kea. A suggested simple test method would be for Landcare researchers to separately spray the agreed dilution of each of these compounds onto current fruit items being presented to say five of the currently caged possums and rats at their animal unit and observing whether these food items are eaten. If not, it may suggest that that particular compound should have a lower priority for testing on kea.

Regards [redacted]

[redacted], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI [redacted]

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From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Sent: Wednesday, 17 December 2014 9:26 a.m.
To: [redacted]
[redacted] Andy Cox
Cc: [redacted]
Subject: EPA registration limits for bird repellents

Hi all

We've had great service from the EPA applications team who have come back with the maximum concentrations that would trigger a hazard classification for prefeed pellets and would alter the hazard classification for 0.15% 1080 pellets (and therefore require reassessment). Please see below.

This says to me that the range we were considering for tannic acid (2-4%) would be fine, as would 0.9% for OAP (we'd talked about 1%).

Garlic oil might be ruled out by this advice, though, as the literature suggested a starting concentration of 2%, which would be more than double the concentration allowed by the current approvals.

It's occurred to me that it would be good to let the Kea Conservation Trust know about the potential trial and what repellents could be looked at. Perhaps after TBfreeNZ's final feedback I could let them know. My understanding is that [redacted] will look at some design options and broad costs after that.

Kind regards

[redacted]

From: [redacted] [9(2)(a), 9(2)(g)(ii)] @epa.govt.nz]
Sent: Tuesday, 16 December 2014 1:57 p.m.
To: [redacted] [9(2)(a), 9(2)(g)(ii)]
Subject: RE: Further to phone message: change notification and SOS applications for bird repellents

Hi [redacted] [9(2)(a), 9(2)(g)(ii)]

Tannic Acid can be added to a non-toxic prefeed at up to 9.9% without triggering a hazard classification (at 10% it would cause the prefeed to trigger a 6.4A). This would also be the limit for adding tannic acid to the bait, as it does not possess an eye irritancy classification.

We don't have any information in our database for 2-aminoacetophenone, but if we were to classify it based on [this safety data sheet](#) we would get classifications of: 6.1D(O), 6.1E (aspiration), 6.3A, 6.4A

These are likely to be conservative. This would trigger a skin irritation classification (6.3B) at 1%, so you could add 0.9% to a non-toxic bait before it became hazardous, or to the 1080 baits before their classification was changed.

Garlic oil is also classified as 6.3A, so would face the same limits as 2-aminoacetophenone (0.9%).

Hopefully that helps to give you some guidance.

Let me know if you have any further questions.

Cheers,

[redacted] [9(2)(a), 9(2)(g)(ii)]

**Advisor, Hazardous Substances
APPLICATIONS AND ASSESSMENT**

Environmental Protection Authority • Level 10 • 215 Lambton Quay • Private Bag 63002 • Wellington 6140 • New Zealand Tel • +64 4 916 2426 • Fax +64 4 914 0433 • [redacted] [9(2)(g)(ii)] • www.epa.govt.nz

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From: [redacted] [9(2)(a), 9(2)(g)(ii)] @doc.govt.nz]
Sent: Friday, 12 December 2014 1:00 p.m.
To: [redacted] [9(2)(a), 9(2)(g)(ii)]
Subject: Further to phone message: change notification and SOS applications for bird repellents

Hi [redacted] [9(2)(a), 9(2)(g)(ii)]

Further to my phone message I would like your advice on the best way to package a request for hazard classification advice. I would like to determine the maximum concentration of the three bird repellents below, that could be added to:

Non-toxic prefeed cereal pellets without triggering any hazard classification
0.15% 1080 cereal pellets without changing the hazard classification

The repellents are

Tannic acid (CAS 1401-55-4)

2-aminoacetophenone (CAS 551-93-9) [This does not appear to be in the approved hazardous substances register but I didn't want to assume it is non-hazardous?]

Garlic oil (CAS 8000-78-0)

At this stage we are evaluating the use of the repellents individually (i.e., one repellent would be used in both prefeed and toxic in

When I did this once before (see below and attached), I asked about specific concentrations and completed a separate HS6A form for each repellent combination with non-toxic cereal pellets and a separate HS6C form for the 0.15% 1080 cereal pellets. What we really want to know is the maximum concentration that we could use without requiring a new approval or reassessment. We are looking at concentrations

Do I need to do a separate form for each (6 in total)?

I wondered/hoped that I might be able to do 1 HS6A form for the non-toxic prefeed (asking about the 3 repellents) and 1 HS6C form for the 0.15% 1080 pellets.

Any advice gratefully received.

Kind regards

(b) (2)(a), (b) (2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

Otautahi/Christchurch Office

DDI: (b) (2)(a), (b) (2)(g)(ii)

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From: (b) (2)(a), (b) (2)(g)(ii)

Sent: Friday, 9 March 2012 10:21 a.m.

To: (b) (2)(g)(ii)@epa.govt.nz'

Cc: (b) (2)(a), (b) (2)(g)(ii)

Subject: change notification and SOS applications - 0.15% 1080 cereal pellets containing 0.17% d-pulegone and 0.10% anthraquinone

Hello

Please find attached applications for:

HS6A for cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6A for cereal pellets containing 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.10% anthraquinone and 0.17% d-pulegone

HS6C for 0.15% 1080 cereal pellets containing 0.17% d-pulegone

Also attached are:

-MSDS for d-pulegone (CAS 89-82-7)

-MSDS for anthraquinone (CAS 84-65-1)

-Authorisation from Animal Control Products to access technical data on the existing formulation for 0.15% 1080 cereal pellets

-A published paper outlining a captive study with kea (*Nestor notabilis*) to determine the effectiveness of the proposed bird repellents

One point I need to clarify with respect to the anthraquinone. Our existing approval includes the ability to import up to 5kg Avipel 95 for the purposes of the trial. If we were to pursue full release of either of the two substances above that include anthraquinone, do we also need to apply for a release approval for this product? I see that there are existing approvals for anthraquinone but perhaps they do not cover this product?

Please issue an invoice by email as soon as possible, ideally today. If I have the invoice on Monday I can have it paid on Tuesday 13th. Otherwise the next payment run will be on 20th March.

Kind regards

(b) (2)(a), (b) (2)(g)(ii)

Senior Technical Support Officer Threats - *Kai-matanga Matua - Koiora Morearea*

Department of Conservation - *Te Papa Atawhai*

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Ferny Gair 1080 drop
Date: Monday, 31 March 2014 8:31:36 a.m.

Hi [REDACTED]

Where about's are we meeting tomorrow night with the NZDA?

Cheers

[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Tuesday, 4 March 2014 4:50 p.m.
To: [REDACTED]
Subject: FW: Ferny Gair 1080 drop

Hi [REDACTED]

Does this time and date suit you?

Cheers

[REDACTED]

From: Marlborough Branch NZ Deerstalkers Association [mailto:x@x]
Sent: Thursday, 27 February 2014 8:09 p.m.
To: [REDACTED]
Subject: Re: Ferny Gair 1080 drop

Hi [REDACTED]

I'm sure we can get a few there for that, so lock it in for 5.30pm?

cheers

[REDACTED]

On Thu, Feb 27, 2014 at 5:39 PM, [REDACTED] [REDACTED]@doc.govt.nz> wrote:

Hi [REDACTED],

Many thanks for your email and I am very pleased to hear that the meeting with TBFreeNZ was successful.

[REDACTED] has indicated that she is keen to meet with NZDA and DOC to put a line around an area to deer repellent use.

The earliest I can do this is 1st April. Are you and your team able to meet us that evening?

Kind regards

[REDACTED]

From: Marlborough Branch NZ Deerstalkers Association [mailto:x@x]
Sent: Wednesday, 19 February 2014 9:05 p.m.
To: [REDACTED]
Subject: Ferny Gair 1080 drop

hi [REDACTED]

Just had a really good meeting with TBFree NZ .

The outcome is they are going to talk with you regarding boundaries and then apply for funding for deer repellent. This is to be applied over the "hunting" area.

Also there was talk that large open areas could/would be excluded from the drop if kea's were present. One of our members can provide evidence of kea's in the area if required.

One final point was that DOC & us could have an observer at the loading (to confirm deer repellent is used).

Overall very constructive and they were receptive to our concerns.

Obviously some of this will take time so we look forward to further developments.

Regards

9(2)(a)

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From: [redacted]
To: [redacted]
Subject: RE: Ferny Gair 1080 drop
Date: Tuesday, 4 March 2014 4:52:28 p.m.

Hi [redacted]

Yes that suits me.

Cheers

[redacted]

From: [redacted]@doc.govt.nz]
Sent: Tuesday, 4 March 2014 4:50 p.m.
To: [redacted]
Subject: FW: Ferny Gair 1080 drop

Hi [redacted],

Does this time and date suit you?

Cheers

[redacted]

From: Marlborough Branch NZ Deerstalkers Association [mailto:[x@x](#)]
Sent: Thursday, 27 February 2014 8:09 p.m.
To: [redacted]
Subject: Re: Ferny Gair 1080 drop

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cheers

[redacted]

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[redacted] has indicated that she is keen to meet with NZDA and DOC to put a line around an area to deer repellent use.

The earliest I can do this is 1st April. Are you and your team able to meet us that evening?

Kind regards

[redacted]

From: Marlborough Branch NZ Deerstalkers Association [mailto:[x@x](#)]
Sent: Wednesday, 19 February 2014 9:05 p.m.
To: [redacted]
Subject: Ferny Gair 1080 drop

hi [redacted]

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One final point was that DOC & us could have an observer at the loading (to confirm deer repellent is used).

Overall very constructive and they were receptive to our concerns.

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Regards

[REDACTED]

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Ferny Gair 1080 drop
Date: Monday, 31 March 2014 4:20:22 p.m.

Hi [REDACTED]

Yes that's fine with me.

See you then.

Cheers

[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Monday, 31 March 2014 4:14 p.m.
To: [REDACTED]
Subject: RE: Ferny Gair 1080 drop

At the DOC office in Renwick suit you Ok?

From: [REDACTED]@tbfree.org.nz]
Sent: Monday, 31 March 2014 8:17 a.m.
To: [REDACTED]
Subject: RE: Ferny Gair 1080 drop

Hi [REDACTED]

Where about's are we meeting tomorrow night with the NZDA?

Cheers

[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Tuesday, 4 March 2014 4:50 p.m.
To: [REDACTED]
Subject: FW: Ferny Gair 1080 drop

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Cheers

[REDACTED]

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Sent: Thursday, 27 February 2014 8:09 p.m.
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Subject: Re: Ferny Gair 1080 drop

Hi [REDACTED]

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cheers

9(2)(g)(ii)

On Thu, Feb 27, 2014 at 5:39 PM, 9(2)(a), 9(2)(g)(ii) <[redacted]>@doc.govt.nz> wrote:

Hi 9(2)(g)(ii)

Many thanks for your email and I am very pleased to hear that the meeting with TBFreeNZ was successful.

9(2)(a), 9(2)(g)(ii) has indicated that she is keen to meet with NZDA and DOC to put a line around an area to deer repellent use.

The earliest I can do this is 1st April. Are you and your team able to meet us that evening?

Kind regards

9(2)(a),
9(2)(g)

From: Marlborough Branch NZ Deerstalkers Association [mailto:9(2)(a), 9(2)(g)(ii)]

Sent: Wednesday, 19 February 2014 9:05 p.m.

To: 9(2)(a), 9(2)(g)(ii)

Subject: Ferny Gair 1080 drop

hi 9(2)(a),
9(2)(g)(ii)

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One final point was that DOC & us could have an observer at the loading (to confirm deer repellent is used).

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Regards

9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Identifying possible projects to fund
Date: Thursday, 21 August 2014 10:24:40 a.m.

Thank you for that [REDACTED], very much appreciated.

Cheers,

[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Thursday, 21 August 2014 10:17 a.m.
To: [REDACTED]
Subject: RE: Identifying possible projects to fund

Hi [REDACTED]
Thanks for your favourable response.

[REDACTED] is at [REDACTED]@doc.govt.nz ; [REDACTED]

Cheers [REDACTED]

From: [REDACTED]@ospri.co.nz]
Sent: Thursday, 21 August 2014 9:50 a.m.
To: [REDACTED]
Subject: Identifying possible projects to fund

Hi [REDACTED]

We have had a discussion with our Group Manager for Pest Management in order to identify a few potential projects we would like to fund.

Initially it seems the ideal project would be the Kea focussed one "Level of acute survival through 1080 operation". Was it primarily the repellent work that had been halted or was it all Kea monitoring projects?

Should the Kea project not be available this financial year we would be interested in allocating the funding towards Stoat control. So we can acquaint ourselves with any progress in this area, who would be the best person to talk to about current developments in stoat control and baiting?

It looks like we will be able to set up a follow up meeting for approximately 24th October as this appeared to suit both yourself and [REDACTED], however [REDACTED] will be away then.

Looking forward to hearing from you.

Cheers,

[REDACTED]

[REDACTED]
Research Coordinator

DDI 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Kea COP application fro TBfree NZ
Date: Tuesday, 25 November 2014 1:14:59 p.m.

Thanks [REDACTED]

From: [REDACTED]@doc.govt.nz
Sent: Tuesday, 25 November 2014 1:14 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Kea COP application fro TBfree NZ

Hi [REDACTED]

I have received confirmation from [REDACTED] (Science Advisor – Threats) that Standard 5 of the DOC *Code of Practise for aerial 1080 in kea habitat* is applicable in this case and therefore no rodent monitoring is required.

The standard states:

Standard 5: Where rodent monitoring has not been done, toxic bait application can occur when the operation includes forest or tussock in a mast (seedfall) year or in the year following (post-seedfall), as determined either by seed monitoring or by expert judgement. In this case toxic bait must be applied in the 14 month period between 1st July of the mast (seeding) year and 31st August of the following year.

This standard allows mast seeding to be used as a proxy for rodent density where rodent monitoring data is not available, such as for some possum operations. The timeframe is based on the trend of rodent and stoat abundance observed in previous beech and rimu masts (Appendix 3, Figures 1-3).

Due to the well -documented rodent irruptions recorded as a consequence of the large-scale beech mast event (seedfall in autumn 2014) throughout north-west Nelson (and elsewhere nationally), it is considered that this evidence of rodent population levels in adjacent areas to the proposed Anatori/Paturau aerial 1080 operation can be used as sufficient support (proxy evidenced) for this operation without the requirement for site-specific rodent monitoring to be established.

Note that this requires the operation to be completed no later than 31 August of the following year from a seed fall event (i.e. 31 August 2015).

Please don't hesitate to contact me for further information if needed as part of te DOC permission application process.

Cheers

[REDACTED]

[REDACTED]
Ranger-Conservation Services (Biodiversity)
Department of Conservation-Te Papa Atawhai
Takaka Office
Takaka
DDI: [REDACTED]

Conservation for Prosperity *Tiakina te tiao, kia puawai*
www.doc.govt.nz

From: [REDACTED]
Sent: Wednesday, 19 November 2014 3:01 p.m.
To: [REDACTED]
Subject: Kea COP application fro TBfree NZ

Hi [REDACTED]

I have just received a request for advice from TBfee NZ on the application of the Kea COP for a planned 1080 operation next year (June/July 2015) and whether DOC will require rodent monitoring.

The proposed area (Anatori/Patarau) includes c. 600 ha of kea habitat where rats may be scarce.

[\\natisv\NEGIS_connections\NATIS_1.sde\natis1.NATISADM.FAUNA_DOC_KeaHabitatScarceRats](#)

(I have just given up more refined area calculations in ArcGIS for the day with a 5-minute processing delay in each mouse click!!)

As I understand the COP, there may be a case for applying Standard 5 and permitting the operation (required to be completed by 31 Aug 2015) based on "expert judgement" (in the absence of any seed monitoring). This judgment could reasonably be based on the widespread beech masting (and rodent irruptions) experienced throughout the Golden Bay region (and elsewhere) and which instigated the whole BfoB response.

Is this an accurate interpretation of the COP with the justification (expert judgment on masting and likely rodent numbers in the operational area [rats scarce kea habitat]) a reasonable basis for permitting the operation?

If so then I would need to formally present this (for reference for the DOC assessor) but at the moment TBfree would just like to know for their preliminary planning needs if they need to do any rodent monitoring now, or whether the other proxy indicators are sufficient.

Any comments... Or should I contact [REDACTED]

Cheers

[REDACTED]

From: [REDACTED] [@tbfree.org.nz](mailto:[REDACTED]@tbfree.org.nz)
Sent: Wednesday, 19 November 2014 10:06 a.m.
To: [REDACTED]
Cc: [REDACTED] [@wrcr.govt.nz](mailto:[REDACTED]@wrcr.govt.nz)
Subject: TBfree NZ Anatori Patarau Aerial 2015

Hi [redacted]
[redacted]

Have you managed to get all your aerial operations done? Hope they went ok.

Next winter we have one aerial operation planned for your region – the Anatori Paturau aerial.

Vector Control Services have been awarded this contract.

We are wanting to fly pre feed June 2015 and toxic afterwards with the aim of having it completed by the end of July 2015.

What I am wanting to know is will we be required to do rat monitoring as per the new DoC performance standards for kea?

I have attached a proposed map showing indicative boundaries with the shapefile [redacted] provided to me indicating areas where rat monitoring may be required.

Thanks

[redacted]
[redacted]

Aerial Operations Coordinator
TBfree New Zealand

DDI [redacted]

OSPRI New Zealand | Operational Solutions for Primary Industries
388 Main South Road, Paroa
PO Box 535, Greymouth 7840
T 03 769 9098 • [W ospri.co.nz](http://www.ospri.co.nz)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading
Date: Monday, 10 March 2014 9:17:52 a.m.

Thanks [REDACTED] I will look for your contact maybe 1015 to check out we can get the connection going.

[REDACTED]

From: [REDACTED] [REDACTED]@tbfree.org.nz]
Sent: Monday, 10 March 2014 9:08 a.m.
To: [REDACTED]
Subject: FW: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Sorry [REDACTED] - have found the agenda.

[REDACTED]

[REDACTED]
Research Coordinator
DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [REDACTED]
Sent: Monday, 10 March 2014 8:20 a.m.
To: [REDACTED]
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thanks [REDACTED] - my skype address is: [REDACTED]

Is there an agenda for the meeting?

Simon Andrew
Research Coordinator
DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [REDACTED] [REDACTED]@doc.govt.nz]
Sent: Wednesday, 5 March 2014 9:28 a.m.
To: [REDACTED]
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thanks [REDACTED]

The Skype name for our meeting room is:

[REDACTED]

Let me know when you have a skype name at your end.

[REDACTED]

From: [REDACTED] [REDACTED]@tbfree.org.nz]
Sent: Tuesday, 4 March 2014 2:31 p.m.
To: [REDACTED]
Subject: RE: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Thanks [REDACTED] - I will be skypeing in for this one. Just need to get it set up.

Will be in touch.

Simon Andrew
Research Coordinator
DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [REDACTED] [REDACTED]@doc.govt.nz]
Sent: Tuesday, 4 March 2014 2:19 p.m.
To: [REDACTED]; Kea Conservation Trust; [REDACTED]; Andy Cox
Cc: [REDACTED]
Subject: Kea repellent stakeholder meeting between 10 March -- agenda and more reading

Hi there

Please find attached the remaining reports for our stakeholder meeting:

- Draft MS Stability of bird repellents and 1080 in R55 cereal baits (docdm-1290516)
- Preliminary results from a captive takahe feeding trial using combined repellent prefeed baits (Glen Greaves, DOC Te Anau)
- A quick update on literature on other repellents (docdm-1360759)
- An updated agenda

Appendix 14, 15, 16

Here is a summary of the advice I have had from some of my colleagues on the level of rat suppression achieved in the combined repellent treatment in the Mataketake pest efficacy field trial (draft report supplied 17th February):

- The degree of rat suppression achieved would not be sufficient for species where rats are the key predator.
- It would, however, be sufficient to achieve an effective reduction in stoat numbers for species where stoats are the key predator (including kea).

-We should be able to meet the efficacy standards in the registration process on the strength of the pest efficacy trial, but we would caution against using the combined repellents where rats are the target pest.

Please let me know if you have any special diet needs for lunch; I know [redacted] [redacted] please let me know whether you are attending in person or wanting to Skype.

I look forward to seeing most of you on Monday.

Kind regards

[redacted]
[redacted]

From: [redacted]
Sent: Monday, 17 February 2014 11:00 a.m.
To: [redacted] Kea Conservation Trust; [redacted]
Cc: [redacted] Andy Cox; [redacted]
Subject: Kea repellent stakeholder meeting between 7, 10 or 11 March -- date, participants and reading

Hi there

I am writing to ask for your involvement in reviewing recent results from the pest efficacy and bait stability trials, to support DOC's Science & Capability Threats managers to make the best decision about the next steps in the project to develop a bird repellent to protect kea at aerial 1080 operations. You may recall that we agreed in August to complete some trial work and then re-evaluate (see email below from 22/8/13). The pest efficacy trial and more bait stability monitoring has been completed.

In summary:

- The pest efficacy trial occurred very soon after bait manufacture, so repellent levels were good at the time of the trial but dropped soon afterwards. There were no significant differences in the reduction of possum BMI between standard, primary repellent and secondary repellent treatments. There were significant differences in the reduction of ship rat tracking rates; standard 1080 was most effective and combined repellent treatment was least effective. We need advice on whether the level of rat suppression achieved in the combined repellent treatment is enough to protect native animals predated by rats or stoats.
- Using a higher nominal concentration of d-pulegone did not lower loss in manufacture or give certainty about maintaining the repellent in storage. These batches lost a greater proportion of d-pulegone in the manufacturing process than the earlier batches prepared with 0.17% d-pulegone. The LCR8 prefeed and toxic baits and the Mataketake AQDP prefeed baits had relatively steep decay curves, whereas the Mataketake 1080 bait levelled off at 0.11% d-pulegone over the period from 4 to 12 weeks after manufacture.

Please let me know who is available to take part in a meeting at the DOC office on Moorhouse Avenue, and which dates suit in the window of Fri 7th to Tues 11th March. Timing would be 1030am—230pm to allow for travel. The meeting room available for Monday 10th March is set up for Skype so remote participation is an option on that day. I will confirm a date as soon as I've heard back from everyone. I attach a draft agenda, allowing about an hour for each meeting objective. By the time we meet, a DOC technical group ('PAG') will have reviewed the relevant DOC risk assessments against [redacted] last few years of kea research. The outcomes of the PAG meeting may have a bearing on our discussion.

Recommended reading

Attached:

- Draft MS Pest efficacy of bird repellent at an aerial 1080 cereal operation (docdm-1314934)
- Repellent literature reviews by [redacted] (2008, docdm-1094747) and [redacted] (2012, docdm-1118511)

To be supplied by 3rd March:

- Collation of advice from DOC pest scientists on the rat results in the combined repellent blocks
- Draft MS Stability of bird repellents and 1080 in RS5 cereal baits (docdm-1290516)
- Preliminary results from a captive takahe feeding trial using combined repellent prefeed baits

Additional reading available on request:

- Draft MS Kea survivorship through a 1080 cereal operation with the bird repellent d-pulegone at Otira (docdm-1281172)
- Introduction for the other 3 draft MSs: Bird repellents investigated to protect kea at aerial 1080 cereal operations (docdm-1334857)

I look forward to hearing from you as soon as possible, so that I can book us a meeting room.

Kind regards

[redacted]
[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted]
Sent: Thursday, 22 August 2013 2:38 p.m.
To: Andy Cox
Subject: for tomorrow

Recommendations for this project decision point

We recommend that:

1. The kea repellent project continues to the next stage (field testing of pest efficacy).
2. The current car park trials are stopped.
3. Additional bait stability monitoring is carried out urgently, to determine a higher concentration of d-pulegone to use at manufacture in order to reach the target concentration by the time the operation goes ahead.
4. The pest efficacy field trial proceeds at Whakapohai Mataketake Moeraki with full design (3 treatments) and using the higher concentration of d-pulegone. *We will get a better picture of how anthraquinone might affect the pest control results than what we can work out from [redacted] previous trial and the pen trial.*
5. At the next decision point, choice of repellent strategy is re-evaluated. *If the treatment that includes anthraquinone in prefeed provides moderate to good rat control results, we would be inclined to shift to this strategy.*

It is likely that these recommendations can be carried out within the current budget (with TBfree support for #4).

Note that if the project continues beyond the next decision point, extra resources will be required for:

- A replicate of the Otira case study using the selected repellent strategy (either d-pulegone only or d-pulegone plus anthraquinone in the prefeed), ideally at one of the sites identified at the debrief.
- An aviary or re-designed car park trial to quantify the repellency of the d-pulegone strategy, **if the d-pulegone only strategy is chosen**, (This has already been demonstrated for the treatment including anthraquinone in Orr Walker et al 2012.) This must take place prior to the replicate case study.

Note that registration and implementation is contingent on the outcome of the additional aviary/car park trial (if required) and additional case study.

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Kea-1080 report
Date: Thursday, 20 March 2014 9:27:11 a.m.

thanks

From: [REDACTED]@doc.govt.nz]
Sent: Thursday, 20 March 2014 9:15 a.m.
To: [REDACTED]
Subject: FW: Kea-1080 report

[REDACTED]
Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: [REDACTED]
[REDACTED]
Kaitiaki whakamahere (Kanorau koiora)
www.doc.govt.nz

From: [REDACTED]
Sent: Friday, 16 August 2013 2:55 p.m.
[REDACTED] landcareresearch.co.nz [REDACTED]
[REDACTED]
Cc: Andy Cox; [REDACTED]
Subject: Kea-1080 report

Hi all,

Here it is again with a hastily assembled section on population modeling to weigh cost against benefit. Hopefully this helps.

A run of the non target risk logistic regression including the preliminary Otira data doesn't support the notion that the d-pulegone has improved things – the death rate is similar to Okarito 2011. However, it's still better than Franz-Fox 2008, strengthening support for the notion that Fox-Franz was particularly bad and therefore that using RS5 is making a difference. The Otira result also strengthens support for the 'Junk food' hypothesis, as the Otira is about as junky as they come. An implication of the promotion of the Junk Food hypothesis is that keas at remote sites without junk food (i.e. most keas) are fairly safe. However, we may wish to improve our confidence in this conclusion by monitoring more keas through 1080 in a remote site, with better representation of young (ie. pre-adult) keas.

See you Monday,

[REDACTED]
[REDACTED]

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Leslie and BfoB aerial operations
Date: Tuesday, 6 May 2014 4:21:01 p.m.

Hi [REDACTED],

A few points highlighted below.

DOC has a contract directly with [REDACTED] for the Leslie, not to TbFree.

Are you cool to start talking 11,250 ha to allow some extra for treating subalpine scrub and grassland on the eastern side of the range?

Cheers,

[REDACTED]

From: [REDACTED]
Sent: Tuesday, 6 May 2014 4:02 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: Leslie and BfoB aerial operations

Hi [REDACTED]

This is the line I will run with [REDACTED] and the procurement team. The details OK???

The 10,000ha Leslie aerial 1080 operation is part of the DDG's 13/14 ramp up and we have agreed to deliver this programme before the end of June 2014. Motueka have contracted this operation out to [Vector Services](#) [Tbfree](#) to be delivered concurrent with the Tbfree Mt Arthur operation that he is delivering in June.

There are two risks that could delay this operation:

1. The contractor for Tbfree, Vector Services have yet to lodge their resource consent application with Tasman DC. While theres no suggestion of a delayed process it is quite late to be lodging an application.
2. Time is passing and the weather patterns into June do not look all that promising.

In addition Science and capability are running a kea research programme associated with both this Tbfree/DOC Leslie operation and the larger BfoB programme in Kahurangi. They have a number of kea with transmitters on around Mt Arthur at the moment. The timing difference for operations between Leslie and the other BfoB operations is several months and S&C want all the land around the kea treated at the same time to make sure all birds experience the same exposure to bait and make the analysis of kea risk valid. Having two separate operations would [skew the results](#) compromise the sample size significantly.

Option to manage DOC's risk.

[REDACTED]

1. Add part of the Wangapeka BfoB treatment (9500ha) 11,250 to the Leslie operation in June so there are no gaps in the kea monitoring research. This could be done through an extension to an MOU DOC already has with the TBfree contractor Vector Services Is the MOU between DOC & Vector services or between TbFree and DOC? [redacted] suggested earlier it might need to be a whole new MOU.
2. Bring forward some payment for BfoB bait that is currently being manufactured to the same amount as the Leslie operation cost (c.\$150K) This would mean the 13/14 ramp up funds would be expended by June 30 even if the Leslie operation was delayed until July.
3. Pay for the Leslie operation in July/August from BfoB funds to the same amount - \$150K

Regards

[redacted]
[redacted]

[redacted]

Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai [redacted]

Kaitiaki whakamahere (Kanorau koiora)

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From: [redacted]
To: [redacted]
Subject: RE: Message from C280 C28003296
Date: Friday, 8 August 2014 4:11:46 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Thanks [redacted] The area planned for 1080 is not in the kea range identified by our code. Im getting clarification if any of the Code applies as there seems to be a bit of ambiguity in one of the paragraphs?

I should be able to clarify it next week. Have a good break.

Cheers, [redacted]

[redacted]
Senior Ranger Biodiversity
Department of Conservation Te Papa Atawhai
Wakatipu District Office, Queenstown
DD [redacted]
Email [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Conservation for prosperity Tiakina te taiao, kia puawai
www.doc.govt.nz

From: [redacted] .xxx@xxxxxxx.xxx.xx]
Sent: Friday, 8 August 2014 7:16 a.m.
To: [redacted]
Subject: RE: Message from C280 C28003296

Morning [redacted]

Thank you for your effort thus far. No particular urgency if this is going to take time to work through as I am on leave as of todays business end to return Monday 25 August 2014 therefore can re-address during that week.

Cheers

[redacted]
Senior Field Supervisor
TBfree New Zealand
DDI [redacted]

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T 03 477 9829 · [W ospri.co.nz](http://www.ospri.co.nz)  

From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Sent: Thursday, 7 August 2014 2:32 p.m.
To: [redacted]
Subject: FW: Message from C280 C28003296

Hi [redacted] Not straight forward. Ill take a look at the maps to determine if this area is within the zone where we have concerns and ill get back to them re the rest of the stuff below. It might be worth you looking at the code of practice and seeing what is required for standards 1-3.

Cheers, [redacted]

[redacted]
Senior Ranger Biodiversity
Department of Conservation Te Papa Atawhai
Wakatipu District Office, Queenstown
DDI [redacted]
Email: [redacted]@doc.govt.nz
Conservation for prosperity Tiakina te taiao, kia puawai
www.doc.govt.nz

From: [redacted]
Sent: Wednesday, 6 August 2014 10:06 a.m.
To: [redacted]
Subject: RE: Message from C280 C28003296

Hi [redacted] The map wasn't attached. Can you please clarify a few points so we can work through the flow chart in the Code of Practice?

1. Have you checked the shapefile 'kea habitat where rats may be scarce' (on Natis, the geoportal or DOC GIS)? Does this operation overlap with this shapefile? If not then the flowchart for 0.15% aerial 1080 cereal shows you that only standards 1-3 apply (not 4 or 5 which restrict operational timing).
2. Assuming that the operation does overlap with the shape file, is there rodent tracking in the operational area? I know TBfree won't have done this but perhaps we have?
3. Is the forest where they are planned to work considered to be in mast? E.g. if it's a beech forest has any seed counting taken place?

In regard to the other methods, hand laid 1080 baiting is also covered by the Code of Practice. The standards for each handlaid method are given just after the aerial standards, so check it out.

For feratox in bait stations and cyanide paste on spits, check out the performance standards sheets; I recall that there is usually a standard for bait stations to use a design that is resistant to kea access. The non-target exposure section of the Cyanide Pesticide Information Reviews would record any evidence of kea deaths associated with feratox and cyanide paste. I don't recall significant concerns. (I'm working at home with 2 sick kids so won't check it myself just now.)

Kind regards

[redacted]

From: [redacted]
Sent: Wed 6/08/2014 9:38 a.m.
To: [redacted]
Subject: FW: Message from C280 C28003296

Hi Team. I'm hoping you can advise me as to whether the site detailed on the attached map will

require an exemption from the Kea code of practice. Im not sure if this area would hold many kea, or any?

The areas in pink are DOC administered. The blue areas are where TB free wish to apply aerial 1080 to DOC admin. The Green areas are where 1080 will be applied to pastoral lease. The control method will be swaths up to 30m wide 150m apart. They may also carry out other control methods, such as ground baiting with 1080. Feratox in bait stations or cyanide paste on spits. Do we have concerns about these other activities?

The TB free rep is hoping to have a heads up re our view of this before the end of the week?

Thanks, [redacted]

[redacted]
Senior Ranger Biodiversity
Department of Conservation Te Papa Atawhai
Wakatipu District Office, Queenstown
DDI + [redacted]
Email: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
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From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz) [mailto:[redacted]@doc.govt.nz]
Sent: Wednesday, 6 August 2014 8:11 a.m.
To: [redacted]
Subject: Message from C280 C28003296

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From: [REDACTED]
To: [REDACTED]
Subject: RE: Muzzle Station
Date: Monday, 30 June 2014 11:32:54 a.m.

Hi [REDACTED]

Thanks for the maps. I don't personally know if there are any kea in the area, but given the extent of deforestation I'd be surprised if there were anything more than the occasional vagrant. Some sort of reconnaissance survey would be ideal, but the cost is probably prohibitive. I would treat it as a non kea area.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: Friday, 27 June 2014 4:04 p.m.
To: [REDACTED]
Subject: Muzzle Station

Hello [REDACTED]

I am emailing in follow up to a phone call you received on Wednesday morning from [REDACTED] TBFree NZ. The conversation was regarding potential Kea numbers in an area to be treated with aerial 1080. I have attached a map of the intended application areas for stage one due to commence September 2014 and the second stage May 2015. At this point a query has arisen about Kea within these areas, are you able to provide us with any further information on this?

Thank you

[REDACTED]

Vertebrate Pest Management
Contractor to TBFree NZ

[REDACTED]

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Nelson mail
Date: Wednesday, 6 August 2014 12:51:48 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Hi
I think this is exactly what is needed.
Coming from DOC seems appropriate
I will see if I can organise a spokes person.

[REDACTED]

Senior Communications Advisor:

Capability & Engagement Group | *Tanga Whakauru Taiao*
Department of Conservation | **Te Papa Atawhai**

DDI: [REDACTED]



Conservation for prosperity *Tiakina te taiao, kia puawai*

From: [REDACTED]@tbfree.org.nz]
Sent: Wednesday, 6 August 2014 12:42 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Nelson mail

Hi again – just been off line for a while but have drafted the attached as a suggestion. [REDACTED] I'm now copying you in, as [REDACTED] is apparently off sick today

[REDACTED]

Senior Operational Policy Advisor
TBfree New Zealand
• M [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
9 McPherson Street, Richmond
PO Box 3429, Richmond, Nelson 7050
• [W ospri.co.nz](http://www.ospri.co.nz)  

From: [REDACTED]
Sent: Wednesday, 6 August 2014 9:52 a.m.
To: [REDACTED]@doc.govt.nz; [REDACTED]@doc.govt.nz
Cc: [REDACTED]
Subject: RE: Nelson mail

Thanks [REDACTED] – we can also look at Forest & Bird as an outlet? Any thoughts on that [REDACTED] is normally obliging.

Cheers

[REDACTED]

Communications Advisor

DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries

Level 9 CallActive House, 15 Willeston Street

PO Box 3412, Wellington 6140

T 04 474 7100 • W ospri.co.nz  

From: [REDACTED]

Sent: Wednesday, 6 August 2014 9:11 a.m.

To: [REDACTED] [@doc.govt.nz](mailto:[REDACTED]@doc.govt.nz); [REDACTED] [@doc.govt.nz](mailto:[REDACTED]@doc.govt.nz)

Cc: [REDACTED]

Subject: Nelson mail

Hi guys

I'm wondering about a response to this in Nelson Mail.

I'd rather it's not from me given a bit of noise around my name lately; but maybe from DOC or someone else friendly and well informed? Rita is a bit off beam if she thinks the Graf boys and [REDACTED] pass some sort of peer review test, and God knows where she got her scary-sounding list of 1080 breakdown products; so we could if nothing else provide a reference/link to the attached as probably the best single peer reviewed source of information on such matters. Happy to help with background drafting; in fact I will start something now and send it shortly

Poisoned hills

Thank you Golden Bay Community Board for recommending to TDC that poisoning of the last remaining untouched wilderness in our area is publicly notified. These areas are renowned for abundance of life. The killing of creatures in these strongholds, privately funded by Project Janszoon, is by one of the most brutal and toxic substances known, creating quiet, poisoned hills. This has to stop! Sodium fluoroacetate keeps killing for months. Keas have been found to die weeks after a 1080 drop. Stable in sunlight at 54degC, it decomposes at 200degC (epa.govt.nz). Meant to be broken down by soil microbes, 1080 kills everything with a Krebs cycle. It dissolves in rivers and moves rapidly, the 1080 has gone elsewhere by the time of sampling. Where are the studies into long-term exposure? 1080 biodegrades into fluoroacetyl fluoride, silicone tetrafluoride and formaldehyde. Some impurities are ethyl chloroacetate and potassium fluoride. Fluorides are toxic chemical wastes heavily regulated in most countries and expensive to dispose of. The web is full of pseudo-science, disinformation and propaganda. Instead,

inform yourself with authentic,
peer reviewable studies. Bill Benfield
has written an informative book called
The Third Wave, Poisoning the Land.
The Graf Boys' film *Poisoning Paradise*
also addresses important issues.
RITA DAVIES
Golden Bay, July 29.

9(2)(a), 9(2)(g)(ii)

Senior Operational Policy Advisor
TBfree New Zealand
DDI 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Question regarding strip sowing
Date: Tuesday, 1 April 2014 11:49:10 a.m.

Hi [REDACTED]

Can you please clarify what the “issues with the DOC consent process” were? Does this relate to a kea habitat area where the performance standards refer to 2kg/ha? Looking at the kea distribution map, Muzzle looks marginal as to where they’re present or not, although they are recorded in the Seaward Kaikouras. [REDACTED] notes that there isn’t a best practice document for strip and low sow methods, but this doesn’t mean they’re necessarily excluded. I gather you’re meeting with her on Thursday so you could raise this with her then.

[REDACTED]
Delivery Planner (Biodiversity) - Whakatu Nelson Office
North and Western South Island Region
Department of Conservation—Te Papa Atawhai
DDI: [REDACTED]

Conservation for prosperity Tiakina te taiao, kia puawai
www.doc.govt.nz

From: [REDACTED]@tbfree.org.nz
Sent: Monday, 31 March 2014 11:18 a.m.
To: [REDACTED]
Subject: Question regarding strip sowing

Hi [REDACTED]

Just a quick question as to where strip sowing sits within the DOC system as there seem so be a little confusion with different people as to what we can and can’t do. We are looking at working in with Landcare Research on a research project they have regarding low sow aerial control using a fixed wing in the vicinity of Muzzle Station. What they are looking at running is 100m lines between the center of each run line and dropping sufficient 1080 to make an overall sow rate of 0.5kg/ha at this point we are told the fixed wing could be running a 10 – 20 m swath. I have been told in the past this has caused some issues with the DOC consent process as the concentration in the strip is up round the 4 – 5kg/ha mark which is greater than what is usually accepted.

If you could give me any pointers that would be appreciated.

Cheers

[REDACTED]
Programme Manager NSI
TBfree New Zealand
DDI: [REDACTED]

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: RC130080 AEE and Kea exclusion areas
Date: Friday, 5 September 2014 11:11:26 a.m.

Hi [REDACTED]

If the proposed condition did not carry through to the actual consent then there should be no issue. I will place a copy of the e-mail you sent below on each file to clarify why 1080 was discharged in the alpine areas in this instance.

Cheers,

[REDACTED]

[REDACTED]
Senior Consents Officer
West Coast Regional Council
PH [REDACTED]
E [REDACTED]@wrc.govt.nz
W www.wrc.govt.nz

From: [REDACTED]@doc.govt.nz]
Sent: Friday, 5 September 2014 11:07 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RC130080 AEE and Kea exclusion areas

Hi [REDACTED]

We have just noted that the AEE for RC13080 in Section 5.3.1 "Proposed conditions to avoid, remedy or mitigate adverse effects in non-target native species" states: In areas where kea are present : will avoid sowing baits in areas of low structural vegetation cover (e.g. alpine herb fields, tussock, river flats) above and below the tree line.

The proposed condition relates to the Department's Kea code of practice (although not stated explicitly in the AEE) which required the exclusion of such areas. However, the code of practice was amended on 7/5/2014 to allow sowing of bait in alpine and low stature vegetation areas under certain circumstances. This operation meets the criteria for this to occur. Consequently no exclusion for kea has been included for the Oparara operation.

Does the WCRC have any issues with this change given the wording the AEE as a proposed condition, and which has not been included as an actual condition of RC13080, and the change in the kea code of practice subsequent to the issuing the consent?

Note: This same proposed condition was also included in the Mokihinui 1080 consent RC11051 and the same issue exists.

Regards

9(2)(a),
9(2)(g)(ii)

Senior Ranger Biodiversity *Kaitiaki Matua (Kanorau Koiora)*
Department of Conservation, Kawatiri / Westport Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations
Date: Wednesday, 27 August 2014 1:45:31 p.m.

Hi [REDACTED] Many thanks for the comments from the TAG. Since submission to TBfreeNZ, I have revised the manuscript to:

- Take up copy editing suggestions from our DOC science editor
- Revise the recommendations to align with the kea repellent wrap up meeting

I can send you a revised copy of the manuscript when I have it ready for submission to a journal.

It would be nice to catch up when you are in Christchurch, although there isn't a lot to say about further repellent research. I will be in the office from 9 to 230 working on a project, so perhaps let me know a time when you will be free to pop over.

Kind regards

[REDACTED]

[REDACTED]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [REDACTED]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [REDACTED] [mailto:[REDACTED]@ospri.co.nz]
Sent: Wednesday, 27 August 2014 9:29 a.m.
To: [REDACTED]
Subject: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations

Hi [REDACTED]

I have attached the TAG comments for the project "Pest efficacy of repellent aerial 1080 cereal operations".

I will be in Christchurch on the 12th of September so if you would like to have a catch up regarding where to next with this research or Kea research in general, I would be more than happy to stop by the office so we can synchronise.

Cheers,

[REDACTED]

9(2)(a), 9(2)(g)(ii)

Research Coordinator

DDI

9(2)(a), 9(2)(g)(ii)

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Level 9 CallActive House, 15 Willeston Street

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From: [REDACTED]
To: [REDACTED]
Subject: RE: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations
Date: Thursday, 28 August 2014 9:14:25 a.m.

Hi [REDACTED]

That sounds good, I look forward to meeting Andy.

Anytime during the day is fine, so whatever is most convenient for the both of you.

Cheers,

[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Thursday, 28 August 2014 9:12 a.m.
To: [REDACTED]
Subject: RE: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations

Hi [REDACTED] Just a further note. My manager Andy Cox will be here that day too. He is overseeing this year's kea monitoring at 1080 ops so I will invite him along to join us.

[REDACTED]

From: [REDACTED]@ospri.co.nz]
Sent: Wednesday, 27 August 2014 9:29 a.m.
To: [REDACTED]
Subject: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations

Hi [REDACTED]

I have attached the TAG comments for the project "Pest efficacy of repellent aerial 1080 cereal operations".

I will be in Christchurch on the 12th of September so if you would like to have a catch up regarding where to next with this research or Kea research in general, I would be more than happy to stop by the office so we can synchronise.

Cheers,

[REDACTED]

[REDACTED]
Research Coordinator

DDI [REDACTED]

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara
Date: Tuesday, 2 December 2014 9:06:38 a.m.

Hi [REDACTED]
Speaking to [REDACTED] this morning, we agree that rodent monitoring as per Standard 4 in the Code of Practice is the way to go. [REDACTED] can you please comment on [REDACTED] draft monitoring lines? [REDACTED] thought it could be useful to add some lines in the cutover area. I copy in [REDACTED], as he will be the contact for assessing the application for permission.
Kind regards
[REDACTED]

From: [REDACTED]@tbfree.org.nz]
Sent: Friday, 28 November 2014 3:48 p.m.
To: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi all

Myself and [REDACTED] have been looking at where we could do some rat monitoring (if it was required) and have come up with the attached.

We have targeted areas where we know kea are present and also where some rimu forest is around.

Let me know what you think.

Cheers
[REDACTED]

From: [REDACTED]@doc.govt.nz]
Sent: Wednesday, 26 November 2014 9:03 a.m.
To: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi there
I thought I'd bring [REDACTED] back into the email chain on this so he can decide what is needed. It looks to me that the areas on the kea habitat map are valid, given [REDACTED] observations and the rimu forest although [REDACTED] is uncertain over whether nesting would be occurring in the cutover area. This means that either Standard 4 or Standard 5 should be applied in my view, at least to the podocarp forest remnants. From [REDACTED] replies it doesn't look like he is aware of comparable podocarp fruiting data from any comparable sites that could be used—but perhaps [REDACTED] has found some in the meantime?
Kind regards
[REDACTED]

From: [REDACTED]
To: [REDACTED]
Subject: RE: TBfree application for Kumara
Date: Friday, 28 November 2014 3:50:06 p.m.
Attachments: [Aerial1080Map_Waimea_Kawhaka_RatMonitoring_28.11.2014.jpg](#) Appendix 32

Hi all

Myself and [REDACTED] have been looking at where we could do some rat monitoring (if it was required) and have come up with the attached.

We have targeted areas where we know kea are present and also where some rimu forest is around.

Let me know what you think.

Cheers

[REDACTED]

From: [REDACTED]@doc.govt.nz
Sent: Wednesday, 26 November 2014 9:03 a.m.
To: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi there

I thought I'd bring [REDACTED] back into the email chain on this so he can decide what is needed. It looks to me that the areas on the kea habitat map are valid, given [REDACTED] observations and the rimu forest although [REDACTED] is uncertain over whether nesting would be occurring in the cutover area.

This means that either Standard 4 or Standard 5 should be applied in my view, at least to the podocarp forest remnants.

From [REDACTED] replies it doesn't look like he is aware of comparable podocarp fruiting data from any comparable sites that could be used—but perhaps [REDACTED] has found some in the meantime?

Kind regards

[REDACTED]

From: [REDACTED]@tbfree.org.nz
Sent: Tuesday, 25 November 2014 3:00 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi [REDACTED]

I have just been speaking to [REDACTED] (one of our field supervisors) who is a regular visitor to the area and he said that there are kea in the area – particularly around the Goldsbrough Reserves.

This is also the same place where some rimu forest is present.

Cheers

[REDACTED]
[REDACTED]

From: [REDACTED] <[REDACTED]@doc.govt.nz>
Sent: Tuesday, 25 November 2014 12:11 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara

Thanks [REDACTED]

Is there any virgin rimu forest in there? If so I think a set of tracking tunnel lines in that mature forest would likely be useful as part of a larger network in west coast rimu forests.

As for the cutover bits, I don't really know. That type of forest is tricky for kea-1080 issues, as it's a habitat that keas may frequent for food but I really don't know if they breed in there. Quite possibly not. Hence the idea of offsetting any risk to kea with stoat control can't really be applied.

This is the kind of place where we could use a bird repellent even if it deters rats, so long as it doesn't deter possums. Unfortunately we don't have one of those at hand.

I'm sorry that's probably not much help, but I'm at a bit of a loss with this one. Perhaps an indication of the prevalence of kea at the site would help? Do you have anyone that spends time in the block that tell us their impression of whether they're a constant presence or pretty erratic?

[REDACTED]
[REDACTED]

[REDACTED], Scientist
Department of Conservation, 186 Bridge Street, Nelson

From: [REDACTED] <[REDACTED]@tbfree.org.nz>
Sent: Tuesday, 25 November 2014 9:20 a.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi [REDACTED]

Attached is a map and shapefile (draft boundaries for now).

Would be good to know asap as I am currently organising all the rodent monitoring we are going to be doing on the coast for next year's aerial (Craigieburn, Rough River and Nelson Creek) and the Waimea Kawhaka aerial is the only one I am unsure about.

I am aiming to do the monitoring in Jan/Feb next year.

Any further questions let me know.

PS I currently have requests in to [REDACTED] and [REDACTED] about our two Tasman operations next year – Anatori Paturau and Hope Range.

Thanks

[Redacted]

From: [Redacted] [Redacted]@doc.govt.nz]
Sent: Tuesday, 25 November 2014 9:13 a.m.
To: [Redacted]
Cc: [Redacted]
Subject: RE: TBfree application for Kumara

Hi,

I think the need for better rodent monitoring coverage in the beech gap is something we're going to need to face soon. We should sit down and draw up a plan for the whole beech gap all at once, rather than roll it out piecemeal. Maybe something to calendar for March-April?

In the meantime, [Redacted] would you mind sending a shapefile of the proposed op boundary (early draft I know)? I'll [Redacted] a look and think about how it might fit in to a longer term monitoring programme.

Thanks,

[Redacted]

[Redacted], Scientist
Department of Conservation, 186 Bridge Street, Nelson

From: [Redacted]
Sent: Friday, 21 November 2014 2:23 p.m.
To: [Redacted]
Cc: [Redacted]
Subject: TBfree application for Kumara

Hi

TBfreeNZ are applying for DOC permission for an aerial 1080 possum target operation around the forests near Kumara. These are all lowland cutover podocarp forests, "pakahi" areas, exotic pine forests and some remnants of mature podocarp stands.

The kea habitat map has two small areas indicated in this area both in the areas of remnant podocarp forest. The question from TBfree is do DOC require Standard 4 or 5 from the Kea COP to be applied i.e. establish new rodent tracking lines etc etc...

We are trying to locate rodent data from this area but have drawn blanks so far. We also have no data around podocarp fruiting this year to base any decision on applying Standard 5 on. However I would be happy to use podocarp data from anywhere on the West Coast if we had any. I was wondering if you had the podocarp data [Redacted] Or other evidence about rodent occupancy of these lowland forests.

Thanks

[Redacted]

PS: [redacted] do you have the Okarito podocarp seed data?

[redacted]

Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: [redacted]

Kaitiaki whakamahere (Kanorau koiora)

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From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara
Date: Thursday, 27 November 2014 3:22:05 p.m.

Hi [redacted]

Any thoughts on this one?

Cheers

[redacted]

From: [redacted]@doc.govt.nz]
Sent: Wednesday, 26 November 2014 9:03 a.m.
To: [redacted]
Subject: RE: TBfree application for Kumara

Hi there

I thought I'd bring [redacted] back into the email chain on this so he can decide what is needed. It looks to me that the areas on the kea habitat map are valid, given [redacted] observations and the rimu forest although [redacted] is uncertain over whether nesting would be occurring in the cutover area.

This means that either Standard 4 or Standard 5 should be applied in my view, at least to the podocarp forest remnants.

From [redacted] replies it doesn't look like he is aware of comparable podocarp fruiting data from any comparable sites that could be used—but perhaps [redacted] has found some in the meantime?

Kind regards

[redacted]

From: [redacted]@tbfree.org.nz]
Sent: Tuesday, 25 November 2014 3:00 p.m.
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Hi [redacted]

I have just been speaking to [redacted] (one of our field supervisors) who is a regular visitor to the area and he said that there are kea in the area – particularly around the Goldsbrough Reserves.

This is also the same place where some rimu forest is present.

Cheers

[redacted]

From: [redacted]@doc.govt.nz]
Sent: Tuesday, 25 November 2014 12:11 p.m.
To: [redacted]
Cc: [redacted]

Subject: RE: TBfree application for Kumara

Thanks [redacted]

Is there any virgin rimu forest in there? If so I think a set of tracking tunnel lines in that mature forest would likely be useful as part of a larger network in west coast rimu forests.

As for the cutover bits, I don't really know. That type of forest is tricky for kea-1080 issues, as it's a habitat that keas may frequent for food but I really don't know if they breed in there. Quite possibly not. Hence the idea of offsetting any risk to kea with stoat control can't really be applied.

This is the kind of place where we could use a bird repellent even if it deters rats, so long as it doesn't deter possums. Unfortunately we don't have one of those at hand.

I'm sorry that's probably not much help, but I'm at a bit of a loss with this one. Perhaps an indication of the prevalence of kea at the site would help? Do you have anyone that spends time in the block that tell us their impression of whether they're a constant presence or pretty erratic?

[redacted]

[redacted], Scientist
Department of Conservation, 186 Bridge Street, Nelson

From: [redacted] [redacted]@tbfree.org.nz]
Sent: Tuesday, 25 November 2014 9:20 a.m.
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Hi [redacted]

Attached is a map and shapefile (draft boundaries for now).

Would be good to know asap as I am currently organising all the rodent monitoring we are going to be doing on the coast for next year's aerial (Craigieburn, Rough River and Nelson Creek) and the Waimea Kawhaka aerial is the only one I am unsure about.

I am aiming to do the monitoring in Jan/Feb next year.

Any further questions let me know.

PS I currently have requests in to [redacted] and [redacted] our two Tasman operations next year – Anatori Paturau and Hope Range.

Thanks

[redacted]

From: [redacted] [redacted]@doc.govt.nz]
Sent: Tuesday, 25 November 2014 9:13 a.m.

To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Hi,

I think the need for better rodent monitoring coverage in the beech gap is something we're going to need to face soon. We should sit down and draw up a plan for the whole beech gap all at once, rather than roll it out piecemeal. Maybe something to calendar for March-April?

In the meantime, [redacted] would you mind sending a shapefile of the proposed op boundary (early draft I know)? I'll have a look and think about how it might fit in to a longer term monitoring programme.

Thanks,

[redacted]

[redacted] Scientist
Department of Conservation, 186 Bridge Street, Nelson

From: [redacted]
Sent: Friday, 21 November 2014 2:23 p.m.
To: [redacted]
Cc: [redacted]
Subject: TBfree application for Kumara

Hi

TBfreeNZ are applying for DOC permission for an aerial 1080 possum target operation around the forests near Kumara. These are all lowland cutover podocarp forests, "pakahi" areas, exotic pine forests and some remnants of mature podocarp stands.

The kea habitat map has two small areas indicated in this area both in the areas of remnant podocarp forest. The question from TBfree is do DOC require Standard 4 or 5 from the Kea COP to be applied i.e. establish new rodent tracking lines etc etc...

We are trying to locate rodent data from this area but have drawn blanks so far. We also have no data around podocarp fruiting this year to base any decision on applying Standard 5 on. However I would be happy to use podocarp data from anywhere on the West Coast if we had any. I was wondering if you had the podocarp data [redacted] Or other evidence about rodent occupancy of these lowland forests.

Thanks

[redacted]

PS: [redacted] do you have the Okarito podocarp seed data?

[redacted]

Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: [redacted]

Kaitiaki whakamahere (Kanorau koiora)
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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara
Date: Tuesday, 25 November 2014 9:22:27 a.m.
Attachments: [Waimea_Kawaka_Consultation_boundary_1415.cpg](#)
[Waimea_Kawaka_Consultation_boundary_1415.shx](#)
[Waimea_Kawaka_Consultation_boundary_1415.shp.xml](#)
[Waimea_Kawaka_Consultation_boundary_1415.shp](#)
[Waimea_Kawaka_Consultation_boundary_1415.sbx](#)
[Waimea_Kawaka_Consultation_boundary_1415.sbn](#)
[Waimea_Kawaka_Consultation_boundary_1415.prj](#)
[Waimea_Kawaka_Consultation_boundary_1415.dbf](#)
[Aerial1080Map_Waimea_Kawhaka_Initial_Consultation_Map_10.11.2014.jpg](#)

Appendix 20

Hi [REDACTED]

Attached is a map and shapefile (draft boundaries for now).

Would be good to know asap as I am currently organising all the rodent monitoring we are going to be doing on the coast for next year's aerial (Craigieburn, Rough River and Nelson Creek) and the Waimea Kawhaka aerial is the only one I am unsure about.

I am aiming to do the monitoring in Jan/Feb next year.

Any further questions let me know.

PS I currently have requests in to [REDACTED] and [REDACTED] about our two Tasman operations next year – Anatori Paturau and Hope Range.

Thanks

[REDACTED]

From: [REDACTED] [REDACTED]@doc.govt.nz]
Sent: Tuesday, 25 November 2014 9:13 a.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: TBfree application for Kumara

Hi,

I think the need for better rodent monitoring coverage in the beech gap is something we're going to need to face soon. We should sit down and draw up a plan for the whole beech gap all at once, rather than roll it out piecemeal. Maybe something to calendar for March-April?

In the meantime, [REDACTED] would you mind sending a shapefile of the proposed op boundary (early draft I know)? I'll have a look and think about how it might fit in to a longer term monitoring programme.

Thanks,

[REDACTED]

[REDACTED] Scientist
Department of Conservation, 186 Bridge Street, Nelson

9(2)(a), 9(2)(g)(ii) | [REDACTED]
From: 9(2)(a), 9(2)(g)(ii) [REDACTED]
Sent: Friday, 21 November 2014 2:23 p.m.
To: 9(2)(a), 9(2)(g)(ii) [REDACTED]
Cc: 9(2)(a), 9(2)(g)(ii) [REDACTED]
Subject: TBfree application for Kumara

Hi

TBfreeNZ are applying for DOC permission for an aerial 1080 possum target operation around the forests near Kumara. These are all lowland cutover podocarp forests, "pakahi" areas, exotic pine forests and some remnants of mature podocarp stands.

The kea habitat map has two small areas indicated in this area both in the areas of remnant podocarp forest. The question from TBfree is do DOC require Standard 4 or 5 from the Kea COP to be applied i.e. establish new rodent tracking lines etc etc...

We are trying to locate rodent data from this area but have drawn blanks so far. We also have no data around podocarp fruiting this year to base any decision on applying Standard 5 on. However I would be happy to use podocarp data from anywhere on the West Coast if we had any. I was wondering if you had the podocarp data 9(2)(a), 9(2)(g)(ii) [REDACTED] Or other evidence about rodent occupancy of these lowland forests.

Thanks

9(2)(a), 9(2)(g)(ii) [REDACTED]

PS: 9(2)(a), 9(2)(g)(ii) [REDACTED] do you have the Okarito podocarp seed data?

9(2)(a), 9(2)(g)(ii) [REDACTED]

Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: +9(2)(a), 9(2)(g)(ii) [REDACTED]

Kaitiaki whakamahere (Kaitiaki koiora)
www.doc.govt.nz

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From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: [redacted]
Date: Tuesday, 2 December 2014 9:40:08 a.m.

Hi there,

The proposed lines look almost fine – the problem I can see is that some of them appear to cross between major veg types. It's best if they fall entirely within the rimu forest area.

Cheers,

[redacted]

[redacted] Scientist
Department of Conservation, 186 Bridge Street, Nelson
[redacted]

From: [redacted]
Sent: Tuesday, 2 December 2014 9:07 a.m.
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Hi [redacted]

Speaking to [redacted] this morning, we agree that rodent monitoring as per Standard 4 in the Code of Practice is the way to go. [redacted] can you please comment on [redacted] draft monitoring lines?

[redacted] thought it could be useful to add some lines in the cutover area.

I copy in [redacted], as he will be the contact for assessing the application for permission.

Kind regards

[redacted]

From: [redacted] [redacted]@tbfree.org.nz]
Sent: Friday, 28 November 2014 3:48 p.m.
To: [redacted]
Subject: RE: TBfree application for Kumara

Hi all

Myself and [redacted] have been looking at where we could do some rat monitoring (if it was required) and have come up with the attached.

We have targeted areas where we know kea are present and also where some rimu forest is around.

Let me know what you think.

Cheers

[redacted]

From: [redacted] [redacted]@doc.govt.nz]
Sent: Wednesday, 26 November 2014 9:03 a.m.
To: [redacted]
Subject: RE: TBfree application for Kumara

Hi there

I thought I'd bring [redacted] back into the email chain on this so he can decide what is needed. It looks to me that the areas on the kea habitat map are valid, given [redacted] observations and the rimu forest although [redacted] is uncertain over whether nesting would be occurring in the cutover area.

This means that either Standard 4 or Standard 5 should be applied in my view, at least to the podocarp forest remnants.

From [redacted] replies it doesn't look like he is aware of comparable podocarp fruiting data from any comparable sites that could be used—but perhaps [redacted] has found some in the meantime?

Kind regards

[redacted]

From: [redacted] @tbfree.org.nz]
Sent: Tuesday, 25 November 2014 3:00 p.m.
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Hi [redacted]

I have just been speaking to [redacted] (one of our field supervisors) who is a regular visitor to the area and he said that there are kea in the area – particularly around the Goldsbrough Reserves.

This is also the same place where some rimu forest is present.

Cheers

[redacted]

From: [redacted] @doc.govt.nz]
Sent: Tuesday, 25 November 2014 12:11 p.m.
To: [redacted]
Cc: [redacted]
Subject: RE: TBfree application for Kumara

Thanks [redacted]

Is there any virgin rimu forest in there? If so I think a set of tracking tunnel lines in that mature forest would likely be useful as part of a larger network in west coast rimu forests.

As for the cutover bits, I don't really know. That type of forest is tricky for kea-1080 issues, as it's a habitat that keas may frequent for food but I really don't know if they breed in there. Quite possibly not. Hence the idea of offsetting any risk to kea with stoat control can't really be applied.

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I'm sorry that's probably not much help, but I'm at a bit of a loss with this one. Perhaps an indication of the prevalence of kea at the site would help? Do you have anyone that spends time

in the block that tell us their impression of whether they're a constant presence or pretty erratic?

9(2)(a),
9(2)(g)

9(2)(a), 9(2)(g) Scientist
(ii) Department of Conservation, 186 Bridge Street, Nelson

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) [redacted] @tbfree.org.nz]
Sent: Tuesday, 25 November 2014 9:20 a.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]
Cc: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: RE: TBfree application for Kumara

Hi 9(2)(a),
9(2)(g)

Attached is a map and shapefile (draft boundaries for now).

Would be good to know asap as I am currently organising all the rodent monitoring we are going to be doing on the coast for next year's aerial (Craigieburn, Rough River and Nelson Creek) and the Waimea Kawhaka aerial is the only one I am unsure about.

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Any further questions let me know.

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Thanks

9(2)(a), 9(2)(g)(ii) [redacted]

From: 9(2)(a), 9(2)(g)(ii) [redacted] @doc.govt.nz]
Sent: Tuesday, 25 November 2014 9:13 a.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]
Cc: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: RE: TBfree application for Kumara

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Thanks,

9(2)(a),
9(2)(g)

9(2)(a), 9(2)(g)(ii) Scientist
Department of Conservation, 186 Bridge Street, Nelson
9(2)(a), 9(2)(g)(ii)

From: Terry Farrell
Sent: Friday, 21 November 2014 2:23 p.m.
To: 9(2)(a), 9(2)(g)(ii)
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: TBfree application for Kumara

Hi

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Thanks

9(2)(a),
9(2)(g)(ii)

PS: 9(2)(a), 9(2)(g)(ii) do you have the Okarito podocarp seed data?

9(2)(a), 9(2)(g)(ii)

Biodiversity Planner Hokitika, Department of Conservation-Te Papa Atawhai DI: + 9(2)(a), 9(2)(g)(ii)

Kaitiaki whakamahere (Kanorau koiora)

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From: [REDACTED]
To: [REDACTED]
Subject: RE: TBfree talk and TBfree contribution to Measuring the Mast
Date: Monday, 24 November 2014 4:52:26 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Thanks [REDACTED]

[REDACTED]

[REDACTED], **QSO, BAgSc, BVSc, MPVM**
Manager TB Eradication & Research
DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • [W ospri.co.nz](http://www.ospri.co.nz) [f](#) [t](#)

From: [REDACTED] [doc.govt.nz]
Sent: Monday, 24 November 2014 4:46 p.m.
To: [REDACTED]
Subject: RE: TBfree talk and TBfree contribution to Measuring the Mast

Thanks [REDACTED] I have since discovered more detailed planning by [REDACTED] I am speaking with him tomorrow and will get back to you with a lot more detail, including answers to your questions.
Cheers [REDACTED]

From: [REDACTED] [[@tbfree.org.nz](mailto:[REDACTED]@tbfree.org.nz)]
Sent: Monday, 24 November 2014 4:42 p.m.
To: [REDACTED]
Cc: [REDACTED]; Matthew Hall
Subject: RE: TBfree talk and TBfree contribution to Measuring the Mast

Hi [REDACTED]

I've sent the proposed work to Matthew Hall to get his views on the stoat option.

I think the design appears ok, but would like a bit more detail on what is proposed to be measured etc as follows:

- a) What is the proposed density of tracking tunnels and how will they be deployed across the landscape ie what proportion will be located in the snow-grass, the edge of the forest/alpine area or in the forest.
- b) Will there be sufficient data derived from the tracking tunnels to show a significant result if one is present
- c) Will an adjacent non-controlled area be monitored at the same/similar time frame to compare the above data with? If not, will the effect be measured using before and after data?

As discussed with you, I would suspect that stoats will also be killed by eating 1080 possum carcasses. These are not mentioned in the proposed design. Therefore, will the impacts of 1080 killing possums be able to be measured from this study, especially with respect to the second

objective?

Many thanks, [redacted]

[redacted] **OSO, BAgSc, BVSc, MPVM**
Manager TB Eradication & Research
DDI 04 [redacted]

OSPRI New Zealand | Operational Solutions for Primary Industries
Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz f t

From: [redacted] @doc.govt.nz]
Sent: Monday, 24 November 2014 12:12 p.m.
To: [redacted]
Subject: FW: TBfree talk and TBfree contribution to Measuring the Mast

Hi [redacted]
I rang to check if these two issues can wait until [redacted] gets back on 4 December?
Cheers [redacted]

From: [redacted]
Sent: Monday, 24 November 2014 12:02 p.m.
To: [redacted]
Subject: TBfree talk and TBfree contribution to Measuring the Mast

- Hi [redacted]
1. **Annual talk to TBfree.** Just talking with [redacted] We could schedule in a talk to TBfree before Christmas. And that is what we should have already done we know. But [redacted] suggests that at this stage in the project there is not much to say compared to a year ago. Just more interim results. Of more interest might be a talk that combines both the project you are part funding as well as early results from the Mast projects. But a good time for that would be late March. Would that further delay be acceptable?
 2. **TBfree \$50k contribution to Mast research.** Your first choice was kea research. I talked with [redacted] about putting transmitters on a further set of birds at West Matukituki. In the end that was not possible – time and capacity issues.

So, pursuing your second choice of resolving the stoat issue. Ultimately you want to be able to control possum in non mast, low rodent conditions and not cause a stoat – kea problem. Of course in this mast year we don't have many sites with low rodents.

But what we do need in the stoat space is to conduct a summer time stoat tracking survey. This year that will mean upwards of 500 transects. It would cost about \$50k to collect these data because the proposal would be to visit the tracking tunnels twice. The current protocol is a 3-day survey. But [redacted] and [redacted] believe this doesn't give reliable data. They intend to leave the tracking tunnels out for two weeks – hence the second visit. There may also be an opportunity to test out other stoat monitoring approaches to collect reliable data more cheaply.

We intend to run this summer stoat survey work in conjunction with the BfoB "stoat project". I attach the general outline.

I will ring to discuss these two ideas.

Cheers [redacted]

From: [redacted] [redacted]@ospri.co.nz]
Sent: Tuesday, 2 September 2014 10:32 a.m.
To: [redacted]
Subject: Population Dynamics of Native Wildlife: Annual report and presentation made to stakeholders

Hi all,

Just confirming when we should expect this presentation to be carried out (we have the 01/08/2014 as the due date for this one).

There is a fair bit of interest in this research and we would love to organise a time for you to come by and update date us regarding the progress so far.

Let me know how this is going and a possible timeframe if you have one.

Many thanks,

[redacted]

[redacted]
Research Coordinator

DDI [redacted]

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PO Box 3412, Wellington 6140
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From: [REDACTED]
To: [REDACTED]
Subject: RE: Update - Kea Repellent
Date: Friday, 14 March 2014 2:23:56 p.m.
Attachments: [Draft kea summary for TBfreeNZ_140314.doc](#) Appendix 21

Hi [REDACTED]

I'm working on the Code of Practice which includes a summary of the kea research to date. I have just clipped out the draft summary that might assist with your MP questions in case this is helpful for you in writing your responses. Please do not circulate this further for any reason as I need to finalise the text prior to consultation. I plan to send this out to TBfree, DOC staff and KCT by 28th March and I have a meeting scheduled with Matthew Hall, [REDACTED] and [REDACTED] on the 3rd of April to discuss.

Thanks

[REDACTED]

From: [REDACTED]@tbfree.org.nz]
Sent: Friday, 14 March 2014 12:04 p.m.
To: [REDACTED]
Subject: Update - Kea Repellent

Hi [REDACTED]

Do you have a current broad update for where things are at with the kea repellent research? We have been asked by an MP. I can put one together but thought you may have a pre-prepared one.

Feel free to give me a call to discuss.

[REDACTED]

Research Coordinator

DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries
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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: background for Bird Repellent meeting 21/11/14
Date: Friday, 21 November 2014 2:26:24 p.m.
Attachments: [Cowan_Review_of_potential_bird_repellents_Sep_14_NOT_FOR_GENERAL_CIRCULATION.docx](#)
[image001.png](#)
[image002.png](#)

Appendix 22

Hi [REDACTED]

I've attached a copy of the review – since I intend to publish it, I'm happy to provide it to you on the basis that it is not circulated outside of the team in OSPRI with an interest in bird repellents and is not referred to in other documents without my permission.

When you've had a read I'd be happy to discuss how we might proceed.

Kind regards

[REDACTED]

[REDACTED]

Science Team Leader
Wildlife Ecology & Management
Landcare Research
PO Box 69040, Lincoln 7640, NEW ZEALAND

[REDACTED] [@landcareresearch.co.nz](mailto:[REDACTED]@landcareresearch.co.nz)

Ph: [REDACTED]

Mob: [REDACTED]

SKYPE: [REDACTED]

From: [REDACTED]@tbfree.org.nz]
Sent: Friday, 21 November 2014 1:52 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: background for Bird Repellent meeting 21/11/14

Thanks [REDACTED]

Yes, you've summarised it pretty well in your e-mail below, [REDACTED] I'd be keen to take a look at the literature review and circulate amongst the team who are interested in the avian repellent research so that we can determine how best to allocate any available TBfree funding. If you could give me a call or drop me an e-mail to discuss that would be great.

Thanks

[REDACTED]

Senior Operations Advisor
OSPRI New Zealand
DDI [REDACTED]

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Level 9 CallActive House, 15 Willeston Street

PO Box 3412, Wellington 6140

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From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Sent: Friday, 21 November 2014 1:26 p.m.
To: [redacted]
Cc: [redacted] [@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz)
Subject: RE: background for Bird Repellent meeting 21/11/14

Hello [redacted]

Thanks for organising this morning's meeting. I think we were in agreement that the next step would be to evaluate [redacted] literature and recommendations and seek advice from [redacted] on funding levels required for a possum and rat efficacy pen trial of one or more alternative repellents (akin to the 2013 pen trial). TBfreeNZ could then consider what level of trial it could support this financial year. You offered to contact [redacted] to facilitate this next step and asked for his contact details, which are:

[redacted]
Science Team Leader
Wildlife Ecology & Management
Landcare Research
PO Box 69040, Lincoln 7640, NEW ZEALAND
[redacted] [@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz)
Ph: [redacted]
Mob: [redacted]
SKYPE: [redacted]

Kind regards

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted] 2014 10:06 a.m.
To: [redacted] [@tbfree.org.nz](mailto:[redacted]@tbfree.org.nz); [redacted]
Cc: [redacted] [@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz); [redacted]; Andy Cox
Subject: background for Bird Repellent meeting 21/11/14

Hi [redacted] and [redacted]

In preparation for our meeting on the 21st, I thought it might be helpful to provide some background information. I hope to better understand TBfree NZ's interest in the continued kea

repellent research and how this aligns with work that Landcare Research is planning.

Relative priority of the research areas identified at the wrap up meeting

At the meeting, we recognised that predation is the root cause of kea's threat status, so improved, widespread stoat control is critical. An effective repellent would prevent deaths of kea at aerial 1080 operations, however this will not reverse the decline of kea without widespread and frequent stoat control. In terms of research priorities, there is a considerable timeline and uncertainty around achieving either better stoat control techniques or an effective repellent.

Since the meeting, we've come to the view that of the repellent research areas, the testing of pest efficacy of candidate repellents should come before further testing with kea. This is because:

-Our opportunities to test with kea are limited, so it is best to reserve these for repellents that have already been tested with possums and rats.

-There is interest in protecting other birds with repellents (e.g. Takahe), so have the pest efficacy data available sets us up for testing with these other birds.

With this in mind, DOC would probably revise #4 on the list to: *Carry out pen trials with rats and possums of other potential repellents (e.g. tannic acid, caffeine (LCR), cinnamamide, garlic oil)* and give this priority over the other research areas.

The investigation of stabilisation methods for d-pulegone would also be worthwhile, if resources permitted.

LCR proposed trial options

s(2)(a), s(2)(g)(ii) has nearly completed a literature review of a number of candidate repellents for kea protection, assessing their potential in terms of bird repellency, pest efficacy, and stability in manufacturing. When complete, this review would inform the selection of one or more repellents for pen trials with possums and rats in a trial similar to the one carried out in 2013.

He has also put together a proposal for a separate trial to determine the maximum concentration of AQ that can be used without affecting palatability or mortality of possums.

My understanding is that LCR has some funding available for one trial by the end of June 2015, and that TBfree has some money left in a repellent research program in a similar timeframe. If combined, there is the possibility of completing one of the 2 LCR trial options (possum and rat trial with a new repellent or maximum AQ concentration).

Kea mortality at operations

Also relevant to this discussion, s(2)(a), s(2)(g) has progressed his analysis of the kea monitoring to date, resulting in estimates for 'risky' and 'safe' sites:

We don't understand why kea appear to be at risk at some sites but not others; there are some theories (e.g. previous exposure to junk food and habitat type) but none are proven. Therefore it is not valid to average the risk of kea death from 1080 across all operations (i.e. 20 deaths out of 150 birds monitored in ten operations). It is more correct to construct a statistical model that estimates risk at risky operations/sites and at non risky ones. This gives an estimate of 22% mortality at risky sites (95% CI = 13-33%) and 0% mortality at safe sites (95% CI = 0-5%). Exactly what proportion of sites/operations are risky we don't know, hence we are aiming to deliver a net benefit at all sites by timing all operations for mast years, or by complementing aerial 1080 with alternative stoat control methods such as trapping.

I look forward to meeting with you next Friday.

Kind regards

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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www.doc.govt.nz

From: 9(2)(a), 9(2)(g)(ii) [redacted]@tbfree.org.nz]

Sent: Wednesday, 15 October 2014 3:22 p.m.

To: 9(2)(a), 9(2)(g)(ii) [redacted]

Subject: Bird Repellant proposal

Hi 9(2)(a), 9(2)(g)(ii) [redacted]

The bait improvement initiatives meeting was held today and bird repellent was discussed as a priority area that we want to keep the momentum going on.

Is it possible for DOC to put together a brief proposal with costings, detailing what would be involved in getting each of the 5 research areas you identified below off the ground. Potentially TBfree may have some funding available that we would like to spend on developing a kea repellent, once we have identified if there is funding available we would be keen to meet and have a chat about how to move forward,

Research areas

1. Continued investigation of anthraquinone as a secondary repellent, for situations where:
 - Possums are the only target or
 - Rats are absent from the site or not the priority target
2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix.
3. Carry out a kea behavioural trial using d-pulegone RS5 cereal pellets, to confirm whether d-pulegone acts as a primary repellent in its own right (if advice in step 2 is favourable)
4. Carry out preliminary field screening of other potential repellents (e.g. tannic acid, caffeine (LCR), cinnamamide, garlic oil)
5. Test whether the Willowbank aviary kea would readily consume 0.14% anthraquinone baits if re-presented with the baits in several months' time.

If you have any questions just give me a shout.

Kind Regards

9(2)(a), 9(2)(g)(ii)

Senior Operations Advisor

OSPRI New Zealand

DDI ^{9(2)(a), 9(2)(g)(ii)} [REDACTED]

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<http://www.landcareresearch.co.nz>

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED] landcareresearch.co.nz
Subject: RE: background for Bird Repellent meeting 21/11/14
Date: Friday, 21 November 2014 1:52:28 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Thanks [REDACTED]

Yes, you've summarised it pretty well in your e-mail below, [REDACTED] I'd be keen to take a look at the literature review and circulate amongst the team who are interested the avian repellent research so that we can determine how best to allocate any available TBfree funding. If you could give me a call or drop me an e-mail to discuss that would be great.

Thanks

[REDACTED]
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DDI [REDACTED]

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T 04 474 7100 • W ospri.co.nz  

From: [REDACTED]@doc.govt.nz]
Sent: Friday, 21 November 2014 1:26 p.m.
To: [REDACTED]
Cc: [REDACTED]@landcareresearch.co.nz)
Subject: RE: background for Bird Repellent meeting 21/11/14

Hello [REDACTED]

Thanks for organising this morning's meeting. I think we were in agreement that the next step would be to evaluate [REDACTED] literature and recommendations and seek advice from [REDACTED] on funding levels required for a possum and rat efficacy pen trial of one or more alternative repellents (akin to the 2013 pen trial). TBfreeNZ could then consider what level of trial it could support this financial year. You offered to contact [REDACTED] to facilitate this next step and asked for his contact details, which are:

[REDACTED]
Science Team Leader
Wildlife Ecology & Management
Landcare Research
PO Box 69040, Lincoln 7640, NEW ZEALAND
[REDACTED]@landcareresearch.co.nz
Ph: [REDACTED]
Mob: [REDACTED]
SKYPE: [REDACTED]

Kind regards

[REDACTED]

From: [REDACTED]
To: [REDACTED]
Subject: RE: background for Bird Repellent meeting 21/11/14
Date: Friday, 21 November 2014 4:33:18 p.m.
Attachments: [image002.png](#)
[image001.png](#)

Thanks for that [REDACTED] I will circulate to the team with confidentiality you have stated below and copy you on the circulation list so that you know who has been given a copy. I look forward to reading!

Thanks

[REDACTED]
Senior Operations Advisor
OSPRI New Zealand
DDI [REDACTED]

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From: [REDACTED]@landcareresearch.co.nz]
Sent: Friday, 21 November 2014 2:26 p.m.
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: background for Bird Repellent meeting 21/11/14

Hi [REDACTED]

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When you've had a read I'd be happy to discuss how we might proceed.

Kind regards

[REDACTED]

[REDACTED]

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[REDACTED]@landcareresearch.co.nz

Ph: [REDACTED]

Mob: [REDACTED]

SKYPE: [REDACTED]

From: [REDACTED]@tbfree.org.nz]

Sent: Friday, 21 November 2014 1:52 p.m.
To: [redacted]
Cc: [redacted]
Subject: RE: background for Bird Repellent meeting 21/11/14

Thanks [redacted]

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[redacted]
Senior Operations Advisor
OSPRI New Zealand
DDI [redacted]

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From: [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Sent: Friday, 21 November 2014 1:26 p.m.
To: [redacted]
Cc: [redacted] landcareresearch.co.nz
Subject: RE: background for Bird Repellent meeting 21/11/14

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Ph: [redacted]
Mob: [redacted]
SKYPE: [redacted]

Kind regards
[redacted]

[redacted]
Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
Otautahi/Christchurch Office

DDI: [redacted]

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www.doc.govt.nz

From: [redacted]

Sent: Monday, 10 November 2014 10:06 a.m.

To: [redacted]

[@tbfree.org.nz](mailto:[redacted]@tbfree.org.nz); [redacted]

Cc: [redacted]

[@landcareresearch.co.nz](mailto:[redacted]@landcareresearch.co.nz); [redacted]

; Andy Cox

Subject: background for Bird Repellent meeting 21/11/14

Hi [redacted]

and [redacted]

In preparation for our meeting on the 21st, I thought it might be helpful to provide some background information. I hope to better understand TBfree NZ's interest in the continued kea repellent research and how this aligns with work that Landcare Research is planning.

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I look forward to meeting with you next Friday.

Kind regards

[REDACTED]

[REDACTED]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [REDACTED]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [REDACTED] [REDACTED]@tbfree.org.nz]
Sent: Wednesday, 15 October 2014 3:22 p.m.
To: [REDACTED]
Subject: Bird Repellant proposal

Hi [REDACTED]

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repellent, once we have identified if there is funding available we would be keen to meet and have a chat about how to move forward,

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5. Test whether the Willowbank aviary kea would readily consume 0.14% anthraquinone baits if re-presented with the baits in several months' time.

If you have any questions just give me a shout.

Kind Regards

9(2)(a), 9(2)(g)(ii)

Senior Operations Advisor

OSPRI New Zealand

DDI

9(2)(a), 9(2)(g)(ii)

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Released under the Official Information Act (1982)

From: [REDACTED]
To: [REDACTED]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Wednesday, 30 April 2014 4:41:17 p.m.

Thanks [REDACTED]

It's good to have that clarification.

[REDACTED]

From: [REDACTED]@doc.govt.nz
Sent: Wednesday, 30 April 2014 12:07 p.m.
To: [REDACTED]
Cc: [REDACTED]; Matthew Hall
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi [REDACTED] Matthew and [REDACTED]

I have had some discussions with others regarding [REDACTED] feedback. It looks impractical for TBfree to monitor for rats this year (too late) and next (contracts signed already, without any clause to allow for op cancellation for low rat tracking). Based on current information, the technical perspective is that we are comfortable with using mast as a proxy for rodent prevalence. The operations manager was concerned about the uncertainty around this and therefore wanted rodent tracking to confirm this presence (as will be done for the Battle for our Birds programme). Given your feedback and my discussions with others in the last day:

We will put both options below (rodent tracking and mast proxy, 1 & 2) below back into the draft COP and submit it for final approval.

We will make it clear that the Code will be reviewed again by 1st February 2016, so that we can look at all the stoat and rodent monitoring data that comes through the Battle for our Birds programme. This will mean another round of change, and could include revision of the rodent thresholds and/or removal of the mast proxy option. It would pay to base your winter 2016 contracts on the assumption that rodent tracking will be required for operations with kea habitat where rats could be scarce.

So to answer [REDACTED] questions:

1. Based on what I have outlined above in italics, you would need to confirm with the WC and Tasman DOC staff that the forests you are treating are likely to be in mast (there is a map about this coming out on a media release today) this year. Assuming that they are, then the winter 2015 operations could go ahead without rodent monitoring, so long as they are completed by 31st August 2015. (There is an FAQ about what happens if weather prevents this deadline being met. This would be acceptable so long as all practical steps had been taken to achieve this, such as targeting a date in June or July in the first instance.)
2. We are really reluctant to state a minimum percentage of how much kea/rats

scarce habitat would need to be present before the standards around timing apply. You need to talk to your local contact who is assessing your application for DOC permission. Certainly in a couple of cases you would have a pretty strong case. As outlined above, this will require confirmation that the forests are considered to be in mast seedfall (from 1st July 2014) or post-seedfall (to August 31st 2015).

Thanks for taking the time to provide me with this feedback. Give me a call if you want to discuss. I will keep you informed about the final approval.

Kind regards

[REDACTED]

From: [REDACTED] <[REDACTED]@tbfree.org.nz>
Sent: Tuesday, 29 April 2014 9:32 a.m.
To: [REDACTED]
Cc: [REDACTED]; Matthew Hall
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi [REDACTED]

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Thanks

[REDACTED]

From: [REDACTED] <[REDACTED]@doc.govt.nz>
Sent: Tuesday, 29 April 2014 8:24 a.m.
To: [REDACTED]; Matthew Hall
Cc: [REDACTED]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hello

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Look forward to hearing from you later today. I am in Wellington for some training but will check my emails and be back at my desk tomorrow.

9(2)(a), 9(2)(g)
(ii)

-----Original Message-----

From: 9(2)(a), 9(2)(g)(ii)
Sent: Mon 28/04/2014 9:38 AM
To: 9(2)(a), 9(2)(g)(ii); Matthew Hall
Cc: 9(2)(a), 9(2)(g)(ii)
Subject: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi there

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Many thanks, 9(2)(a), 9(2)(g)
(ii)

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - Te Papa Atawhai

Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; [Matthew Hall](#)
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Wednesday, 30 April 2014 12:07:16 p.m.

Hi [REDACTED], Matthew and [REDACTED]

I have had some discussions with others regarding [REDACTED] feedback. It looks impractical for TBfree to monitor for rats this year (too late) and next (contracts signed already, without any clause to allow for op cancellation for low rat tracking). Based on current information, the technical perspective is that we are comfortable with using mast as a proxy for rodent prevalence. The operations manager was concerned about the uncertainty around this and therefore wanted rodent tracking to confirm this presence (as will be done for the Battle for our Birds programme). Given your feedback and my discussions with others in the last day:

We will put both options below (rodent tracking and mast proxy, 1 & 2) below back into the draft COP and submit it for final approval.

We will make it clear that the Code will be reviewed again by 1st February 2016, so that we can look at all the stoat and rodent monitoring data that comes through the Battle for our Birds programme. This will mean another round of change, and could include revision of the rodent thresholds and/or removal of the mast proxy option. It would pay to base your winter 2016 contracts on the assumption that rodent tracking will be required for operations with kea habitat where rats could be scarce.

So to answer [REDACTED] questions:

1. Based on what I have outlined above in italics, you would need to confirm with the WC and Tasman DOC staff that the forests you are treating are likely to be in mast (there is a map about this coming out on a media release today) this year. Assuming that they are, then the winter 2015 operations could go ahead without rodent monitoring, so long as they are completed by 31st August 2015. (There is an FAQ about what happens if weather prevents this deadline being met. This would be acceptable so long as all practical steps had been taken to achieve this, such as targeting a date in June or July in the first instance.)
2. We are really reluctant to state a minimum percentage of how much kea/rats scarce habitat would need to be present before the standards around timing apply. You need to talk to your local contact who is assessing your application for DOC permission. Certainly in a couple of cases you would have a pretty strong case. As outlined above, this will require confirmation that the forests are considered to be in mast seedfall (from 1st July 2014) or post-seedfall (to August 31st 2015).

Thanks for taking the time to provide me with this feedback. Give me a call if you want to discuss. I will keep you informed about the final approval.

Kind regards

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) @tbfree.org.nz]
Sent: Tuesday, 29 April 2014 9:32 a.m.
To: 9(2)(a), 9(2)(g)(ii)
Cc: 9(2)(a), 9(2)(g)(ii); Matthew Hall
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

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Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - Te Papa Atawhai

Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; [Matthew Hall](#)
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Tuesday, 29 April 2014 9:36:08 a.m.
Attachments: [Affected 1516 Operations.zip](#)

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From: [REDACTED]@doc.govt.nz
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Cc: [REDACTED]
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Sent: Mon 28/04/2014 9:38 AM

To: [redacted]; Matthew Hall

Cc: [redacted]

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Many thanks, [redacted]

[redacted]

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - Te Papa Atawhai

Otautahi/Christchurch Office

DDI: [redacted]

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From: [REDACTED]
To: [REDACTED]; [Matthew Hall](#)
Cc: [REDACTED]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Tuesday, 29 April 2014 8:23:49 a.m.
Attachments: [oledata.mso](#)
[image002.png](#) **Image attachment viewable on page 61**
[image001.emz](#)

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From: [redacted]
To: [redacted]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Friday, 2 May 2014 12:45:31 p.m.

Will do, thanks [redacted]

From: [redacted] [mailto:[redacted]@tbfree.org.nz]
Sent: Friday, 2 May 2014 12:03 p.m.
To: [redacted]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi [redacted]

You are correct with Myself, [redacted] and [redacted] I would add [redacted] to the list as my equivalent in Dunedin for Southern South Island and [redacted] who is our Senior Advisor (Business Analyst) for the Pest Management team. I would not worry about Field Supervisors such as [redacted] as [redacted] and I will be doing an all team mail out for them once everything has come through.

Regards

[redacted]
Programme Manager NSI
TBfree New Zealand
DDI [redacted]

OSPRI New Zealand | Operational Solutions for Primary Industries
Building 2, 226 Antigua Street
PO Box 8674, Riccarton, Christchurch 8440
T 03 363 3090 • W ospri.co.nz

From: [redacted] [mailto:[redacted]@doc.govt.nz]
Sent: Friday, 2 May 2014 11:26 a.m.
To: [redacted]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi [redacted] Quick question. I'm just preparing to communicate the code next week and just want to check on who else in TBfree NZ I should be including on the email.

Matthew Hall, yourself, [redacted]

In [redacted] and [redacted] The name escapes me, who is the equivalent of you over there?

And is there no one comparable down in Dunedin and Invercargill

In National Office, [redacted] and [redacted]
[redacted] and [redacted] in communication?

Thanks, and have a good weekend!

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) [redacted]@tbfree.org.nz]
Sent: Wednesday, 30 April 2014 4:37 p.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Thanks 9(2)(a), 9(2)(g)(ii) [redacted]

It's good to have that clarification.

9(2)(a), 9(2)(g)(ii)

From: 9(2)(a), 9(2)(g)(ii) [redacted]@doc.govt.nz]
Sent: Wednesday, 30 April 2014 12:07 p.m.
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Cc: 9(2)(a), 9(2)(g)(ii) [redacted] Matthew Hall
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Hi 9(2)(a), 9(2)(g)(ii) [redacted] Matthew and 9(2)(a), 9(2)(g)(ii) [redacted]

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Sent: Tuesday, 29 April 2014 8:24 a.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]; Matthew Hall
Cc: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: RE: change to proposed Code of Practice for aerial 1080 in kea habitat

Hello

It occurred to me later yesterday that we would need to have a transition period to introduce the rodent monitoring requirement, now that the option to time an operation for a mast year (without monitoring) is being removed. This came to mind when [redacted] rang for advice on processing the Awatere application for permission, and it took me a few minutes to work out why this one had not come up in conversation with [redacted] (because it is timed for during the mast, so would have been fine to go ahead under the draft for consultation). Obviously it is too late to set up rodent monitoring for this winter's operations that don't already have it i.e. possum operations.

Pending your feedback, I'd look at implementing the rest of the Code from 1 June 2014, but state that the Standard 4 (i.e. rodent tracking threshold for ops in kea habitat where rats may be scarce) would have a later start date for possum operations e.g. 1 June 2015.

Look forward to hearing from you later today. I am in Wellington for some training but will check my emails and be back at my desk tomorrow.

[redacted]

-----Original Message-----

From: [redacted]
Sent: Mon 28/04/2014 9:38 AM
To: [redacted]; Matthew Hall
Cc: [redacted]
Subject: change to proposed Code of Practice for aerial 1080 in kea habitat

Hi there

I spoke with [redacted] this morning to sound him out about a simplification of the draft Code of Practice for aerial 1080 in kea habitat. The final draft that went to senior management provided for 2 timing options for aerial 1080 in 'kea habitat where rats may be scarce' (i.e. areas over 700m plus all pure beech forest):

- 1) Monitor for rodents and proceed within 6 months of tracking rats or mice at 20% or higher on 8 out of 10 transects (if it's mice then there are further monitoring requirements for the operation) OR
- 2) Carry out the operation in a prescribed 14 month period during and after mast events

The Code of Practice has the support of senior management, except that they want to see kea survival monitored in an operation where some baits are sown above the treeline (this will happen at Kahurangi) and that they would like to see option 2 deleted for at least DOC operations (and ideally deleted altogether).

I wanted to sound this out with you before getting the final approval for the Code. The final flow chart for the 'timing' performance standards is pasted in below. On the one hand it would mean rodent tracking in all operations that overlap with the 'kea habitat where rats may be scarce' (mainly the Sustained and TBI ops in Tasman-WC). On the other hand, the mast timing option may not have been a smooth road either (as you'd be waiting on seedfall data to confirm masting).

It would be great if one of you can drop me a line with your thoughts on this, within a day or two ideally. I would like to get final approval asap to give certainty to operational planning of operations.

Many thanks, [redacted]

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - Te Papa Atawhai

Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

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From: [redacted]
To: [redacted]; Andy Cox; [redacted]; Kea Conservation Trust; [redacted]
Subject: RE: draft agenda bird repellent meeting 10-3pm Wed 23rd July
Date: Thursday, 3 July 2014 1:47:33 p.m.

Also please let me know if there are other special diets – I've noted vegetarian would suit [redacted]

From: [redacted]
Sent: Thursday, 3 July 2014 1:45 p.m.
To: [redacted]; Andy Cox; [redacted]; Kea Conservation Trust; [redacted]
Subject: draft agenda bird repellent meeting 10-3pm Wed 23rd July

Hi there

Thanks for your responses – the meeting will be held at DOC Otautahi-Christchurch office on Wednesday 23rd July from 10-3pm. There was a lot of interest in attending both sessions so I have sent just one meeting invitation. If you are only planning to attend either the morning or afternoon session perhaps you could let me know when accepting the meeting request. (I will still include you in the catering numbers!) Please find attached a draft agenda. I am happy to take comments or changes to the agenda until the 21st July.

DOC colleagues, please make your own arrangements for the travel and let me know if you need an operating code.

Kind regards

[redacted]

From: [redacted] Crowell
Sent: Tuesday, 1 July 2014 1:39 p.m.
To: [redacted]; Andy Cox; [redacted]; Kea Conservation Trust; [redacted]
Subject: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July

Hello there

I would really like your involvement in one or both of two meetings regarding the project to development of a bird repellent to protect kea during aerial 1080 cereal:

1. A debrief on the recent bait aversion trial at Willowbank, in the morning from 10am
2. A wrap up of the DOC-led kea repellent project from 1pm

We would expect that each meeting would last 1-2 hours. More detail is given on the purpose and the key people we'd like to have at each meeting. Anyone listed for one meeting is very welcome to attend both if you are interested!

Can you please consider whether you are able to take part and let me know whether you would be available on either Wednesday 23rd or Friday 25th July?

Once I have responses I will send out an Outlook invitation for the preferred date.

A draft report of the bait aversion trial is needed for both meetings. [redacted] will circulate the report 5 days prior to the meeting.

Bait aversion trial debrief 10-12noon

Purpose:

- To discuss and record what happened in this trial—e.g. inception, design and preparation, execution, analysis, communication
- To record lessons learned from the trial
- To record any tasks remaining from the trial

Key people to involve:

At least one of the trial team ([redacted]), Andy, [redacted]

[redacted] I understand you might like to be there to learn from our trial.

Wrap up of the DOC-led project 1-3pm

Purpose:

To create a record to guide future repellent research, including Landcare Research Ltd in the coming year and DOC if funding is resumed in future. by:

Revising the 'next steps' identified at the Kea repellent stakeholder meeting on 10th March, in light of the bait aversion trial results.

Documenting lessons from the research so far

Key people to involve: [redacted], Andy, [redacted]

[redacted] plus anyone from the morning meeting who is interested]

[redacted] you are also welcome to take part, though I am conscious that you have moved on to a lot of other work in the last 8 months.

Kind regards

[redacted]

[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI [redacted]

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: draft comments on 1080 business case
Date: Monday, 15 December 2014 9:45:19 a.m.
Attachments: [DOCDM-25427 - 1080 - Pesticide Review.doc](#) Appendix 23

Hi [REDACTED]

Attached are links to several published reviews and papers on the toxicology, ecotoxicology and environmental impacts of 1080. I have also included an internal DOC review of 1080. They should answer Questions 1, 5 and 7.

Out Of Scope [REDACTED]

Regards,

[REDACTED]

Eason C, Miller A, Ogilvie SC, Fairweather A 2011. An updated review of the toxicology and ecotoxicology of sodium fluoroacetate (1080) in relation to its use as a pest control tool in New Zealand. *New Zealand Journal of Ecology* 35: 1-20.

<http://newzealandecology.org/nzje/2968.pdf>

Eason CT, 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: 217-225.

<http://www.tandfonline.com/doi/pdf/10.1080/03014223.2012.740488>

Greene TC, Dilks PJ, Westbrooke IM, Pryde MA 2013. Monitoring selected forest bird species through aerial application of 1080 baits, Waitutu, New Zealand. *New Zealand Journal of Ecology* 37: 41-50. <http://newzealandecology.org/nzje/3063.pdf>

Schadewinkel RB, Senior AM, Wilson DJ, Jamieson IG 2014. Effects on South Island robins (*Petroica australis*) from pest control using aerially applied 1080 poison. *New Zealand Journal of Ecology* 38: 315-321. <http://newzealandecology.org/nzje/3126.pdf>

van Klink P, Kemp J, O'Donnell CFJ 2013. The effect of aerial application of 1080 cereal baits on radio-tagged South Island fernbirds (*Bowdleria punctata punctata*). *New Zealand Journal of Zoology* 40: 145-153.

<http://www.tandfonline.com/doi/pdf/10.1080/03014223.2012.711334>

Veltman CJ, Westbrooke IM 2011. Forest bird mortality and baiting practices in New Zealand aerial 1080 operations from 1986 to 2009. *New Zealand Journal of Ecology* 35: 21-29.

<http://newzealandecology.org/nzje/2946.pdf>

Veltman CJ, Westbrooke IM, Powlesland RG, Greene TC 2014. A principles-based decision tree for future investigations of native New Zealand birds during aerial 1080 operations. *New Zealand Journal of Ecology* 38: 103-109. <http://newzealandecology.org/nzje/3101.pdf>

[REDACTED] | Technical Advisor Threats (Hamilton) | Science & Capability Group | Department of Conservation

Postal Address: Private Bag 3072 | Hamilton 3240
Physical Address: 73 Rostrevor Street | Hamilton 3204

DDI: +[redacted] | Email: [redacted]@doc.govt.nz

From: [redacted]@mfe.govt.nz]

Sent: Friday, 12 December 2014 3:06 p.m.

To: [redacted]

Cc: [redacted]

Subject: RE: draft comments on 1080 business case

Hi [redacted]

Thanks for your reply and for our discussion last week about the ecological protections offered by HSNO controls. As discussed, here are some questions to organize your analysis of how HSNO controls are protecting against ecological risks. Our central question is whether HSNO controls are comprehensive in regulating 1080, and whether further controls are required.

Out Of Scope

[redacted]

[redacted]

[redacted]

Nga mihi

[redacted] – Policy Analyst, National Direction

Ministry for the Environment – Manatu Mo Te Taiao

DDI: [redacted] Website: www.mfe.govt.nz

23 Kate Sheppard Place, PO Box 10362, Wellington 6143

[redacted]

 Please consider the environment before printing this email

1. One key argument for 1080 is that breeding performance of native birds when predator numbers are low far outstrips any by-kill from 1080 drops. Could you provide references to a few studies that establish this point? Are there any gaps in our evidence base on this that we need to be transparent about (e.g. only covers some species)?
2. What HSNO controls limit by-kill, and how?
3. Are there any controls in the DoC permission that reduce by-kill further?

[you mentioned the use of maximum sowing rates in areas where kea are present. Any others?]

4. What is the risk that other agencies or individuals (RCouncils, TbFree NZ and private landowners) will have higher by-kill by not following these DoC-imposed controls when operating off private land?

[you mentioned that there are kea present on some private high country stations but the kea don't normally forage in rabbit-prone country? And that if they did the impact would not be significant for the population?]

5. Is there any by-kill of species that are especially vulnerable, due to very low populations and/or slow breeding?

[you mentioned whio, kokako and kiwi being monitored, and kakapo and takahe being kept well away from any poisoning. Are there any others that are worth worrying about, including invertebrates and the native bat?]

6. Out Of Scope
[Redacted]

[Redacted]

7. What evidence do we have about cumulative effects of 1080 use, effects on invertebrates and effects of sub-lethal doses of 1080?

From: [Redacted] <[Redacted]@doc.govt.nz>
Sent: Tuesday, 25 November 2014 9:49 a.m.
To: [Redacted]
Cc: [Redacted]
Subject: RE: darft comments on 1080 business case

Hi,

In response to [Redacted] queries about how environmental risks are covered:

Out Of Scope
[Redacted]

[Redacted]

[Redacted]

[Redacted]

2(b) If not, what is the risk of ecological damage from operations that aren't on the conservation estate?

The controls imposed under the HSNO Act for 1080 are highly effective at minimising the risk of ecological damage during operations (whether or not on public conservation land). The Parliamentary Commissioner for the Environment's report on 1080, and the EPA's annual and 5 year review of the use of aerial 1080 clearly show that the HSNO Act adequately controls the use of 1080.

Out Of Scope
[Redacted]

[Redacted]

[Redacted]

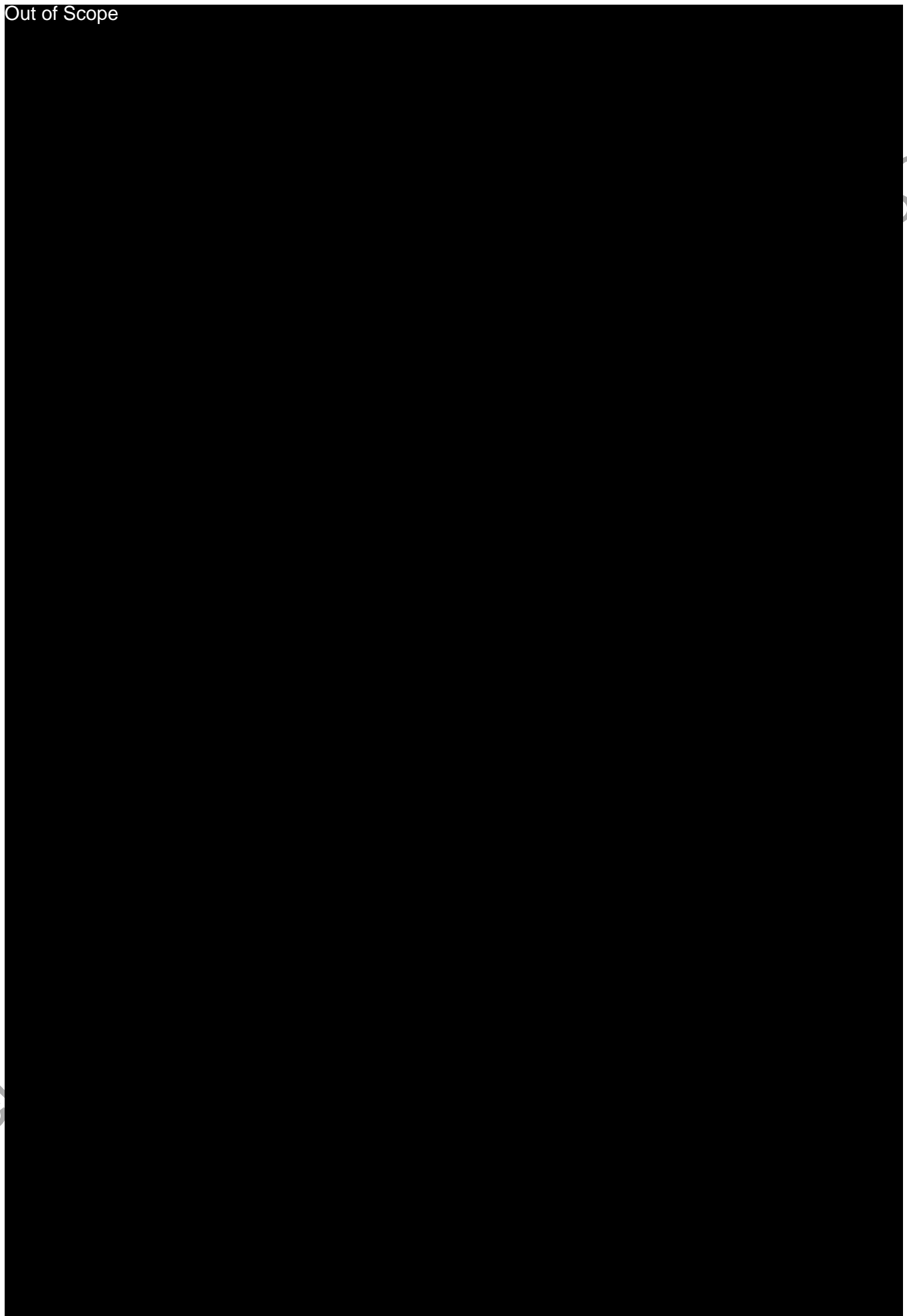
Regards,

[Redacted]

[Redacted] Technical Advisor Threats (Hamilton) | Science & Capability Group | Department of Conservation
Postal Address: Private Bag 3072 | Hamilton 3240
Physical Address: 73 Rostrevor Street | Hamilton 3204
DDI: [Redacted] | Email: [Redacted] | [Redacted]@doc.govt.nz

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[Large Redacted Area]

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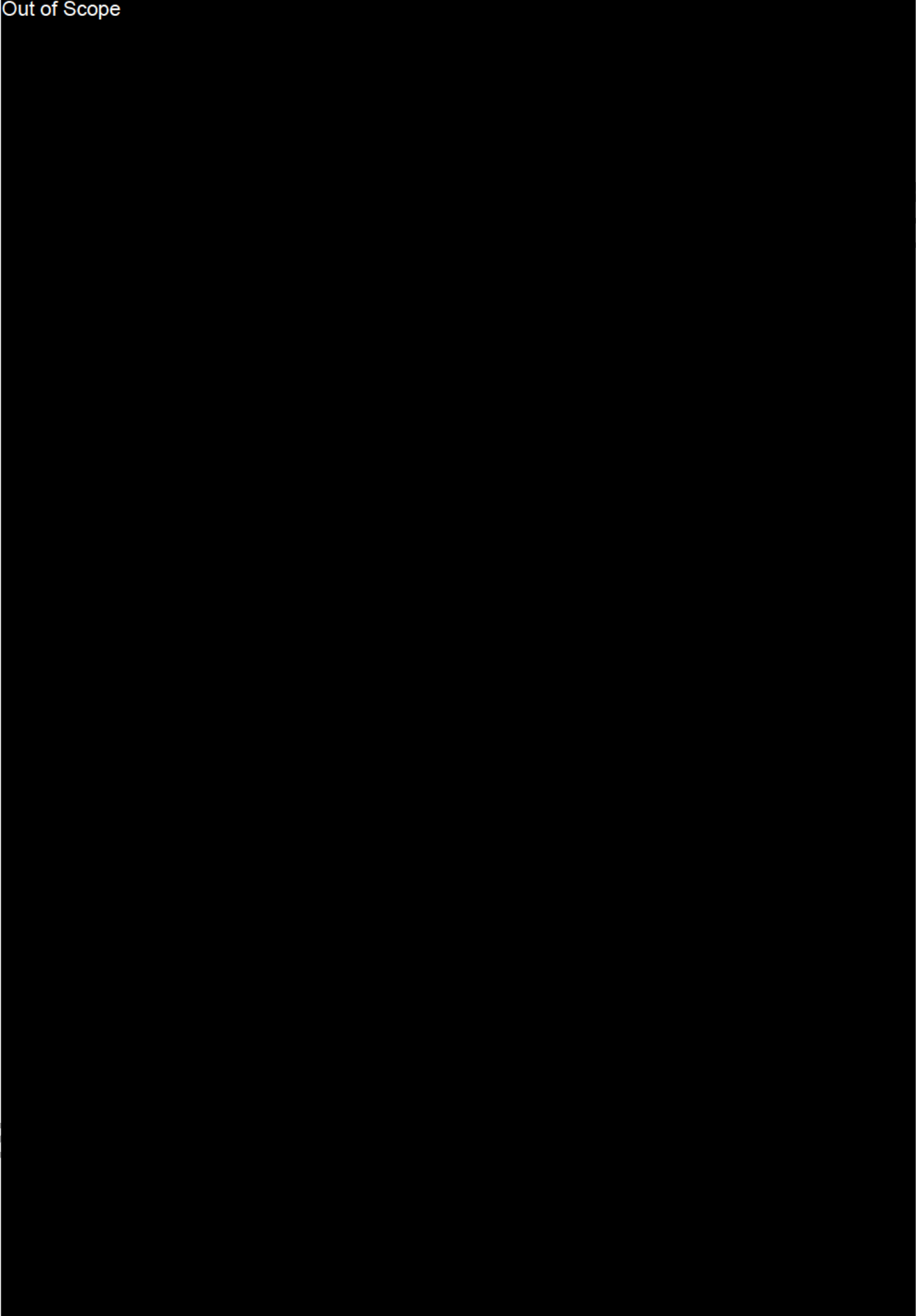


b2(1)(g)(4)

b2)

Rela

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off private land?

1. The DOC Code of Practice for aerial 1080 in kea habitat. The majority 1080 use by private landowners/regional councils in the South Island is for control of rabbits. There may be some risk to kea, but generally kea habitat and rabbit habitat do not overlap. Also in the two main regions where rabbit control occurs (Otago, Canterbury) the aerial application of 1080 is a permitted activity, so regional councils would need to change their regional plans to impose the kea code of practice on private land.

2. Out Of Scope
[Redacted]

Out Of Scope
[Redacted]

Hope this helps answer your questions,

Regards,

[Redacted signature]

[Redacted] | Technical Advisor Threats (Hamilton) | Science & Capability Group | Department of Conservation

Postal Address: Private Bag 3072 | Hamilton 3240
Physical Address: 73 Rostrevor Street | Hamilton 3204

DDI: [Redacted] | Email: [Redacted]@doc.govt.nz

From: [Redacted]@mfe.govt.nz]

Sent: Friday, 12 December 2014 3:06 p.m.

To: [Redacted]

Cc: [Redacted]

Subject: RE: draft comments on 1080 business case

Hi [Redacted]

Thanks for your reply and for our discussion last week about the ecological protections offered by HSNO controls. As discussed, here are some questions to organize your analysis of how HSNO controls are protecting against ecological risks. Our central question is whether HSNO controls are comprehensive in regulating 1080, and whether further controls are required.

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Nga mihi

[Redacted] – Policy Analyst, National Direction

Ministry for the Environment – Manatu Mo Te Taiao

DDI: [Redacted] Website: www.mfe.govt.nz

23 Kate Sheppard Place, PO Box 10362, Wellington 6143



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1. One key argument for 1080 is that breeding performance of native birds when predator numbers are low far outstrips any by-kill from 1080 drops. Could you provide references to a few studies that establish this point? Are there any gaps in our evidence base on this that we need to be transparent about (e.g. only covers some species)?
2. What HSNO controls limit by-kill, and how?
3. Are there any controls in the DoC permission that reduce by-kill further?

[you mentioned the use of maximum sowing rates in areas where kea are present. Any others?]

4. What is the risk that other agencies or individuals (RCouncils, TbFree NZ and private landowners) will have higher by-kill by not following these DoC-imposed controls when operating off private land?

[you mentioned that there are kea present on some private high country stations but the kea don't normally forage in rabbit-prone country? And that if they did the impact would not be significant for the population?]

5. Is there any by-kill of species that are especially vulnerable, due to very low populations and/or slow breeding?

[you mentioned whio, kokako and kiwi being monitored, and kakapo and takahe being kept well away from any poisoning. Are there any others that are worth worrying about, including invertebrates and the native bat?]

6. Out Of Scope

[we didn't discuss this, and I understand [redacted] at the EPA might be looking into something similar, so may he could address this one?]

7. What evidence do we have about cumulative effects of 1080 use, effects on invertebrates and effects of sub-lethal doses of 1080?

From: [redacted] <[redacted]@doc.govt.nz>
Sent: Tuesday, 25 November 2014 9:49 a.m.
To: [redacted]
Cc: [redacted]
Subject: RE: darft comments on 1080 business case

Hi,

In response to [redacted] queries about how environmental risks are covered:

2(a) Does the MoH regime cover ecological concerns as well as public health risk?

Out Of Scope

2(b) If not, what is the risk of ecological damage from operations that aren't on the conservation estate?

The controls imposed under the HSNO Act for 1080 are highly effective at minimising the risk of ecological damage during operations (whether or not on public conservation land). The Parliamentary Commissioner for the Environment's report on 1080, and the EPA's annual and 5 year review of the use of aerial 1080 clearly show that the HSNO Act adequately controls the use of 1080.

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[Redacted]

[Redacted]

[Redacted]

Regards,

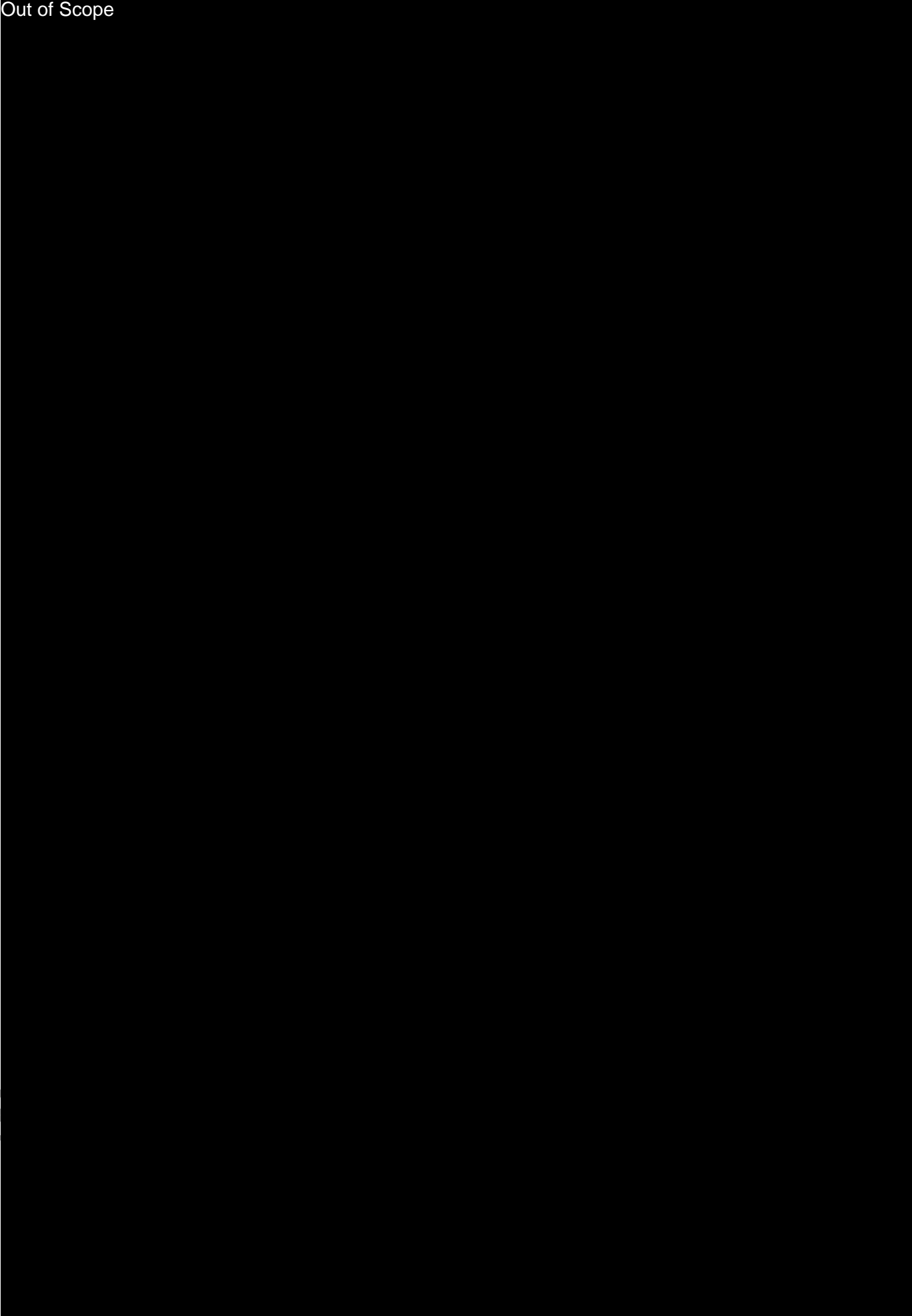
[Redacted]

[Redacted] | Technical Advisor Threats (Hamilton) | Science & Capability Group | Department of Conservation
Postal Address: Private Bag 3072 | Hamilton 3240
Physical Address: 73 Rostrevor Street | Hamilton 3204
DDI: [Redacted] | Email: [Redacted] @doc.govt.nz

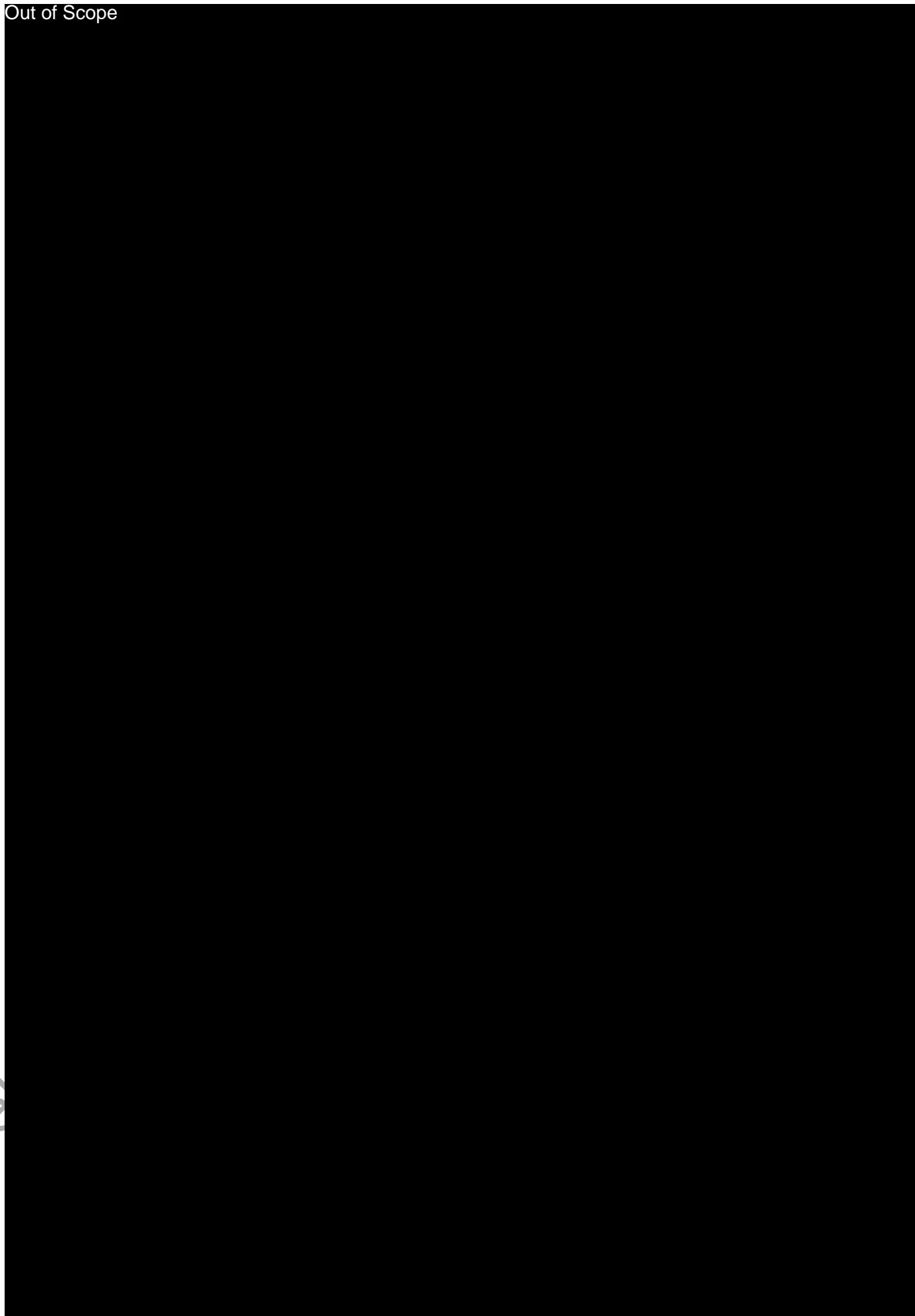
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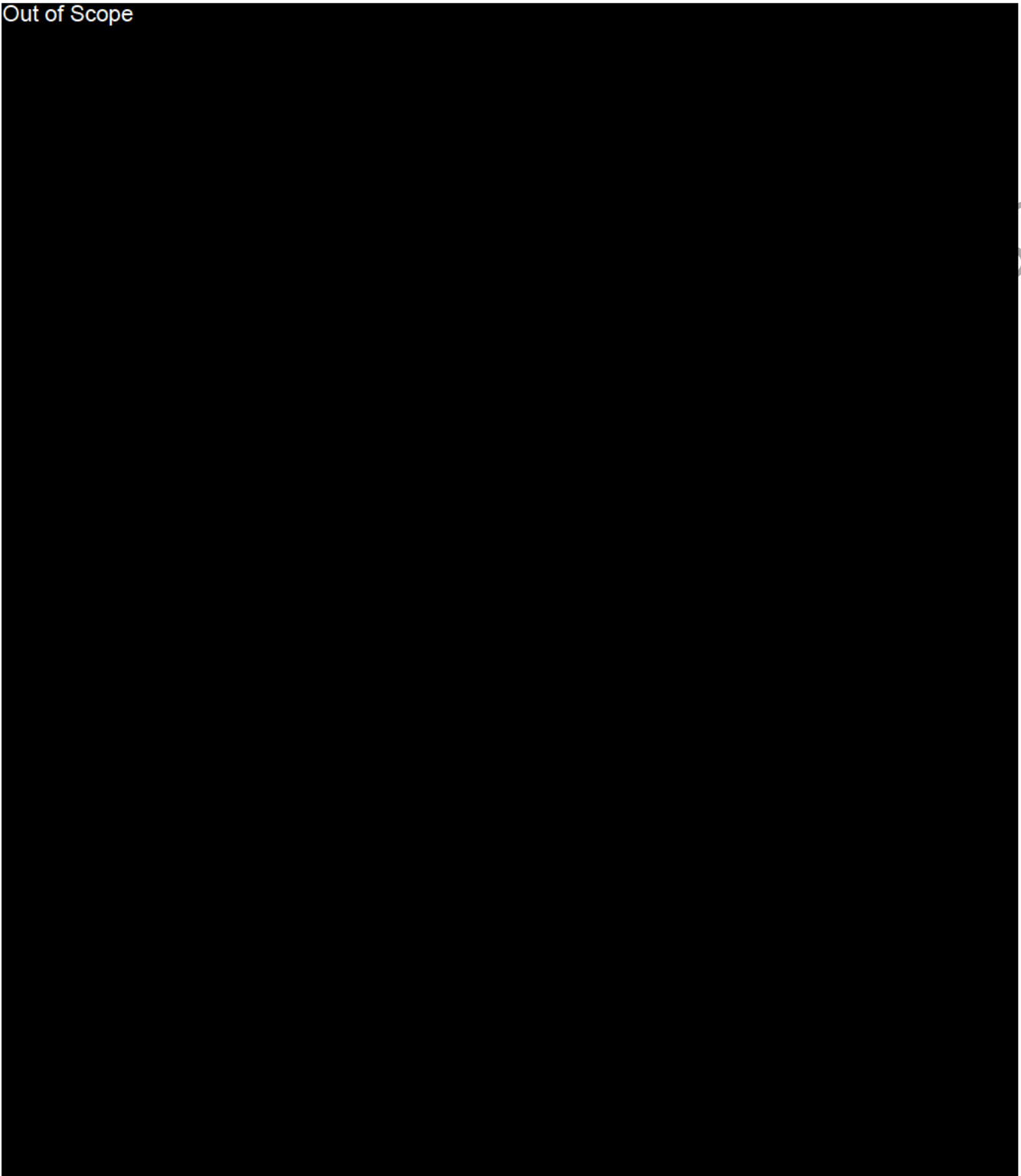
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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: for your information - consultation underway on draft DOC Code of Practice
Date: Wednesday, 2 April 2014 8:31:19 a.m.

Hi [REDACTED]

I understand that Matthew Hall will be meeting with you to discuss this. My comments on your document (which I have also sent to Matthew) are as follows:

I thought that the document provided a good overview of the importance of aerial 1080 in protecting kea from stoats (and possibly rat and possum) predation. I thought that the compulsory performance standards for application of aerial 1080 were largely clear. I did question the revision of the requirement to exclude 1080 baits from alpine herb fields. I would expect that baits would be more visible (and hence the reason for putting a ban on using 1080 baits in these type of areas), which could enable more kea to find toxic baits.

I was however unclear as to the implications for TBfree New Zealand with respect to the section on page 7, describing between mast events which indicates that where control is undertaken in non-mast years in alpine areas, stoat control would need to be undertaken.

Regards, [REDACTED]

[REDACTED], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI [REDACTED]

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Level 9 CallActive House, 15 Willeston Street
PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [REDACTED]@doc.govt.nz
Sent: Monday, 31 March 2014 11:16 a.m.
To: [REDACTED]
Subject: for your information - consultation underway on draft DOC Code of Practice

Hello all

I just want to let you know that we are consulting DOC and TBfree NZ staff on a draft Code of Practice for aerial 1080 in kea habitat. This is proposed to replace the current performance standards, based on the last few years of kea related research. The email below provides a summary of the changes and a copy is attached. Feel free to read and comment on the Code, if you feel your work area is affected.

Kind regards

[REDACTED]

[REDACTED]

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: [REDACTED]

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [REDACTED]

Sent: Monday, 31 March 2014 11:14 a.m.

To: [REDACTED]

[REDACTED]; Matthew Hall; [REDACTED]

Cc: [REDACTED]

Subject: your feedback please by Wed 9th April - draft DOC Code of Practice for aerial 1080 in kea habitat

Hello

We would like your feedback on the operational implications of the attached draft DOC Code of Practice for aerial 1080 in kea habitat. We hope for your feedback by the 9th of April, as planners of aerial 1080 operations.

This draft Code of Practice has been developed by the Pesticides Advisory Group to replace the current performance standards. We propose that the performance standards sheets for aerial 1080 permissions will say "The DOC Code of Practice for aerial 1080 in kea habitat must be followed." We decided to move to a Code of Practice, because it allows us to be clear about which standards apply to which bait types and for summarising the research behind the standards. We have also started a set of FAQs at the end of the document.

Scope of the draft Code

All aerial 1080 operations that occur where kea could be present, as defined by a map of kea distribution in Figure 1 of the Code. This includes:

- 0.15% 1080 Pellets – there are 2 sets of compulsory performance standards that apply: 3 standards to reduce kea deaths and 2 standards to ensure that kea benefit from stoat control
- 0.08% 1080 Pellets and 0.08% 1080 Rodent Pellets –no change, these pesticide uses continue to be prohibited for use in kea habitat (Figure 1) because they are only available in the Wanganui #7 matrix
- 1080 carrot—no change, all operations must be monitored for kea survival
- 0.2% 1080 Pellets (wallabies) and 0.04% 1080 Pellets (rabbits)—the Code brings these pesticide uses into line with 1080 carrot, requiring that all operations must be monitored

for kea survival

Standards that apply to aerially applied 0.15% 1080 pellets

The PAG has met by phone twice since our face-to-face meeting, to try to get the most effective standards for the risks. As a result, some standards in the code differ from what I described in my emails in early March to DOC staff planning operations and TBfree NZ managers. Please read the draft Code of Practice to get the full picture, but I'd like to point out some key points that cause the Code to have a wider impact than I initially indicated.

Compulsory performance standards to reduce kea deaths:

These are the same as the current standards (cinnamon RS5s with maximum sowing rates) except that the draft Code drops the final bullet point "*avoid sowing baits in areas of low structural vegetation cover (e.g. alpine herb fields and tussock) above the tree line.*" The rationale for this removal is explained in the Code. This is not to say that operations "should" include alpine and tussock; it is more that these areas can be sown where this would contribute to the operation's targets (e.g. protecting alpine species from predators) and where other risks can be managed.

Compulsory performance standards to ensure that kea benefit from stoat control:

The rationale for these new standards is explained in the Code. There are 2 situations.

-During and soon after a mast: All aerial 1080 operations in kea habitat must be between 1 July of the mast year and 31 August of the year following.

-Between masts: Aerial 1080 operations that include "*kea habitat where rats can be scarce*" that occur outside the 14 month timeframe above can only occur if:

- (1) the operation is supplemented with an agreed level of stoat control; or
- (2) monitoring demonstrates that rats are 'widespread,' including in areas where rats can be scarce. 'Widespread' means that at least 2 tracking tunnels record rat prints on 80% of transects monitored prior to the operation (following Gilles and Williams 2013).

"*Kea habitat where rats can be scarce*" includes:

- all kea habitat over 700m altitude, and
- all kea habitat in pure beech forest

A shapefile is in preparation which I will have on an ArcReader disc next week for meeting with TBfreeNZ on Friday 3rd. We propose to make this available in NATIS (internally) and on the web-based geoportal (so that TBfree NZ and others can access it and overlay it with their own maps).

Compliance for upcoming operations

From your preliminary responses a couple of weeks ago, I understand that there are 3 operations where the timing might put the operations into the "between mast" situation: DOC Iris Burns (possibly late June)
DOC Leslie and TBfree NZ Mt Arthur (June)

To comply with the new performance standards, these operations would either need to

demonstrate that rats are 'widespread' in pre-operational monitoring or carry out stoat control at the same operational area. I will send this message to the CSMs and DCSs involved so that they can start to look at stoat control options in the case where rats are not widespread prior to these operations.

Implementation

We hope to have conversations and correspondence with you about this over the next 10 days, closing on 9th April. I will summarise the operational implications for the DDGs (Kevin O'Connor and Felicity Lawrence), with the aim of a DDG decision by the 18th April. The draft Code of Practice would come into immediate effect for aerial 1080 operations this year.

Focus for comments

We are really looking for feedback on the operational implications of:

1. 0.15% 1080 Pellets: removal of the alpine exclusion from the standard to reduce kea deaths
2. 0.15% 1080 Pellets: introduction of the new standards to ensure kea benefit from stoat control
3. Requiring kea monitoring at all aerial 1080 carrot operations and all 1080 operations targeting rabbits and wallabies. We suspect that very few of these will occur in kea habitat, so it would be good to hear from [redacted] to confirm our assumption.

Many thanks

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
DDI: [redacted]

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [redacted]
To: [redacted]
Cc: [redacted] [Matthew Hall](mailto:Matthew.Hall@tbfree.org.nz) [redacted] [@tbfree.org.nz](mailto:Matthew.Hall@tbfree.org.nz)
Subject: RE: for your information - consultation underway on draft DOC Code of Practice
Date: Wednesday, 2 April 2014 10:46:47 a.m.
Attachments: [DOCDM-1242844 - Alpine biodiversity and predators Workshop summary.pdf](#) **Appendix 25**

Thanks for your comments [redacted]

You are correct in identifying the logic behind the current alpine exclusion standard. We are not advocating for laying baits in alpine herb fields. It is more that we are losing confidence in the effectiveness of this standard, given that kea deaths have still occurred at Okarito and Otira. Moreover we are severely limiting our options for dealing with other predators in the alpine zone. We have learned a lot in the last few years about predator impacts in the alpine zone, as summarised in the attached workshop summary from last year. We have to judge the risk/benefit to non target species of preventing aerial 1080 in any open areas in the alpine zone, and our judgement was that now the balance lies in favour of permitting some open areas above the tree line to be sown where this is necessary. I am happy to talk about this some more tomorrow or at any stage.

I have an Arc Reader CD made up with a shape file of the area affected by the "between masts" standards, to give to Matthew at the meeting. I hope we can look at how much overlap there is between this shape file and areas likely to be treated by TBfree NZ in future.

Kind regards

[redacted]

From: [redacted] [@tbfree.org.nz](mailto:[redacted]@tbfree.org.nz)
Sent: Wednesday, 2 April 2014 8:31 a.m.
To: [redacted]
Cc: [redacted]
Subject: RE: for your information - consultation underway on draft DOC Code of Practice

Hi [redacted]

I understand that Matthew Hall will be meeting with you to discuss this. My comments on your document (which I have also sent to Matthew) are as follows:

I thought that the document provided a good overview of the importance of aerial 1080 in protecting kea from stoats (and possibly rat and possum) predation. I thought that the compulsory performance standards for application of aerial 1080 were largely clear. I did question the revision of the requirement to exclude 1080 baits from alpine herb fields. I would expect that baits would be more visible (and hence the reason for putting a ban on using 1080 baits in these type of areas), which could enable more kea to find toxic baits.

I was however unclear as to the implications for TBfree New Zealand with respect to the section on page 7, describing between mast events which indicates that where control is undertaken in non-mast years in alpine areas, stoat control would need to be undertaken.

Regards, [redacted]

9(2)(a), 9(2)(g)(ii) [redacted], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI: 9(2)(a), 9(2)(g)(ii) [redacted]

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From: 9(2)(a), 9(2)(g)(ii) [redacted] [@doc.govt.nz](mailto:[redacted]@doc.govt.nz)
Sent: Monday, 31 March 2014 11:16 a.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]
Subject: for your information - consultation underway on draft DOC Code of Practice

Hello all

I just want to let you know that we are consulting DOC and TBfree NZ staff on a draft Code of Practice for aerial 1080 in kea habitat. This is proposed to replace the current performance standards, based on the last few years of kea related research. The email below provides a summary of the changes and a copy is attached. Feel free to read and comment on the Code, if you feel your work area is affected.

Kind regards

9(2)(a), 9(2)(g)(ii) [redacted]

9(2)(a), 9(2)(g)(ii) [redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: 9(2)(a), 9(2)(g)(ii) [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
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From: 9(2)(a), 9(2)(g)(ii) [redacted]
Sent: Monday, 31 March 2014 11:14 a.m.
To: 9(2)(a), 9(2)(g)(ii) [redacted]

9(2)(g)(ii) [redacted] [atthew Hall; 9\(2\)\(a\), 9\(2\)\(g\)\(ii\) \[redacted\] @tbfree.org.nz](mailto:atthew.Hall@tbfree.org.nz);
9(2)(g)(ii) [redacted] [@tbfree.org.nz](mailto:[redacted]@tbfree.org.nz); 9(2)(a), 9(2)(g)(ii) [redacted]
Cc: 9(2)(a), 9(2)(g)(ii) [redacted]

Subject: your feedback please by Wed 9th April - draft DOC Code of Practice for aerial 1080 in kea habitat

Hello

We would like your feedback on the operational implications of the attached draft DOC Code of Practice for aerial 1080 in kea habitat. We hope for your feedback by the 9th of April, as planners of aerial 1080 operations.

This draft Code of Practice has been developed by the Pesticides Advisory Group to replace the current performance standards. We propose that the performance standards sheets for aerial 1080 permissions will say “The DOC Code of Practice for aerial 1080 in kea habitat must be followed.” We decided to move to a Code of Practice, because it allows us to be clear about which standards apply to which bait types and for summarising the research behind the standards. We have also started a set of FAQs at the end of the document.

Scope of the draft Code

All aerial 1080 operations that occur where kea could be present, as defined by a map of kea distribution in Figure 1 of the Code. This includes:

- 0.15% 1080 Pellets – there are 2 sets of compulsory performance standards that apply: 3 standards to reduce kea deaths and 2 standards to ensure that kea benefit from stoat control
- 0.08% 1080 Pellets and 0.08% 1080 Rodent Pellets –no change, these pesticide uses continue to be prohibited for use in kea habitat (Figure 1) because they are only available in the Wanganui #7 matrix
- 1080 carrot—no change, all operations must be monitored for kea survival
- 0.2% 1080 Pellets (wallabies) and 0.04% 1080 Pellets (rabbits)—the Code brings these pesticide uses into line with 1080 carrot, requiring that all operations must be monitored for kea survival

Standards that apply to aerially applied 0.15% 1080 pellets

The PAG has met by phone twice since our face-to-face meeting, to try to get the most effective standards for the risks. As a result, some standards in the code differ from what I described in my emails in early March to DOC staff planning operations and TBfree NZ managers. Please read the draft Code of Practice to get the full picture, but I’d like to point out some key points that cause the Code to have a wider impact than I initially indicated.

Compulsory performance standards to reduce kea deaths:

These are the same as the current standards (cinnamon RS5s with maximum sowing rates) except that the draft Code drops the final bullet point “*avoid sowing baits in areas of low structural vegetation cover (e.g. alpine herb fields and tussock) above the tree line.*” The rationale for this removal is explained in the Code. This is not to say that operations “should” include alpine and tussock; it is more that these areas can be sown where this would contribute to the operation’s targets (e.g. protecting alpine species from predators) and where other risks can be managed.

Compulsory performance standards to ensure that kea benefit from stoat control:

The rationale for these new standards is explained in the Code. There are 2 situations.

-During and soon after a mast: All aerial 1080 operations in kea habitat must be between 1 July of the mast year and 31 August of the year following.

-Between masts: Aerial 1080 operations that include "*kea habitat where rats can be scarce*" that occur outside the 14 month timeframe above can only occur if:

(1) the operation is supplemented with an agreed level of stoat control; or

(2) monitoring demonstrates that rats are 'widespread,' including in areas where rats can be scarce. 'Widespread' means that at least 2 tracking tunnels record rat prints on 80% of transects monitored prior to the operation (following Gilles and Williams 2013).

"*Kea habitat where rats can be scarce*" includes:

-all kea habitat over 700m altitude, and

-all kea habitat in pure beech forest

A shapefile is in preparation which I will have on an ArcReader disc next week for meeting with TBfreeNZ on Friday 3rd. We propose to make this available in NATIS (internally) and on the web-based geoportal (so that TBfree NZ and others can access it and overlay it with their own maps).

Compliance for upcoming operations

From your preliminary responses a couple of weeks ago, I understand that there are 3 operations where the timing might put the operations into the "between mast" situation:

DOC Iris Burns (possibly late June)

DOC Leslie and TBfree NZ Mt Arthur (June)

To comply with the new performance standards, these operations would either need to demonstrate that rats are 'widespread' in pre-operational monitoring or carry out stoat control at the same operational area. I will send this message to the CSMs and DCSs involved so that they can start to look at stoat control options in the case where rats are not widespread prior to these operations.

Implementation

We hope to have conversations and correspondence with you about this over the next 10 days, closing on 9th April. I will summarise the operational implications for the DDGs (Kevin O'Connor and Felicity Lawrence), with the aim of a DDG decision by the 18th April. The draft Code of Practice would come into immediate effect for aerial 1080 operations this year.

Focus for comments

We are really looking for feedback on the operational implications of:

1. 0.15% 1080 Pellets: removal of the alpine exclusion from the standard to reduce kea deaths
2. 0.15% 1080 Pellets: introduction of the new standards to ensure kea benefit from stoat control

3. Requiring kea monitoring at all aerial 1080 carrot operations and all 1080 operations targeting rabbits and wallabies. We suspect that very few of these will occur in kea habitat, so it would be good to hear from [redacted] to confirm our assumption.

Many thanks

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
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From: [REDACTED]
To: [REDACTED]
Subject: RE: full meeting notes
Date: Monday, 17 March 2014 2:08:15 p.m.

Hi [REDACTED]

I can confirm that we are happy with the meeting outcomes.

With respect to the code of practice – we would be interested in reviewing it.

Thanks,

[REDACTED]
Research Coordinator
DDI [REDACTED]

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PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [REDACTED]@doc.govt.nz]
Sent: Monday, 17 March 2014 10:03 a.m.
To: [REDACTED]
Subject: RE: full meeting notes

Hi [REDACTED] and [REDACTED]

Would it be possible to have your feedback on the meeting outcomes in the next couple of days? I am holding off on formally seeking a decision or circulating it in case you have concerns or improvements to suggest.

On a related topic, I mentioned to [REDACTED] that DOC is updating its performance standards for aerial 1080 where kea are present, and putting these into a Code of Practice where the associated research is also summarised. I have a meeting at TBfree Christchurch with Matthew Hall, [REDACTED] and [REDACTED] on 3rd April to seek their input and identify operational implications. I hope to send them the draft CoP by the end of March. Would you be interested and available to comment on the Code as well? I could send it to you at the same time as it is sent to Matthew, [REDACTED] and [REDACTED] and we could have a phone or video conference by around the 8th April.

Kind regards

[REDACTED]

From: [REDACTED]@tbfree.org.nz]
Sent: Tuesday, 11 March 2014 12:26 p.m.
To: [REDACTED]
Subject: RE: full meeting notes

Thanks for your resend with the full notes [REDACTED]

Regards, [redacted]

[redacted], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI: [redacted]

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PO Box 3412, Wellington 6140
T 04 474 7100 • W ospri.co.nz

From: [redacted]@doc.govt.nz
Sent: Tuesday, 11 March 2014 12:13 p.m.
To: [redacted]
Subject: full meeting notes

Hi again, Here are the full meeting notes in case this is helpful when bringing [redacted] up to speed.

Thanks,

[redacted]

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
DDI: [redacted]
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From: [REDACTED]
To: [REDACTED]
Subject: RE: full meeting notes
Date: Monday, 17 March 2014 2:39:59 p.m.

Thanks so much, will do. [REDACTED]

From: [REDACTED]@tbfree.org.nz]
Sent: Monday, 17 March 2014 2:08 p.m.
To: [REDACTED]
Subject: RE: full meeting notes

Hi [REDACTED]

I can confirm that we are happy with the meeting outcomes.

With respect to the code of practice – we would be interested in reviewing it.

Thanks,

[REDACTED]
Research Coordinator
DDI [REDACTED]

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From: [REDACTED]@doc.govt.nz]
Sent: Monday, 17 March 2014 10:03 a.m.
To: [REDACTED]
Subject: RE: full meeting notes

Hi [REDACTED] and [REDACTED]

Would it be possible to have your feedback on the meeting outcomes in the next couple of days? I am holding off on formally seeking a decision or circulating it in case you have concerns or improvements to suggest.

On a related topic, I mentioned to [REDACTED] that DOC is updating its performance standards for aerial 1080 where kea are present, and putting these into a Code of Practice where the associated research is also summarised. I have a meeting at TBfree Christchurch with Matthew Hall, [REDACTED] and [REDACTED] on 3rd April to seek their input and identify operational implications. I hope to send them the draft CoP by the end of March. Would you be interested and available to comment on the Code as well? I could send it to you at the same time as it is sent to Matthew, [REDACTED] and [REDACTED] and we could have a phone or video conference by around the 8th April.

Kind regards

[REDACTED]

From: [redacted] [9(2)(a), 9(2)(g)(ii)] @tbfree.org.nz]
Sent: Tuesday, 11 March 2014 12:26 p.m.
To: [redacted] [9(2)(a), 9(2)(g)(ii)]
Subject: RE: full meeting notes

Thanks for your resend with the full notes [redacted] [9(2)(a), 9(2)(g)(ii)]

Regards, [redacted] [9(2)(a), 9(2)(g)(ii)]

[redacted] [9(2)(a), 9(2)(g)(ii)], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI: [redacted] [9(2)(a), 9(2)(g)(ii)]

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From: [redacted] [9(2)(a), 9(2)(g)(ii)] @doc.govt.nz]
Sent: Tuesday, 11 March 2014 12:13 p.m.
To: [redacted] [9(2)(a), 9(2)(g)(ii)]
Subject: full meeting notes

Hi again, Here are the full meeting notes in case this is helpful when bringing [redacted] [9(2)(a), 9(2)(g)(ii)] up to speed.

Thanks,

[redacted] [9(2)(a), 9(2)(g)(ii)]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - Te Papa Atawhai
DDI: [redacted] [9(2)(a), 9(2)(g)(ii)]
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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July
Date: Tuesday, 1 July 2014 1:41:24 p.m.

Hi [REDACTED]

At this stage I have both afternoons free although my preference would be the Friday, so happy to go with the majority.

Regards

[REDACTED]
Programme Manager NSI
TBfree New Zealand
DDI [REDACTED]

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T 03 363 3090 • [W ospri.co.nz](http://www.ospri.co.nz)

From: [REDACTED]@doc.govt.nz
Sent: Tuesday, 1 July 2014 1:39 p.m.
To: [REDACTED]

[REDACTED] Andy Cox; [REDACTED] Kea Conservation Trust;
[REDACTED]

Subject: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July

Hello there

I would really like your involvement in one or both of two meetings regarding the project to development of a bird repellent to protect kea during aerial 1080 cereal:

1. A debrief on the recent bait aversion trial at Willowbank, in the morning from 10am
2. A wrap up of the DOC-led kea repellent project from 1pm

We would expect that each meeting would last 1-2 hours. More detail is given on the purpose and the key people we'd like to have at each meeting. Anyone listed for one meeting is very welcome to attend both if you are interested!

Can you please consider whether you are able to take part and let me know whether you would be available on either Wednesday 23rd or Friday 25th July?

Once I have responses I will send out an Outlook invitation for the preferred date.

A draft report of the bait aversion trial is needed for both meetings [REDACTED] will circulate the report 5 days prior to the meeting.

Bait aversion trial debrief 10-12noon

Purpose:

To discuss and record what happened in this trial—e.g. inception, design and preparation,

execution, analysis, communication
To record lessons learned from the trial
To record any tasks remaining from the trial

Key people to involve:

At least one of the trial team ([redacted]), Andy, [redacted]
[redacted] I understand you might like to be there to learn from our trial.

Wrap up of the DOC-led project 1-3pm

Purpose:

To create a record to guide future repellent research, including Landcare Research Ltd in the coming year and DOC if funding is resumed in future. by:

Revising the 'next steps' identified at the Kea repellent stakeholder meeting on 10th March, in light of the bait aversion trial results.

Documenting lessons from the research so far

Key people to involve: [redacted] Andy, [redacted]

[redacted] or [redacted] [plus anyone from the morning meeting who is interested]

[redacted] you are also welcome to take part, though I am conscious that you have moved on to a lot of other work in the last 8 months.

Kind regards

[redacted]

[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
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From: [REDACTED]
To: [REDACTED]
Subject: RE: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July
Date: Tuesday, 1 July 2014 3:03:27 p.m.

Hi [REDACTED],

Thanks for your email and invite. I would like to attend both meetings, but would only be available for the 23 July date. Let me know how this date works with others.

Regards, [REDACTED]

[REDACTED], QSO, BAgSc, BVSc, MPVM

Manager TB Eradication & Research

DDI [REDACTED]

OSPRI New Zealand | Operational Solutions for Primary Industries

Level 9 CallActive House, 15 Willeston Street

PO Box 3412, Wellington 6140

T 04 474 7100 • W ospri.co.nz

From: [REDACTED]@doc.govt.nz]

Sent: Tuesday, 1 July 2014 1:39 p.m.

To: [REDACTED]

[REDACTED] Andy Cox; [REDACTED]

[REDACTED] Kea Conservation Trust;

Subject: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July

Hello there

I would really like your involvement in one or both of two meetings regarding the project to development of a bird repellent to protect kea during aerial 1080 cereal:

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Can you please consider whether you are able to take part and let me know whether you would be available on either Wednesday 23rd or Friday 25th July?

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Bait aversion trial debrief 10-12noon

Purpose:

To discuss and record what happened in this trial—e.g. inception, design and preparation, execution, analysis, communication

To record lessons learned from the trial

To record any tasks remaining from the trial

Key people to involve:

At least one of the trial team ([REDACTED])

Andy, [REDACTED]

[redacted] I understand you might like to be there to learn from our trial.

Wrap up of the DOC-led project 1-3pm

Purpose:

To create a record to guide future repellent research, including Landcare Research Ltd in the coming year and DOC if funding is resumed in future. by:

Revising the 'next steps' identified at the Kea repellent stakeholder meeting on 10th March, in light of the bait aversion trial results.

Documenting lessons from the research so far

Key people to involve: [redacted], Andy, [redacted]
[redacted] [plus anyone from the morning meeting who is interested]

[redacted] you are also welcome to take part, though I am conscious that you have moved on to a lot of other work in the last 8 months.

Kind regards

[redacted]

[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
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From: [redacted]
To: [redacted]
Cc: [Andy Cox](#); [redacted]
Subject: RE: kea monitored at "Kahurangi" operation
Date: Friday, 2 May 2014 2:56:16 p.m.
Attachments: [Kahurangi kea Mt Arthur refinement.png](#)
[Kahurangi kea 2014 2.png](#) Appendix 26, 27

Hi all,

Sorry for the big files, but here's what I've hooked out of the kea database and overlaid on the BFOB and TbFree operations shapes. The red dots show the last location of the 32 kea that should be beeping when the 1080 drops occur. There are three others in the Courthouse Flat block that may still be beeping, but may be flat batteries by then (not shown on map). Bear in mind that of these 32 kea, sixteen are juveniles which may have moved from the red dots by the time the drops occur.

It looks a bit messy on the Mt Arthur range between the Leslie and Mt Arthur ops, due to the different scheduled timings of these operations. The Leslie & Mt Arthur are scheduled for May-June (I heard from [redacted] today that it may not happen until July), the rest are looking like October-November. Ideally they would all be happening at the same time, from a kea monitoring point of view. We looked into pushing the Leslie and Mt Arthur drops out to the same time as the others, but it was too much of an ask for the operators involved. Alternatively, I have toyed with the idea of transferring 10,000 ha from the Courthouse Flat and Cobb operations to be treated at the same time as the Leslie - Mt Arthur, thereby improving the chances of a nice clean monitor of those eight keas that are hovering near the boundaries. Any thoughts on that [redacted] ?

By the way, kea catching in Kahurangi has wound up for this financial year as the budget is already overspent. The winter is setting in in earnest so it's not really viable to catch more kea between now and spring. One exception could be to work the forestry skid sites in the Mt Arthur block, but how we would interpret results would need to be carefully considered given it's a habitat type we haven't worked in before. For the BFOB Kahurangi blocks, we may be able to bump up the sample in September and October by catching the mates of any birds that start a nest in August-September, and possibly some tops time too if conditions allow.

Cheers,

[redacted]
[redacted]

From: [redacted]
Sent: Friday, 2 May 2014 10:00 a.m.
To: [redacted]
Cc: [Andy Cox](#); [redacted]
Subject: kea monitored at "Kahurangi" operation

Hi there [redacted] and [redacted]

I know Andy is looking into this but he is away for a couple of days and I am assisting the media staff with an upcoming internal media advisory. We have a couple of questions.

What are the operations called where we expect to monitor kea survival in Kahurangi National Park?

-I understand that there are 3 adjacent operations in the area where kea have been tagged, and that the expectation is that there will be pre and post monitoring of birds in all 3 operations.

When are the operations planned to occur?

-If they are not at the same time the costs would be significantly more, as there would need to be a check prior to the operation of where the birds are, and then multiple checks in the risk period after each operation.

§(2)(a), §(2)(g)(ii) you are more likely to have the answers here, assuming that you know where §(2)(a), §(2)(g)(ii) has been tagging kea.

The draft media advisory states:

- Kea will be monitored in two planned aerial 1080 operations (Wangapeka^[m1] in North West Nelson and Abbey Rocks in South Westland) as part of DOC's beech mast response to learn more about the risk of non-target poisoning.

Thanks §(2)(a), §(2)(g)(ii) and §(2)(a), §(2)(g)(ii)
§(2)(a), §(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: §(2)(a), §(2)(g)(ii)
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

Need to check this. It may be that there are 3 operations in Kahurangi where the monitored birds reside

From: [redacted]
To: [redacted]
Subject: RE: kea repellent strategy report July 2014.docx
Date: Monday, 21 July 2014 9:52:08 a.m.
Attachments: [image002.png](#)
[image001.png](#)

Thanks [redacted]

A really useful document – with perhaps bait hardness appearing to be an important factor. However, hard baits will adsorb water and thus over time become soft – though hopefully some of the 1080 would also have been leached at that point in time.

Regards, [redacted]

[redacted] **QSO, BAgSc, BVSc, MPVM**
Manager TB Eradication & Research
DDI [redacted]

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From: [redacted]@doc.govt.nz]
Sent: Monday, 21 July 2014 9:24 a.m.
To: [redacted]

[redacted] **Andy Cox;** [redacted] **Kea Conservation Trust;**
[redacted]

Subject: kea repellent strategy report July 2014.docx

Hello all,

Please find attached a draft of the report on two of the kea repellent trials that have focused on bird-bait interactions. It's very much a draft report so please forgive it's style. Looking forward to discussions this Wednesday.

Many thanks, [redacted]

[redacted]
Science Advisor
Department of Conservation
PO Box 29
Te Anau, 9640

[redacted]

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From: [redacted]
To: [redacted]
Cc: [redacted]; [Andy Cox](#)
Subject: RE: kea repellent strategy report July 2014.docx
Date: Monday, 21 July 2014 9:57:13 a.m.
Attachments: [image002.png](#)
[image001.png](#)

Yes, my thoughts are that from the mortality data from monitored kea suggests they're interacting with the baits pretty much the day it's dropped, no mortality has been observed later than day three according to my notes, suggesting that they're only vulnerable for a day or two after the drop either because all birds inclined to eat baits have, or that with moisture ingress the toxicity of baits has sufficiently declined by day 3 to remove the risk anyway. All good fodder for discussion Wednesday.

Cheers, [redacted]

From: [redacted]@tbfree.org.nz]
Sent: Monday, 21 July 2014 9:52 a.m.
To: [redacted]
Subject: RE: kea repellent strategy report July 2014.docx

Thanks [redacted]

A really useful document – with perhaps bait hardness appearing to be an important factor. However, hard baits will adsorb water and thus over time become soft – though hopefully some of the 1080 would also have been leached at that point in time.

Regards, [redacted]

[redacted], QSO, BAgSc, BVSc, MPVM
Manager TB Eradication & Research
DDI [redacted]

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From: [redacted]@doc.govt.nz]
Sent: Monday, 21 July 2014 9:24 a.m.
To: [redacted]

[redacted] Andy Cox; [redacted] Kea Conservation Trust;

Subject: kea repellent strategy report July 2014.docx

Hello all,

Please find attached a draft of the report on two of the kea repellent trials that have focused on bird-bait interactions. It's very much a draft report so please forgive it's style. Looking forward to discussions this Wednesday.

Many thanks, [redacted]

[redacted]
Science Advisor
Department of Conservation

PO Box 29

Te Anau, 9640

9(2)(a), 9(2)(g)(ii)

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From: [redacted]
To: [redacted] [Andy Cox](mailto:Andy.Cox@doc.govt.nz); [redacted]
Subject: Summary of bird repellent meeting 21/11/14
Date: Tuesday, 25 November 2014 12:41:03 p.m.
Attachments: [Cowan_Review_of_potential_bird_repellents_Sep_14_NOT_FOR_GENERAL_CIRCULATION.docx](#) **Appendix 22**
[image001.png](#)
[image002.png](#)

Afternoon all,

Following from our discussion last week, attached is [redacted] literature review of potential bird repellents for all to review. Since [redacted] intends to publish it, **it is only provided to you on the basis that it is not circulated outside of the team in OSPRI with an interest in bird repellents and is not referred to in other documents without [redacted] permission.**

It was agreed at the meeting that any potential funding that the TBfree operational budget can put towards a bird repellent project would be best used looking at:

- a) potential new repellents
- b) Determining the maximum anthraquinone concentration that does not affect palatability or mortality for possums

however due to anthraquinone not being feasible for multi species (rat kill not high enough) then it was agreed that (a) would be preferable for all parties.

Once the literature review has been reviewed the next step would be to

1. Determine the cost of funding possum and rat efficacy pen trials for one or more potential bird repellents. [redacted] you may be able to advise?
2. TBfree to decide what how many repellent trials they can fund.
3. Depending on 1 and 2 above, agree a bird repellent research project.

The driver for this research is to feed into the overall bait improvement initiatives project which looks at all aspects of bait such as palatability, hardness, deer repellent etc., it would be ideal if we had progress on all of the next steps above to report for the next focus group meeting on the 28th of January.

If you have any questions or queries just give me a shout

Thanks

[redacted]



Senior Operations Advisor
OSPRI New Zealand

DDI [redacted]

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From: [REDACTED]
To: [REDACTED]
Subject: TAG comments for project R-80719-03 Pest efficacy of repellent aerial 1080 cereal operations
Date: Wednesday, 27 August 2014 9:28:49 a.m.
Attachments: [TAG comments R-80719-03.docx](#) **Appendix 28**

Hi [REDACTED]

I have attached the TAG comments for the project "Pest efficacy of repellent aerial 1080 cereal operations".

I will be in Christchurch on the 12th of September so if you would like to have a catch up regarding where to next with this research or Kea research in general, I would be more than happy to stop by the office so we can synchronise.

Cheers,

[REDACTED]

[REDACTED]

Research Coordinator

DDI [REDACTED]

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From: [redacted]
To: [redacted]
Cc: [redacted]
Subject: TBfree New Zealand Mokihinui aerial fact sheet.
Date: Tuesday, 13 May 2014 12:24:28 p.m.
Attachments: [2014.15 Mokihinui Aerial Appendix 27 Fact Sheet.doc](#) Appendix 29

Hi [redacted])

FYI – attached is the draft Mokihinui fact sheet text document. The final draft will be sent to our head office next week for editing and designing before being sent back to me for review.

To ensure that the biodiversity information is correct, can you please review the text below for accuracy? Particularly, want to ensure that the species listed are those present in the area.

Biodiversity benefits

The Mokihinui operation will have conservation benefits for native flora and fauna. Threatened species are struggling to breed under normal predator pressures, but this year they will struggle even more due to the anticipated beech mast and resultant high predator numbers.

Mammalian pests are the greatest threat to ecosystem functioning and species conservation in NZ. Possums, ship rats and stoats are all implicated in the incremental and sometimes catastrophic degrading of forest ecosystem condition and species loss.

Possums eat the forest canopy and are one of the major predators of forest birds, preying on eggs, chicks and adults. Possums are a significant predator of *Powelliphanta* snails. Biodegradable 1080 is also very effective at controlling the other two major forest predators: ship rats and stoats, both of which are a major source of predation on forest birds and eggs.

Reducing these predators will enable a higher nesting success for a range of forest bird species found in the Mokihinui area such as blue duck (whio), great spotted kiwi, kea, kaka and kakariki. The control work will also protect populations of threatened long-tailed bats and *Powelliphanta* snail species found in the area.

To learn more about the biodiversity benefits of pest control visit www.doc.govt.nz/battleforourbirds

[insert 2 x images – 1 x native land snail; 1 x blue duck or great spotted kiwi]

Thanks [redacted]

Community Relations Advisor
TBfree New Zealand

DDI [redacted]

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From: [REDACTED]
To: [REDACTED]
Subject: TBfree talk and TBfree contribution to Measuring the Mast
Date: Monday, 24 November 2014 12:02:22 p.m.
Attachments: [Doc1.doc](#) Attachment out of scope

Hi [REDACTED]

1. **Annual talk to TBfree.** Just talking with [REDACTED] We could schedule in a talk to TBfree before Christmas. And that is what we should have already done we know. But [REDACTED] suggests that at this stage in the project there is not much to say compared to a year ago. Just more interim results. Of more interest might be a talk that combines both the project you are part funding as well as early results from the Mast projects. But a good time for that would be late March. Would that further delay be acceptable?
2. **TBfree \$50k contribution to Mast research.** Your first choice was kea research. I talked with [REDACTED] about putting transmitters on a further set of birds at West Matukituki. In the end that was not possible – time and capacity issues.

So, pursuing your second choice of resolving the stoat issue. Ultimately you want to be able to control possum in non mast, low rodent conditions and not cause a stoat – kea problem. Of course in this mast year we don't have many sites with low rodents.

But what we do need in the stoat space is to conduct a summer time stoat tracking survey. This year that will mean upwards of 500 transects. It would cost about \$50k to collect these data because the proposal would be to visit the tracking tunnels twice. The current protocol is a 3-day survey. But [REDACTED] and [REDACTED] believe this doesn't give reliable data. They intend to leave the tracking tunnels out for two weeks – hence the second visit. There may also be an opportunity to test out other stoat monitoring approaches to collect reliable data more cheaply.

We intend to run this summer stoat survey work in conjunction with the BfoB "stoat project". I attach the general outline.

I will ring to discuss these two ideas.

Cheers [REDACTED]

From: [REDACTED] [@ospri.co.nz](mailto:[REDACTED]@ospri.co.nz)
Sent: Tuesday, 2 September 2014 10:32 a.m.
To: [REDACTED]
Subject: Population Dynamics of Native Wildlife: Annual report and presentation made to stakeholders

Hi all,

Just confirming when we should expect this presentation to be carried out (we have the 01/08/2014 as the due date for this one).

There is a fair bit of interest in this research and we would love to organise a time for you to come by and update date us regarding the progress so far.

Let me know how this is going and a possible timeframe if you have one.

Many thanks,

9(2)(a), 9(2)(g)(ii)

Research Coordinator

DDI 9(2)(a), 9(2)(g)(ii)

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From: [REDACTED]
To: [REDACTED]
Subject: Tag Review: R-80719-03
Date: Friday, 2 May 2014 12:21:44 p.m.
Attachments: [DOCDM-1314934 - Kea repellent pest efficacy field trial REPORT 240414.pdf](#)
[R-80719-03.doc](#)

Appendix 6,
second attachment out of scope

Hi all,

The final report for project R-80719-03, Pest efficacy of repellent aerial 1080 cereal operations is ready for TAG review, please find it attached as well as the evaluation form.

Could you please have the evaluation form completed and sent to me by the 30/05/2014, if you have any queries do not hesitate to contact me.

Thanks,

[REDACTED]

[REDACTED]
Research Coordinator
DDI n/a • M n/a

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From: [REDACTED]
To: [REDACTED]
Cc: [Andy Cox](#)
Subject: Thanks
Date: Friday, 2 May 2014 12:06:49 p.m.

Hi [REDACTED]

Just a note to thank you very much for coming to our meeting with Tasman Forests this morning, to provide information on risks and benefits to kea in our forthcoming Baton/Arthur aerial 1080 operation. The information and context which you were able to provide clearly gave the forest manager comfort in agreeing to include their block within the aerial treatment area. This is a big win for us.

While I'm at it, I'm not sure if you were properly thanked for your excellent presentations at our pest control open day at Brightwater back in February, and to the OSPRI Stakeholders' Council and TBfree Committee Chairs in Christchurch just before Easter. I know those presentations were very well received, and they resulted in a lot of influential people being much better informed about the effective use of aerial 1080 for protection of native bird populations.

Many thanks for your valuable time and great assistance.

[REDACTED]

[REDACTED]

Senior Operational Policy Advisor
TBfree New Zealand

• [M \[REDACTED\]](#)

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED] [Andy Cox](#)
Subject: background for Bird Repellent meeting 21/11/14
Date: Monday, 10 November 2014 10:06:26 a.m.
Attachments: [Recommended next steps in repellent research for TBfree 230714.docx](#) **Appendix 30**
[image001.png](#)
[image002.png](#)

Hi [REDACTED]

In preparation for our meeting on the 21st, I thought it might be helpful to provide some background information. I hope to better understand TBfree NZ's interest in the continued kea repellent research and how this aligns with work that Landcare Research is planning.

Relative priority of the research areas identified at the wrap up meeting

At the meeting, we recognised that predation is the root cause of kea's threat status, so improved, widespread stoat control is critical. An effective repellent would prevent deaths of kea at aerial 1080 operations, however this will not reverse the decline of kea without widespread and frequent stoat control. In terms of research priorities, there is a considerable timeline and uncertainty around achieving either better stoat control techniques or an effective repellent.

Since the meeting, we've come to the view that of the repellent research areas, the testing of pest efficacy of candidate repellents should come before further testing with kea. This is because:

- Our opportunities to test with kea are limited, so it is best to reserve these for repellents that have already been tested with possums and rats.
- There is interest in protecting other birds with repellents (e.g. Takahe), so have the pest efficacy data available sets us up for testing with these other birds.

With this in mind, DOC would probably revise #4 on the list to: *Carry out pen trials with rats and possums of other potential repellents (e.g. tannic acid, caffeine (LCR), cinnamamide, garlic oil)* and give this priority over the other research areas.

The investigation of stabilisation methods for d-pulegone would also be worthwhile, if resources permitted.

LCR proposed trial options

[REDACTED] has nearly completed a literature review of a number of candidate repellents for kea protection, assessing their potential in terms of bird repellency, pest efficacy, and stability in manufacturing. When complete, this review would inform the selection of one or more repellents for pen trials with possums and rats in a trial similar to the one carried out in 2013.

He has also put together a proposal for a separate trial to determine the maximum concentration of AQ that can be used without affecting palatability or mortality of possums.

My understanding is that LCR has some funding available for one trial by the end of June 2015, and that TBfree has some money left in a repellent research program in a similar timeframe. If combined, there is the possibility of completing one of the 2 LCR trial options (possum and rat trial with a new repellent or maximum AQ concentration).

Kea mortality at operations

Also relevant to this discussion, [redacted] has progressed his analysis of the kea monitoring to date, resulting in estimates for 'risky' and 'safe' sites:

We don't understand why kea appear to be at risk at some sites but not others; there are some theories (e.g. previous exposure to junk food and habitat type) but none are proven. Therefore it is not valid to average the risk of kea death from 1080 across all operations (i.e. 20 deaths out of 150 birds monitored in ten operations). It is more correct to construct a statistical model that estimates risk at risky operations/sites and at non risky ones. This gives an estimate of 22% mortality at risky sites (95% CI = 13-33%) and 0% mortality at safe sites (95% CI = 0-5%). Exactly what proportion of sites/operations are risky we don't know, hence we are aiming to deliver a net benefit at all sites by timing all operations for mast years, or by complementing aerial 1080 with alternative stoat control methods such as trapping.

I look forward to meeting with you next Friday.

Kind regards

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted] [redacted]@tbfree.org.nz]
Sent: Wednesday, 15 October 2014 3:22 p.m.
To: [redacted]
Subject: Bird Repellant proposal

Hi [redacted]

The bait improvement initiatives meeting was held today and bird repellent was discussed as a priority area that we want to keep the momentum going on.

Is it possible for DOC to put together a brief proposal with costings, detailing what would be involved in getting each of the 5 research areas you identified below off the ground. Potentially TBfree may have some funding available that we would like to spend on developing a kea repellent, once we have identified if there is funding available we would be keen to meet and have a chat about how to move forward,

Research areas

1. Continued investigation of anthraquinone as a secondary repellent, for situations where:
 - Possums are the only target or
 - Rats are absent from the site or not the priority target

2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix.
3. Carry out a kea behavioural trial using d-pulegone RS5 cereal pellets, to confirm whether d-pulegone acts as a primary repellent in its own right (if advice in step 2 is favourable)
4. Carry out preliminary field screening of other potential repellents (e.g. tannic acid, caffeine (LCR), cinnamamide, garlic oil)
5. Test whether the Willowbank aviary kea would readily consume 0.14% anthraquinone baits if re-presented with the baits in several months' time.

If you have any questions just give me a shout.

Kind Regards

9(2)(a), 9(2)(g)(ii)

Senior Operations Advisor

OSPRI New Zealand

DDI

9(2)(a), 9(2)(g)(ii)

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From: [redacted]
To: [redacted]; [Matthew Hall](#)
Cc: [redacted]
Subject: change to proposed Code of Practice for aerial 1080 in kea habitat
Date: Monday, 28 April 2014 9:38:43 a.m.
Attachments: [oledata.mso](#) **Viewable on page 62**
[image002.png](#)
[image001.emz](#)
Importance: High

Hi there

I spoke with [redacted] this morning to sound him out about a simplification of the draft Code of Practice for aerial 1080 in kea habitat. The final draft that went to senior management provided for 2 timing options for aerial 1080 in 'kea habitat where rats may be scarce' (i.e. areas over 700m plus all pure beech forest):

- 1) Monitor for rodents and proceed within 6 months of tracking rats or mice at 20% or higher on 8 out of 10 transects (if it's mice then there are further monitoring requirements for the operation) OR
- 2) Carry out the operation in a prescribed 14 month period during and after mast events

The Code of Practice has the support of senior management, except that they want to see kea survival monitored in an operation where some baits are sown above the treeline (this will happen at Kahurangi) and that they would like to see option 2 deleted for at least DOC operations (and ideally deleted altogether).

I wanted to sound this out with you before getting the final approval for the Code. The final flow chart for the 'timing' performance standards is pasted in below. On the one hand it would mean rodent tracking in all operations that overlap with the 'kea habitat where rats may be scarce' (mainly the Sustained and TBI ops in Tasman-WC). On the other hand, the mast timing option may not have been a smooth road either (as you'd be waiting on seedfall data to confirm masting).

It would be great if one of you can drop me a line with your thoughts on this, within a day or two ideally. I would like to get final approval asap to give certainty to operational planning of operations.

Many thanks, [redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [REDACTED]
To: [REDACTED]; [Andy Cox](#); [REDACTED]; [Kea Conservation Trust](#); [REDACTED]
Subject: draft agenda bird repellent meeting 10-3pm Wed 23rd July
Date: Thursday, 3 July 2014 1:44:33 p.m.
Attachments: [DOCDM-1436810 - Kea repellent debrief wrap up agenda 230714.doc](#) **Appendix 12**

Hi there

Thanks for your responses – the meeting will be held at DOC Otautahi-Christchurch office on Wednesday 23rd July from 10-3pm. There was a lot of interest in attending both sessions so I have sent just one meeting invitation. If you are only planning to attend either the morning or afternoon session perhaps you could let me know when accepting the meeting request. (I will still include you in the catering numbers!) Please find attached a draft agenda. I am happy to take comments or changes to the agenda until the 21st July.

DOC colleagues, please make your own arrangements for the travel and let me know if you need an operating code.

Kind regards

[REDACTED]

From: [REDACTED]
Sent: Tuesday, 1 July 2014 1:39 p.m.
To: [REDACTED]; [Andy Cox](#); [REDACTED]; [Kea Conservation Trust](#); [REDACTED]
Subject: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July

Hello there

I would really like your involvement in one or both of two meetings regarding the project to development of a bird repellent to protect kea during aerial 1080 cereal:

1. A debrief on the recent bait aversion trial at Willowbank, in the morning from 10am
2. A wrap up of the DOC-led kea repellent project from 1pm

We would expect that each meeting would last 1-2 hours. More detail is given on the purpose and the key people we'd like to have at each meeting. Anyone listed for one meeting is very welcome to attend both if you are interested!

Can you please consider whether you are able to take part and let me know whether you would be available on either Wednesday 23rd or Friday 25th July?

Once I have responses I will send out an Outlook invitation for the preferred date.

A draft report of the bait aversion trial is needed for both meetings [REDACTED] will circulate the report 5 days prior to the meeting.

Bait aversion trial debrief 10-12noon

Purpose:

To discuss and record what happened in this trial—e.g. inception, design and preparation, execution, analysis, communication

To record lessons learned from the trial
To record any tasks remaining from the trial

Key people to involve:

At least one of the trial team ([redacted]), Andy, [redacted]
[redacted] I understand you might like to be there to learn from our trial.

Wrap up of the DOC-led project 1-3pm

Purpose:

To create a record to guide future repellent research, including Landcare Research Ltd in the coming year and DOC if funding is resumed in future. by:

Revising the 'next steps' identified at the Kea repellent stakeholder meeting on 10th March, in light of the bait aversion trial results.

Documenting lessons from the research so far

Key people to involve: [redacted] Andy, [redacted]
[redacted] [plus anyone from the morning meeting who is interested]

[redacted] you are also welcome to take part, though I am conscious that you have moved on to a lot of other work in the last 8 months.

Kind regards

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted]
To: [redacted]
Subject: for your information - consultation underway on draft DOC Code of Practice
Date: Monday, 31 March 2014 11:16:09 a.m.
Attachments: [Draft for consultation 310314 DOC code of practice for aerial 1080 in kea habitat.pdf](#) Appendix 31

Hello all

I just want to let you know that we are consulting DOC and TBfree NZ staff on a draft Code of Practice for aerial 1080 in kea habitat. This is proposed to replace the current performance standards, based on the last few years of kea related research. The email below provides a summary of the changes and a copy is attached. Feel free to read and comment on the Code, if you feel your work area is affected.

Kind regards

[redacted]

[redacted]
Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted]
Sent: Monday, 31 March 2014 11:14 a.m.

To: [redacted]

Cc: [redacted]

Subject: your feedback please by Wed 9th April - draft DOC Code of Practice for aerial 1080 in kea habitat

Hello

We would like your feedback on the operational implications of the attached draft DOC Code of Practice for aerial 1080 in kea habitat. We hope for your feedback by the 9th of April, as planners of aerial 1080 operations.

This draft Code of Practice has been developed by the Pesticides Advisory Group to replace the current performance standards. We propose that the performance standards sheets for aerial 1080 permissions will say "The DOC Code of Practice for aerial 1080 in kea

habitat must be followed.” We decided to move to a Code of Practice, because it allows us to be clear about which standards apply to which bait types and for summarising the research behind the standards. We have also started a set of FAQs at the end of the document.

Scope of the draft Code

All aerial 1080 operations that occur where kea could be present, as defined by a map of kea distribution in Figure 1 of the Code. This includes:

- 0.15% 1080 Pellets – there are 2 sets of compulsory performance standards that apply: 3 standards to reduce kea deaths and 2 standards to ensure that kea benefit from stoat control
- 0.08% 1080 Pellets and 0.08% 1080 Rodent Pellets –no change, these pesticide uses continue to be prohibited for use in kea habitat (Figure 1) because they are only available in the Wanganui #7 matrix
- 1080 carrot—no change, all operations must be monitored for kea survival
- 0.2% 1080 Pellets (wallabies) and 0.04% 1080 Pellets (rabbits)—the Code brings these pesticide uses into line with 1080 carrot, requiring that all operations must be monitored for kea survival

Standards that apply to aerially applied 0.15% 1080 pellets

The PAG has met by phone twice since our face-to-face meeting, to try to get the most effective standards for the risks. As a result, some standards in the code differ from what I described in my emails in early March to DOC staff planning operations and TBfree NZ managers. Please read the draft Code of Practice to get the full picture, but I’d like to point out some key points that cause the Code to have a wider impact than I initially indicated.

Compulsory performance standards to reduce kea deaths:

These are the same as the current standards (cinnamon RS5s with maximum sowing rates) except that the draft Code drops the final bullet point “*avoid sowing baits in areas of low structural vegetation cover (e.g. alpine herb fields and tussock) above the tree line.*” The rationale for this removal is explained in the Code. This is not to say that operations “should” include alpine and tussock; it is more that these areas can be sown where this would contribute to the operation’s targets (e.g. protecting alpine species from predators) and where other risks can be managed.

Compulsory performance standards to ensure that kea benefit from stoat control:

The rationale for these new standards is explained in the Code. There are 2 situations.

- During and soon after a mast: All aerial 1080 operations in kea habitat must be between 1 July of the mast year and 31 August of the year following.
- Between masts: Aerial 1080 operations that include “*kea habitat where rats can be scarce*” that occur outside the 14 month timeframe above can only occur if:
 - (1) the operation is supplemented with an agreed level of stoat control; or
 - (2) monitoring demonstrates that rats are ‘widespread,’ including in areas where rats can

be scarce. 'Widespread' means that at least 2 tracking tunnels record rat prints on 80% of transects monitored prior to the operation (following Gilles and Williams 2013).

"Kea habitat where rats can be scarce" includes:

- all kea habitat over 700m altitude, and
- all kea habitat in pure beech forest

A shapefile is in preparation which I will have on an ArcReader disc next week for meeting with TBfreeNZ on Friday 3rd. We propose to make this available in NATIS (internally) and on the web-based geoportal (so that TBfree NZ and others can access it and overlay it with their own maps).

Compliance for upcoming operations

From your preliminary responses a couple of weeks ago, I understand that there are 3 operations where the timing might put the operations into the "between mast" situation: DOC Iris Burns (possibly late June)
DOC Leslie and TBfree NZ Mt Arthur (June)

To comply with the new performance standards, these operations would either need to demonstrate that rats are 'widespread' in pre-operational monitoring or carry out stoat control at the same operational area. I will send this message to the CSMs and DCSs involved so that they can start to look at stoat control options in the case where rats are not widespread prior to these operations.

Implementation

We hope to have conversations and correspondence with you about this over the next 10 days, closing on 9th April. I will summarise the operational implications for the DDGs (Kevin O'Connor and Felicity Lawrence), with the aim of a DDG decision by the 18th April. The draft Code of Practice would come into immediate effect for aerial 1080 operations this year.

Focus for comments

We are really looking for feedback on the operational implications of:

1. 0.15% 1080 Pellets: removal of the alpine exclusion from the standard to reduce kea deaths
2. 0.15% 1080 Pellets: introduction of the new standards to ensure kea benefit from stoat control
3. Requiring kea monitoring at all aerial 1080 carrot operations and all 1080 operations targeting rabbits and wallabies. We suspect that very few of these will occur in kea habitat, so it would be good to hear from 9(2)(a), 9(2)(g)(ii) to confirm our assumption.

Many thanks

§(2)(a), §(2)(g)(ii)

§(2)(a), §(2)(g)(ii)

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

DDI: §(2)(a), §(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

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From: [REDACTED]
To: [REDACTED]
Subject: full meeting notes
Date: Tuesday, 11 March 2014 12:13:20 p.m.
Attachments: [DOCDM-1359346 - Project stakeholder meeting kea repellent March 2014.doc](#) **Appendix 13**

Hi again, Here are the full meeting notes in case this is helpful when bringing [REDACTED] up to speed.

Thanks,

[REDACTED]

[REDACTED]

Technical Advisor Threats (Systems Development)

Matanga Matai Morearea (Punaha)

Department of Conservation - *Te Papa Atawhai*

DDI: [REDACTED]

Conservation for prosperity *Tiakina te taiao, kia puawai*

www.doc.govt.nz

Released under the Official Information Act (1982)

From: [redacted]
To: [redacted]
[redacted] Andy Cox [redacted] Conservation Trust; [redacted]
[redacted]
Subject: invitation to a bird repellent meeting on Wed 23rd or Fri 25th July
Date: Tuesday, 1 July 2014 1:38:30 p.m.

Hello there

I would really like your involvement in one or both of two meetings regarding the project to development of a bird repellent to protect kea during aerial 1080 cereal:

1. A debrief on the recent bait aversion trial at Willowbank, in the morning from 10am
2. A wrap up of the DOC-led kea repellent project from 1pm

We would expect that each meeting would last 1-2 hours. More detail is given on the purpose and the key people we'd like to have at each meeting. Anyone listed for one meeting is very welcome to attend both if you are interested!

Can you please consider whether you are able to take part and let me know whether you would be available on either Wednesday 23rd or Friday 25th July?

Once I have responses I will send out an Outlook invitation for the preferred date.

A draft report of the bait aversion trial is needed for both meetings [redacted] will circulate the report 5 days prior to the meeting.

Bait aversion trial debrief 10-12noon

Purpose:

To discuss and record what happened in this trial—e.g. inception, design and preparation, execution, analysis, communication

To record lessons learned from the trial

To record any tasks remaining from the trial

Key people to involve:

At least one of the trial team [redacted], Andy, [redacted]

[redacted] I understand you might like to be there to learn from our trial.

Wrap up of the DOC-led project 1-3pm

Purpose:

To create a record to guide future repellent research, including Landcare Research Ltd in the coming year and DOC if funding is resumed in future. by:

Revising the 'next steps' identified at the Kea repellent stakeholder meeting on 10th March, in light of the bait aversion trial results.

Documenting lessons from the research so far

Key people to involve: [redacted] Andy, [redacted]

[redacted] plus anyone from the morning meeting who is interested]

[redacted] you are also welcome to take part, though I am conscious that you have moved on to a lot of other work in the last 8 months.

Kind regards

[redacted]

§(2)(a), §(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: §(2)(a), §(2)(g)(ii)

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From: [redacted]
To: [redacted]
Subject: kea and 1080 bait station deaths in AEE
Date: Wednesday, 10 September 2014 5:11:36 p.m.

Hi [redacted]

We have just had the Ban 1080 (anti 1080) protest sitting outside the front office for a few hours.

With only about 15 protesters it was not an overwhelming presence and largely ignored by most passers-by. [redacted] of course was present. At the need of it one of them ([redacted]) asked to see me about the AEE for the Kahurangi operations.

He "challenged" me on some detail in the AEE about kea being killed in 1080 bait stations. I replied that there was no mention of this in my AEE and then he thought that it might have been in one of yours (Mt Arthur ?)

Not sure if so but he MAY contact you for details. Just a heads up..

Got me intrigued and the only related information I could find **Pesticide Information Review** (Fairweather et al 2014) was the 3 mentions below.

[redacted]

[redacted]

Ranger-Conservation Services (Biodiversity)
 Department of Conservation- *Te Papa Atawhai*
 Takaka Office
 Takaka
 DDI: + [redacted]

Conservation for Prosperity *Tiakina te tiao, kia puawai*
www.doc.govt.nz

1. One **Kea** (*Nestor notabilis*) was found dead approximately 60 metres away from a No Possums 1080 Gel Bait bait station with beak slash marks in the bait after a possum control operation in the Fox Valley (Stephen Robson pers. comm. 2008)
2. **Kea** or **kaka** markings were also reported on 3 out of 170 No Possums 1080 Gel Bait bait stations removed approximately 26 months after they were placed in the field in the Perry Block, Goulund Downs (Kahurangi National Park) in 2008, although no dead birds were located (Deverell 2008)
3. **TABLE 8. NON-TARGET NATIVE SPECIES DEATHS REPORTED DURING OPERATIONS USING 0.15% 1080 PELLETS IN BAIT STATIONS.**

SPECIES	No. FOUND DEAD	No. OF OPERATIONS	No. OF CASES WHERE RESIDUES CONFIRMED	SOWING RATE (kg ha ⁻¹)		REF.
				Prefeed	Toxic	
Birds						

Kea	1	1	1		1	1
Tui	1	1	0 ^a		?	2

Released under the Official Information Act (1982)

From: [REDACTED]
To: [REDACTED]; [Andy Cox](#); [REDACTED]; [Kea Conservation Trust](#); [REDACTED]
Subject: kea repellent strategy report July 2014.docx
Date: Monday, 21 July 2014 9:24:15 a.m.
Attachments: [DOCDM-1438761 - kea repellent strategy report July 2014.docx](#) **Appendix 11**

Hello all,
Please find attached a draft of the report on two of the kea repellent trials that have focused on bird-bait interactions. It's very much a draft report so please forgive it's style. Looking forward to discussions this Wednesday.

Many thanks, [REDACTED]

[REDACTED]
Science Advisor
Department of Conservation
PO Box 29
Te Anau, 9640
[REDACTED]
[REDACTED]

Released under the Official Information Act (1982)

From: [redacted]
To: [redacted]; [Andy Cox](#); [redacted]; [Kea Conservation Trust](#); [redacted]
Subject: meeting agenda, minutes from March stakeholder meeting
Date: Monday, 21 July 2014 9:40:20 a.m.
Attachments: [DOCDM-1359346 - Project stakeholder meeting kea repellent March 2014.doc](#) **Appendix 13, 14**
[DOCDM-1436810 - Kea repellent debrief wrap up agenda 230714.doc](#)

Hi there

Also, please find attached:

The meeting agenda

Minutes from the last stakeholder meeting in March, noting the "next steps" agreed at that meeting

I look forward to seeing most or all of you on Wednesday. I am not sure whether the following people have confirmed, so perhaps they could drop me a line.

[redacted]
[redacted]
[redacted]
[redacted]

Kind regards

[redacted]

[redacted]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [redacted]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [redacted]
Sent: Monday, 21 July 2014 9:24 a.m.
To: [redacted]; [Andy Cox](#); [redacted]; [Kea Conservation Trust](#); [redacted]
Subject: kea repellent strategy report July 2014.docx

Hello all,

Please find attached a draft of the report on two of the kea repellent trials that have focused on bird-bait interactions. It's very much a draft report so please forgive it's style. Looking forward to discussions this Wednesday.

Many thanks, [redacted]

9(2)(a), 9(2)(g)(ii)

Science Advisor
Department of Conservation
PO Box 29
Te Anau, 9640

9(2)(a), 9(2)(g)(ii)

Released under the Official Information Act (1982)

From: [REDACTED]
To: [REDACTED]; [Andy Cox](#); [REDACTED]; [Kea Conservation Trust](#); [REDACTED]
Cc: [REDACTED]
Subject: meeting notes from kea repellent wrap up meeting
Date: Monday, 28 July 2014 8:56:56 a.m.
Attachments: [DOCDM-1436810 - Kea repellent debrief wrap up Meeting Notes 230714.doc](#) **Appendix 12**

Hi there

Please find attached the meeting notes from our gathering last week, including recommended next research steps on pages 7-8. Please let me know of any comments sometime this week, so that the notes can be finalised.

Thanks again for making the meeting and the project successful. Although we have not delivered an effective bird repellent we have laid the ground work for future development work. It's been a pleasure to work with you all—hopefully there will be more opportunities to do so in the future.

Kind regards,

[REDACTED]

[REDACTED]

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office
DDI: [REDACTED]
Conservation for prosperity *Tiakina te taiao, kia puawai*
www.doc.govt.nz

From: [Redacted]
To: [Redacted] Kea Conservation Trust; [Redacted]
 [Redacted] Andy Cox; [Redacted]
Subject: next steps in repellent development to protect kea at aerial 1080 operations
Date: Friday, 21 March 2014 10:54:46 a.m.

Hi there

We recently met with stakeholders to review results from the pest efficacy, bait stability and other trials, in order to support DOC's Science & Capability Threats managers to make a decision about the next steps in the project.

Andy has decided to proceed with:

- A. Research to progress the four information needs identified at the meeting, which all relate to using repellents in the prefeed and toxic baits broadcast in the operation (see below); AND
- B. Looking into practicalities of develop a protocol for aversion training of kea (i.e., feeding kea cereal baits with anthraquinone prior to operations with the aim of deterring them from sampling baits). At this stage, [Redacted] is scoping the design and logistical requirements to test whether kea can be trained on to cereal pellets and then trained off them again with anthraquinone pellets (most likely with captive kea). If such a trial had promising results, the aim would be to use this method at some operations this year. We expect to decide within a week whether this will proceed to a kea trial, and I will let you know the outcome.

The meeting outcome is outlined below.

Meeting outcome:

We continue to work toward the project criteria for an effective bird repellent. There are some gaps and some known issues for the primary and combined repellent treatment under investigation

Project criteria	Primary repellent (0.17% D-pulegone in prefeed and toxic)	Combined repellent (Primary repellent plus 0.1% anthraquinone in prefeed)
<i>Kea consume very little (if any) repellent toxic bait</i>	<i>Not trialled for repellence but 5 kea died at Otira In the Orr-Walker et al 2012 trial, it is unknown whether acting as a repellent or salient cue for secondary repellent</i>	<i>Repellence demonstrated in aviary trial Not tested in a field operation</i>
<i>Possum and rat kills continue to be high when repellent is used</i>	<i>Criteria met</i>	<i>Possum kills high Rat kills not high enough</i>
<i>No welfare concerns are raised</i>	<i>Untested for target pests</i>	<i>Untested for target pests</i>
<i>Repellents are effective for 4–12 weeks after bait manufacture</i>	<i>Not stable for this timeframe</i>	<i>Anthraquinone stable, d-pulegone is not.</i>

We continue to work on a broadcast repellent strategy. Aversion training (i.e., secondary repellent in prefeed delivered to kea prior to operations) would have merit if the risk of exposing kea was higher at sites where kea were habituated to human food. Aversion training will be looked at again after kea survival and nest monitoring associated with this year's mast. In the meantime we propose to do more work to see if we can overcome the shortcomings of anthraquinone, d-pulegone as well as do some initial screening of other potential repellents.

Recommendations:

ANTHRAQUINONE

1. Is there an anthraquinone concentration that will deliver high rat kills and still repels kea? This involves first defining the highest concentration of anthraquinone that does not repel rats. A gavage trial could give an indicative level or levels, for repellence testing with kea (ideally with wild birds). The repellence trial involves a second visit to look for secondary repellence. The rat result would then need confirmed in a field efficacy trial. If gavage is too costly, we could do the pest efficacy field trial (e.g. 0.05%, 0.025%) prior to the kea repellence trial.

D-PULEGONE

2. Seek advice from food technologists and chemists on likelihood and pathway for developing a stabilisation method for d-pulegone in cereal matrix. For example, Food Technology Massey, Plant & Food. This advice would be reviewed to decide whether to pursue the repellence trials outlined in 3 and whether to invest in stabilisation.
3. Carry out captive or car park repellence trials with kea, to confirm whether d-pulegone to find out whether it is contributing to the repellent effect or whether it is just a cue for anthraquinone. If it is a repellent, then we need to invest in stabilisation. If it is just a cue we could use something else with anthraquinone. The trial involves a second visit to look for evidence of habituation.

OTHER REPELLENTS

4. Carry out preliminary field screening of other potential repellents. Put the repellent on known attractive bait (butter, cheese, live huhus) and see how wild kea react. Huhus have benefit that it would be recognised as a food. We can rule out any repellents where kea seem to feed on the food readily. Small quantities would need to be sourced of the candidate repellents:

- Tannic acid
- Caffeine (LGR)
- Cinnamamide
- Garlic oil

Thanks for your ongoing support,

9(2)(a), 9(2)(g)(ii)

9(2)(a), 9(2)(g)(ii)

Technical Advisor Threats (Systems Development)
Matanga Matai Morearea (Punaha)
Department of Conservation - *Te Papa Atawhai*
Otautahi/Christchurch Office

DDI: 9(2)(a), 9(2)(g)(ii)

Conservation for prosperity *Tiakina te taiao, kia puawai*

www.doc.govt.nz

From: [REDACTED]
To: [REDACTED]
Matthew Hall, [REDACTED]
Cc: [REDACTED]
Subject: your feedback please by Wed 9th April - draft DOC Code of Practice for aerial 1080 in kea habitat
Date: Monday, 31 March 2014 11:14:17 a.m.
Attachments: [Draft for consultation 310314 DOC code of practice for aerial 1080 in kea habitat.pdf](#) Appendix 31

Hello

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This draft Code of Practice has been developed by the Pesticides Advisory Group to replace the current performance standards. We propose that the performance standards sheets for aerial 1080 permissions will say "The DOC Code of Practice for aerial 1080 in kea habitat must be followed." We decided to move to a Code of Practice, because it allows us to be clear about which standards apply to which bait types and for summarising the research behind the standards. We have also started a set of FAQs at the end of the document.

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- 1080 carrot –no change, all operations must be monitored for kea survival
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Standards that apply to aerially applied 0.15% 1080 pellets

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The rationale for these new standards is explained in the Code. There are 2 situations.

-During and soon after a mast: All aerial 1080 operations in kea habitat must be between 1 July of the mast year and 31 August of the year following.

-Between masts: Aerial 1080 operations that include “*kea habitat where rats can be scarce*” that occur outside the 14 month timeframe above can only occur if:

(1) the operation is supplemented with an agreed level of stoat control; or

(2) monitoring demonstrates that rats are ‘widespread,’ including in areas where rats can be scarce. ‘Widespread’ means that at least 2 tracking tunnels record rat prints on 80% of transects monitored prior to the operation (following Gilles and Williams 2013).

“*Kea habitat where rats can be scarce*” includes:

-all kea habitat over 700m altitude, and

-all kea habitat in pure beech forest

A shapefile is in preparation which I will have on an ArcReader disc next week for meeting with TBfreeNZ on Friday 3rd. We propose to make this available in NATIS (internally) and on the web-based geoportal (so that TBfree NZ and others can access it and overlay it with their own maps).

Compliance for upcoming operations

From your preliminary responses a couple of weeks ago, I understand that there are 3 operations where the timing might put the operations into the “between mast” situation:

DOC Iris Burns (possibly late June)

DOC Leslie and TBfree NZ Mt Arthur (June)

To comply with the new performance standards, these operations would either need to demonstrate that rats are ‘widespread’ in pre-operational monitoring or carry out stoat control at the same operational area. I will send this message to the CSMs and DCSs involved so that they can start to look at stoat control options in the case where rats are not widespread prior to these operations.

Implementation

We hope to have conversations and correspondence with you about this over the next 10 days, closing on 9th April. I will summarise the operational implications for the DDGs (Kevin O’Connor and Felicity Lawrence), with the aim of a DDG decision by the 18th April. The

draft Code of Practice would come into immediate effect for aerial 1080 operations this year.

Focus for comments

We are really looking for feedback on the operational implications of:

1. 0.15% 1080 Pellets: removal of the alpine exclusion from the standard to reduce kea deaths
2. 0.15% 1080 Pellets: introduction of the new standards to ensure kea benefit from stoat control
3. Requiring kea monitoring at all aerial 1080 carrot operations and all 1080 operations targeting rabbits and wallabies. We suspect that very few of these will occur in kea habitat, so it would be good to hear from [redacted] to confirm our assumption.

Many thanks

[redacted]

[redacted]

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