A3 GOOD PRACTICE FOR WILDING CONIFER CONTROL

NATIONAL WILDING CONIFER CONTROL PROGRAMME

AERIAL SPOT SPRAY APPLICATION (ASSA)

VERSION 1: NOVEMBER 2024

The aerial spot spraying application method for wilding conifer control involves full foliar spraying of herbicide applied to trees from a helicopter. After spraying, the trees are left standing until they naturally break down. It is a useful alternative to Aerial Basal Bark Application (ABBA), particularly when controlling scattered, difficult to access wilding conifers or remaining live trees from Aerial Foliar Spray Application (AFSA).

Guidelines for the use of drones for ASSA will be included when the trial for it has been completed.

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Front cover: Tekapo West ASSA Control (Photograph: Adam Ross, BNZ)

ABOUT THIS DOCUMENT

Overall disclaimer:	The information in this publication represents the collective view of the National Wilding Conifer Control Programme (the 'National Programme'). We have made every effort to ensure the information is accurate. However, the National Programme does not accept any responsibility or liability for error of fact, omission, interpretation or opinion, nor for the consequences of any decisions based on this information. Good practice use by any reader is done so at their own risk, and the National Programme rejects all liability for any risk or loss as a result of applying this good practice information. This guide is not designed to provide exhaustive compliance information and is not a substitute for professional advice. It remains the full responsibility of the user to obtain the specific guidance, authorisations, consents and permits as required to meet regulatory requirements and complete the work.
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VERSION CONTROL

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This document should be read in conjunction with:

- WorkSafe - *Working safely with chemicals and fuels on farms*
- WorkSafe - *HSNO codes of practice for hazardous substances*
- NZ Standard for Management of Agrichemicals NZS 8409:2021
- Approved Code of Practice for Safety and Health in Forest Operations
- Health and Safety at Work (Hazardous Substances) Amendment Regulations 2021
- Civil Aviation Authority rules and regulations

1. ASSA PRE-CONTROL WORK

1.1 PRE-START BRIEFING

Before the operation begins you must hold a pre-start briefing, led by the Project Manager or equivalent key personnel. This shall be in a timely enough manner to allow for potentially affected parties to be notified of any changes.

Pre-start briefing may include, but not be limited to:

- Ensure consent from the landowner or nominated occupier (by email or recorded personal contact). A notification process shall be in place that shows adjoining landowner(s) are aware of the operation.
- Consent or permited activity conditions (e.g. discharging agrichemicals to aid or land).
- Any stock or other activities in the control area shall be discussed with the owner or managers.
- If relevant, check the Safety Data Sheet for your operation's herbicide for any stock withholding period guidelines that need to be adhered to. In the absence of guidelines in the Safety Data Sheet, introduction of stock after spray operations should be cautionary.
- Seek information from occupiers and relevant neighbours on all potential hazards that might be encountered (e.g. main grid power lines or hot wires that go from ridge to ridge on farmland). These hazards need to be entered as appropriate into the site safety hazard register, which needs to be available for inspection by everyone involved for the duration of the work.
- All applicable contractual matters must be completed.
- All cost sharing must be agreed upon and confirmed so that everyone knows how the operation is funded and any conditions that need to be met. Any separate agreements and understandings regarding control of other plant pests encountered must be finalised before the operation begins.
- Brief the helicopter pilot and crew and any other contractor/team members, all affected neighbours, and the landowner(s) or occupier(s) on whose land the operation is being carried out. The briefing must explain where the operational area is. Show the area visually using a map and describe the outermost boundary of the operation. A map is to be supplied to each party.
- Ensure the flight path when spraying is not over an active waterbody (freshwater or geothermal water in a river, lake, stream, pond, wetland, or aquifier, or any part thereof, including ephemeral streams or rivers); check any regional rules surrounding this.
- Work with occupiers and neighbours to identify all water takes including water for stock that may be affected.
- Plan and document steps that shall be taken in the event of an environmental or health and safety incident.
- Check weather conditions leading up to and during the programmed operation. Affected parties must also be notified in the event of a weather postponement.
- All wilding trees to be treated must be positively identified before treatment occurs to ensure only wilding conifer species are treated.

2. ASSA MATERIALS

2.1 HERBICIDE FORMULATION

Several herbicide formulations are currently used for ASSA (Appendix 1). However the herbicide formulation trialled and found to be effective by the National Programme is the 'Gnarly[1]' formulation by Orion AgriScience.

The recommended application rate per 100L is:

- Brush off 2.5 litres
- Mustang 500 grams
- Gnarly 1 litre
- Water to mix.

The 'Gnarly' formulation has been demonstrated to the National Programme to be effective on trees up to 3m tall. Contact the National Programme if intending to spot spray using the 'Gnarly' formulation on trees taller than 3m.

Trials to investigate other effective herbicide formulations for ASSA are underway. The ASSA Good Practice Guide will be updated once the trials have been completed.

2.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Exposing workers to herbicides can cause a range of issues. Operators should follow Safety Data Sheets (SDS) for the herbicides which are being used. This will likely mean wearing eye protection, nitrile gloves, coveralls, chemical resistant boots and a properly fitted mask when mixing, handling, and applying chemicals. If a handheld spray applicator is being used, the operator should not have any exposed skin.

Determining the correct Respiratory Protective Equipment (RPE)

The risk of chemical exposure to operators has not been assessed through exposure monitoring. Given this, the Programme strongly recommends that P3 masks should be used.

Information relating to selection of RPE can be found in Appendix 3.

Link to WorkSafe guidance on RPE: Respiratory Protective Equipment (RPE) | WorkSafe.

[1] *AFSA Good Practice Guide provides guidelines on minimising water contamination risk: AFSA Good Practice Guide*

PPE and RPE requirements

Table 1. PPE and RPE specifications for set-up and delivery of ASSA operations

Note that this will have to be refined based on the SDS requirements of the specific herbicides being used.

TYPE OF PPE	SPECIFICATIONS/COMMENTS
Eye protection	Goggles or a helmet visor must be used when mixing, handling, and applying chemicals.
Nitrile gloves	• Nitrile gloves must be used when mixing, handling, and applying chemicals. • Other chemical resistant gloves maybe used by the pilot to ensure they don't lose dexterity and compromise safety.
Chemical-resistant coveralls	Coveralls must be used when mixing, handling, and applying chemicals.
Footwear	Chemical resistant work boots must be used when mixing, handling, and applying chemicals.
Respirator	• Respirator must be used when mixing, handling, and applying chemicals. • The Programme strongly recommends the use of a P3 half face mask with appropriate agrichemical filters. A P2 mask with carbon filter may also be appropriate. The mask must be fit tested to ensure adequate protection. • A verbal electronic communication system must be in place between the pilot and operator.

2.3 DELIVERY EQUIPMENT AND SETUP

Helicopter setup

The decision of which helicopter type to be used will be based on safety and specific environmental conditions (e.g., altitude and manoeuvrability requirements) and will ultimately be made by the pilot. Project Managers or equivalent should consult with pilots to determine if a mounted applicator or handheld applicator will be used. There should be assurance that applicators will not be exposed to herbicide and that trees will be controlled efficiently while minimising non target damage.

To allow for accurate record keeping and post control monitoring, a GPS system must record both the helicopter flight path and points where herbicide is applied to wilding conifers. The GPS data shall be provided to the relevant Project Manager.

All equipment attached to the helicopter must have an approved modification listed in the aircraft flight manual.

- Operators using a handheld applicator must be always restrained with an approved safety harness.
- The pilot is responsible for installing a securing mechanism, such as a bracket or strap, to ensure the applicator setup does not come in contact with the main or tail rotors. The operator must use the applicator as directed by the pilot.

Spray tanks

The spray tank must have an efficient agitation system if using a combination of herbicides and additives to ensure the chemicals remain properly mixed. A mechanical agitation system is satisfactory.

It is best to pre-mix the herbicides before putting the formulation into the spray tank. If an efficient agitator is available, then adding products directly into the tanks is also appropriate.

The Civil Aviation Authority (CAA) requires that where tanks have a 'jettison system' fitted (to be able to jettison any unwanted liquids), it must be fully operational. Note: emergency "jettison" may trigger an environmental incident (see Appendix 4).

Spray pumps

The type of pump system used is at the discretion of the helicopter pilot. Internal or external (electric) driven pumps are used to deliver the herbicide to the applicator setup, although some operators prefer external tanks with petrol drive pumps. It is recommended that the pressure of the spray pump shall be operated between 2-3 bar to minimise misting of the herbicide.

Herbicide wands

The shape and length of the wand is optional and at the discretion of the pilot. However, wands are generally between 1.5m and 4m long, and straight. Sometimes wands with a 45° bend at the tip are used. The 'bent' wand makes it harder to treat trees directly below the helicopter, which is the preferred option as it reduces rotor-wash. However, a bent wand may be applicable when operating in steep terrain.

The operator should have a risk management assessment in place for wand use, so the wand cannot contact the rotor disk. Similarly, a system needs to be established for wand positioning for landing (e.g., wand pointing to the rear of the helicopter) so that it doesn't hit the ground as the helicopter lands.

Carbon fibre wands should be used for all ASSA work. It is much safer than steel wand and reduces the risk of injury and damage to the helicopter. An extendable carbon fibre rod that can reach outside the rotor wash zone is an option for treating trees in difficult locations.

Nozzle applicator

The nozzle size is important as it needs to produce larger droplets[2]. Nozzles that produce 'fine' or 'very fine' droplets are not recommended because the small droplets are prone to drift (Akesson & Yates, 1984). Note that the amount of spray applied will vary depending on the size of tree.

2.4 MINIMISING WATER CONTAMINATION RISK

In areas where active waterbodies are present, it is important to minimize the risk of herbicides entering those waterbodies. Here, an 'active waterbody' means: fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, including ephemeral streams or rivers if they are flowing at the time of spraying.

Exercise best judgement considering density of trees to be treated using ASSA along water ways.

Refer to the AFSA Good Practice Guide for guidance around spraying along waterways.

[2]Research to investigate nozzle type(s) that produce the most efficient and effective droplet size for ASSA is ongoing. Once completed, the Good Practice Guide will be updated with the appropriate nozzle recommendations.

3. ASSA METHOD

3.1 FLIGHT PATH

To ensure wilding conifers are not missed, it is important that an operational area is flown in a consistent and logical pattern that is agreed upon during the pre-flight briefing. Typical search methods used for ASSA operations include working along at the same contour heights, moving ridgeline to ridgeline or gully to ridgeline and vice versa, depending on the nature of the topography, density, and locations of the wilding conifers.

The flight path and locations of controlled wilding conifers must be recorded using GPS to allow for identification of unsearched areas and accurate identification of controlled trees for post-control auditing.

3.2 HELICOPTER OPERATION

The helicopter flying/hovering height should be at a height that facilitates the accurate and precise placement of the herbicide onto upper branches of the trees. It needs to ensure full coverage of the trees and minimise chemical drift. Note that wilding conifers occurring within deep fissures or other inaccessible areas may require treatment from a greater height to ensure aircraft safety.

If a handheld applicator is being used, the positioning of the wand operator relative to the pilot is at the user's discretion. An operator positioned in the rear of the machine on the same side as the pilot allows the pilot to see the tree that is being sprayed, which means less communication between the pilot and crew member is required. If the operator works from the front passenger seat alongside the pilot, the pilot may not be able to see the target tree, so more communication is required. Planned techniques may need to be modified depending on what is seen during flights.

3.3 REDUCING ROTORWASH

Wilding conifers should be treated directly below the helicopter whenever possible. This approach removes the temptation to over-extend the nozzle applicator/wand into the rotor wash zone. The pilot shall turn off the pump immediately if they see rotor wash of the herbicide occurring.

The minimum amount of air disturbance and rotor wash occurs when the helicopter is moving in a forward direction, but application can only occur when in a hover. Therefore, where possible, trees should be treated after allowing the air disturbance to subside. Aiming the applicator directly down or arcing a little towards the back of the helicopter are the optimum positions to treat a tree and will result in minimal rotor wash bounce of herbicide off the ground.

3.4 HERBICIDE APPLICATION

Application requires diligence at all times as full coverage of all the foliage is essential for effective control. Operators should use discretion when applying herbicide, considering the size and complex nature of the tree to be treated and whether another method may be more effective. During initial control operations it is better to apply more herbicide onto a tree than not enough and risk having to revisit an area where trees have only been partially controlled.

Aerial spot spray application method covers the entire foliage of a tree with herbicide applied as a solid liquid stream onto the centre top crown of the tree all over the green foliage of the tree.

The helicopter downwash assists in forcing the liquid stream down into the tree canopy. This minimises the risk of spray drift causing off-target damage to the surrounding vegetation (Gous et.al 2015). Attaining full coverage might require discharging herbicides around the different sides of the tree from multiple angles.

The amount of herbicide to apply is dependent on the size of the tree. Larger trees with a wider crown require more herbicide to be applied. The principle to be followed to ensure full coverage is achieved is to apply herbicide until all the foliage is wet.

3.5 TIMING

Based on the results of trials to date, it is recommended that ASSA is used between November and April, to ensure the trees are actively growing when herbicide is applied.

4. ASSA POST CONTROL

4.1 POST-CONTROL AUDITING

Post-control auditing for ASSA operations currently relies on visual inspections. This is best carried out once treated trees are showing visible effects of the treatment. In most cases it is recommended that post control surveys are undertaken 12 and 18 months following control. It is good practice to do a final audit after 2 years (for small trees) or 3 years (for big trees), when the overall effectiveness of the control treatment can be evaluated.

The results of post-control auditing can be cross-checked against the GPS flight paths submitted from the control operation. Operators' spray diaries can also be used to verify the exact dates and times when control was undertaken. It is essential that all recording of information is valid and kept up to date.

4.2 PROGRAM QUALITY CONTROL

Quality control checks should be conducted to ensure operations are being carried out in accordance with agreed plans and good practice. These are also helpful in post-control auditing.

Checks may cover a wide variety of aspects, such as:

- daily briefing forms;
- evidence of daily equipment checks and annual checks;
- operational observations (from a ground position);
- observation of ground operation procedures (refuelling, chemical handling, helicopter landing/take off procedures);
- an inspection of the ASSA application setup to ensure it is functioning correctly;
- inspection of tanks on helicopters to ensure they are mounted safely and are in good working condition (carried out by a qualified Licensed Aircraft Maintenance Engineer);
- inspection of waypoints, track logs (flight lines), spray diaries and flow rate data to confirm which areas have been treated – track logs may show an area that has not been controlled;
- where appropriate, actual volume of mixed herbicide used and with known mixing rates compared with both the size and number of trees treated; and
- If making checks during post-control auditing, significant damage observed from non-target application from spray drift should be noted.

5. BIBLIOGRAPHY

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Wilding Conifer Quick ID Guide

AFSA Good Practice Guide

Wilding Pine Network

Information for community groups: https://wildingpinenetwork.org.nz/community-groups/

Choosing the right control method: https://wildingpinenetwork.org.nz/control-guidelines-now-available/

APPENDIX 1: HERBICIDE FORMULATIONS USED FOR ASSA

HERBICIDE FORMULATION	SITUATION OF USE	PRODUCT	ACTIVE INGREDIENT TOTAL
TDPA[3]	*Pinus contorta* (lodgepole pine), *Pinus mugo* (mountain pine), *Pinus nigra* (Corsican pine), *Pinus pinaster* (maritime pine), *Pinus ponderosa* (ponderosa pine) or *Pinus sylvestris* (Scots pine).	• 20 L Grazon or equivalent • 10 L Cutlass 500 or equivalent OR 6.67 L Kamba 750 • 20 L Tordon Brushkiller XT • 3.3 L T-Max • 20 L Punch Penetrant • 0.5 L Li-700 • 4 kg ammonium sulphate fertiliser • 200 ml Jab • Water to make 400L	Per 400 L: • 18,000 g Triclopyr ester • 5,000 g dicamba • 2,000 g picloram • 259 g aminopyralid • 20,000 mL oil • 500 mL propionic acid buffer • 2,300 g ammonium sulphate • 200 ml polyether-modified polysiloxane
GNARLY	All wilding conifer species up to 3m	• Brush off 2.5 litres • Mustang 500 grams • Gnarly 1 litre • 100L of clean water (pH between 6.5 - 7.5)	Per 100 L: • 1500 g of Triclopyr • 300 g of metsulfuron methyl • Gnarly
AGPRO Triclop (or equivalent)	All wilding conifer species	• 1 L AGPRO Triclop 600 • 1 L Biodiesel • 50 L clean water (pH between 6.5 - 7.5)	Per 20 L: • 600 g Triclophyr as the butoxyethyleseter in the form of an emulsifiable concentrate
METSULFURON METHYL[4]	*Pinus radiata* (radiata pine), *Pinus muricata* (Bishop's pine), *Psuedotsuga menziesii* (Douglas fir) and Larch species	• 1000g of Associate or equivalent (600g/kg Metsulfuron-methyl formulation) • 10 L Punch Penetrant • 2 L Slikka (wetter/penetrant) • 4kg ammonium sulphate fertiliser • 200 ml Jab	Per 400 L: • 600 g Metsulfuron methyl • 10,000 mL oil • 1600 g heptamethyltrisiloxane • 2,300 g ammonium sulphate • 200 ml polyether-modified polysiloxane

Note: the use of mineral based diesel (including JetA1), fuels and oils (including blends of mineral diesel and vegetable oil) as carriers in herbicide mixes is prohibited in the National Programme.

[3] *Assumed would be effective for ASSA because it has been effectively used for AFSA.*

[4] *Assumed would be effective for ASSA because it has been effectively used for AFSA.*

APPENDIX 2: TERMS AND DEFINITIONS

TERM	DEFINITION
Aerial Basal Bark Application (ABBA)	The ABBA method of wilding conifer control involves chemically ring-barking trees by using a wand to apply herbicide from a helicopter. It is an efficient way to control scattered wildings in difficult-to-access terrain or in areas with high value vegetation.
Aerial Foliar Spray Application (AFSA)	The AFSA method of wilding conifer control involves chemically spraying trees by helicopter boom across area of dense infestations.
Aerial Spot Spray Application (ASSA)	The aerial spot spraying application method for wilding conifer control involves full foliar spraying of herbicide applied to trees from a helicopter.
Chemical Safety Data Sheet (SDS)	Safety data sheets provide important information about hazardous substances, including how the substance should be safely used, stored, transported and disposed of. It provides first aid information, information about the personal protective equipment that the person handling the substance should wear and what to do in the event of an emergency, such as a spill or fire. It is mandatory to have a current, accessible safety data sheet for each of the hazardous substances in your workplace regardless of the quantity you hold.
New Zealand Standard for Management of Agrichemicals (NZS 8409:2021)	The New Zealand Code of Practice approved by the Environmental Protection Authority (EPA) under the Hazardous Substances and New Organisms Act 1996. It sets out how to manage agrichemicals to comply with the relevant hazardous substance regulations. Knowledge of this industry Code of Practice is an essential part of GROWSAFE certification and Qualified Person certification.
Project Manager	Where the operation is being carried out under the National Wilding Conifer Control Programme, there will be a Project Manager – who acts on behalf of the Programme to ensure the operation is conducted appropriately and aligned to the Programme's good practice guidelines, or in the absence of such, the relevant industry codes of practice. The role includes ensuring all equipment is applicable to the task, staff or contractors are suitably trained and competent to undertake the work, relevant health and safety considerations and practices are employed and accurate data is collected and reported. The Project Manager is deemed to have the duties of a PCBU under the Health and Safety at Work Act 2015 and other applicable regulations.
Qualified person	The qualification requirements for handling a class 9 substance are defined in the Hazardous Substances (Hazardous Property Controls) Notice 2017 (EPA, 2017, Part 4 subpart C). This replaces the former Approved Handler Test Certificate process.
Regional Air Plans	Each regional council/territorial authority has a regional plan to protect air, land, and water quality. Rules in these plans contain conditions regarding the discharge of agrichemicals. While there is some national commonality between rules around the use of agrichemicals for wilding conifer management, project managers and operational controllers should be aware at all times of the specific rules and conditions in place for the regions they are working in.
Spray drift	Spray drift is the unintentional diffusion of a pesticide outside the application area, with a possible risk to human health, the environment, or property
Operator	A person who is involved with the control work.
Pilot	A person who operates the flying controls of an aircraft.

APPENDIX 3: LEGAL REQUIREMENTS

The key legal requirements for operators using the ASSA method to be aware of are summarised here.

- **Health and Safety at Work Act 2015** – administered by WorkSafe New Zealand, covering matters outlined in this document.

  ◊ The Health and Safety at Work Act also includes **Health and Safety at Work (Hazardous Substances) Amendment Regulations 2021**, covering hazardous substances regulations (amended November 2021)[5] around the use of agrichemicals in the workplace.

  ◊ A Site Specific Safety Plan (SSSP) must be developed and kept on site at all times.

  ◊ WorkSafe New Zealand has approved codes of practice (ACOPs) for various activities, such as the ACOP for Safety and Health in Forestry Operations, which is relevant for wilding conifer control[6].

- **Hazardous Substances and New Organisms Act 1996 (HSNO Act)** – administered by the Environmental Protection Authority (EPA). The EPA approves all herbicides for use in New Zealand and places conditions such as upper limits on the active ingredient that can be applied. The upper level of active ingredient that can be applied may be higher than is shown on company label claims. The herbicides used for wilding conifers do not exceed the EPA stated upper limits and the EPA does not specify nor approve manufacturer label rates. Regulations under the HSNO Act are largely replaced by the Health and Safety at Work (Hazardous Substances) Regulations 2017, and HSNO controls have been replaced with EPA notices, such as the Hazardous Substances (Hazardous Property Controls) Notice 2017 (EPA, 2017).

- **New Zealand Standard for Management of Agrichemicals (NZS8409:2021)** – a New Zealand Code of Practice approved by the EPA that provides practical and specific guidelines on the safe, responsible, and effective use of agrichemicals. The standard is available to agrichemical users through the GROWSAFE training programme. Off-label use of herbicides is permitted. See section C3.2 of the current New Zealand Standard NZS 8409:2021 (Standards New Zealand, 2021).

- **Civil Aviation Authority rules and regulations** – address the shared responsibility for safety and security of all aircraft users and participants involved with aircraft, with numerous standards to meet and maintain.

- **Biosecurity Act 1993** – among many matters, sets out which organisms are declared pests in each region, and allows for authorised persons to be appointed, with a resulting wide range of powers (including entry to places to undertake pest inspections and control, and numerous other powers). Wilding conifers are declared pests in many regions of New Zealand.

- **Resource Management Act 1993** – addresses many environmental management matters (e.g., discharging agrichemicals to air or land) and responsibilities, including the provision of regional water plans and regional air plans developed by regional councils. However, which activities are permitted or not.

[5] *Health and Safety at Work (Hazardous Substances) Amendment Regulations 2021 - https://legislation.govt.nz/regulation/public/2021/0372/21.0/LMS576399.html*

[6] *https://www.worksafe.govt.nz/topic-and-industry/forestry/safety-and-health-in-forest-operations*

APPENDIX 4: CLARIFICATION ON USE OF RESPIRATOR MASKS

Selecting Respiratory Protection Equipment (RPE)

The decision of a PCBU on the appropriate level of Respiratory Protection Equipment (RPE), in this case P3 vs. P2 with a carbon filter, must consider the following:

- What type of RPE will protect against the substance hazardous to health?
- Is the RPE suitable for the form of the contaminant (for example, mist, gas or solid)?
- Is the RPE suitable for the work (light or heavy work, short or long duration, confined space, ventilation)?
- The needs of each worker. For example, is the RPE the right size? Is it compatible with other PPE that workers need to wear? If the RPE needs to be worn for extended periods, what are the reasonably comfortable options?
- What control measures does the Safety Data Sheet (SDS) for the substance you are working with recommend?
- What type of respirator does the SDS recommend?

While P3 masks are preferable, they may not be appropriate based on the above considerations. Any PCBU can do their own analysis and determine that P3 masks are suitable for their work and make this a requirement of their contractors. This analysis would usually require expert help from occupational hygienists and suppliers of RPE. This is not practical in a helicopter.

Therefore, each PCBU should follow WorkSafe guidance before selecting RPE for their task.

APPENDIX 5: ENVIRONMENTAL INCIDENT RESPONSE AND REPORTING PROCEDURE

Should an environmental incident occur in relation to the National Wilding Conifer Control Programme operations, the following response and reporting procedure is to be enacted.

An Environmental Incident within the National Wilding Conifer Control Programme is considered to have occurred where one or more of the following is observed:

- A single event where over 1 Litre of chemical concentrate or mixed equivalent has been accidently discharged (i.e. distributed outside of control polygon or onto non-target species) into the environment.
- A loss of a threatened species or harm (dieback) to a threatened ecosystem that can be related to control operations is identified.

All environmental incidents observed during control operations are to be notified and assessed within a 48 hour period of being noticed. An environmental incident report is to be compiled for each separate incident and these are to be reported in the monthly reporting to the National Programme.

However, where action could be immediately and safely taken to prevent immediate danger or further harm to people and/or the environment, that action should be undertaken to avoid or minimise immediate danger or further harm in conjunction with reporting the situation.

ENVIROMENTAL INCIDENT REPORT CARD

1. Incident Reported by:

2. When did the incident occur? **Day:** **Time:**

3. Where did the incident occur?

4. Type of incident:

- Chemical spill to land,
- Chemical contamination of water,
- Near miss,
- Other? E.g. Cumulative effects i.e. chronic chemical build-up in areas where refuelling often takes place.

5. Cause of incident:

6. The value of any receiving environment:

- Very High (threatened species or ecosystem),
- High (native or productive land),
- Medium (intermixed native or productive species /exotic),
- Low (unproductive exotic).

7. The magnitude (severity) of the incident:

- Severe (affected area >100m², or legacy effect >20 yrs)
- Moderate (area 10m² - 100m², or legacy effect 1-20 yrs).
- Low (area <10 m² or very short temporary effect <1 yr).

8. Using answers to 6 and 7 above, what is the (actual or potential) environmental impact of the incident (circle):

ENVIRONMENTAL IMPACT	VALUE OF RECEIVING ENVIRONMENT			
	LOW	MEDIUM	HIGH	VERY HIGH
LOW	Very low	Minor	Moderate	High
MODERATE	Minor	Moderate	High	Very High
SEVERE	Moderate	High	Very High	Very High

9. Actions taken to remedy the impact of environmental incident:

Contain:

Clean up:

Restore:

Prevent:

10. Any further actions needing to be taken: