Application for DOC permission to use VTAs: assessment report

Applicant name:	s 9(2)(a) , Vector Free Marlborough Limited.
Operation name:	2019 Kahurangi Predator Control (Aerial and Ground Methods).
Approving manager:	Roy Grose, Director Operations, NSI.
Assessor:	s 9(2)(a) , Science Technician, Threats Unit.
Date received:	10 April 2019
Overview:	The following pesticide uses will be applied: • Pesticide Use #1, sodium fluoroacetate, 1.5g/kg, cereal pellet, aerial • Pesticide Use #2, sodium fluoroacetate 1.5g/kg, cereal pellet, handlaid The Cobb portion of the operation is likely to include an area of deer repellent, however the final extent and availability of repellent and funding was not confirmed as of the date of submission for this application Permission is sought to carry out this operation between 1 May 2019 and 30 April 2020, with an indicative commencement date of 6 May 2019. It is intended for the operation to be completed by 20 December 2019, but the extended period allows for potential de ays given the extent of the operation. The boundaries of the Kahurangi treatment area extend from Kahurangi Point and Parapara in the north to the top of the Owen Valley in the south.
Applicant type:	DOC applicant—DOC SOPs will apply. This is a DOC operation contracted to Vector Free Marlborough Limited.

Step 1 Confirm application is complete *Are all documents (listed below) provided?*	
DOC Application form complete:	The form is completed to a standard where I can assess it. The proposed application meets the grouping standard, with this one application corresponding to one operational plan.
Are all the proposed pesticide use(s) accepted for use?	Yes. No compulsory restrictions or information needs apply.

Performance standards sheets	DOC performance standards sheets 1 (DOC-29353) and 2 (DOC-29356) apply.
DOC permission map(s) (image file or files)	The shapefiles provided allow maps to be created which meet the standards as in the DOC permission application form, and allow close scrutiny of the large treatment blocks.
DOC Pesticide Summary shapefiles (independent groups or individuals only)	N/A
Consultation record including conditions of landowner consents	Consultation and notification requirements are extensive due to the scale of the operation. An email was sent to the applicant on 11/4/19 (see correspondence record below) to request further information.
Public health permission/ proof of application	Proof of application to both Public Health units has been provided.
Other *(specify, e.g. RMA consent)*	This prefed aerial 1080 operation is exempted from requiring RMA consent under the Resource Management (Exemption) Regulations 2017.
Your confirmation email and subsequent correspondence	**10/4/19:** Confirmed received application (DOC-5912398). **11/4/19:** Emailed applicant requesting information on consultation and signage (DOC- 5912603). Received response from s 9(2)(a) that would provide the information on Monday. **11/4/19:** Emailed s 9(2)(a) for NSI Pou Tairangahau input. Resulting email trail saved as DOC-5914772. **12/4/19:** Emailed s 9(2)(a) for WSI Pou Tairangahau input and received response. (DOC-5913751). **16/4/19:** Emailed applicant requesting information and received responses. Resulting email trail saved as DOC-5919049.
Step 2 Capture treatment blocks in the Pesticide Application	
Your publication of the proposed operation on the DOC Pesticide Summary (independent groups or individuals only)	N/A
Step 3 Evaluate control method *Is the proposed method suited to the pest problem, treatment area and consultation outcomes?*	
Your assessment of the control method	Aerial 1080 is currently the only control method that can feasibly be used to control rats, stoats and

	possums over an area as large as this operation (~326,022ha) on the mainland. This method has proven to be effective in previous operations in this area, as assessed through landscape-scale DOC monitoring of rodents and mustelids. Alternative control options for rats are not logistically feasible at this scale. They would cost more and be less effective. The logistics of servicing bait stations or traps for rat control becomes increasingly complex in areas >1500 ha and at higher rat densities when home ranges reduce in size. For traps, daily checking is required to obtain a rapid reduction in rat numbers. Alternative control options for possums such as shooting or trapping are labour-intensive and will not control rats and stoats. High rat numbers negatively affect the success of using alternative toxins for possums. The planned control operation follows DOC current agreed best practice for the combined target species in terms of prefeed and toxic bait size, sowing rates, time between prefeed and toxic and intended timing of operation Ground-based control methods will be used to control the target species in areas where aerial 1080 will not be applied (takahe exclusion area and Heaphy exclusion area). In these small areas ground-based control is logistically feasible and will reduce reinvasion from the untreated area as well as provide more protection to native species in those areas. Deer repellent has been used in previous operations as a means of reducing the risk to specific highly-valued deer herds in identified areas while still allowing for control of target species.
Label directions	The proposed control method generally complies with applicable directions for use and other content on the product label. In two places where the proposed method differs from the label (the label recommends min. 2 weeks between prefeed and toxic instead of the proposed 7-10 days, and a sowing rate of 3-5kg/ha instead of the proposed 1.5kg/ha), it instead matches DOC current agreed best practice which is based on accumulated experience from decades of applying this method for conservation purposes.

Summary of any technical advice received on the proposed control methods.	The proposed control method follows DOC best practice for BFOB operations and is currently commonly used by DOC to target rats, stoats and possums at the landscape scale. I consulted with s 9(2)(a), Science Advisor Threats, about the level of benefit to native fauna from the operation if delays cause blocks to not be treated until further into 2020. He considered that the extended time period is appropriate so that we have the option of treating blocks if high predator numbers persist in untreated areas into 2020 Previous bird monitoring has indicated that high predator numbers can still have a big impact of native birds outside of the breeding season.
Summary of any Community relations and Pou Tairangahau advice received.	s 9(2)(a) WSI Pou Tairangahau, considered that the consultation process looked very thorough. He recommended a follow-up phone call to Pending OIA Pending OIA consultation since a response to the letter hadn't been received. This recommendation was passed on the the DOC site lead s 9(2)(a) on 15/4/19. s 9(2)(a), NSI Pou Tairangahau, recommended that iwi monitor(s) should be employed to be present during the application of the control in order to foster better understanding of the work among iwi and to strengthen iwi-DOC-VFML relations. This recommendation was passed on to s 9(2)(a) on 14/4/19 as per email trail in correspondence section above. The actioning of this recommendation is being discussed by s 9(2), s 9(2)(a) and s 9(2)(a).
Step 4 Identify and assess risks and adverse effects *Are you satisfied that all risks and adverse effects have been identified?*	
Are there any gaps in the applicant's assessment of these (where the AEE section was supplied)?	The applicant has thoroughly assessed risks and adverse effects and identified means of eliminating or mitigating them in Appendix 5 of the application form, and in their own Risk Register.
Relevant points from the DOC Pesticide Information Reviews	There have been numerous studies examining the effects of aerial poisoning on native non-target populations over the last 20 years. 24 species of native birds, particularly threatened species, have been monitored. None of the studies have identified population level mortality which threatened the viability of the species. Limited

	monitoring of short tailed bats and native frogs has not indicated detectable mortality due to aerial 1080 poisoning. Invertebrate populations have been monitored in nine aerial poisoning operations and none have shown significant population effects on any species studied, nor is there evidence to suggest poisoned invertebrates are a significant factor in secondary poisoning of other animals. Dogs are especially vulnerable and highly likely to die if they eat 1080 baits or scavenge animals killed by 1080. Although 1080 is toxic to honeybees, baits used in pest control are generally not attractive to honeybees. However, this may not always be the case if honeybees are particularly hungry, so beekeepers should always be notified of operations. The majority of pest control operations using 1080 have target pest kills of greater than 80%.
Summary of any technical or community relations advice received	See technical advice sought on risk to native fauna in Step 5 below.
Other resources consulted *(specify)*	• DOC Best practice for BFOB aerial 1080 operations • Email trail of takahe exclusion discussion between s 9(2)(a), s 9(2)(a), s 9(2)(a) and the Takahe Recovery Team • Code of Practice for Aerial 1080 in Kea Habitat (DOC-2612859)
Your assessment of technical risks and adverse effects *(e.g. the pesticide use, use pattern, site factor)*	My assessment is that the applicant has done a thorough job of identifying technical risks and means of eliminating/mitigating them. A TAG was created specifically to discuss and manage technical risks for the Kahurangi BFOB operations in 2019. The sites have been treated with aerial 1080 previously, with lessons learnt applied to this operation. The prioritisation of blocks within the operation has been discussed thoroughly with the TAG.

	Consultation has identified dogs and stock that could be at risk and recorded where it is necessary to erect warning signs, provide emetics, check fencing or notify stock owners in time for stock to be shifted. Water supplies have been identified and mapped, with appropriate mitigation measures recorded in consultation records. The risks to native fauna are discussed in Step 5 below.
Your assessment of non-technical risks *(e.g. high public use, consultation outcomes)*	*Public use* The Kahurangi area receives signif cant and diverse recreational use. The operations are intended to be carried out during winter/spring at which time recreational use will be low to moderate compared with summer, however delays could lead to operations taking place during times of year when public use is high Consultation has taken place with groups such as Pending OIA consultation and the Pending OIA Other recreational clubs and tourism operators known to operate in the area, as well as visitor centres, have been identified for notification about the operation. The Public Health Permission will contain conditions that must be met in order to minimise risk to public health. *Consultation outcomes* Some adjacent landowners expressed concerns, all but one of these were already known to have views in opposition from consultation for previous operations. Where necessary, mitigation measures such as provision of water have been arranged. Concerns were raised by Pending OIA consultation and by the Pending OIA which are generally being addressed at a national level. The decision on the use of deer repellent will be made by Mike Slater, Deputy Director-General, Operations. One enquiry was made by a WARO operator, with a response given by s 9(2)(a), BFOB programme lead, on 19 March 2019. *Security risks* Organised protest action, sabotage and obstruction have been highlighted as a significant potential risk

	in the applicant's risk register. The applicant has security measures planned, including being prepared to have a police presence or to halt activities to minimise risks from such action. *Logistical risks* All of the loading zones have been used in previous operations, so logistical difficulties such as access by trucks carrying bait are already known. The applicant has a plan in place to address these difficulties. At this stage permission has only been given tentatively to use the s 6(d), 9(2)(g)(ii) as a loading zone but the back-up loading zone of s 6(d), 9(2)(g) has also been used before so is known to be suitable if permission is not ultimately given to use the airstrip.
Step 5 Calculate estimated caution period and evaluate if risks and adverse effects are at an acceptable level *Will risks be managed adequately with the performance standards proposed for this operation? Include dates and outcomes of any discussion with the applicant.*	
Estimated caution period for all the pesticide use(s)	For pesticide uses 1 and 2 the minimum legal caution period is 4 months, but the recommended caution period is 8 months after last date of bait application. Planned bait and carcass monitoring will inform the ending of the caution period once the minimum caution period has passed.
How well does the proposed operation manage potential risks to native fauna? *(i.e. as proposed in the Application form or performance standards)*	The operation follows DOC Current Agreed Best Practice for BFOB operations, which aims to maximise benefits while minimising risk to native fauna generally. There are several threatened native bird species inhabiting the operational area that could potentially be at risk if it were done poorly, notably takahe, kea and rock wren. I consulted with s 9(2)(a), Science Advisor Threats, about risks to native fauna. His opinion was that the planned mitigation strategies are appropriate. For takahe, planners have collaborated with the Takahe Recovery Team to minimise risk to takahe, by excluding an area determined by intensive takahe monitoring shortly prior to the operation and maintaining an A24 trap network

	encompassing the exclusion area. Post-operation monitoring of takahe survival will inform future predator control in the area. Whether the alpine tops are excluded as a precautionary approach to protect rock wren is still under discussion by the TAG. Either way, intensive rock wren monitoring will continue which will inform future predator control in the area. This operation covers kea habitat, so the Code of Practice for Aerial 1080 in Kea Habitat applies. The proposed operation does not meet standards 1 and 3 in this code of practice. I consulted with s 9(2)(a) s 9(2)(a) Science Advisor Threats who specialises in kea, about this. He informed me that this code of practice is currently under revision, with the draft revised code less restrictive than the current code. Details of how this operation does not meet standards 1 and 3 in the current code: • The code says that single cinnamon prefeed is compulsory, but the applicant has applied to use double lured prefeed. s 9(2)(a) considers that this would not increase risk to kea. • The code requires a maximum toxic sowing rate of 2kg/ha but the applicant has applied for a maximum of 3kg/ha to account for double-treated areas where block boundaries meet. s 9(2)(a) considers the additional risk from this to kea to be minimal, with benefits from minimising predator reinvasion outweighing the costs. s 9(2)(a) considers that the greatest risk to kea applies where there are "scrounging sites" and notes that there are currently none in Kahurangi but that with increasing tourism in the area new ones could be create e.g. along the Heaphy. He would like to see a national strategic campaign to prevent new scrounging sites from being created. An exemption from these standards for this operation is recommended based on this specialist advice.
How well are other potential risks managed?	Other potential risks are well-managed, specific instances as detailed above in Step 4.

Are you satisfied with the proposed warning sign locations and normal points of entry?	The DOC site lead, s 9(2)(a) [redacted], knows the area well and has overseen many previous aerial 1080 operations covering the same area. He is satisfied with the proposed warning sign locations, with additional signs have been added by VFML beyond what was done for previous operations. The proposed frequency of signage checks in the backcountry is more frequent than that stipulated by Public Health Permissions from previous Kahurangi operations.
Summary of any technical or community relations advice received	Technical advice was received on risks to native fauna, as detailed in Step 4 above.
Public health permission, including application form sighted (if not provided at time of application)	Copies of the PHP application forms have been sighted, but permission has not yet been granted. DOC permission will be subject to the requirement that the PHPs are granted and all conditions are met.
Other resources consulted *(specify)*	No other resources consulted.
Which additional performance standards should be applied and why?	No additional performance standards are recommended.
Step 6 Make a recommendation *Should the application be approved or declined?*	
What key points should the approving manager have drawn to their attention?	1. The DOC site lead is very experienced in managing aerial 1080 operations in Kahurangi. The applicant (contractor) has experience in carrying out previous BFOB and OSPRI aerial 1080 operations in this area. 2. The operation does not meet some of the standards in the Code of Practice for Aerial 1080 in Kea Habitat, but approval of an exemption is recommended based on specialist advice (see page 8). 3. The proposed use of EDR in the Cobb area has not been agreed on yet, Mike Slater will decide on this shortly. 4. Public Health Permission has not yet been granted. DOC permission should only be granted subject to PHPs being granted and all conditions being met.
Is approval or decline recommended?	Approval is recommended.
Step 7 Prepare documents and advise manager	

For recommended approval: *Attached correct draft letter of permission, DOC Performance Standards sheet(s) and map(s) of operational boundaries.*	Letter of permission (DOC-5919096) Performance standards 1 (DOC-5919084) Performance standards 2 (DOC-5919091) Map of operational boundary (DOC-5919148)
For recommended decline: *Attach draft letter of decline including a summary of reasons.*	N/A

Record of permission decisions that differ from the assessor recommendation	
Record of permission decision *Only complete this section where the manager has made a decision that differs from the assessor's recommendation. For example, where the manager decides on different operational timing or warning sign locations or rejects a recommendation to approve or decline the application.* *Where required, complete this in Section 7 (Approving or declining DOC permissions), Step 2. Record the difference between the decision and recommendation and summarise the reason(s) for the decision.*	