



# Greater Wellington Regional Council Standard Operating Procedure

## Management of Contracted Aerial Herbicide Application

### A High Risk Operation

|   |   |
|---|---|
| <b>Standard Operating Procedure owner</b>                   | Biosecurity Department  |
| <b>Position administering this Safe Operating Procedure</b> | Manager, Biosecurity  |
| <b>Date Safe Operating Procedure comes into effect</b>      | The first working day following the date of approval by the General Manager, Catchment Management   |
| <b>Related policies and legislation</b>                     | <p>Greater Wellington Regional Council</p> <ul style="list-style-type: none"> <li>• Health and Safety Policy</li> <li>• Keeping Employees Safe at Work (KESAW)</li> <li>• Hazard Management Policy</li> <li>• Incident Management Policy</li> <li>• Contractor Health and Safety Management Policy</li> </ul> <p>Health and Safety in Employment Act 1992</p> |
| <b>SOP review date</b>                                      |   |
| <b>SOP history</b>  |   |

Approved: \_\_\_\_\_  
**TBC**

**Date: TBC**



| Document Approval                     | Date       | Approved By  |
|---------------------------------------|------------|--|
| Issue of original document:           | March 2015 |  |
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## 1. Management of Aerial Herbicide Application Essentials

Before a contracted aerial herbicide application can commence the following essentials must be completed:

1. Pre-planning and scoping
  - a. Site inspection and initial hazard ID
  - b. Confirming helicopter is appropriate/best approach and if so size of aircraft and spray method
2. Contractor selection
  - a. Capability, qualification, experience
3. Site Specific Work Plan (SSWP) development
  - a. Input, agreement and sign-off
  - b. Type and form of information included
4. Notification

**PUBLIC NOTIFICATION IS REQUIRED FOR ANY AREAS WHERE THE PUBLIC HAS ACCESS TO AN OPERATIONAL AREA.**
5. Operation requirements – site preparation and operation monitoring (complete on the day or earlier – prior to operation)
  - a. Loading Site preparation and management
  - b. Monitoring – general and specific risk e.g. weather
    - i. Critical factors
6. Post operation activities
  - a. Operational debrief

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## 2. Purpose

This Standard Operating Procedure (SOP) provides an agreed methodology for the safe and responsible management of contracted aerial applications of agrichemicals from helicopters by Greater Wellington Regional Council (GWRC).

Aerial spraying of herbicide is an integral part of biosecurity and biodiversity operations in the Wellington region. A range of pest plant species are controlled using boom and spot spraying methods. The use of aircraft and herbicide involves potential risks for both people and the environment and must be managed carefully.

This SOP assists GWRC staff to:

- Ensure the health and safety of contractors, staff and the general public during aerial herbicide spraying operations
- Promote best practice and effective risk management during contracted aerial spraying operations.

This SOP is a GWRC best practice guide and forms part of the documented health and safety management system as outlined in Keeping Employees Safe at Work (KESAW). It is based on information from and the requirements of the Civil Aviation Authority, WorkSafe NZ and the Greater Wellington Regional Plan.

## 3. Introduction

There are clear practices and protocols for aerial spraying, this SOP outlines these procedures and provides a checklist for staff responsible for the work to follow. Appendix 1 provides a checklist for all three stages of the operation: pre, during and post. This checklist must be followed throughout the operation to ensure all necessary requirements are met.

While this SOP is owned and managed by the GWRC Biosecurity Department it is to be followed by all staff responsible for contracted aerial agrichemical operations conducted by GWRC.

## 4. Key definitions

The definitions below apply to where these words are used throughout this document:

- Contract coordinator – GWRC staff member supervising the contract
- Under belly boom – spray boom fitted to the underneath of a helicopter for broadcast spraying
- Forward mounted boom – single lance facing forward for targeted spot spraying

- Keg spraying – self-contained spray unit slung underneath a helicopter used for spot spraying in inaccessible terrain
- Loading site – a base for the operation where the helicopter is loaded with herbicide
- Land owner/occupier – any agent, employee or other person acting in general management or control of a place
- Operational area – location where the chemicals will be applied
- Operational briefing – a physical inspection of the site and a discussion around the operational matters for the day, including health and safety
- Withholding period – amount of time that people and animals cannot re-enter a site that has been sprayed.

## **5. Background**

### **5.1 Aerial Spraying from a Helicopter**

Aerial spraying by helicopter is a commonly used technique for the control of a wide range of agricultural and ecological pest plants. A helicopter can be used to cover widespread infestations, or to target isolated pockets of pest plants in steep or remote terrain.

Boom spraying is used for the control of widespread vegetation. This involves the helicopter flying at a set height and speed while spraying herbicide from a boom spray unit. The size and location of the infestation determines the size of the machine and spray-unit required.

For isolated pockets of pest plants, lance or ‘keg’ spray units can be used. These target the specific infestations and allow detailed control in remote or inaccessible sites. This method allows for more detailed control than boom spraying and reduces the risk of non-target over spray on the surrounding vegetation.

### **5.2 Aerial Herbicide Application - Legislation**

The rules of the Greater Wellington Regional Council Regional Plan must be considered before commencing any aerial spray operation. Aerial herbicide application is controlled by the provisions of the GWRC Regional Air Quality Management Plan. If the conditions of the rules for aerial application of agrichemicals can be met it is a permitted activity. If these conditions cannot be met, aerial spraying becomes a discretionary activity and requires further consultation with the Environmental Regulation Department of GWRC.

An electronic version of the air chapter of the Regional Plan can be found at – <http://www.gw.govt.nz/regional-air-quality-management-plan/> this details the rules for the aerial application of herbicides in the Wellington region.

## 6. Competencies

The specific competencies required by those involved in a spraying operation include:

- Contract Coordinator – Growsafe registered chemical applicator (RCA), Site Safe Advanced passport
- Aerial Operator - CAA Part 137 – Agricultural Aircraft Operator, Growsafe Agrichemical Rating
- Other staff on site – Growsafe, Site Safe Passport, Safety Around Helicopters training

## 7. Initial Procedures

Following the decision to undertake a control operation the Contract Coordinator must consider the site and species and decide the most suitable control method. Manual control, cut and treat or ground spraying should be considered. Abseil access can be utilised in some steep locations.

Aerial spraying may be required in areas with large, widespread infestations or with remote or inaccessible sites. Land tenure, prevailing weather conditions, proximity to native or agricultural vegetation, distance to dwellings or other buildings can all limit the ability to use aerial spraying. If you are unsure whether aerial spraying is a suitable control option, discuss the proposal with a senior Biosecurity staff member.

Following the decision to aerial spray an onsite inspection must be organised with the helicopter operator. This can be undertaken on foot or from the helicopter depending on the size and location of the operation. The Contract Coordinator and pilot can select a landing site and plan the route to undertake the spraying. Note: there will be a flight cost associated with an aerial inspection.

If the aerial operator is comfortable with the proposed control operation the Contract Coordinator can begin to prepare the contract.

## 8. Spray Plan Preparation

The Contract Coordinator for the contract is responsible for the spray plan preparation. See Appendix 5 for a model spray plan.

A spray plan must include the:

- Location and nature of the spray operation – including maps and GIS aerial views
- Date and time spraying will commence from
- Herbicides/agrichemical to be used
- Sensitive areas – if any, and their specific location within or associated with the operational area

- Signage and notifications
- Contact person, including contact phone numbers – Contract Coordinator, aerial contractor, pilot, land owner/occupiers

## 8.1 Site Specific Work Plan

The Contract Coordinator is required to create a Site Specific Work Plan (SSWP) for every aerial spraying operational area. These documents identify the:

- Actual or potential hazards and their risk
- Controls/barriers agreed to by Contractor Coordinator and aerial operator, as well as other parties where necessary, to eliminate hazards or minimise their risks
- Site specific emergency preparedness and plans.

This document is created or updated every time a site is visited and must be readily available as well as read and understood by everyone involved in the operation, while working on the operational site. This document is required **in addition** to any other relevant Standard Operating Procedures which may also apply. These should be clearly identified in the SSWP and also available at the loading site operation.

The Site Specific Work Plan can be found at [WGN\\_DOCS-#1399353-GWRC Project-worksite health and safety plan template](#)

See Appendix 6 for a model example of a Site Specific Work Plan.

## 8.2 Contract Preparation

The ‘Control Contract’ is the legal agreement between GWRC and the aerial spray contractor. To work for GWRC a contractor must be pre-qualified/registered and continue to meet the requirements of the contract registration. The details and the requirements of the control contract must be clear to both parties.

If the operator accepts the contract the Contract Coordinator can proceed with the initial planning of the control operation.

## 8.3 Public Notification

It is the responsibility of the Contract Coordinator to consider the need for public notification before aerial spraying commences.

**Public notification is required for any area where the public has access.**

A public notice needs to be placed in the local paper prior to the operation commencing. See Appendix 3 for a model public notice example.

Similarly to the spray plan the public notice must include:

- Location and nature of the spray operation
- Start and end date and time for the spraying operation
- Herbicides to be used
- Sensitive areas – if any
- Signage and notifications
- Contact person, including contact phone numbers.

Warning signs must be placed at all usual points of access to the site e.g. paddock gates, vehicle and walking tracks. These must be in place before the operation begins. See Appendix 7 for a model warning sign. The location of all signs must be marked on the operational area map.

For assistance in developing the public notice contact the GWRC Communication Department for assistance. All public notices need to be approved by the Senior Biosecurity Officer Pest Plants, Team Leader Pest Plants or the Biosecurity Manager.

## **9. Neighbouring Properties**

There are requirements under the Regional Air Plan to notify neighbouring properties within 300m when aerial spraying will occur. See Appendix 4 for a model notification letter example. Because aerial spraying is weather dependent, these letters will indicate the start and end day for spraying and the approximate times. Some landowners may wish to be notified the night before the operation takes place. This can be agreed between the Contract Coordinator and the adjacent landowner.

## **10. Procedures on the day**

### **10.1 Pre-operation Weather Check**

Check the weather forecast early on the proposed morning of the operation before proceeding to the operational site. Each spray site will have particular weather patterns that are desirable for optimum spraying conditions. Websites such as [www.metservice.com](http://www.metservice.com), [www.metconnect.co.nz](http://www.metconnect.co.nz) and [www.metvuw.com](http://www.metvuw.com) display regularly updated forecasts. Each site focuses on different geographic locations and it is advisable to check several sites if conditions are variable.

If the conditions appear suitable, contact the pilot to confirm the operation is proceeding. Contact the landowner if necessary and any supporting staff who may be required to assist with the operation.

### **10.2 Landing Site Setup**

An appropriate landing site must be found in agreement with the aerial operator prior to the operation. This site must have suitable vehicle access, a clean water supply if needed and be in close proximity to the operation. The approval of the landowner/manager is essential.

The Contract Coordinator should arrive on site and cordon off the landing site before the arrival of the helicopter and/or the contractor's support crew. Safety around helicopters is essential; refer to Appendix 2 Helicopter Safety.

The Site Specific Work Plan (SSWP) prepared prior to the operation will detail how the chosen site should be cordoned off to protect the public and livestock.

Helicopters attract public attention and there is always the possibility of members of the public arriving unannounced at landing zones, regardless of how remote the location is.

### **10.3 Signage/Notifications**

Signage warning that spraying is taking place on the property should be erected on all public entrances to the operational zone prior to any spraying taking place. If the entrances are to be manned over the duration of the operation to prevent public access, these people need to be in place at least 15 minutes before the spraying commences.

The SSWP and operational map will provide information about how and where signage is to be erected and if entrances are to be controlled. Signage should contain information similar to that provided in the public notification and letter/s to the individual adjoining landowner/s.

### **10.4 Pre-operation site inspection and weather check**

When the aircraft arrives on site a pre-operational flight should be undertaken over the spraying zone so the pilot may become familiar with the area to be sprayed and also to ensure that there are no people or stock within the operational boundaries.

The pilot will also be checking for any hazards and ensuring that wind speed and direction are suitable for the work to proceed. If necessary, signage can be placed at remote public access points to the property during this flight.

The hazard controls should be discussed and copies of notifications/letters to occupier should be provided to the pilot.

### **10.5 During the spraying operation**

The Contract Coordinator or another suitable staff member will remain on site while the spray work is being conducted to monitor the progress of the operation and hazard management as detailed in the SSWP.

This will include maintaining a constant overview of prevailing weather conditions, actively managing access to the landing site, overseeing the use of herbicides to ensure compliance with the Regional Plan and ensuring all hazard

controls (including PPE) are in place and being effectively managed by all people involved with the operation.

The coordinator will maintain communication with the pilot during the operation to discuss any concerns or issues as they arise. The pilot is the person in charge during the flying operation but the Contract Coordinator is the principal's agent onsite and can immediately stop work if necessary.

#### **10.6 Safety around helicopters**

All staff members working with helicopters must have completed a safety around helicopters briefing. The aerial contractor can undertake this training. See Appendix 2 Helicopter Safety Guidelines for a summary of safe processes around helicopters.

### **11. Following the Operation**

When the helicopter has finished spraying it will usually leave the site, with the support crew remaining to clean up. Any notification signage placed using the helicopter will need to be recovered before it leaves the site.

The Contract Coordinator will ensure that the landing site is left in a tidy condition after the operation and any fuel/herbicide containers are removed. Any remaining signage will need to be removed but signage advising that the spraying has been undertaken will need to be put in place for 24 hours (or the required withholding period if longer) after the work has been conducted.

### **12. References:**

1. <http://www.gw.govt.nz/regional-air-quality-management-plan/>
2. CAA Part 137 Agricultural Aircraft Operation
3. NZS 8409:2004 Management of Agrichemicals

## Appendix 1: Aerial Spraying Operational Checklist

| Initial Job Planning   | Completed | Comments |
|--|-----------|----------|
| <p>Define and inspect operational area, prepare risk assessment of the job.</p> <p>Document the following:</p> <ul style="list-style-type: none"> <li>• target species</li> <li>• maps or aerial images of the site</li> <li>• Location of hazards – obstacles, weather characteristics</li> <li>• Suitable landing site with landowner permission</li> <li>• Flight path that considers hazards and sensitive areas</li> <li>• Suitable agrichemical for target species and location</li> </ul> |           |          |
| <p>Develop initial risk management plan. Consider general risks and any hazards that are unique to the location and the agrichemical and application method.</p>   |           |          |
| <p>Develop Site Specific Work Plan including all relevant risks and mitigations.</p> <p><b>This requires sign off by a H&amp;S representative and the Biosecurity Manager.</b></p>   |           |          |
| <p>Develop spray plan meeting the requirements of NZS 8409:2004 Management of Agrichemicals and the Regional Air, Land and Freshwater Plans.</p>   |           |          |
| <p>The owner/occupier has reviewed the spray plan and consented to the operation.</p>  |           |          |
| <p>Public access points to the operational area are identified the access managed.</p>   |           |          |
| <p>The selected agrichemical has EPA registration and manufacturer’s recommendation for the intended use at the proposed application rate (or is permitted for use outside the</p>   |           |          |

|  |  |  |
|--|--|--|
| product registration by EPA).  |  |  |
| Any resource consent compliance monitoring requirements are met.   |  |  |
| If the operational area has public access or is on public land a notification needs to be published in a local newspaper. This needs to meet the requirements of the Regional Plan.  |  |  |
| Adjoining land occupiers (or other organisations as specified in any EPA permission) are notified in writing as specified by the Regional Plan.  |  |  |
| Brief the aerial operator on; <ul style="list-style-type: none"> <li>- target species</li> <li>- agrichemical</li> <li>- application rate</li> <li>- operational area</li> <li>- hazard management</li> <li>- loading site</li> <li>- onsite water source</li> <li>- resource consent requirements.</li> </ul> |  |  |
| The aerial operator has received copies of all relevant paperwork; <ul style="list-style-type: none"> <li>- public and occupier notifications</li> <li>- resource consents</li> <li>- risk assessments/ hazard management plan</li> <li>- spray plan with operational area maps.</li> </ul>                    |  |  |
| Record of agreement between GWRC contractor and other parties as necessary – e.g. other GWRC land controllers, private land owners etc.  |  |  |

| Immediately prior to the operation   | Completed | Comments |
|--|-----------|----------|
| Contract Coordinator and pilot agree that weather is still suitable on the day.              |           |          |
| All affected property owners/occupiers have been notified that the work is going to proceed. |           |          |

|   |  |  |
|---|--|--|
| The landing/loading site is secured and cleared of any loose materials before the aircraft arrives.   |  |  |
| Signage posted at all entrances to the operational area.  |  |  |
| Access to the loading zone restricted to authorised personnel.  |  |  |
| The pilot and ground staff have been briefed on site hazards and controls and any other operational information.                                    |  |  |
| Aerially inspect the operational area immediately before spraying to ensure no unauthorised vehicles, people, livestock or new hazards are present. |  |  |

| <b>During the Operation – Site/project management</b>  | <b>Completed</b> | <b>Comments</b> |
|--|------------------|-----------------|
| The GWRC Contract Coordinator remains on site at all times throughout the operation.   |                  |                 |
| Contract Coordinator manages access to the loading zone only allowing entry to approved parties.   |                  |                 |
| All operational personnel working within the loading zone are appropriately trained to work with and/or around helicopters and are wearing appropriate PPE.  |                  |                 |
| All agrichemicals are being managed and applied in accordance with the manufacturers' specifications, NZS 8409:2004 and the requirements of the Regional Plans, Resource Consent or EPA permissions. |                  |                 |
| Continued monitoring of the weather with any wind speed or direction shifts reported to the pilot.   |                  |                 |
| Continued monitoring for any new hazards during the course of the operation and report these to the pilot and other personnel.   |                  |                 |



| Post Operational Activities   | Completed | Comments |
|---|-----------|----------|
| Complete verbal operational debrief with pilot before aircraft or any personnel leave the site. |           |          |
| Ensure the site is tidy and any rubbish is removed.   |           |          |
| Inform the land owner/occupier is that the work is complete.                                    |           |          |
| Spraying signage is removed and any necessary re-entry period signage is erected.               |           |          |

## Appendix 2 : Helicopter Safety Guidelines

### APPROACHING OR LEAVING A HELICOPTER



Do not approach without receiving a visual signal from the pilot. Do not leave without a visual or spoken instruction to do so. Stay where the pilot can see you at all times.

#### Helicopter Safety Zones



The diagram shows a helicopter with three safety zones: a red 'Prohibited' zone behind the tail rotor, a green 'Preferred' zone in front of the rotor hub, and yellow 'Acceptable' zones to the sides and in front of the tail. Arrows indicate the direction of rotor rotation.



On sloping ground always approach or leave on the downslope side for maximum rotor clearance.



If blinded by swirling dust or grit, STOP – crouch lower, or sit down and wait for assistance.



If disembarking while the helicopter is hovering, get out slowly and smoothly when cleared to by the pilot.



Crouch while walking for extra rotor clearance. Always remove hats. Never reach up or chase after anything that blows away.



Do not approach or leave a helicopter when the engine and rotors are running down or starting up.



Carry long objects horizontally below waist level – never upright or on the shoulder.

## Appendix 3: Spray Notification

56 HUTT NEWS, SEPTEMBER 9, 2014



**greater WELLINGTON**  
REGIONAL COUNCIL  
Te Pane Matua Taiao

### Notification of intention to conduct aerial Gorse spraying at East Harbour Regional Park

The Greater Wellington Regional Council will conduct an aerial spot spraying programme at East Harbour Regional Park to control scattered infestations of the invasive weed gorse (*Ulex europaeus*).

The operational area will include all that area of steep coastal escarpment to approximately 2.5 kilometres south from Baring Head lighthouse (excluding any private property) and 3.5 kilometres to the west of the lighthouse following the coastal escarpment above the Wainuiomata River to the lighthouse access bridge on Coast Road.

A helicopter will apply the herbicides triclopyr and picloram (trade name Tordon Brushkiller XT) by aerial boom spot spraying between 6am and 12.00pm on various days between 12 September and 30 December 2014 as weather permits.

Sensitive areas within the park, including creeks and wetlands, have been excluded from the spraying zone. To avoid contamination of these areas as well as the ocean or any nearby residential properties, spraying will only occur when wind conditions are such that spray drift is carried away from those areas.

During the operation the park will remain open to the public but access to that area of escarpment being sprayed will be restricted. Signage will be posted at all entrances to the operational area prior to any work being undertaken and replaced after the work has been conducted with signage to advise the area has been sprayed.

Properties within the 300 metre notification zone as defined by the Regional Air Plan will be notified in writing as required by the plan.

For enquiries relating to the operation phone Wayne Cowan, Senior Biosecurity Officer (Plants) on 04 8304425 or 027 4436740.

62/2014A

## Appendix 4: Notification Letter

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2  
3  
4

4 September 2014

File: WB/04/20/04

PO Box 40847  
1056 Ferguson Drive  
Upper Hutt  
T 04 526 4133  
F 04 526 4171  
[www.gw.govt.nz](http://www.gw.govt.nz)

Dear Sir,

### **Notification of intention to apply herbicide from a helicopter along the Baring Head coastal escarpment**

As required by the Regional Air Plan you are hereby formally notified that the Greater Wellington Regional Council will be undertaking an aerial spot spraying programme on the Baring Head coastal escarpments to control scattered infestations of the invasive weed Gorse (*Ulex europaeus*).

This work is a follow-up to the initial aerial Gorse control operation conducted earlier this year.

The operational area will include that area of the steep coastal escarpment within East Harbour Regional Park that extends approximately 2.5 kilometres south and 3.5 kilometres west of the Baring Head lighthouse (excluding any private properties).

A helicopter will apply the herbicides Triclopyr & Picloram (trade name Tordon Brushkiller XT) by aerial boom spot spraying between the hours of 6am and 12pm on any given day that weather permits between 12 September and 30 December 2014.

The operation will take approximately 4 hours to complete and weather permitting it will be conducted as soon as possible after 12 September.

Sensitive areas within the park, including creeks and wetlands, have been excluded from the spraying zone. To avoid contamination to these areas as well as the ocean and adjacent private properties, spraying will only occur when wind conditions are such that any spray drift is carried away from those areas.

The East Harbour Regional Park will remain open during the operation but public access to the actual operational area will be restricted while the spraying work is being conducted.

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## Appendix 5: Agrichemical Spray Plan

**Agrichemical Spray Plan:** **Aerial Gorse Spot Spraying, Baring Head Coastal Escarpment**

**Type of Operation:** Aerial agrichemical spray application (A permitted activity under the Regional Air Plan)

*Providing:*

- *Pilot holds correct and current CAA and Growsafe certifications to undertake work*
- *spray solutions are applied strictly to manufacturer's or label recommendations*
- *no mixing or diluting of chemicals takes place within 20 metres of a water body*
- *all practicable steps are taken to avoid release of agrichemical over open surface water or wetland*
- *No spraying is undertaken and no herbicide drift occurs outside the operational area*
- *public notifications have been undertaken in accordance with the Regional Air Plan requirements for aerial agrichemical application*
- *No agrichemicals are sprayed, or applied as powders, on or above surface water bodies, artificial watercourses, a bore, or spring unless they are registered for use over waterbodies and/or a resource consent has been obtained*
- *Compliance with the requirements of all other Regional Plan rules (i.e. Discharge to land and Freshwater plans)*

| <b>Date:</b>  | <b>Name</b>  | <b>Address (postal/physical)</b> | <b>Phone/Fax numbers</b>                        |
|---|--|----------------------------------|---|
| <b>Property:</b>  | Baring Head Coastal Escarpment, GW East harbour<br>Regional Park, Coast Road | Coast Road, Wainuiomata          | GW Parks, (04)5264133                           |
| <b>Operation Manager(s):</b>  | Wayne Cowan, Senior Biosecurity Officer (Plants) GW                          |                                  | Mob 027 801 4088<br>DDI: 04 830 4425            |
| <b>Registered Chemical Applicator(s)/ Growsafe or Approved Handler:</b> | Pilot: Maurice Wooster<br>Company: Rimutaka Heli Services Ltd                |                                  | Information withheld under the Privacy Act 1993 |

| <b>Affected Properties</b>                    |                              |                         |          |
|---|------------------------------|-------------------------|----------|
| Orongorongo Station, Baring Head, Wainuiomata | Brent Cuttance/ Stacy Curtis | Coast Road, Wainuiomata | As above |
| Loan property, Baring Head, Wainuiomata       | Allan Loan                   | Coast Road, Wainuiomata | As above |

|  |   |
|--|---|
| <b>Public Roads Adjacent to Property Boundary<br/>- show on a plan of the area</b> | <b>Roads Used for School Bus Routes/ Places of Public Assembly</b>  |
| Coast Road, Wainuiomata  | East Harbour Regional Park (operational area and surrounding buffer zone closed to the public during the operation) |

| <b>Target species</b>           | <b>Agrichemical to be used , (herbicide)</b>                                  | <b>Application rate(s)</b>                                       | <b>Method of application</b>                        | <b>Times of year spraying likely to occur e.g. month, crop stage</b>                               | <b>Specific hazards e.g. weather, toxicity</b>   |
|---------------------------------|---|--|---|--|--|
| Gorse ( <i>Ulex europeaus</i> ) | Triclopyr and Picloram (Trade name Tordon Brushkiller)<br><br>Boost Penetrant | 800mls of herbicide/<br>100 litres of water<br><br>1ml per litre | Aerial boom spot spraying of scattered infestations | Between 6am and 12pm on any day weather conditions permit from 12 September until 30 December 2014 | Adverse weather, especially wind<br>Chemical exposure<br>Waterways, wetlands and adjoining properties. |

|   |  |
|---|--|
| <b>Sensitive Areas (description and location)</b> | <b>Measures to be used to avoid contamination of sensitive areas</b>   |
| Waterways, wetlands and adjoining properties      | <ul style="list-style-type: none"> <li>All waterways and wetlands have been excluded from the operational area plan</li> <li>Spraying will only be conducted when winds conditions prevent any spray drift from moving outside the operational area</li> </ul> |

|   |  |
|---|--|
| <b>Notification required?</b> <b>Yes/No</b> | <b>Method of notification:</b>   |
|   | <ul style="list-style-type: none"> <li>Publication of intent to apply herbicides published in the public notice section of the Dominion Post newspaper and Individual letters sent to the 2 adjoining land occupiers</li> <li>Notices posted at public access ways to the park while operation is in progress restricting access to the operational area and surrounding buffer zone</li> <li>Notices posted at completion of operation advising the public that herbicide application has occurred</li> </ul> |

# Appendix 6: Site Specific Work Plan

## Site specific work plan

= Mandatory field

|  |  |
|--|--|
| <b>Company Name: Rimutaka Heli Services</b>  |  |
| <b>Task analysis worksheet completed by: Maurice Wooster &amp; Wayne Cowan</b><br>(To be completed by contractor representative who undertakes initial inspection) | <b>Date: 4/9/2014</b>  |
| <b>Name of contract: Baring Head Escarpment Aerial Gorse Control</b>   | <b>Site Location: Baring Head, East harbour Regional Park KNE #: 007 781/2059/02</b>   |
| <b>Signage required/type:</b>  | <input checked="" type="checkbox"/> <b>Yes, “Aerial Spraying in Progress” signage posted on all public accesses to the escarpment during the actual spraying operation</b> |
| <b>Public Notification required:</b>   | <input checked="" type="checkbox"/> <b>Yes, Public Notice published in Newspaper, Letters to adjoining occupiers</b>   |

**All staff, contractors, volunteers must read, discuss, amend (if necessary) and sign before each visit to site, or after identification of new health hazards**

| Hazard/Risk<br><small>List the hazards (focus on what can cause harm and what can go wrong)</small> | Potential Harm  | Risk category |   |   |   | Can it be eliminated |    | Agreed Controls  | Implemented by | Checked by                   |
|---|---|---------------|---|---|---|----------------------|----|--|----------------|------------------------------|
|   |   | L             | M | H | E | Yes                  | No |  |                |                              |
| Setting up gear onsite – manual handling of equipment   | <ul style="list-style-type: none"> <li>Sprain/strain injuries</li> </ul>  | X             |   |   |   |                      | X  | <ul style="list-style-type: none"> <li>Use correct manual lifting techniques when moving pumps and containers of herbicide</li> </ul>  | Ground crew    | PIC, GW contract coordinator |
| Flying over water at low heights – water ditching   | <ul style="list-style-type: none"> <li>Drowning</li> </ul>  | X             |   |   |   |                      | X  | <ul style="list-style-type: none"> <li>Suitable buoyancy vest worn by all people in helicopter when flying over water</li> </ul>   | Ground crew    | PIC, GW coordinator          |
| Falling into water course   | <ul style="list-style-type: none"> <li>Drowning or wet and hypothermia</li> </ul>                                 | X             |   |   |   |                      |    | <ul style="list-style-type: none"> <li>Stay back from edge of watercourse while setting up pump, laying water uptake hoses and or clearing blocked uptake filters</li> </ul> |                |                              |
| Setting up landing Zone – maintaining site control  | <ul style="list-style-type: none"> <li>Unauthorized people or stock onsite being stuck by the aircraft</li> </ul> |               |   | X |   |                      | X  | <ul style="list-style-type: none"> <li>Selected site is not accessible to the public or stock but the landing zone area will be kept under</li> </ul>                        | Ground crew    | GW coordinator onsite        |

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|                           |  |   |  |   |  |  |   |  |             |                               |
|---------------------------|--|---|--|---|--|--|---|--|-------------|-------------------------------|
|                           |  |   |  |   |  |  |   | <p>surveillance during the operation</p> <ul style="list-style-type: none"> <li>Any loose objects will be secured before the aircraft arrives</li> <li>Only agreed people with access to landing site and they must be trained to work safely around helicopters will be allowed onsite during the actual operation</li> <li>Any persons coming onto the site will be required to wear Hi Viz clothing / hearing protection and will be accompanied at all times by a member of the ground crew</li> <li>Any vehicles on site will be parked at least 10 metres from the landing zone</li> </ul> |             |                               |
| Working around helicopter | <ul style="list-style-type: none"> <li>Rotor contact</li> </ul>                  |   |  | X |  |  | X | <ul style="list-style-type: none"> <li>Follow pilot's instructions when approaching or working around the running aircraft</li> <li>maintain a safe distance from aircraft rotor blades (Main and tail rotors)</li> <li>Never approach the running aircraft from the rear</li> <li>Ground crew will wear Hi Viz vests at all times</li> </ul>  | Ground crew | PIC, GW coordinator           |
|                           | <ul style="list-style-type: none"> <li>Debris in eyes from rotor wash</li> </ul> | X |  |   |  |  | X | <ul style="list-style-type: none"> <li>Wear safety glasses while working around aircraft</li> </ul>  | Ground crew | PIC, GW contract co-ordinator |
|                           | <ul style="list-style-type: none"> <li>Noise</li> </ul>                          | X |  |   |  |  | X | <ul style="list-style-type: none"> <li>Wear hearing protection at all times when working close to the helicopter</li> </ul>  | Ground crew | PIC, GW contract coordinator  |

|  |  |   |  |  |  |  |  |   |                  |                |
|--|--|---|--|--|--|--|--|---|------------------|----------------|
| Refuelling aircraft/ pumps<br>(amounts carried do not trigger DG transport requirements) | <ul style="list-style-type: none"> <li>Spillage</li> <li>Fire</li> </ul> | X |  |  |  |  |  | <ul style="list-style-type: none"> <li>Refueling from 20 litres containers to prevent spillage</li> <li>Auxiliary engines refueled after cooling</li> <li>Fire extinguishers in truck and aircraft</li> </ul> | PIC/ ground crew | GW coordinator |
|--|--|---|--|--|--|--|--|---|------------------|----------------|

| Hazard/Risk<br>List the hazards (focus on what can cause harm and what can go wrong)         | Potential Harm  | Risk category |   |   |   | Can it be eliminated |    | Agreed Controls  | Implemented by                   | Checked by          |
|--|---|---------------|---|---|---|----------------------|----|--|----------------------------------|---------------------|
|  |   | L             | M | H | E | Yes                  | No |  |                                  |                     |
| <b>Task</b>  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
|  |   |               |   |   |   |                      |    |  |                                  |                     |
| <b>Equipment/substance etc</b>   |   |               |   |   |   |                      |    |  |                                  |                     |
| Working with herbicides<br>(amounts transported for operation do not trigger transport regs) | <ul style="list-style-type: none"> <li>Personal contamination</li> <li>Environment contamination</li> </ul> | X             |   |   |   |                      | X  | <ul style="list-style-type: none"> <li>Wear PPE appropriate to class of herbicide (minimum of gloves, overalls, gumboots )</li> <li>Herbicides will be transported, handled and mixed in accordance with NZS 8409:2004 to avoid</li> </ul> | Ground crew/ PIC/ GW coordinator | PIC, GW coordinator |

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|                            |  |   |   |  |  |   |  |             |                     |
|----------------------------|--|---|---|--|--|---|--|-------------|---------------------|
|                            |  |   |   |  |  |   | personal and/ or environmental contamination   |             |                     |
| Working with loading pumps | <ul style="list-style-type: none"> <li>Burns, electric shock, fire</li> </ul>                                      | X |   |  |  | X | <ul style="list-style-type: none"> <li>Avoid contact with hot exhausts and electrical components</li> <li>Refuel when exhaust cooled to avoid fire risk</li> </ul>   | Ground crew | PIC, GW Coordinator |
| Flying aircraft at site    | <ul style="list-style-type: none"> <li>Rotor strike, unintentional contact with the ground, overloading</li> </ul> |   | X |  |  | X | <ul style="list-style-type: none"> <li>The pilot will be fully briefed on any site hazards prior to the aircraft arriving on site</li> <li>Once the aircraft arrives onsite the PIC and GW coordinator will conduct a pre operational aerial site inspection to confirm location of existing site hazards and identify any new ones</li> <li>The aircraft will be flown within the limitations of the manufacturers specifications at all times</li> <li>The pilot will comply with CCA rules for rotary winged aircraft operation operational and the companies operational procedures manual at all times</li> </ul> | PIC         | PIC, GW coordinator |
| Applying herbicide         | <ul style="list-style-type: none"> <li>Environmental contamination</li> </ul>                                      |   | X |  |  | X | <ul style="list-style-type: none"> <li>The pilot will ensure that all herbicides are handled and applied in accordance with NZS 8409:2004 to prevent spillage, wind drift and correct application</li> <li>The PIC and GW coordinator will monitor wind conditions constantly during the</li> </ul>  | PIC         | GW coordinator      |

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|  |  |  |  |  |  |  |  |  | operation  |  |  |
|  |  |  |  |  |  |  |  |  | <ul style="list-style-type: none"> <li>Signage will be posted at all public entries into the operational area and the pilot will ensure no persons enter into the spraying zone</li> </ul> |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

| Any hazards that may be created while undertaking the work |   |    |  | Risk category |  |    |  | Control measures required   |    |
|--|---|----|--|---------------|--|----|--|---|----|
| 1.   |   | 2. |  | 3.            |  | 4. |  |   | 5. |
| 1  | <ul style="list-style-type: none"> <li>Aerial spraying</li> </ul> | 1  | <ul style="list-style-type: none"> <li>Contamination of people or the environment</li> </ul> | X             |  |    |  | <ul style="list-style-type: none"> <li>All spraying will be conducted to the Growsafe standard for aerial agrichemical application</li> <li>Spraying will be conducted only when weather conditions are such that no spray drifts off the target area</li> <li>Sensitive areas have been excluded from the operational area</li> <li>No mixing of herbicides will occur within 20 metres of any stream or water course</li> </ul> |    |
| 2  |   | 2  |  |               |  |    |  |   |    |
| 3  |   | 3  |  |               |  |    |  |   |    |

Management of Contracted Aerial Herbicide Application SOP

|   |  |   |  |  |  |
|---|--|---|--|--|--|
| 4 |  | 4 |  |  |  |
| 5 |  | 5 |  |  |  |

**Sensitive areas identified and protection plan**

**Sensitive areas identified on operation map**

**All sensitive areas including streams, the sea and pockets of susceptible indigenous vegetation have been excluded from the operational area.**

**Emergency response form**

**Person responsible while working on site:** PIC, Maurice Wooster

**Contact details:** 027 4430842

**Our qualified First Aid person(s) on site is/are:** Maurice Wooster, Wayne Cowan

**Emergency contact details**

| <b>Nearest:</b> | <b>Contact Numbers</b> | <b>Location</b> |
|-----------------|------------------------|-----------------|
| Fire Station    | 111                    | Wainuiomata     |
| Police          | 111                    | Wainuiomata     |
| Ambulance       | 111                    | Wainuiomata     |

|                               |              |  |
|-------------------------------|--------------|--|
| Hospital                      |              |  |
| Poisons & Hazardous chemicals | 0800 764 766 |  |
| GW Pollution Hotline          | 0800 496 734 |  |
| Other:                        |              |  |

**Location of emergency equipment while on work site**

|   |   |
|---|---|
| Fire extinguisher                           | In aircraft, in service vehicle onsite                        |
| First aid kits                              | In aircraft, in company service vehicle onsite                |
| Personal protective equipment (PPE)         | In company service vehicle onsite                             |
| Emergency communication (PLB etc)           | Transponder in aircraft, cellphones on site, GW PLB onsite    |
| When cell phone coverage unavailable        | Personal contact  |
| Transportation for ill or injured employees | Company service vehicle, or emergency services as appropriate |

**Communications while on work site**

|   |   |                   |
|---|---|-------------------|
| In the event of a disaster we will communicate with employees in the following way:         | Personal contact or cellphone where coverage permits                          |                   |
| The assembly coordinate point for this site in case of an emergency is: (description / GPS) | E 1757375 X N5415786 The carpark at the access road to Baring Head lighthouse |                   |
| The emergency contact person off site is:   | Brian Collins   | Phone: 04 5266250 |

Management of Contracted Aerial Herbicide Application SOP

- Has your Team been briefed on the requirements of the Site Specific Plan  Yes  No
- Has any subcontractors been briefed on the requirements of the Site Specific Plan  Yes  No  N/A
- Are there accident/ incident reporting/ investigation documents available on site  Yes  No
- Is the Team aware that all serious harm accidents are to be reported immediately and follow-up within 24 hours with a completed copy of the Accident and Incident Investigation Report?  Yes  No
- Copies of Public Notification/Signage received  Yes  No Initial

**We agree that all those present on this work site have read and understood this Site Specific Plan:**

| Name:                                   | Signature: | Date: |
|---|------------|-------|
| Maurice Wooster                         |            |       |
| Jamie Linqvist                          |            |       |
|   |            |       |
|   |            |       |
|   |            |       |
|   |            |       |
| Name of GW contract coordinator onsite: | Signature: | Date: |
| Wayne Cowan                             |            |       |

|                |                                 |       |
|----------------|---------------------------------|-------|
| Plan reviewed: | Senior H&S advisor              | Date: |
| Plan Approved: | Manager, Biosecurity Department | Date: |
|                |                                 |       |
|                |                                 |       |

## Appendix 7: Aerial Spraying Warning Sign

# WARNING

A helicopter is currently spot spraying the pest plant Manchurian Wild Rice within the Te Harakeke wetland with Haloxyfop herbicide.

Public access to the wetland is restricted until the operation has been completed.

For further information please contact:

Darryl Kee, Senior Biosecurity Officer (Plants)

Mobile (027) 474 1972