



Public Health South

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**PERMISSION FOR USE OF VERTEBRATE
TOXIC AGENT(S)**

Approved VTA Permission Form Version 3: March 2010

Pursuant to section 95A of the Hazardous Substances and New Organisms Act 1996

To: s 9(2)(a) [redacted] of Contract Wild Animal Control NZ Ltd

s 9(2)(a) [redacted]

Application Identification Code: **17/35/MLC/DUNPH**

Operation Name: **Battle for our Birds National Programme, Cleddau Beech Mast Response 17/18**

Territorial Local Authority(s): **Southland**

Purpose of Operation: **Possum Control, Rodent Control**

I, s 9(2)(a) / 9(2)(g) [redacted] being a person acting under powers delegated by the Environmental Protection Authority (the Authority), **GRANT PERMISSION** for the USE of the vertebrate toxic agent(s) listed in SCHEDULE 1, in the area(s) indicated on the maps in SCHEDULE 3, subject to the CONDITIONS set out in SCHEDULE 1 and SCHEDULE 2 attached hereto and the HSNO approvals for those vertebrate toxic agent(s);

Between: **18/08/2017 to 30/07/2018**

Date Issued: **18/8/2017**

Signed: s 9(2)(a) / 9(2)(g) [redacted]

Name: s 9(2)(a) / 9(2)(g) [redacted]

Title: **HSNO Enforcement Officer**

Contact Person: s 9(2)(a) / 9(2)(g) [redacted]

Email: s 9(2)(a) / 9(2)(g) [redacted]

Phone: s 9(2)(a) / 9(2)(g) [redacted]

Appeals: Section 125 (1A) of the Hazardous Substances and New Organisms (HSNO) Act: A person may appeal to the District Court against a decision of the Authority, under section 95A about the terms and conditions of a permission held by the person.

Notice of Appeal: Section 127 of the HSNO Act: Before or immediately after the filing and service of a notice of appeal, the appellant shall serve a copy of the notice on the Authority, and every other party to the proceedings, and any other person who made a submission to the Authority.

PERMISSION CONDITIONS: SCHEDULE 1 (Vertebrate Toxic Agents)

Application Identification Code: 17/35/MLC/DUNPH

Operation Name: Battle for our Birds National Programme, Cleddau Beech Mast Response 17/18

Vertebrate Toxic Agent Information		
VTA 1		
Vertebrate Toxic Agent: Sodium monofluoroacetate (1080)		HSNO Approval Number: HSR002424
Strength: 1.5g/kg	Form: Pellets	Application rate ¹ : 2-4kg/ha
Start Date: 18/08/2017		End Date: 30/07/2018
Methods of application for this VTA allowed under this permission: Aerial, ground broadcast		

¹ Application rate applies to aerial application only.

PERMISSION CONDITIONS: SCHEDULE 2

Application Identification Code: 17/35/MLC/DUNPH

Operation Name: **Battle for our Birds National Programme, Cleddau Beech Mast Response 17/18**

The requirements specified under the Hazardous Substances and New Organisms 1996 (HSNO) Act, its regulations, and Approvals for Vertebrate Toxic Agents granted under the HSNO Act are minimum requirements, which must be met.

A person acting under a delegation from the Authority may impose additional (stricter) conditions to address local circumstances. In addition to requirements specified under the HSNO Act, the following conditions shall apply:

1. Start Date

The applicant shall advise the Contact Person either by email or by telephone of the commencement of the application of the VTA(s), at least 12 hours before commencing application. If the contact person cannot be reached by telephone a message can be left.

2. Changes to Permission

The applicant shall advise the Contact Person either in writing (includes email) or by telephone of any material changes to the applicant's proposed operation (such as changes in operational areas and application types/rates).

3. Warning Sign Removal

The applicant shall advise the Contact Person in writing (includes email) or by telephone of their intention to remove warning signs from the operational area.

4. Complaints and Incidents

Any incidents or complaints relating to the operation that are likely to impact on public health shall be reported in the first instance to the Contact Person otherwise to the Health Protection Officer on call (via Dunedin Hospital switchboard (03) 474 0999) within 24 hours of the incident or complaint.

5. Duration of Permission

This approval is granted for the period commencing 18/08/2017 to 30/07/2018. The Contact Person shall be notified if there is any alteration to the intended date of the application.

If the applicant wishes to continue the operation after this date, they should contact the Contact Person at least two weeks before the expiry date of the original approval period. No operation may be extended beyond 12 months from the original start date.

6. Landowner Notification

Before commencing the operation, the applicant shall notify occupiers and, as far as practicable, owners of land, dwellings or buildings immediately abutting the operational area.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s). If requested by the person notified, notification shall be repeated at a mutually agreed time before the proposed application. The notice shall specify:

- a) the approximate date on which the VTA will be applied
- b) the name and nature of the VTA

- c) a description of the area over which the VTA will be applied
- d) the name and address of the person responsible for applying the VTA
- e) information on safety and precautions with respect to the VTA(s) being used.

7. School Notification

Before commencing the operation, the applicant shall notify schools, kōhanga reo, kindergartens and early childhood centres that are known to use the operational area. The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the institution notified, notification shall be repeated at a mutually agreed time before the proposed application. The notice shall specify:

- a) the approximate date on which the VTA will be applied
- b) the name and nature of the VTA
- c) a description of the area over which the VTA will be applied
- d) the name and address of the person responsible for applying the VTA
- e) information on safety and precautions with respect to the VTA(s) being used.

8. Health Services Notification

The applicant shall notify the nearest/local health services of the proposed application of the VTA(s). Nearest/local health services include GPs and other primary health services, ambulance services and hospitals.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s). The notice shall specify:

- a) the approximate date on which the VTA will be applied
- b) the name and nature of the VTA
- c) a description of the area over which the VTA will be applied
- d) the name and address of the person responsible for applying the VTA
- e) information on safety and precautions with respect to the VTA(s) being used.

9. Public Notification

The applicant shall give public notice in the following media (e.g. newspapers, community newsletters) of the proposed application of the VTA(s):

- a) The Southland Times
- b) The Otago Daily Times
- c) Advocate South
- d) The Department of Conservation Fiordland National Park Visitor Centre, Te Anau

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s). The notice shall specify:

- a) the approximate date the VTA(s) will be applied
- b) the name and nature of the VTA(s)
- c) a description of the area over which the VTA(s) will be applied
- d) the location(s) where the public may view maps of the area over which the VTA(s) will be applied and the times when such maps can be viewed
- e) the name and address of the person responsible for applying the VTA(s).

The applicant must provide a copy of the public notice, and the date(s) and media in which it was published to the Contact Person before commencing the operation.

10. Exclusion from Public Areas

No Vertebrate Toxic Agent (VTA) shall be aerially applied within 50 metres and not where it is within sight of any huts, access points, camping and public areas, including but not limited to:

- a) The Historic Suspension Bridge, Cleddau River
- b) The Historic Suspension Bridge, Tutoko River

No Vertebrate Toxic Agent (VTA) shall be ground applied within 20 metres and not where it is within sight of any of the above listed public areas.

Warning signs shall be placed at each of the listed hut(s), access points, camping and public amenity area(s) before the Vertebrate Toxic Agent VTA(s) is/are laid in adjoining areas.

11. Exclusion from Walking and Vehicle Tracks

No VTA shall be aerially applied within the distances specified below and not where it is within sight of any walking and vehicle tracks, including but not limited to:

- | | |
|------------------------------------|---------------------------------------|
| a) Grave Talbot Track ² | 20 m (applies to the first kilometre) |
| b) Tutoko Track ² | 20 m (applies to the first kilometre) |
| c) Milford Sound Lookout Track | 80 m |
| d) Milford Foreshore Walk | 80 m |
| e) The informal 'Waterpipe' track | 80 m |
| f) The Chasm Walkway ³ | 70 m |

12. Exclusion from Roads

No VTA shall be aerially applied within 50 metres and not where it is within sight of any roads and lay-bys, including but not limited to:

- a) Milton Sound Highway (State Highway 94)
- b) The lay-by at the Chasm Walkway
- c) Any lay-bys on the Milton Sound Highway (State Highway 94) which are within the operational area

13. Exclusion from Dwellings

No VTA shall be applied within 150 metres of (or within a different distance if mutually agreed in writing with the occupiers), and not be visible from, dwellings or built-up areas including the settlement of Milford Sound Village.

14. Aerial Exclusions

An aircraft that is carrying out an aerial application must not, when flying to or from the area where the VTA is applied, fly over the following 'no fly' areas:

- a) The settlement at Milford Sound Village

15. Aerial Applications to Tracks

The applicant may aerially apply 1080 to the following walking tracks within the operational area (**excluding those sections of tracks listed in Condition 11**) but not during or within 24 hours of the start of school holidays, public holidays or public holiday weekends:

- a) The Grave Talbot Track²
- b) The Tutoko Valley Track²

² If the operation takes place on or after 23rd October then no VTA shall be aerially applied within 20 metres of the entire length of the Grave Talbot and Tutoko Tracks.

³ Signage for the informal 'Waterpipe' Track shall be placed 50 m in from the start of this track before the Vertebrate Toxic Agent VTA(s) is/are laid in adjoining areas.

c) The informal tracks around the Chasm and Babylon climbing walls

If the applicant aerially applies 1080 to the Grave Talbot and Tutoko Valley tracks access to these tracks shall be restricted as far as practicable and signage warning the public that bait will be present on the tracks must be in place at the edge of the 1 km buffer and at the start of these tracks prior to any Vertebrate Toxic Agent VTA(s) being laid.

If the applicant aerially applies 1080 to the informal tracks around the Chasm and Babylon climbing walls information relating to the operation, including maps and key fact sheets, must be made available at the NZ Alpine Club's Homer Hut prior to any Vertebrate Toxic Agent VTA(s) being laid.

Note: The applicant shall undertake an inspection of the Tutoko Valley and Grave Talbot Tracks, prior to the 23rd October, and make all reasonable efforts to remove all bait. If, however, evidence can be provided that indicates that bait has either completely disappeared, or only a few separated particles of grain or wax flakes remain, then this inspection does not need to occur. Evidence required to be provided to Public Health includes:

- The GPS location of the bait monitoring station, which must be located at a distance of at least 1km from the start of the Tutoko Valley Track
- Confirmation of the start and end dates for the bait monitoring
- The amount of rainfall recorded, the period it was recorded over and the location it was recorded at
- Photographs of the baits at the endpoint of monitoring, if available

16. First Clearances

If the applicant aerially applies 1080 to the tracks listed in Condition 15, they shall inspect those tracks as soon as possible and not more than 24 hours after the VTA application. All reasonable efforts shall be made to find and remove all bait and, if encountered, animal carcasses.

Note: Clearance can be postponed if there is a safety risk due to the possibility of an avalanche. In the event that any tracks cannot be cleared within the required timeframe, the operator shall advise Public Health and the closure of tracks shall remain in place until clearance has occurred. Signage must remain in place at the edge of the 1 km buffer on the Grave Talbot and Tutoko Tracks, and information must remain at the Homer Hut warning that 1080 bait is likely to be on the tracks. Once the avalanche risk is low the remainder of these tracks shall be checked and cleared of bait and, if encountered, carcasses.

17. Second Clearances

The applicant shall undertake a second inspection of the following walking and vehicle tracks and make reasonable efforts to find and remove all bait and, if encountered, animal carcasses:

- a) The Grave Talbot Track
- b) The Tutoko Valley Track
- c) The informal tracks around the Chasm and Babylon climbing walls

The second inspection shall be made at least 24 hours after the VTA application and must be timed to take place within 48 hours of the first occurrence strong winds. Clearance can be postponed if there is a safety risk due to the possibility of an avalanche. In the event that any tracks cannot be cleared within the required timeframe, the operator shall advise Public Health and the closure of tracks shall remain in place until clearance has occurred.

18. GPS Track Logs

A GPS track log shall be recorded and maintained for each track clearance and made available to Public Health South on request.

19. Toxin Location Record

A record (e.g. GPS waypoints, log, flight lines) of where toxin is applied shall be maintained during the operation and made available to Public Health South on request.

20. Sign Contents

All warning signs must include an international symbol for toxic substances (e.g. skull and crossbones) and a statement advising that children and pets should not be allowed to wander (e.g. 'WATCH CHILDREN at all times').

21. Sign Maintenance

During the period in which the bait remains toxic, warning signs at the locations listed below shall be inspected immediately before the commencement of school holidays, public holidays or public holiday weekends:

- a) The Historic Suspension Bridge, Cleddau River
- b) The Historic Suspension Bridge, Tutoko River
- c) The Chasm Walkway and lay-by
- d) The Grave Talbot Track
- e) The Tutoko Valley Track

Any signs that are damaged, vandalised or otherwise become illegible shall be replaced within 24 hours of discovery of the damage.

22. Sign Vandalism

During the period in which the bait remains toxic, warning signs shall be inspected within a week of the toxin drop and then followed by a monthly check prior to the 23rd October and fortnightly after in the following locations:

- a) All areas where the signs have been placed at the entry to or within the operational area as shown on the map in Schedule 3

Note: If evidence can be provided that indicates that the bait is no longer toxic, conditions 21 and 22 will no longer apply. The baits must either have completely disappeared, or only a few separated particles of grain or wax flakes must remain.

Evidence required to be provided to Public Health includes:

- The location of the bait monitoring site(s) i.e. GPS reference
- Confirmation of the start and end dates for the bait monitoring
- The amount of rainfall recorded, the period it was recorded over and the location it was recorded at
- Photographs of the baits at the endpoint of monitoring, if available

Any signs that are damaged, vandalised or otherwise become illegible shall be replaced within 24 hours of discovery.

23. Domestic Water Supply: Notification

The applicant shall notify the intended operation to all people who:

- a) source their domestic water supply from within the operational area; or
- b) source their domestic water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the person notified, notification shall be repeated at a mutually-agreed time before the proposed application.

24. Domestic Water Supply: Location

The applicant shall verify the location of water supply intakes with all people who:

- a) source their domestic water supply from within the operational area; or
- b) source their domestic water supply within 3 km of the operational area, where the water source is a surface waterway that flows through or rises within the operational area.

A GPS waypoint file of water supply intakes shall be recorded and made available to Public Health South on request.

25. Domestic Water Supply: Exclusions

No VTA shall be ground-laid within 20 meters of domestic water supply intakes that source water within the operational area including the Milford Sound Lodge bore. For supplies from a flowing surface watercourses, such as the Milford Sound Lodge bore, the 20 meter exclusion shall extend for a length of 50 meters upstream from the point of intake.

26. Domestic Water Supply: Mitigation

For an aerial application of 1080, applicants must provide mitigation to all households and huts/camping areas that:

- a) source water from inside the operational area; or
- b) source their domestic water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area if mitigation is requested by household occupiers or managers of huts/camping grounds.

Mitigation shall involve either or both of the following:

- a) No 1080 shall be applied within 50 meters of any water supply intake including the the Milford Sound Lodge bore. For flowing surface waterways, the 50 meters exclusion shall extend for a length of 200 meters upstream from the point of intake. In the case of the Milford Sound Lodge bore the exclusion extends for a length of 200 meters upstream from this bore.
- b) The domestic water supply shall be temporarily disconnected until such time as water testing finds no VTA contamination above 50 percent of the Ministry's PMAV.⁴ If no temporary water source is available, an adequate alternative potable water supply (to be used for drinking and cooking) will be provided to the affected household; the amount per day to be agreed with the household, until testing is completed.

27. Public Water Supplies: Notification

The applicant shall notify the details of the intended operation to all managers of public water supplies who:

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the person notified, notification shall be repeated at a mutually-agreed time before the proposed application.

⁴ The Provisional Maximum Acceptable Value (PMAV) represents the concentration of sodium fluoroacetate (1080) in water that, on the basis of present knowledge, it is not considered to cause any significant risk to health of the consumer over their lifetime of consumption of that water. Fifty percent of the PMAV for 1080 is a concentration of two parts per billion or 2ng/mL.

28. Public Water Supplies: Location

The applicant shall mutually verify the location of public water supply intakes with all water supply managers who:

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

A GPS waypoint file of water supply intakes shall be recorded and made available to Public Health South on request.

29. Public Water Supplies: Exclusions

No VTA shall be ground laid within 50 meters of the Milford Sound Village water supply intake. As this is sourced from the Bowen River, the 50 meters exclusion shall be extended to 100 meters upstream of the point of intake.

30. Public Water Supplies: Mitigation

For an aerial application of 1080, applicants must provide mitigation to all public water supplies that:

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

Mitigation shall be mutually agreed in writing between the applicant and water supply managers and involves both of the following:

- a) No 1080 shall be applied within 200 meters of the Milford Sound Village water intake, which is extended upstream of the Bowen River to the point where the second of the two feeder arms enters the river
- b) An exclusion of 200 meters shall be in place on each of these feeder arms from the point where they enter the Bowen River

31. Water Supply Mitigation: Reporting

The applicant shall maintain a list of water mitigation measures provided under Conditions 26 and 30, which shall be available, on request, to Public Health South.

32. Water Supply Testing

If testing is requested by any owner of a water supply that:

- a) sources their water supply from within the operational area; or
- b) sources their water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area,

then testing shall conform to the following requirements:

- a) One water sample will be taken after 8 hours and within 24 hours after toxin has been dropped within the catchment area of the water source
- b) The water sample shall be taken as per the requirements for sampling as stated in Landcare Research Guidelines for Sampling and Testing of Water associated with Monitoring of Aerial 1080 Baiting Operations
- c) The operator is required to provide Public Health South with full details of any sample taken including location of sample taken, the date and time the sample was taken and when sent to Landcare Research for testing
- d) Water testing of the identified water supply locations shall confirm that the concentration of 1080 is below 2 ng/mL (part per billion)
- e) Where water testing reveals VTA contamination over 50 percent of the PMAV (i.e. 2ng/mL or 2ppb), the alternative potable water supply shall be maintained until such time as a repeat test confirms VTA

contamination below 50 percent of the PMAV, in accordance with the requirements of the Drinking-water Standards of New Zealand

33. Water Supply Testing: Reporting

The applicant shall provide, or arrange for the provision of, the outcome of all water testing to Public Health South within 24 hours of receipt of the testing results.

In the event that water testing reveals VTA contamination over the PMAV², the applicant shall discuss any further proposed mitigation measures with Public Health South and continue testing in accordance with the requirement for monitoring to establish compliance with the Drinking-Water Standards of New Zealand.

Note:

The requirements under HSNO are minimum requirements and stricter conditions may be imposed by a person acting under a delegation from the Authority. The delegation includes the power under section 95A of the HSNO Act:

- a) to decide an application for a permission; and/or
- b) to add, delete or otherwise vary any condition on a permission; and/or
- c) to revoke a permission

For the use of vertebrate toxic agents in a catchment area from which water is drawn for human consumption or in any other area where a risk to public health may be created if the substance is applied or used where such a control has been set under section 95A of the HSNO Act.

Conditions in the permission form may be modified or waived with the agreement in writing of the person acting under a delegation from the Authority unless they relate to other regulatory requirements.

To.

- Contract Wild Animal Control Ltd

§ 9(2)(a), 9(2)(g)

Cc.

- Department of Conservation Southern South Island region - Invercargill
- EPA - permissions@epa.govt.nz
- WorkSafe New Zealand:

§ 9(2)(a), 9(2)(g)

§ 9(2)(a), 9(2)(g)

PERMISSION CONDITIONS: SCHEDULE 3 (Maps)

Application Identification Code: 17/35/MLC/DUNPH

Operation Name: **Battle for our Birds National Programme, Cleddau Beech Mast Response 17/18**

**MAP 1- Operational area
MAP 2 – Water supply buffer**

Released under the Official Information Act

Released under the Official Information Act

2017 Cleddau BFOB Aerial Operation Boundaries

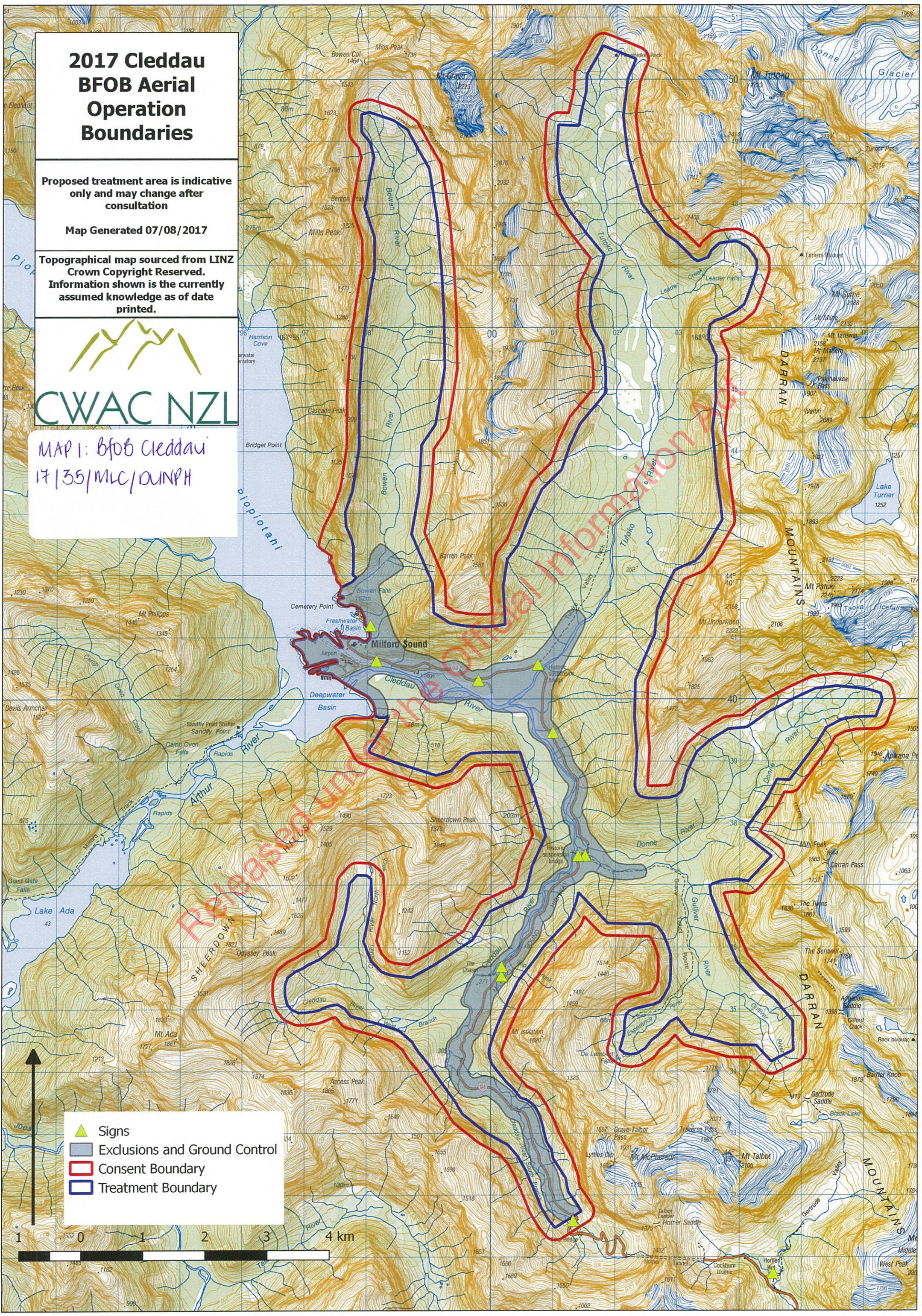
Proposed treatment area is indicative only and may change after consultation

Map Generated 07/08/2017

Topographical map sourced from LINZ Crown Copyright Reserved. Information shown is the currently assumed knowledge as of date printed.



MAP 1: BFOB Cleddau
17/35/MLC/DUNPH



- ▲ Signs
- Exclusions and Ground Control
- ▭ Consent Boundary
- ▭ Treatment Boundary





- Milford Sound Village water intake
- Buffer zone for water intake

MAP 2: BfoB Cleddau
17/35/MLC/DUNPH



02 September 2014

Contract Wild Animal Control New Zealand Limited
27B Ramparts Rd
Te Anau 9679
SOUTHLAND

Attention: s 9(2)(a)

Dear s 9(2)(a)

Water Quality Monitoring Post Discharge for 1080 Operation - Milford Area

Contract Wild Animal Control New Zealand Limited was granted Resource Consent to aerially discharge possum bait containing sodium monofluoroacetate to land in the Milford area in circumstances where it may enter water. As a condition of this consent, the Contract Wild Animal Control New Zealand Limited was required to monitor the effects of the discharge on water quality within 48 hours of discharge by engaging an independent organization to collect water samples and forward them to an accredited laboratory for the analysis of sodium monofluoroacetate.

Methodology

Two samples were collected into new containers supplied by Hill Laboratories Ltd. Sampling and testing were performed in accordance with standard methods and Landcare Research's Protocol for Environmental Water Sampling and Testing Associated with 1080 Pest Control Operations. The location, number of sample sites and timing of sample collection were determined by the consent conditions.

Water samples were collected by s 9(2)(a) on 19 September 2017 at the sites listed in Table 1. All samples were collected as close as possible to the sites identified in consent conditions.

The location, water temperature and appearance of the sampled water were recorded at each sample site where possible along with a visual check for possum baits and dead animals in the watercourse within 10m of the sample site. Weather conditions at the time of sampling were fine and calm.

Samples were transported from sample sites chilled, then couriered to s 9(2)(a) at Landcare Research's toxicology laboratory for examination.

Table 1. Sample Location Coordinates (New Zealand Transverse Mercator)

Site	Northing	Easting
Milford Lodge	5040385	1198732
Bowen River	5042000	1198099

Conclusion

Two water quality samples were collected the day after the aerial discharge of possum bait containing sodium monofluoroacetate in the Milford area. Sampling was performed by Southern Monitoring Services Ltd in accordance with current standard methods and protocols at sites identified in Table 1. Where possible all samples were collected as close as practicable to the sites identified in consent conditions.

Both samples were submitted to Landcare Research's toxicology laboratory for examination with all results below the level of detection (Image 1). Appended is a copy of the Landcare Research Toxicology Report (Report # T6615)

Please don't hesitate to contact our office should you have any queries or require further information on the above sampling.

Yours faithfully,

s 9(2)(a)

SERVICE MANAGER

Image1. Landcare Research: Toxicology Laboratory Analysis Report



Manaaki Whenua
Landcare Research

Gerald Street
P.O.Box 69040
Lincoln, 7640
Ph: +64 3 321 9999
Fax: +64 3 321 9998

**Toxicology Laboratory
Analysis Report**

Report No: T6615

CLIENT: s 9(2)(a) Southern Monitoring Services Ltd, P.O. Box 1364, Invercargill 9840 .
 CLIENT REFERENCE No.: Telephone No: 03 214 2375
 SAMPLES: Two water samples
 REQUIREMENT: Examine for fluoroacetate
 RECEIVED: 22 September 2017

Sample/s were received for analysis. The details were entered into the laboratory sample system and the sample/s given a reference number. The sample details and results are as follows:

No. samples: 2

LabNo.	Description	Fluoroacetate, µg/mL
21233	Water sample, SMS 0068, 23:52, 19/9/17, Bowen River	<MDL
21234	Water sample, SMS 0069, 13:38, 19/9/17, Milford Lodge	<MDL

All results are reported to two significant figures.

The determination was carried out using TLM005, the assay of fluoroacetate in water, soil and biological materials by GLC. The method detection limit (MDL) is 0.0001µg/mL and the uncertainty (95% c.i.) is ± 12%.

TESTED BY: s 9(2)(a) WORKBOOK REF: 111/11
 TEST PERIOD: 22-25/9/17

AUTHORISED BY:

s 9(2)(a)

Date: 25/09/2017



These results are confidential to the client and relate only to the samples as received and tested. This report may be reproduced in full only. The samples relating to this report will be disposed of after two months from the report date unless requested otherwise by the client. Where appropriate, the above results will be included in anonymised form in the National Vertebrate Pesticide Residue Database.



Department of Conservation, Cleddau Biodiversity Management Unit, Fiordland National Park - 2017/2018

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

Executive Summary

This report summarises the animal pest management and species monitoring performed in the Cleddau Biodiversity Management Unit (BMU) between July 2017 and June 2018. The site is significant in Fiordland as it is the gateway to the iconic Milford Sound. It is believed that no resident deer are present and it is within one of eight national security sites for the recovery of whio/blue duck (*Hymenolaimus malachorhynchos*). Whio pair numbers remained stable within the Cleddau BMU in 2017/18. A total of 5 pairs were found across the area, and 12 ducklings observed. Virtually no beech seed fall was detected in autumn 2018. 155 stoat traps and 120 possum traps were operational this season and were serviced either by contractors or volunteers. Up to 10 trap checks were undertaken across all trap lines with 6 stoats, 93 rats and 6 possums caught, significantly less than in 2016/17 (48, 200 and 68 respectively). This is due to the success of the aerial 1080 operation that was undertaken in the area in September 2017. Pre-operation possum monitoring was completed in June 2017 and resulted in a Wax Tax Index (WTI) of 35%. Post-operational WTI was reduced to 4%.

Background

The Cleddau Biodiversity Management Unit (BMU) includes the Cleddau river catchment including the Bowen, Tutoko, Gulliver, & Donne river catchments and flows into Milford Sound in the north of Fiordland National Park. The Milford road passes through the heart of the area and Milford village is situated within it making the area a top tourism destination and hence an important advocacy site. Advocacy has proven to be essential in growing conservation particularly through the development of public and private sector partnerships, which have become vital in protecting our biodiversity.

The majority of management undertaken in the Cleddau BMU is targeted at whio recovery, but other native species present are likely to benefit including South Island kaka (*Nestor meridionalis meridionalis*), kea (*Nestor notabilis*), western weka (*Gallirallus australis australis*), and Fiordland tokoeka/kiwi (*Apteryx australis australis*). Stoat trapping along the Cleddau and its tributaries has been carried out since 2002 and 198 traps are currently operational.

Whio/blue duck (*Hymenolaimus malachorhynchos*) are an iconic back-country species, one of only 3 torrent duck species in the world; they are unique and endemic to New Zealand with a threat classification of "Nationally Vulnerable". One of the goals of the Whio Recovery Plan (2009 – 2019) is to secure whio in New Zealand such that there is a minimum of 400 pairs across eight high priority Security Sites. One of these sites is the Northern Fiordland Security Site, which is inclusive of the Cleddau BMU.

It is believed that the Cleddau is the only mainland catchment within Fiordland that does not have a resident deer population. The vegetation has had a unique opportunity to thrive, with little browse pressure (when possum numbers are controlled). It is a site for red (*Peraxilla tetrapetala*) and scarlet mistletoe (*Peraxilla colensoi*). Possums have been targeted in parts of the Tukoko, Gulliver and Cleddau valleys using 120 kill traps since 2010. These traps are serviced in conjunction with stoat traps along the same lines by a contractor. An aerial poison operation was completed in the Cleddau BMU in September 2017 with the aim of reducing possum numbers.

Chamois (*Rupicapra rupicapra*) have been controlled through aerially hunting across Fiordland since 2003 with the aim of managing them to low densities to protect native ecosystems. The southern part of the Cleddau BMU falls into one of three control blocks and is currently receiving annual aerial control as part of the northern chamois control area.

The Cleddau delta restoration project was established by the Fiordland Conservation Trust (FCT) in September 2007. The project aims to control introduced animal pests in a 40 hectare area of beech and coastal forest covering the old Cleddau river delta at Milford Sound. The network of 44 double set DOC150s is currently checked voluntarily by Trips & Tramps in addition to servicing 54 Milford road traps for the Department of Conservation.

s 9(2)(a) of the New Zealand Alpine Club established 10 DOC150 double stoat traps in the Bowen Valley in 2012 to help with protection. This network was enlarged in 2016 with the addition of 11 A24 self-setting traps. The Bowen Valley is a rugged area with very weather dependant access.

Milford Lodge have a network of 24 traps between Little Tahiti and Deepwater Basin which were not used this year, however they may resume this predator control in the up-coming year.

Pest Management

Predictive Monitoring

Seedfall assessment

Beech seed fall is not directly monitored in the Cleddau valley where silver (*Nothofagus menziesii*) and mountain (*Nothofagus solandri*) beech are present in significant numbers. Currently seed fall is estimated from the annual monitoring in the nearby Arthur and Sinbad valleys using a line of eight seed collection trays in each valley. The level of beech seeding was barely detectable in both valleys during autumn 2018 (see Figure 1 and 2).

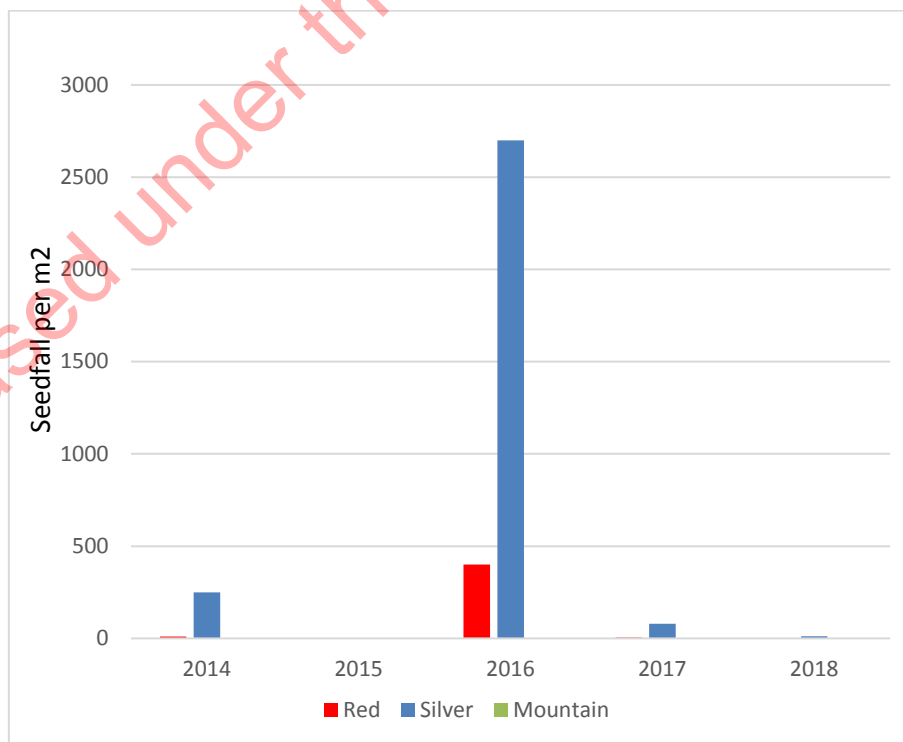


Figure 1 - Annual beech seedfall per m2 - Arthur Valley 2014 - 2016

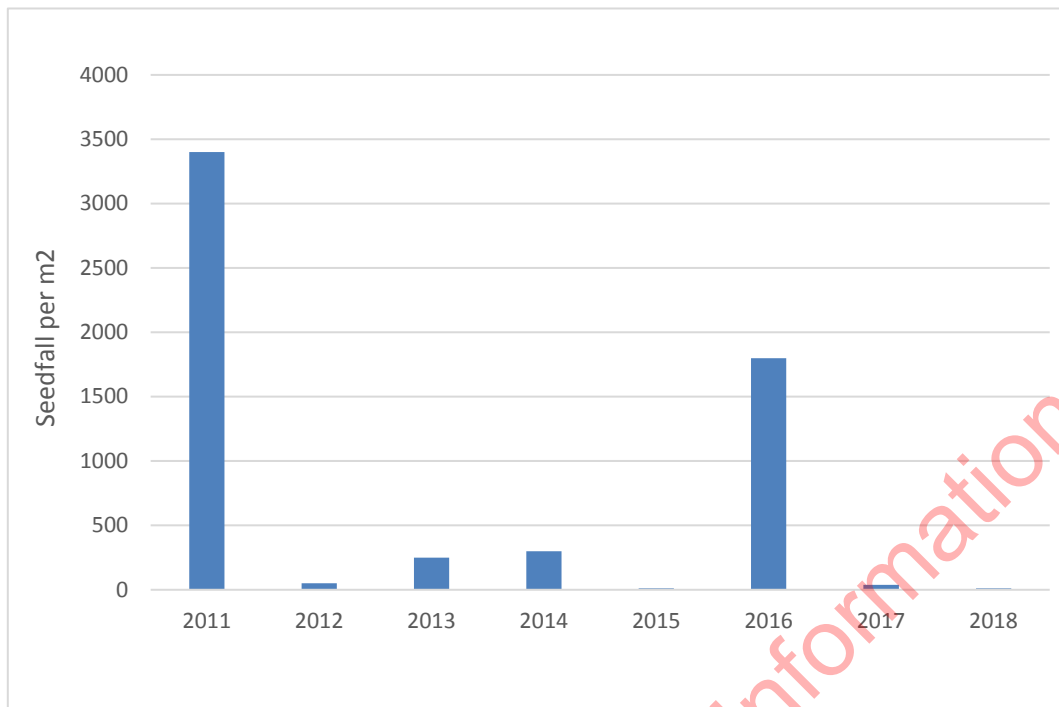
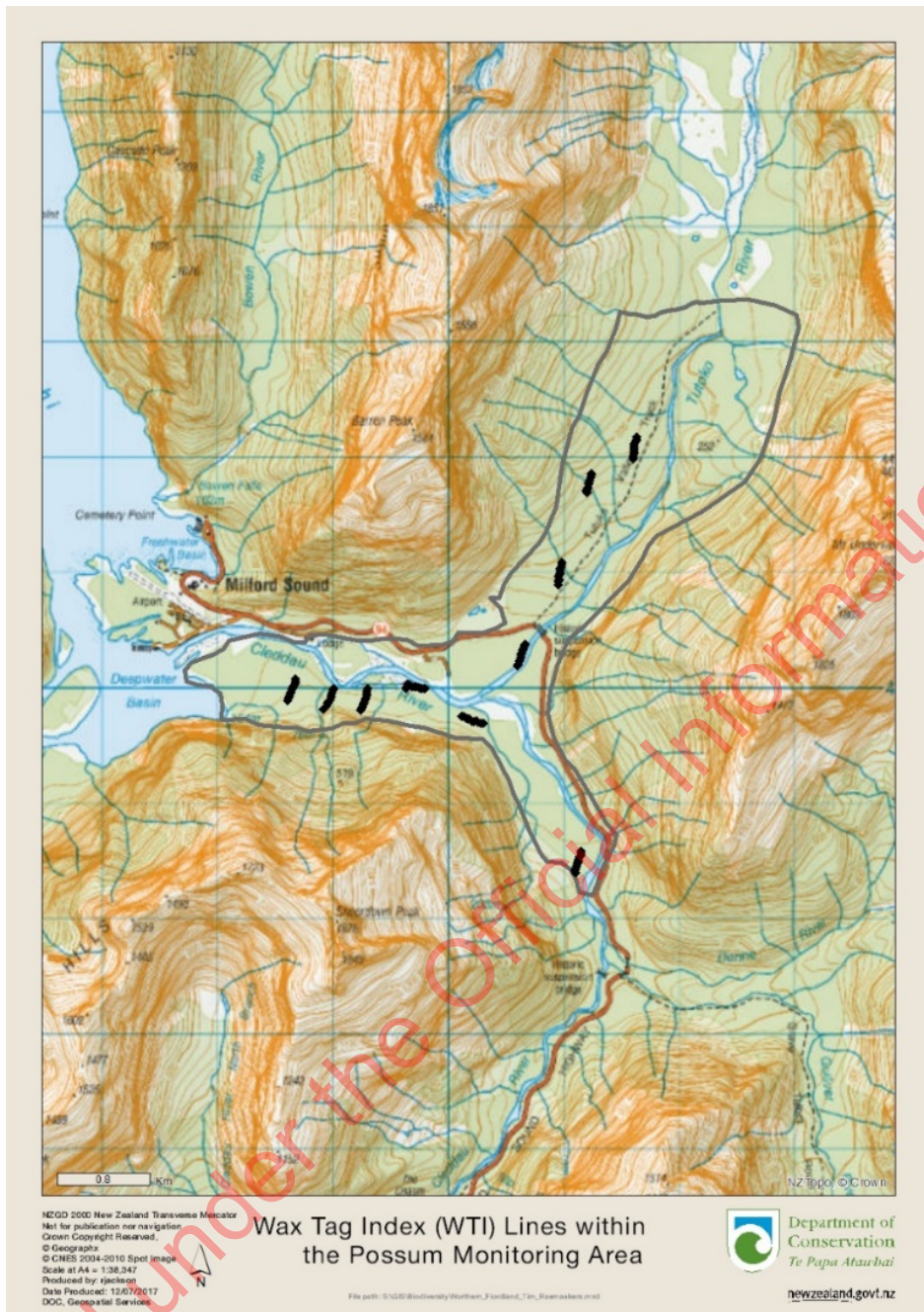


Figure 2 - Annual beech seedfall per m2 - Sinbad Gully 2011 - 2017
(Silver beech only, no other seed detected)

Possum monitoring

Wax Tag Index (WTI) monitoring is performed to measure the relative density of possums. As wax tags are non-lethal they can be used safely in areas with ground birds, as opposed to residual trap-catch (RTC) monitoring which must use raised-sets in areas with ground birds. WTI monitoring is undertaken following the standardised protocol as described in the National Pest Control Agency's "All Possum Population Monitoring using the Trap-catch, Waxtag, and Chewcard methods".

Pre-operation monitoring was undertaken in a subset of the Cleddau BMU during June 2017 with a WTI of 35% SE 11. Of note is the marked difference between the monitoring lines on the true left (55% SE 10, 6 lines) and the true right (5% SE 2, 4 lines) of the Cleddau/Tutoko. Ongoing possum trapping in the Cleddau and Tutoko may be an explanation for the low possum WTI on the Cleddau TR, and the area is also close to the Milford road may be frequented by fur trappers. Post-operational WTI was reduced to 4%, but was above the <2% target.



Pest control

Stoat control

Stoat control in the Cleddau BMU generally consists of wooden tunnels containing two stainless DOC-150 traps weight adjusted to set off at 100g. 155 stoat trap tunnels were operational through the Cleddau BMU during the 2017/18 season with 6 stoats and 93 rats caught (see figures 3 and 4). The main Tutoko, Gulliver and Cleddau Valley traps (77 traps) had 9-10 trap checks carried out between August 2017 and June 2018 and caught 2 stoats and 32 rats. The Cleddau delta, upper and lower valley traps (98 traps) had 3-4 trap checks carried out by Trips and Tramps and a total of 4 stoats and 61 rats were caught across these trap lines. As expected, stoat numbers were significantly lower during the year aerial operation was carried out (Figure 3), and importantly, the lowest they had been since trapping began.

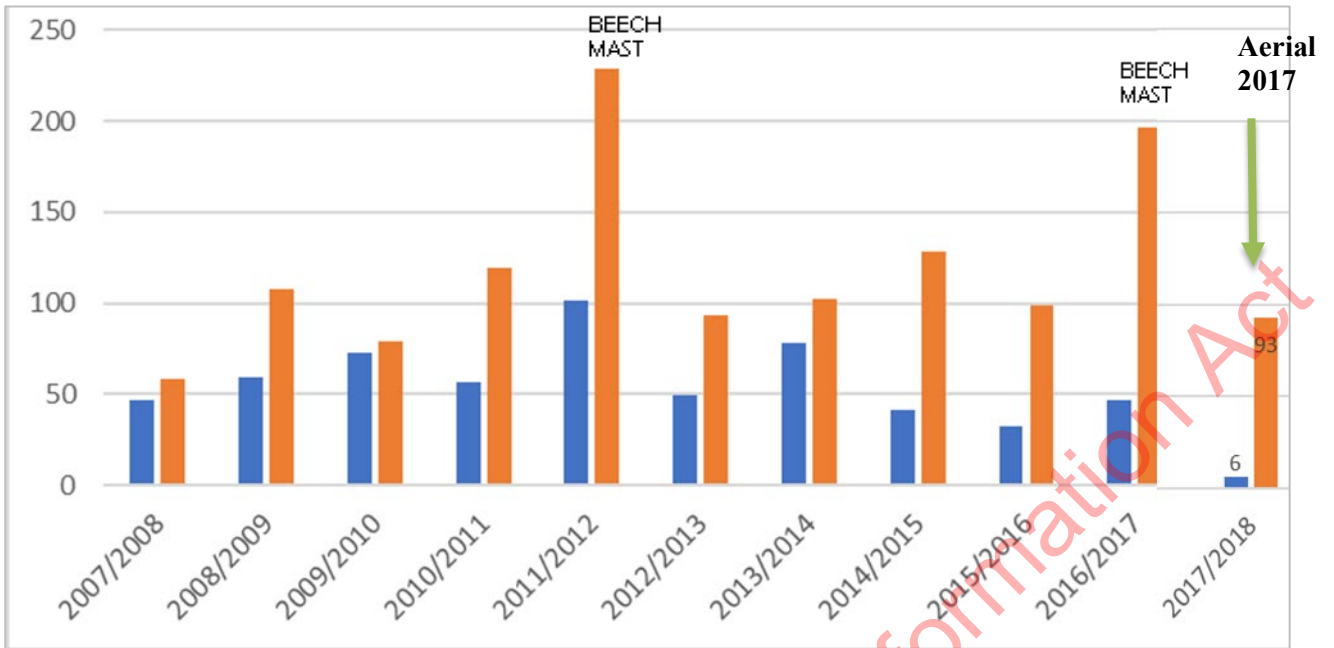


Figure 3 - Historic trap catch results 2007-2018 (Blue = Stoats; Orange = rodents)

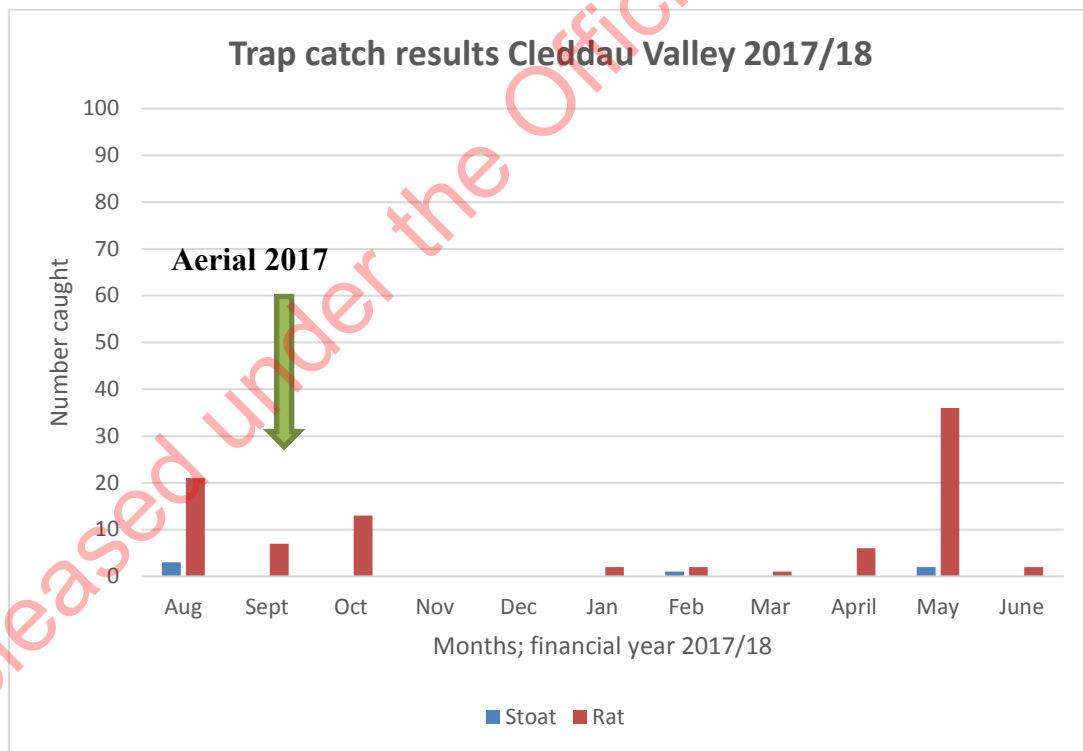


Figure 4 - Trap catch results Cleddau valley 2017/2018

The New Zealand Alpine Club undertook 2 trap checks in the Bowen valley this year and caught 3 stoats and 2 rats as well as servicing their A24 self-setting traps. 6 strikes were recorded on A24s.

Rodent control

Although possums were the target species of this aerial operation, it was also expected to reduce rodent and stoat numbers.

Tracking tunnel indices showed that the aerial operation was successful in reducing rodent numbers. Pre-operational rat tracking was 35% and post operational tracking achieved the <5% threshold, at 4%. This was reflected in the trap catch results (Figure 4), with rodent catches dropping to zero following the September operation, and remaining low until May the following year – when there is a spike in rat catch.

Possum control (trapping)

Possums have been targeted in parts of the Tukoko, Gulliver and Cleddau valleys using 120 kill traps since 2010. Four checks were carried out in the 2017-18 season, with a total of 6 possums caught.

Outcome Monitoring

Whio/Blue duck

One of the goals of the Whio Recovery Plan (2009 – 2019) is to secure whio in New Zealand such that there is a minimum of 400 pairs at eight high priority Security Sites. One of these sites is the Northern Fiordland Security Site, which is inclusive of the Cleddau catchment. The Cleddau catchment encompasses the Tutoko and Gulliver rivers. A whio survival and productivity study was initiated in the Clinton in 2000, results from this study led to the establishment of stoat control in the Cleddau catchment in 2002.

The weather played a role in the monitoring effort during 2017/18 and appears to have influenced the timing of breeding for whio in Fiordland with early and late nesting observed.

To monitor the whio population, walk-through river surveys are conducted twice per season. The first survey is performed during November/December, to capture duckling numbers. The second is usually conducted in January, timed to determine fledging success. Snow melt and multiple flood events during Summer 2017 led to high river levels which delayed the first round of surveys for most rivers within the Security Site. The second survey round was not attempted in some catchments.

The Cleddau catchment was surveyed during the first fine period with safe river levels in late November/December 2017, with 18.3km of river monitored. In January 2018, a second survey was performed within the catchment, except for the section of river above the Chasm. 5 pairs were located, of which 4 were observed with ducklings. A total of 12 ducklings were found. Unfortunately due to the late nesting and the timing of the surveys only 5 ducklings are known to have fledged, but it is likely there were more.

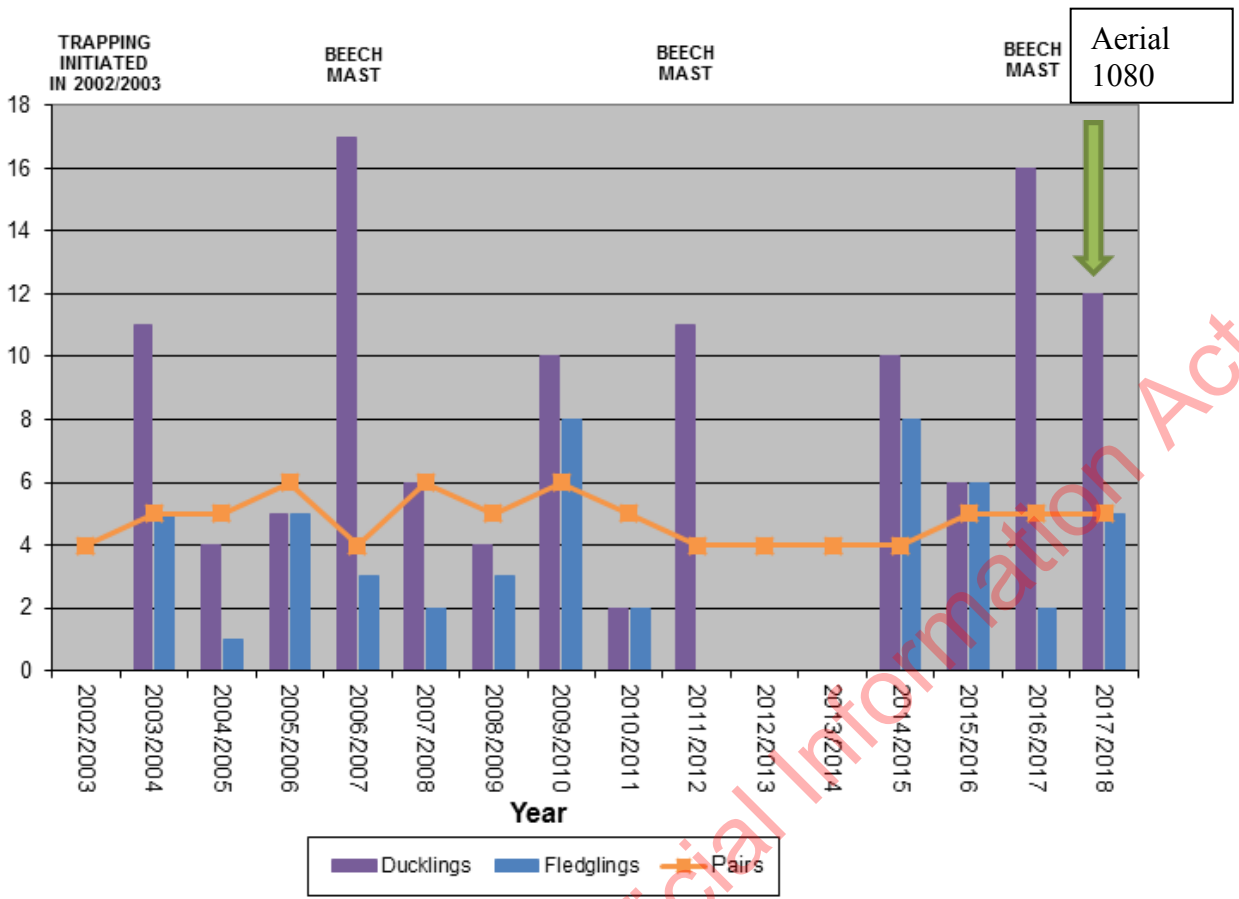


Figure 5 - Whio productivity in the Cleddau catchment 2002-2018 (green arrow aerial operation)

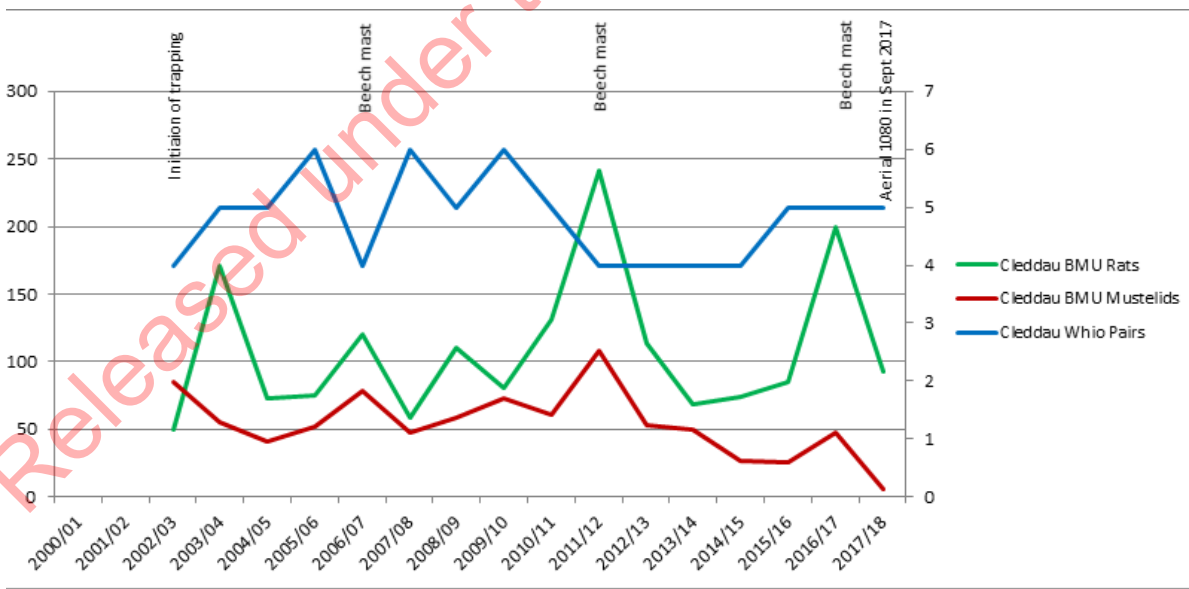


Figure 6 - Whio pairs in the Cleddau in relation to catch rates of rats and mustelids

Work programme 2018/19

- Quarterly rat indexing in July, November, February and May
- 10 stoat trap checks monthly from August to May
- Whio river surveys in November/December and January

Recommendations and opportunities

- Undertake deer sign surveys every 3-5 years
- Undertake seed fall monitoring in the Cleddau catchment for more accurate beech seed masting predictions
- Undertake mistletoe surveys and WTI monitoring every 3-5 years to monitor possum abundance and its effects
- Conduct 20x20m vegetation monitoring study
- Update and install additional tracking tunnel lines to encompass a more representative sample of the area (ridge to river lines)
- Undertake WTI trial to ascertain if possum trap networks could be used effectively to keep possum densities low
- Extend trap networks for stoats, and possums if deemed effective to cover the whole catchment

Acknowledgements

A big thank-you to everyone who contributed to the conservation work in the Cleddau BMU in 2017/18. Many thanks to ^{s 9(2)(a)} [redacted] from Trips & Trips for their time voluntarily servicing traps. Thanks to Mainly Fauna for performing pest management work and to the New Zealand Alpine Club. Thanks to ^{s 9(2)(a)} [redacted] t with ^{s 9(2)(a)} [redacted] and ^{s 9(2)(a)} [redacted] for leading the whio river surveys. Genesis Energy provided funding and support for whio monitoring through the Whio Forever project and the Fiordland Conservation trust supports the Cleddau Delta project. And lastly a big thank you to all the DOC staff have put their time and effort into the project over the years.

References

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- National Pest Control Agency. 2015. All Possum Population Monitoring using the Trap-catch, Waxtag, and Chewcard methods.



Board

Invercargill PO Box 1601, Invercargill 9840 Ph: 03 211 0900

Queenstown PO Box 2180, Frankton, Queenstown 9349 Ph: 03 450 9156

**PERMISSION FOR USE OF
VERTEBRATE TOXIC AGENT(S) AND
OTHER HAZARDOUS SUBSTANCE(S)**

Approved Hazardous Substance Permission Form Version 5: 14 June 2018
Pursuant to section 95A of the Hazardous Substances and New Organisms Act 1996

To: s 9(2)(a) / 9(2)(g) of Contract Wild Animal Control Ltd.

27B Ramparts Road Te Anau 9679

Application Identification Code: 19/02/RWC/INVPH

Operation Name: Battle for our Birds: Arthur Cleddau

Territorial Local Authority(s): Southland

Purpose of Operation: Possum Control

I, s 9(2)(a) / 9(2)(g), being a person acting under powers delegated by the Environmental Protection Authority (the Authority), GRANT PERMISSION for the USE of the vertebrate toxic agent(s) and/or other hazardous substance(s) listed in SCHEDULE 1, in the area(s) indicated on the maps in SCHEDULE 3, subject to the CONDITIONS set out in SCHEDULE 1 and SCHEDULE 2 attached hereto for those hazardous substance(s);

s 9(2)(a) / 9(2)(g)

Signed:

Name:

s 9(2)(a) / 9(2)(g)

Title: HSNO Enforcement Officer

Date Issued:

29/4/19

This permission is valid between: 01/05/2019 to 25/10/2019

Contact Person: s 9(2)(a) / 9(2)(g)

Email: s 9(2)(a) / 9(2)(g)

Phone: s 9(2)(a) / 9(2)(g)

Appeals: Section 125 (IA) of the Hazardous Substances and New Organisms (HSNO) Act: A person may appeal to the District Court against a decision of the Authority, under section 95A about the terms and conditions of a permission held by the person.

Notice of Appeal: Section 127 of the HSNO Act: Before or immediately after the filing and service of a notice of appeal, the appellant shall serve a copy of the notice on the Authority, and every other party to the proceedings, and any other person who made a submission to the Authority.

**PERMISSION CONDITIONS: SCHEDULE 1 (Vertebrate Toxic Agent(s) and/or other
Hazardous Substance(s))**

Application Identification Code: 19/02/RWC/INVPH

Vertebrate Toxic Agent or other Hazardous Substance Information		
Vertebrate Toxic Agent or other Hazardous Substance: Sodium monofluoroacetate (1080)		HSNO Approval Number: HSR002424
Strength: 1.5g/kg	Form: Pellets	Application rate ¹ : 1.5-3kg/ha
Start Date of Application: 01/05/2019		Last Date of Application: 25/10/2019
Methods of application for this VTA or other hazardous substance allowed under this permission: Aerial, Ground broadcast		

¹ Application rate applies to aerial application only.

PERMISSION CONDITIONS: SCHEDULE 2

Application Identification Code: 19/02/RWC/INVPH

Operation Name: Battle for our Birds: Arthur Cleddau

The requirements specified under the Hazardous Substances and New Organisms 1996 (HSNO) Act, its regulations, EPA Notices and Approvals for Vertebrate Toxic Agents and other hazardous substances granted under the HSNO Act and Health and Safety at Work (Hazardous Substances) Regulations 2017 are requirements, which must be met.

A person acting under a delegation from the Authority may impose additional conditions to address local circumstances. In addition to requirements specified under the HSNO Act and HSW (Hazardous Substances) Regulations, the following conditions shall apply:

1. Start Date

The applicant shall advise the Contact Person either by email or by telephone of the commencement of the application of the VTA(s), at least 12 hours before commencing application. If the contact person cannot be reached by telephone a message can be left.

2. Changes to Permission

The applicant shall advise the Contact Person either in writing (includes email) or by telephone of any material changes to the applicant's proposed operation (such as changes in operational areas and application types/rates).

3. Complaints and Incidents

Any incidents or complaints relating to the operation that are likely to impact on public health shall be reported in the first instance to the Contact Person otherwise to the Health Protection Officer on call (via Dunedin Hospital switchboard (03) 474 0999) within 24 hours of the incident or complaint.

4. Duration of Permission

This approval is granted for the period commencing 01/05/2019 to 25/10/2019. The Contact Person shall be notified if there is any alteration to the intended date of the application.

If the applicant wishes to continue the operation after this date, they should contact the Contact Person at least two weeks before the expiry date of the original approval period. No operation may be extended beyond 12 months from the original start date.

5. Landowner Notification

Before commencing the operation, the applicant shall notify occupiers and, as far as practicable, owners of land, dwellings or buildings immediately abutting the operational area.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s). If requested by the person notified, notification shall be repeated at a mutually agreed time before the proposed application. The notice shall specify information on safety and precautions with respect to the VTA(s) being used.

6. School Notification

Before commencing the operation, the applicant shall notify schools, kōhanga reo, kindergartens and early childhood centres that are known to use the operational area. The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the institution notified, notification shall be repeated at a mutually agreed time before the proposed application. The notice shall specify:

- a) the approximate date on which the VTA will be applied
- b) the name and nature of the TA
- c) a description of the area over which the VTA will be applied
- d) the name and address of the person responsible for applying the VTA
- e) information on safety and precautions with respect to the VTA(s) being used.

7. Health Services Notification

The applicant shall notify the nearest/local health services of the proposed application of the VTA(s). Nearest/local health services include GPs and other primary health services, ambulance services and hospitals.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s). The notice shall specify:

- a) the approximate date on which the VTA will be applied
- b) the name and nature of the VTA
- c) a description of the area over which the VTA will be applied
- d) the name and address of the person responsible for applying the VTA
- e) information on safety and precautions with respect to the VTA(s) being used.

8. Exclusion from Public Areas

- No Vertebrate Toxic Agent (VTA) shall be aerially applied within 50 metres of the forested edge and not where it is within sight of any huts, access points, camping and public areas, including but not limited to:

- a) The Historic Suspension Bridge, Cleddau River
- b) The Historic Suspension Bridge, Tutoko River
- c) Quintin Lodge
- d) Dumpling Hut
- e) Chasm Carpark and Walkway

- No Vertebrate Toxic Agent (VTA) shall be aerially applied within 20 metres from the forested edge of the following public areas:

- a) Quintin Shelter
- b) Baotshed Shelter
- c) Giants Gate Shelter
- d) Sandfly Point Shelter

- No Vertebrate Toxic Agent (VTA) shall be ground applied within 20 metres and not where it is within sight of any huts, access points, camping and public areas including those above listed public areas.

9. Exclusion from Walking and Vehicle Tracks

No VTA shall be aerially applied within the distances specified below and not where it is within sight of any walking and vehicle tracks, including but not limited to:

- | | |
|-----------------------------------|---------------------------------------|
| a) Milford Track | 20 m (applies to the first kilometer) |
| b) Grave Talbot Track | 20 m (applies to the first kilometer) |
| c) Tutoko Track | 20 m |
| d) Milford Sound Lookout Track | 80 m |
| e) Milford Foreshore Walk | 80 m |
| f) The informal 'Waterpipe' track | 80 m |
| g) The Chasm Walkway | 50m |

Vehicle and walking tracks on private land are excluded from this condition.

10. Exclusion from Roads

No VTA shall be aerially applied within 20 metres and not where it is within sight of any roads and lay-bys, including but not limited to:

- a) Milford Sound Highway (State Highway 94)
- b) The lay-by at the Chasm Walkway
- c) Any lay-bys on the Milford Sound Highway (State Highway 94) which are within the operational area

11. Exclusion from Dwellings

No VTA shall be applied within 150 metres of (or within a different distance if mutually agreed in writing with the occupiers), and not be visible from, dwellings or built-up areas including the settlement of Milford Sound Village.

12. Aerial Exclusions

An aircraft that is carrying out an aerial application must not, when flying to or from the area where the VTA is applied, fly over the following 'no fly' areas:

- a) The settlement at Milford Sound Village

13. Aerial Applications to Tracks

The applicant may aerially apply 1080 to the following walking tracks within the operational area (excluding those sections of tracks listed in Condition 9) but not during or within 24 hours of the start of school holidays, public holidays or public holiday weekends:

- a) The Grave Talbot Track
- b) The Tutoko Valley Track
- c) The informal tracks around the Chasm and Babylon climbing walls

If the applicant aerially applies 1080 to the Grave Talbot and Tutoko Valley tracks access to these tracks shall be restricted as far as practicable. If the applicant aerially applies 1080 to any of the above listed tracks, they shall inspect those tracks as soon as possible and not more than 24 hours after the VTA application and make reasonable efforts to find and remove all bait and, if encountered, animal carcasses.

If the applicant aerially applies 1080 to the informal tracks around the Chasm and Babylon climbing walls information relating to the operation, including maps and key fact sheets, must be made available at the NZ Alpine Club's Homer Hut prior to any Vertebrate Toxic Agent VTA(s) being laid.

Note: The applicant shall undertake an inspection of the Tutoko Valley and Grave Talbot Tracks, prior to the 23rd October, and make all reasonable efforts to remove all bait. If, however, evidence can be provided that indicates that bait has either completely disappeared, or only a few separated particles of grain or wax flakes remain, then this inspection does not need to occur. Evidence required to be provided to Public Health includes:

Released under the Official Information Act

- The GPS location of the bait monitoring station, which must be located at a distance of at least 1km from the start of the Tutoko Valley Track
- Confirmation of the start and end dates for the bait monitoring
- The amount of rainfall recorded, the period it was recorded over and the location it was recorded at Photographs of the baits at the endpoint of monitoring, if available

14. First Clearances

If the applicant aerially applies 1080 to the tracks listed in Condition 13, they shall inspect those tracks as soon as possible and not more than 24 hours after the VTA application. All reasonable efforts shall be made to find and remove ail bait and, if encountered, animal carcasses.

Note: Clearance can be postponed if there is a safety risk due to the possibility of an avalanche. In the event that any tracks cannot be cleared within the required timeframe, the operator shall advise Public Health and the closure of tracks shall remain in place until clearance has occurred. Information must remain at the Homer Hut warning that 1080 bait is likely to be on the tracks. Once the avalanche risk is low the remainder of these tracks shall be checked and cleared of bait and, if encountered, carcasses.

15. Second Clearances

The applicant shall undertake a second inspection of the following walking and vehicle tracks and make reasonable efforts to find and remove all bait and, if encountered, animal carcasses:

- a) The Grave Talbot Track
- b) The Tutoko Valley Track
- c) The informal tracks around the Chasm and Babylon climbing walls

The second inspection shall be made at least 24 hours after the VTA application. It should be timed to take place either:

- a) immediately after the occurrence of strong winds; or
- b) immediately before the weekend or commencement of school holidays or public holidays; whichever occurs first.

As an exception to this, clearance is not required to be carried out within 24 hours of application if there is a safety risk (e.g. due to avalanche risk or severe weather). In the event that any tracks cannot be cleared within the required timeframe, the operator shall advise Public Health and any methods to restrict track access shall remain in place until clearance has occurred.

16. GPS Track Logs

A GPS track log shall be recorded and maintained for each track clearance and made available to Public Health South on request.

17. Toxin Location Record

A record (e.g. GPS waypoints, log, flight lines) of where toxin is applied shall be maintained during the operation and made available to Public Health South on request.

18. Domestic Water Supply: Notification

The applicant shall notify the intended operation to all people who:

- a) source their domestic water supply from within the operational area; or
- b) source their domestic water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

Loc

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the person notified, notification shall be repeated at a mutually-agreed time before the proposed application.

19. Domestic Water Supply: Location

The applicant shall verify the location of water supply intakes with all people who:

- a) source their domestic water supply from within the operational area; or
- b) source their domestic water supply within 3 km of the operational area, where the water source is a surface waterway that flows through or rises within the operational area.

A GPS waypoint file of water supply intakes shall be recorded and made available to Public Health South on request.

20. Domestic Water Supply: Exclusions

No VTA shall be ground-laid within 20 meters of domestic water supply intakes that source water within the operational area. For flowing surface watercourses, the 20 meters exclusion shall extend for a length of 50 meters upstream from the point of intake.

21. Domestic Water Supply: Mitigation

For an aerial application of 1080, applicants must provide mitigation to all households and huts/camping areas that:

- a) source water from inside the operational area; or
- b) source their domestic water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area if mitigation is requested by household occupiers or managers of huts/camping grounds.

Mitigation shall involve either or both of the following:

- a) No 1080 shall be applied within 50 meters of the water supply intakes. For flowing surface waterways, the 50 meters exclusion shall extend for a length of 200 meters upstream from the point of intake.
- b) The domestic water supply shall be temporarily disconnected until such time as water testing finds no VTA contamination above 50 percent of the Ministry's provisional maximum acceptable value (PMAV). If no temporary water source is available, an adequate alternative potable water supply (to be used for drinking and cooking) will be provided to the affected household; the amount per day to be agreed with the household, until testing is completed.

22. Water Supply Testing

The water testing shall conform to the requirements attached to this permission water testing must conform to Landcare Research's water sampling protocol

Where water testing reveals VTA contamination over 50 percent of the PMAV, the alternative potable water supply shall be maintained until such time as a repeat test confirms VTA contamination below 50 percent of the PMAV, in accordance with the requirements of the Drinking-water Standards of New Zealand.

23. Public Water Supplies: Notification

The applicant shall notify the details of the intended operation to all managers of public water supplies who:

Bh)c,

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

The notice must be given sufficiently prior to, but within two months of, the proposed application of the VTA(s).

If requested by the person notified, notification shall be repeated at a mutually-agreed time before the proposed application.

24. Public Water Supplies: Location

The applicant shall mutually verify the location of public water supply intakes with all water supply managers who:

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

A GPS waypoint file of water supply intakes shall be recorded and made available to Public Health South on request.

25. Public Water Supplies: Exclusions

No VTA shall be ground laid within 50 meters of the Milford Sound Village water supply intake. As this is sourced from the Bowen River, the 50 meters exclusion shall be extended to 100 meters upstream of the point of intake.

26. Public Water Supplies: Mitigation

For an aerial application of 1080, applicants must provide mitigation to all public water supplies that:

- a) source their public water supply from within the operational area; or
- b) source their public water supply within 3 km of the operational area where the water source is a surface waterway that flows through or rises within the operational area.

Mitigation shall be mutually agreed in writing between the applicant and water supply managers and involve either or both of the following:

- a) No 1080 shall be applied within 200 meters of the Milford Sound Village water intake, which is extended upstream of the Bowen River to the point where the second of the two feeder arms enters the river
- b) An exclusion of 200 meters shall be in place on each of these feeder arms from the point where they enter the Bowen River

27. Water Supply Mitigation: Reporting

The applicant shall maintain a list of water mitigation measures which shall be available, on request, to Public Health South.

28. Water Supply Testing: Reporting

The applicant shall provide, or arrange for the provision of, the outcome of all water testing to Public Health South within 24 hours of receipt of the testing results.

In the event that water testing reveals VTA contamination over the PMAV, the applicant shall discuss any further proposed mitigation measures with Public Health South and continue testing in accordance with the requirement for monitoring to establish compliance with the Drinking-Water Standards of New Zealand.

Note:

The holder of this permission is authorised to use the substance specified in the permission in accordance with the approval of the substance, any additional control on that substance, and this permission. The Authority or a delegated person may, at any time, by notice in writing to the holder of a permission granted under this section:

- (a) add or delete any conditions, or otherwise vary any conditions
- (b) revoke a permission granted to the holder under this section

Conditions in the permission may be modified or waived with the agreement, in writing, of a delegated person unless they relate to other regulatory requirements.

cc.

Southland District Council

- PO Box 903, Invercargill 9840 (Attention: s 9(2)(a) / 9(2)(g))

- s 9(2) (Environmental Health Officer) s 9(2)(a) / 9(2)(g)

Environment Southland

- s 9(2)(a) / 9(2)(g) (Biosecurity Supervisor) s 9(2)(a) / 9(2)(g) Southern South Island Region:
SSIPesticidePermissions@doc.govt.nz

WorkSafe New Zealand

- s 9(2)(a) / 9(2)(g)

EPA: permissions@epa.govt.nz

PERMISSION CONDITIONS: SCHEDULE 3 (Maps)

Application Identification Code: 19/02/RWC/INVPH

Operation Name: Battle for our Birds: Arthur Cleddau

Map 1: BFOB ARTHUR-CLEDDAU 2019 AERIAL OPERATION

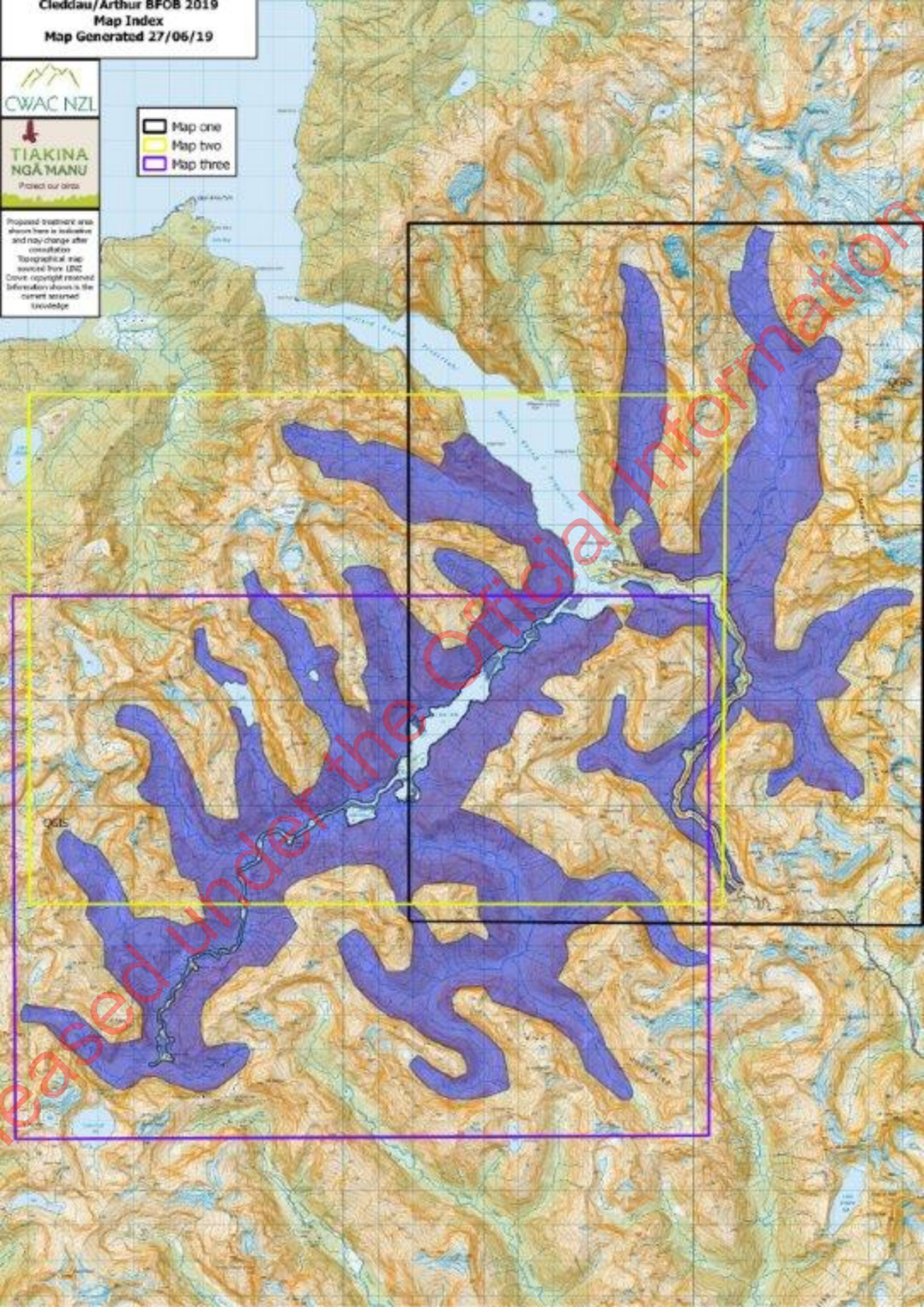
Map 2: BFOB ARTHUR-CLEDDAU 2019 AERIAL OPERATION

Released under the Official Information Act



- Map one
- Map two
- Map three

Proposed treatment area
shown here is indicative
and may change after
consultation
Topographical map
sourced from LINZ
Copyright retained
beforehand shown is the
current retained
knowledge



- Toxin Warning Signs
- Information and Map
- Little Tahiti Loading Site
- Water intakes
- Tracks
- Flight Corridor
- Proposed PHU Consent Area 31583ha
- Proposed Treatment Area 17923ha
- nz-primary-road-parcels
- nz-primary-hydro-parcels

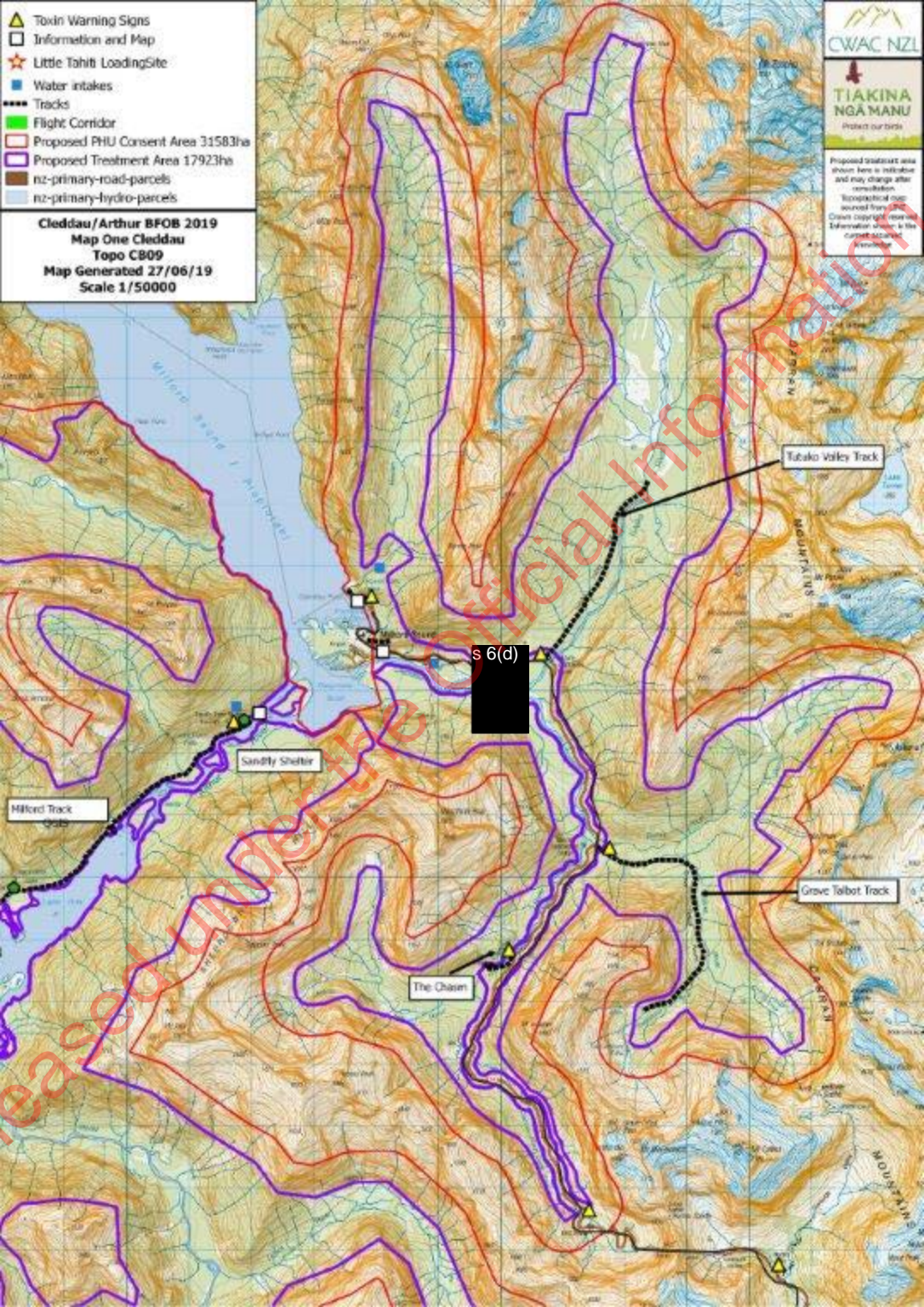
CWAC NZL

**TIAKINA
NGA MANU**
Protect our birds

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Topographical data sourced from LINZ. Crown copyright reserved. Information shown is to current date only.

Cleddau/Arthur BFOB 2019
Map One Cleddau
Topo CB09
Map Generated 27/06/19
Scale 1/50000

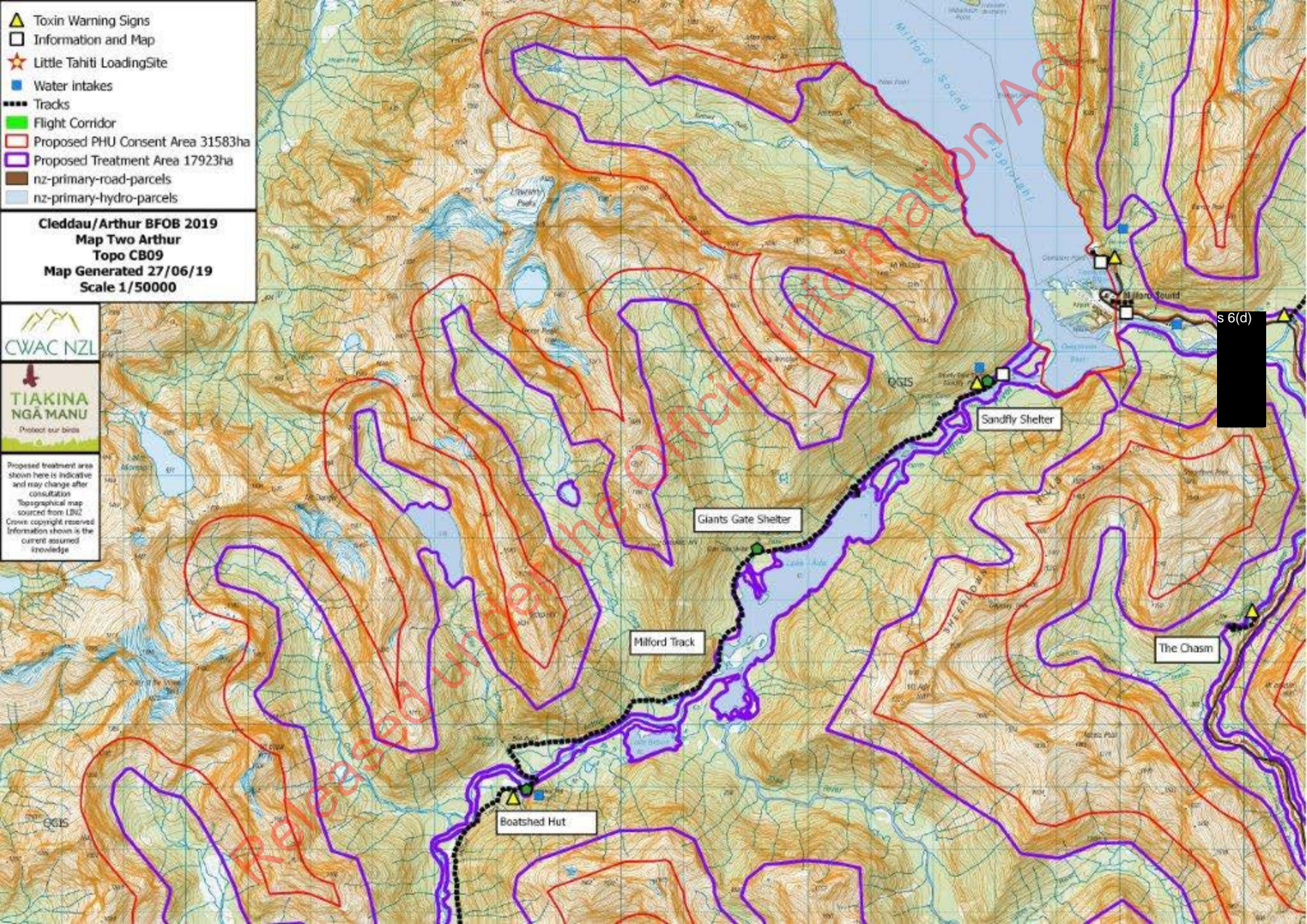


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Cleddau/Arthur BFOB 2019
Map Two Arthur
Topo CB09
Map Generated 27/06/19
Scale 1/50000



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Sandfly Shelter

Giants Gate Shelter

Milford Track

Boatshed Hut

The Chasm

s 6(d)

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Cleddau/Arthur BFOB 2019
Map Three Quintin
Topo CB09
Map Generated 27/06/19
Scale 1/50000

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