
Weed Planner

Standard Operating Procedure

Disclaimer

This Standard Operating Procedure (SOP) has been written for Department of Conservation (DOC) staff. As a result, it includes DOC-specific terms and makes reference to internal documents that are only accessible to DOC staff. It is being made available to external groups and organisations to demonstrate departmental best practice. As these procedures have been prepared for the use of DOC staff, other users may require authorisation or caveats may apply. Any use by members of the public is at their own risk and DOC disclaims all liability in reference to any risk. For further information please email sop@doc.govt.nz.

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I. Purpose

Who should use this SOP:

All staff planning weed control programmes should use this SOP to guide them through the process.

The Weed Planner SOP will assist weed managers to:

Prepare and organise information about existing and proposed projects for control of invasive weeds under key output 1.17.

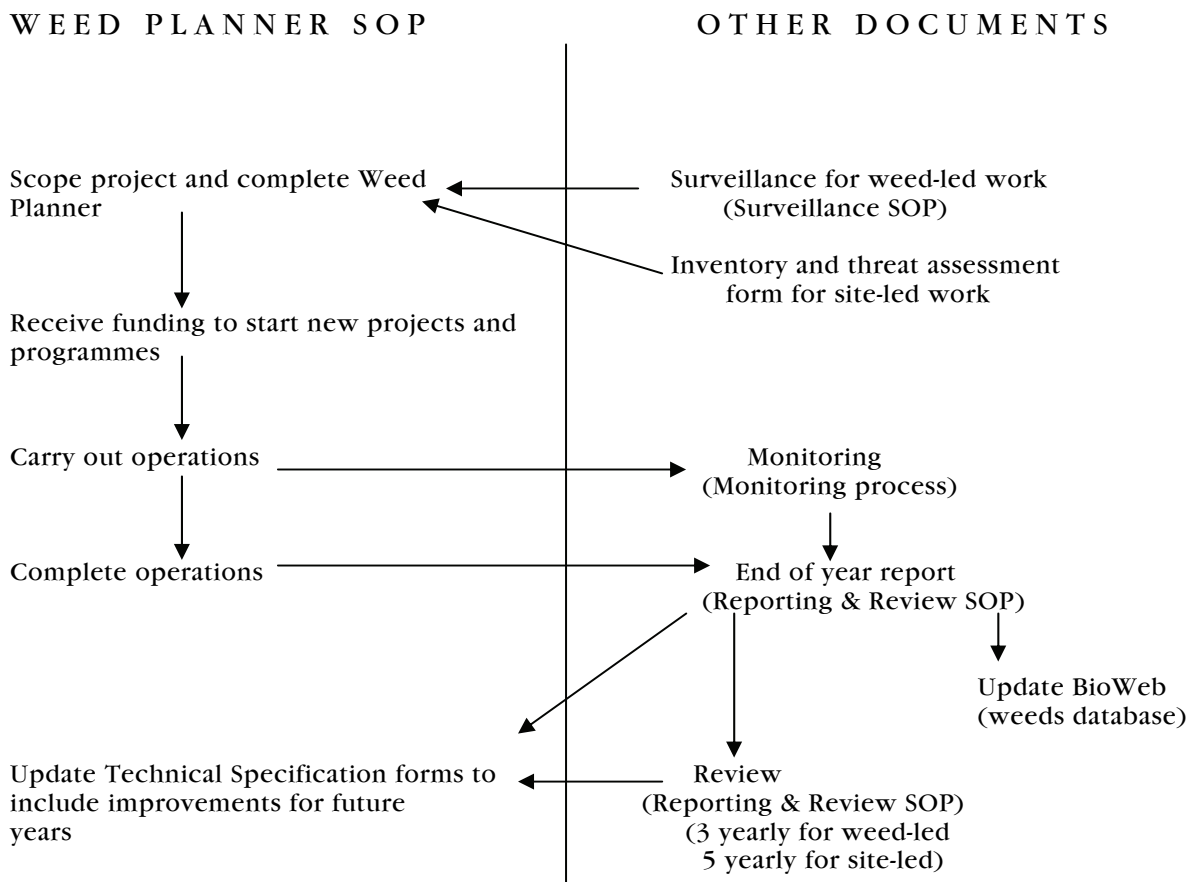
The Weed Planner will be used to:

Assist weed staff to plan efficient and effective weed programmes over 5 or more years by providing information on how to correctly complete the technical specifications and who is responsible for completing which parts. It:

- Captures important information about the objective, consultation requirements, proposed control methods and budget.
- Indicates where more detailed information and maps are held.
- Provides supporting information for funding bids.

II. Process

The aim of this SOP is to guide staff in the planning of weed control programmes and the use of technical specifications, and is part of the weed quality management system as shown below.



III. Requirements table

Level II or higher managers are authorised to approve variations from SOP requirements and are accountable for those decisions. They are required to use their professional judgement and seek advice or escalate when in doubt. All decisions should be documented. It is expected that variations from requirements will be the exception rather than the norm, and that legal (i.e. legislation and judge-made laws), and health and safety requirements are effectively compulsory. Common sense should prevail in the case of exceptional or emergency field situations.

The consequences of not complying with this SOP include: 1) inefficient use of financial and operational resources; 2) ineffective protection of biodiversity; and 3) failure to adhere to the Weed Quality Management System.

Requirements	Who is accountable for carrying out the requirement	Why?/Consequence	Links	Completed / comments
Complete Part 1 of the Tech Specs template	Programme Manager	Page 1 summarises the purpose and details of the plan. It is needed to ensure funding is appropriate to justify the work	Instructions for completing Part One of the Tech Specs Form Page 13	
Complete the Tech Specs template up to the first year of operations	Programme Manager	The Tech Specs record the feasibility and resources required for the work. The information is also be required for annual business planning	Instructions for completing the Tech Specs Page 24	
Confirm that the Weed Plan (Tech Specs) has been completed correctly	TSO	The TSO has a Conservancy overview role to ensure that the plan fits within Conservancy / national strategic direction and good practice is maintained	Instructions for completing the Tech Specs Page 23	
Update the next year of the Tech Specs using the recommendations from the end of year report	Programme Manager	Updated Tech Specs are necessary to resource the work through to a successful outcome	Updating Tech Specs Page 20	

IV. About this document

Coordinator

Senior Technical Support Officer
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Owner

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Approved for use

GM Operations Northern
Date: 20 November 2009
GM Operations Southern
Date: 20 November 2009
GM Research and Development
Date: 18 November 2009

Amendments

Amendment date	Amendment details	DOCDM version	Amended by
2002	SOP released	OLDDM-313796	H. Braithwaite
Nov 2002	Alignment with other documents	OLDDM-313796	H. Braithwaite
June 2003	All modules. Minor wording amendments to be consistent with the Weed Reporting and Reviewing SOP, and animal pest SOPs.	OLDDM-313796	H. Braithwaite
Nov 2009	Update into new SOP format with minor wording amendment and aligning with new information	DOCDM- 432795	T. McCluggage

Terminology and definitions

Area	(With a capital A) is used to mean the area administered by a DOC Area Office (including land of all tenure).
AUSM	Area Under Sustained Management—the total area within the Area Office within which the control will be carried out and sustained over time.
Benefit area	The area likely to be advantaged as a result of control work undertaken.
BSR	Biological Success Rating. See Appendix 4.5. How successful the species is in reproducing itself.
BVS	Biodiversity Value Score. See Appendix 4.5. Whichever is higher of the "botanical value" or "wildlife value" scores.
Containment	Controlling weeds to prevent them from expanding beyond a defined boundary.
DOCDM	DOC Document Management - the DOC internal electronic file system.
EOS	Effect on System. See Appendix 4.5. How the species impacts on the habitats it enters.
Eradication	The permanent removal of all individuals of a species from an area. Control has a definite end point (apart from ongoing surveillance) because there is little or no likelihood of reinvasion.
Invasive Weeds	Plants that can significantly and adversely affect the long term survival of native species, the integrity or sustainability of natural communities, or genetic variation within indigenous species.
NZBS	New Zealand Biodiversity Strategy.
RPMS	Regional Pest Management Strategy. Required under the Biosecurity Act 1993, Regional Councils provide strategies that list the pests to be controlled by the regional councils.
Site-led programme	A weed control programme to protect the natural values of a priority area from the impacts of invasive weed species.
SOP	Standard Operating Procedure. SOPs are a national scope of tasks or standards that must be met and are based on best practice.
SPMIW	Department of Conservation Strategic Plan for Managing Invasive Weeds (SPMIW) The foundation document that the Department's weed control work is based on.
STSO	Senior Technical Support Officer.
Sustained control	The effort over time to control weeds at a site to the desired level.
Tech Specs	Technical Specification forms. These are found at Appendix 4.1 for weed-led and Appendix 4.2 for site-led.
WBS	Work breakdown structure. The code is the project number from the business plan.
Weed - led Project	A weed control project to minimise the future impacts of an invasive weed species over a large area by eradicating or containing it before it becomes a major problem.
Weed Tech or TSO	The Conservancy Technical Support Officer who deals with weed issues.
Zero Density	A sustained control operation where the desired density is nil adult plants.

1. Introduction to the Weed Planner

1.1 OVERVIEW

This SOP guides all staff in planning a weed control programme and in the use of the technical specifications (Tech Specs), which are attached in the appendices.

1.2 WHO SHOULD USE THE SOP

- Area Weed Programme Managers and anyone who has been delegated the responsibility for completing the Tech Specs form.
- Area Managers.
- Those who will help with the decision processes—particularly the person in each conservancy technical support unit with responsibility for weeds issues (the Weed Tech) but also including the Conservancy botanist, contract workers, and National Office weed staff (STSO weeds).
- Any staff involved in monitoring, or reporting and reviewing weeds projects or programmes.
- Regional Councils, community weed projects, and other agencies will have access to and use of this SOP.

The Weed Planner SOP is made up of three parts. This introduction, Part 1, explains who will use this SOP and the standards expected.

Part 2 is the strategic phase containing background information on the strategic phase of weed planning and instructions for completing the first part of the Tech Specs.

Part 3 guides the planning, operational and reporting phases of a weed control programme and contains instructions for completing the other parts of the Tech Specs.

Part 2 and Part 3 of this SOP are designed to help staff who are relatively new to weed programme management. Experienced staff may only need to use these modules occasionally for reference. However experienced you are, you are expected to use your judgement in making decisions to fit your local circumstances; the SOP is there to provide a framework and to highlight important issues and sources of information.

Appendix 4.1 provides the Technical Specification forms for weed-led programmes. This is the form you use to write your weed-led plan.

Appendix 4.2 provides the Technical Specification forms for site-led programmes. This is the form you use to write your site-led plan.

These Technical Specification (Tech Specs) forms provide a standard format for recording information about the specifications required for weed control projects. Because these plans have been designed to be easy to use, there is provision to attach links to more detailed documents that you may want to include.

Page one of these forms, along with any supporting information, will help ensure that bids for new weed control projects contain the necessary information. Note that while Business Planning focuses on year 1, weed work is generally planned to operate over several years.

1.3 HOW TO USE THE WEED PLANNER

Complete the appropriate Weed Planner tech specs, i.e. weed-led or site-led from the technical specification forms provided in Appendix 4.1 and 4.2. These will open as 'read only'. To keep your own version use the 'save as' function. Instructions for completing the Tech Specs are located throughout the SOP and are listed below.

Tech Specs part	Weed-led or site-led	Part number	Page number
1	both	2.2	14
2	weed-led	3.3	24
2	site-led	3.4	25
3	both	3.5	26
4	both	3.6	27
Costing sheet	both	3.7	28
Non-target sheet	both	3.8	28
Consultation sheet	both	3.9	29

1.4 THE IMPORTANCE OF THE STRATEGIC PLAN FOR MANAGING INVASIVE WEEDS (SPMIW)

The Department of Conservation's Strategic Plan for Managing Invasive Weeds (SPMIW) details the principles, objectives and priorities that the Department will use to help protect native species and natural communities from the effects of invasive weeds. The Weed Planner SOP will guide weeds staff so that their environmental weeds programmes will align with the SPMIW.

This SOP is not a substitute for reading the SPMIW and it is recommended that all staff with an involvement in weed work become familiar with the document. Many of the terms used in this SOP (for example weed-led and site-led programmes) are defined and explained in the SPMIW.

Work carried out as part of a Regional Pest Management Strategy (RPMS) and recreational and historic weed work are managed separately, but if this SOP is useful for these projects, then use it.

1.5 WHERE TO GET HELP

The Conservancy Technical Support Officer who deals with weed issues (the Weed Tech) will often be the first person to ask if you have questions about how to complete the Tech Specs forms. A good way to learn is to complete a weed plan following the instructions.

Alternatively, weeds staff in your Area or in other Area Offices may be able to assist.

1.6 IMPROVEMENTS TO THE SOP

Anyone can suggest alterations to improve this SOP. Please email the Weeds SOP Co-ordinator. Alternatively, click the link at the bottom of the title page for this SOP on the Procedures and Guides site of the intranet.

1.7 STANDARDS

For weed control projects under Business Planning Key Output 1.17.

- All projects must be scoped and planned to provide information for the life of the project.
- All new weed control projects will need at least page 1 of a Tech Specs form completed to request funding.
- Tech Specs must be completed for all weed-led projects and all ongoing site-led programmes to a level required for the project being planned.

- The forms are to be held in the Area Office and in the docDM system in Natural Heritage/Threats/Weeds/Planning and are to be used as reference documents for ongoing work.

2. The strategic phase

2.1 WEED-LED AND SITE-LED

The SPMIW identifies two main directions for DOC's environmental weeds activities: weed-led and site-led control. These are defined as follows in the SPMIW:

- **Weed-led:** Projects to minimise the potential future impacts of invasive weeds by managing priority species before they become a problem. It usually involves eradication or containment of the targeted species.
- **Site-led:** Programmes to protect the natural values of priority areas from the existing or potential impacts of invasive weed species growing within the area.

Determine if your project is weed-led or site-led.

Note: For weed-led projects the control work is often on land that is not administered by DOC. Site-led programmes are usually on DOC land, but may include buffers or seed sources on land of other tenure.

Requirements	Who is accountable for carrying out the requirement	Why?/Consequence
Complete Part 1 of the Tech Specs template	Programme Manager	Page 1 summarises the purpose and details of the plan. It is needed to ensure funding is appropriate to justify the work.

2.2 INSTRUCTIONS FOR COMPLETING PART ONE OF THE TECH SPECS FORM

Requirements for the sections in both the weed-led and site-led forms are as follows:

Area: This is the Area Office running the programme. If a programme covers several Areas then the form should be filled out by the lead Area for the project or programme.

The business planning WBS number: If the programme is part of a business planning work plan, use the overall work plan WBS number. If a work plan WBS number has not yet been allocated, this can be added when it is available.

Proposed by: Enter the name of the person in the Area responsible for the Area weed programmes.

Date: This is the date when the form is filled in. The date of the most recent amendment should be added in brackets.

For weed-led only—Weed Species Name: Include both the scientific name and any common name that is used.

For Site-led only—Management Unit: The protected natural area that is the focus of the programme. Often this is the conservation unit.

For Site-led only—Buffers and seed sources: List any buffers (areas adjacent to the site where the weed species will be controlled to help reduce re-invasion), or any other seed sources that will be controlled, and include details. You may also want to give details of sources of re-invasion that will not be controlled.

2.3 WEED-LED FEASIBILITY

Before a weed-led project is initiated it is important to check that it is feasible. The six questions near the top of page 1 of the Weed-led Tech Specs template will help you to decide this. To complete these you may require advice from a range of experts. Answering “N” (no) to one of these questions does not necessarily mean that you can not proceed, but more explanation will be needed. More guidance for each question is given below:

Is the species likely to have significant impacts on indigenous species and communities?

If you are not sure you must consult experts to help you decide. These may include local, national and international weed experts, botanists and fauna experts.

Are acceptable effective control methods available (even at low densities)?

For eradication, an effective control method must remove the species faster than it increases. Some damage to non-target species may be acceptable, but this should be identified and assessed. With new species and species you are unsure of, you may need to consult a range of information sources including databases, international email lists and expert advice. If very little is known, it may be possible to set up trials as the first stage of your programme.

Is there low possibility of re-invasion?

A weed-led project is not feasible unless you can reduce the risk of re-invasion to near zero.

Do you know the full extent of infestation(s)?

It is important to know the size of the problem, to assess if weed-led control is feasible, so you need to have a reasonable idea of the extent of the infestation. If the details are unclear you should make quantifying the extent the first stage of your programme. This is sometimes known as a delimitation survey.

Is distribution of the species limited enough for the programme to be feasible?

Weed-led projects target a weed species at the early stage of an invasion, when very little of the suitable habitat has been colonised. If the species is more widespread the costs will escalate and eradication/containment will not be possible.

Are all affected landowners expected to agree to the control?

All infestations of the species must be controlled, which means controlling the weed on land of all tenure, so landowner co-operation is very important. It may be possible to enforce control if the plant is in a Regional Council Pest Management Strategy, or has been declared an unwanted organism, but in most cases, co-operation from all parties is a pre-requisite.

2.4 WEED-LED RANKINGS

Projects are ranked so that their relative priority can be assessed—see Appendix 4.5 or SPMIW 4.4.3 (p.40) for details of the priorities.

For weed-led projects the ranking is the priority group (a letter A to D—derived from the weediness score of the species) followed by the practicality of control (a number between 3 and 10—see Appendix 4.5).

Some weediness scores are listed in the DOC publication “Ecological weeds on conservation land in New Zealand: a database” (Owen 1997) and in its electronic successor, the Weeds database (on the BioWeb system). These scores are based on national information and you may need to re-assess the score for your local circumstances. Many species will need their weediness scores calculated, and this is often best done by the Conservancy Weed Tech, in consultation with other local and national experts. Use Tables 1 and 2 in Appendix 4.5 to determine the EoS score and the BSR scores.

The practicality score is found by using the Figure 1 flow chart in Appendix 4.5 . The Conservancy weed tech should be involved in determining the practicality score.

If the ranking score for a new programme is lower than that of other programmes not being funded, then an explanation justifying this is needed.

2.5 SITE RANKING SCORES

Programmes are ranked so that their relative priority can be assessed—see Appendix 4.5 or SPMIW 4.4.3 (p.40) for details of the priorities.

For site-led programmes the ranking is the biodiversity value score multiplied by the urgency of control score. In many cases the scores will exist but may need checking. The scores should be derived using Appendix 5 or SPMIW (p.81); this is often best done by the Conservancy Weed Tech, in consultation with other local experts. On the Tech Specs form, the botanical, wildlife and urgency scores should be entered along with the following details:

- The criteria (a) - (h) see Appendix 5 or SPMIW pages 82-85, which justify highest biodiversity score (botanical, wildlife, or both) should be listed
- The species, vegetation type(s) or ecosystem(s) under threat.

If the ranking score for a new programme is lower than that of other programmes not being funded, then an explanation justifying this is needed.

2.6 OTHER CONSIDERATIONS FOR SITE-LED

There are four factors, in addition to the site ranking score, which are identified in the SPMIW (4.4.2, p.39) as being used to prioritise sites. The following four questions ask for the relevant information:

Are the significant invasive weeds at an early stage of invasion?

By controlling weeds early on, you have a greater chance of being able to protect the site from being modified (and achieve better cost benefit), compared with controlling the weeds later. When weeds have become widespread and well established, both control and restoration is expensive. With early intervention, the total benefit area (the total area the weed could expand into at that site) can be much greater than total area needing control.

Are there existing or proposed programmes in the same ecosystem type?

If you have no other weed control planned in this ecological community type, then this programme may have higher priority. For example, if your existing weed control is all in forest, a tussock land programme could be a higher priority.

Will other threats at the same site also be managed?

Your programme may have higher priority if the control is integrated. An example of an integrated approach is a weed control operation that aims to remove weeds that will spread after an operation to control browsing animals. Please supply details of the other programmes.

Are weeds already being controlled on this site?

Existing programmes with high priority should be continued.

2.7 CONTROL OUTCOME

It is important that each weed control project has a measurable target that can demonstrate if the project has been successful. The outcome target should contribute to the conservation objective and should reflect the reason behind the ranking score.

Some people find the acronym **S.M.A.R.T.** useful to focus on. The target should be:

Specific: Short and to the point, not vague

Measurable: Outcome must be measurable and testable

Achievable: Challenging, but no flights of fancy

Result orientated: Describe anticipated results

Time-bound: Specified time-scale and completion date

At the start of a project it may be difficult to set a measurable target because of uncertainty about the results. In these cases, it is likely that weed control monitoring will be appropriate, making it essential that a target is set. Once set, a target should be reviewed and if necessary, revised in the light of experience.

2.8 SITE-LED: CONSERVATION OUTCOMES

Defining the desired conservation outcome of the weed control project involves making a statement about the conservation objective/s of the project. For example, an outcome objective for a site of high conservation value could be “to return the site to a fully functioning indigenous ecosystem”. Another example could be “to contain the distribution of a significant new invasive weed so that it does not impact on high value habitats”. Make sure the outcome objective is specific to the weed control project.

For more information about outcome objectives, refer to the SPMIW (Figure 1, p.4 is a good place to start).

2.9 WEED-LED: CONSERVATION OUTCOMES

For Weed-led if you answer the questions on the Tech Specs form this will provide the outcome, as follows:

Is the aim eradication or containment? In most cases eradication is most desirable. However, in some other circumstances, it may not be possible to eradicate the weed species from a relatively small area but it is possible to contain it and prevent it spreading to a much larger area. (See Appendix 2, p.71 of SPMIW for more details)

Annual operational targets must be set for each weed at the site. These are the control targets that are set, e.g. 90% kill of spartina.

Timescale for the project. It will be useful to indicate which years will require major time and resource commitment. For containment, regular ongoing survey work will be needed indefinitely after the original work. If large resources are required in future years some funding commitment should be sought before beginning.

Geographic limit. The project should be based on a large geographical area within which you expect to eradicate (or contain) the species and to prevent re-invasion. If this is not so then the project is unlikely to be approved as weed-led. Please specify the scale of the project (national, regional, Conservancy, Area). Other scales are possible: for example a water catchment for some aquatic weeds, but the details should be specified.

NOTE: All known infestations within geographic limit regardless of land tenure must be included in the project for it to qualify as a weed-led project.

2.10 SITE-LED: OPERATIONAL OUTCOME

For site-led programmes, similar factors to those used for weed-led sites should be considered. The site should be easier to define than the geographical area for weed-led. However, there may be several species with different control objectives and time-scales. In particular the **control objective** may be whether to eradicate a species from a site, to control it to zero density or to control it down to a specific level. The aim will depend on what is feasible and what is required to meet the conservation objectives. **A control objective must be set for each weed.** Some of the weed species present may have no effect on the site values and may not need controlling. **(Note the box to fill out the control objective is at the bottom of p.2 of the Tech Spec form)**

Annual operational targets must be set for each weed at the site. These are the control targets that are set, e.g. 90% kill of spartina.

2.11 SITE-LED: NATIONAL PERFORMANCE MEASURES

There are four national performance measures for weed control work. These relate to activities associated with the eradication, containment and management of invasive weeds that are capable of significantly affecting important natural areas, threatened species, or ecological processes. These national performance measures are used in business planning (for thirdly reporting), and should be entered when using the business planning software, while local performance measures are used in the Weed SOP templates. The national performance measures are:

- 1) Number of weed control work plans completed using weed-led approach
- 2) Hectares of land treated using site-led approach
- 3) Hectares of land under sustained weed control using a site-led approach.
- 4) Hectares of land that are benefiting from the sustained weed control using a site-led approach

For **site-led** programmes the standard terms and definitions for the reporting area should be used to determine the non-financial performance measures (Area treated, AUSM, benefit area).

Note: Although benefit area is no longer used as a non-financial performance measure, it is important to enter this information to help prioritise funding bids.

2.12 FUNDING

Budget figures should be entered for the next 5 years of the project. The figures should include all costs (including any hours converted to \$). If the costs are known they can be entered directly, otherwise use the costing sheet (click on the costing tab on the Excel spreadsheet) to calculate approximate costs.

Requirements	Who is accountable for carrying out the requirement	Why?/Consequence
Update the next year of the Tech Specs using the recommendations from the end of year report	Programme Manager	Updated Tech Specs are necessary to resource the work through to a successful outcome.

2.13 UPDATING TECH SPECS

The information initially entered can be updated when more accurate information is available. In most cases the Tech Specs should be updated each year as part of the reporting and reviewing procedure for the project or programme (see the Weed Control Reporting and Reviewing SOP). This ensures that planned work is carried out, and that the conservation objectives and control targets are likely to be achieved.

3. Planning, Operational, and Reporting Phase

3.1 SOME THINGS YOU MAY HAVE ALREADY DONE

You may have already gone through some of these steps to gather the strategic information.

For weed-led: Do you know the full extent of the infestation? If not, you need to be sure of the extent before starting control, as this is likely to involve a delimitation survey on both private and DOC land. Raising public awareness may also be required. (See Weed Surveillance SOP for more details.)

For site-led: You may have an inventory and threat assessment form completed or species lists, but if not you will need to collect detailed information about the site and the weeds threatening the site values. Be aware some of the weeds present may not threaten the values. Also be sure you know what your management unit is and how or if you will be dealing with buffers and seed sources. For example, if a seed source is on private property and it is not possible to gain co-operation, or enforce clearance, then a decision needs to be made about how to proceed. If the seed source makes protecting the site values impossible, then control will be ineffective. However, in many cases the site values are high and control work on DOC land will be sufficient to protect the values.

Ensure that you have defined the conservation outcomes and set the control targets; these should be used to guide you in making appropriate decisions. The control targets can be changed in subsequent years if necessary.

Consider control methods. It is important that the control method is effective and does not have an adverse effect on desirable species or the environment long term. For site-led control work, the effect on valuable species and ecosystems is crucial. For weed-led control work, some damage to native and non-target species may be acceptable but it is crucial that the method will effectively eradicate or contain the weed species. This information should be put into the non-target Tech Specs worksheet.

Decide if monitoring of your weed control is required. Generally for new programmes or if there is any doubt about how effective the weed control work will be, monitoring should be included.

Record the names and contact details for all individuals and groups that should be consulted. The consultation may be legally required (Resource Management consent, consent for work on private property, consent to use private land for access), it may be as part of a co-operative programme with another organisation, or it may be a courtesy measure (keeping interested parties informed). This information should be put into the consultation Tech Specs worksheet.

3.2 THE PLANNING PHASE

Decide the control method: use advice from others and your experience to decide what is the best method in your local circumstances. Do not forget to take into account non-target effects, the acceptability to the local community, and whether Resource Consents are needed or not. If you need help some of the following may be useful:

- Your Conservancy Weed Tech or other local DOC experts
- Information on the Weeds Database (BioWeb)
- Email lists and websites
- Conservancy Planners and legal staff, who can advise on Resource Consent matters
- Experts in other organisations; for example, Regional Councils, Crown Research Institutes, chemical companies

During the development of your plan you need to:

- Ensure you have identified resources—qualified people, tools, supplies, costs
- Design the monitoring method and get it reviewed
- Assess risks
- Develop alternatives if necessary
- Develop the safety plan
- Establish the budget
- Consult
- Plan and initiate publicity if needed
- Complete the Tech Specs template

Requirements	Who is accountable for carrying out the requirement	Why?/Consequence
Complete the Tech Specs template up to the first year of operations.	Programme Manager	The Tech Specs record feasibility and the resources required for the work. The information is also required for annual business planning.
Confirm that the Weed Plan (Tech Specs) has been completed correctly.	TSO	The TSO has a Conservancy overview role to ensure that the plan fits within Conservancy / national strategic direction and good practice is maintained.

3.3 INSTRUCTIONS FOR COMPLETING THE TECH SPECS FORM FOR WEED-LED: PART 2

Note that Part 2 of the Tech Specs forms are different for weed-led and site-led work.

Multiple Areas

Control and public awareness activities may not be limited to one DOC Area Office or even one Conservancy. In these cases one Area should be the **lead Area** and co-ordinate the activities.

Regional information

It is important to know the status of the weed species in the relevant Regional Pest Management Strategies. In particular, if there is an infestation that is not on land administered by DOC, and the owners are not happy to consent to control, then control will not be possible unless the species is included as a control species in a RPMS or the weed has been declared an unwanted organism.

Monitoring

Most weed-led control programmes need to be monitored, and because weed-led projects may control a small number of individual plants it is often practical to record, mark and map each site. A site may contain a single plant or a small population of plants. If a large investment or new control method is used, then formal monitoring is very important.

- Formal: as detailed in the weed monitoring process.
- Contract: monitoring to check contractors' work.
- Informal: any other monitoring and observations.

Herbicide trials are sometimes needed when a new species of weed is encountered. Protocols for setting up herbicide or any other type of control trials can be found in the outcome monitoring chapter of the weed monitoring process.

It is important to record where the monitoring data is held, using file or docDM references. All formal monitoring should be recorded on the monitoring spreadsheet

Other information

A box is provided to record any additional information, or file references to further information. Remember: it is important to record information about the weed distribution and any new treatment methods in the Weeds Database (BioWeb).

3.4 INSTRUCTIONS FOR COMPLETING THE TECH SPECS FORM FOR SITE-LED: PART 2

Note that Part 2 of the Tech Specs forms are different for weed-led and site-led.

Weed species

Scientific and common names need to be added manually. For each weed species describe how it threatens the site values.

Scientific name

For this box the scientific name will be entered automatically.

Weediness score

Many national weediness scores are in the Weeds Database (BioWeb). If a national score is inappropriate, calculate a local score using the criteria in Appendix 5 in consultation with the Conservancy Weed Tech.

Practicality score

Use the flow chart (Fig A4.1) on p.80 of the SPMIW or in Appendix 4.5. (Although designed for weed-led, it should also be used for site-led).

Exacerbation of other weeds

It is important to know if the weed species can increase problems with other weed species. For example, marram grass stabilises sand dunes, which in turn allows gorse to become established. If you remove one weed, will another replace it?

Priority ranking

Use the previous factors and your knowledge of the site to produce a priority ranking:

- Extreme: urgent to protect site values
- High: important to protect site values
- Medium: medium priority to protect site values

Control objective

The control objective should be one of the following:

- Eradicate: permanent removal of all adult individuals, with little or no likelihood of re-invasion
- Zero density: nil adult plants, but re-growth from a seed bank or persistent re-invasion requires ongoing control
- Containment: ongoing control to prevent a species spreading beyond a defined distribution/abundance
- Sustained control: the weed is maintained at or below a specified density.

Monitoring

Not all weed control programmes need to be formally monitored, but if a large investment or new control method is used, then monitoring is recommended.

- Formal: as detailed in the weed monitoring process
- Contract: monitoring to check contractor's work
- Informal: any other monitoring

Herbicide trials are sometimes needed when a new species of weed is encountered. Protocols for setting up herbicide or any other type of control trials can be found in the outcome monitoring chapter of the weed monitoring process.

Weeds Database (BioWeb)

It is important to record information about the weed distribution and any new control methods in the Weeds Database (BioWeb).

3.5 THE TECH SPECS FORM FOR WEED-LED AND SITE-LED: PART 3

Note that a separate form will need to be filled in for each different location or treatment method. For example, adult plants might be cut and stump treated but seedling re-growth sprayed.

Species: weed-led

The species name of the weed will be automatically picked up from the entry on page 1. If the zero remains in the box then the original entry should be checked to confirm that a name has been entered.

Species: site-led

The species name of the weed will NOT be automatically picked up from the entry on page 1, so it will need to be manually added because more than one species could be involved. Usually there is only one species per section, but if more than one species is being treated in exactly the same way at the same site, then species can be combined (e.g. spraying broom and gorse at the same location using the same method).

Location

This is usually a grid or GPS reference. If neither is available then cross-reference to a map or plan.

Area of infestation

If the exact area of the infestation (in hectares) is not known then an estimate should be entered until an exact figure is available.

Density of infestation

The density of the weed infestation should be estimated as an approximate percentage of the whole area, or described using such terms as local, scattered patches, etc.

Comments

Notes (e.g. the history of the site) can be entered in the comments box. If there is a lot of information then it would be better to list file references and use short notes in the box, rather than record a long description.

Control method

For each year the proposed control method should be fully described, even if it is the same year after year. This should include all details, including timing, chemicals, rates of application, and nozzle-sizes, and be comprehensive enough for a new operator to be able to take over the job at short notice. If you need assistance in deciding the control method, consult local and national experts, the Conservancy Weed Tech or email lists.

If extra copies of the form are needed then copy them directly from the excel spreadsheet.

3.6 THE TECH SPECS FORM FOR WEED-LED AND SITE-LED: PART 4

Note that the form on page 4 requires the same information for both weed-led and site-led.

Non-target species

The control method used may affect species other than the target species. These may or may not be a threatened species and may not be plant species. For example, native invertebrates can be adversely affected by the control method through damage to their food plants.

However, there may be an acceptable level of damage to non-target species.

Other issues

There may be other important issues that require listing peculiar to this situation.

Site map

It is important to be able to locate an accurate map showing the site and degree of infestation. Details of where this is held, including a contact person and file reference should be included. This information may be held electronically using GIS shape files.

Health and Safety Plan

It is very important to have full details of where the Health and Safety Plan for the operation is located, including full file reference details.

Resource Consent

If Resource Consent is needed then full file reference details should be entered in the box. If you are unsure whether or not it is required then consult the DOC planning team at Conservancy Office or your Regional Council. You may wish to attach the Resource Consent to this file, or reference it.

Non-DOC consultation

A consultation form **MUST** be filled in if the control work is on non-DOC land, is accessed across non-DOC land or if other non-DOC people/organisations are contacted (e.g. iwi, Tranz Rail, farmers, councils, etc.). It is also useful to list all people and organisations to be informed of any work.

3.7 COSTING SHEET: FOR WEED-LED AND SITE-LED

To find this sheet click once on the worksheet tab that says “Costing” near the bottom of the spreadsheet.

You may wish to use this spreadsheet to help you calculate costs and staff hours and then to convert hours to staff costs. When used, the online calculations will be automatic. **You will need to change the hourly rates to suit your situation.** See your Business Services programme Manager for the suitable rate for your Area.

3.8 NON-TARGET SHEET: FOR WEED-LED AND SITE-LED

To find this sheet click once on the worksheet tab that says “Non-Target” near the bottom of the spreadsheet. You will need to complete this sheet if there is a risk of damage to non-target species. Note that non-target species may not be threatened species and may not be plant species.

Scientific name

Use standard terminology, including sub-species if needed.

Common name

Include any local names or Māori names.

Location

Usually a grid or GPS reference.

Minimise risk

List all actions that are to be undertaken to minimise the risk of damage to non-target species.

3.9 CONSULTATION SHEET: FOR WEED-LED AND SITE-LED

To find this sheet click once on the tab that says “Consultation”, near the bottom of the spreadsheet. You will need to complete this sheet if you consult anyone outside DOC.

You should always **contact the Regional Council** if you are intending to carry out work on *any private land*. This is a courtesy that will promote co-operation between agencies and maximise the effectiveness of weed control.

Name

Full name of persons and organisations.

Contact

List one or all of (if known) postal address, email, telephone and cell phone.

Permission

For work on, or access across, private land, **permission will be needed**.

Permission details

Include date/time of meetings, and all outcomes, such as restrictions on access etc.

3.10 THE PRE-OPERATIONAL PHASE

Ensure consultation is complete (refer to Consultation list) and all permissions, including Resource Consent, have been received. This is particularly important if control is being undertaken on, or requires access across, private land.

It is important that the control method has been finalised. If you need help, confirm with local experts or the Conservancy Weed Tech.

If you are undertaking formal monitoring it is recommended that half a day be set aside for checking and refining your monitoring method. Contact your Conservancy Weed Tech or if you are unsure.

If control involves a change of species numbers or density then you need to undertake pre-operational monitoring. For example, if you aim to reduce plant density to 80%, then pre-operational monitoring must establish the initial plant density over the site. However, if control aims to remove all plants or reduce to a target density per/hectare, then you may not need to carry out pre-operational monitoring.

It is important that ALL people (external contractors and DOC staff) involved are notified of the start date for control and that all equipment required (including signage, spray gear, spares and safety gear) has been allocated to the job. For example, signage may be required well before an operation commences to notify withholding periods, closed areas and/or tracks, or danger areas due to tree felling.

Make sure that the Tech Specs Form (either weed-led or site-led) is completed as far as possible, and update the form as necessary. Keep the form up to date, as this will inform you of all the requirements needed for the operation, and some information added earlier may have been inaccurate or unavailable.

Consider what may go wrong and have some contingency plans ready.

3.1.1 THE OPERATIONAL PHASE

Make sure that the weather forecast is appropriate for the control method that is to be used. If on, or access is over, private land, check with the landowner that it is still okay to proceed. This should be done as near to the start date and time as is practical.

Make sure all the equipment and people are ready to undertake the control operation.

All signage should be in place before the operation commences.

Deal with problems as they occur; do not leave them, they will not take care of themselves. Someone must be available to make any decisions on problems that may arise. The operators/contractors must have a contact number, cell phone or a radio.

Progress should be checked regularly, particularly if using short-term contract employees. Regularly used local contractors may not need the same level of monitoring during the operational phase. However, in all cases post-operational checking of the outcome will still be needed.

The area of operations must be tidied up, including the removal of all chemicals.

3.1.2 THE POST-OPERATIONAL PHASE

Review the entire operation—did it work? What problems were encountered? There might have been problems after spraying, such as rain or drought that compromised the results the operation.

Check the progress of the post-operational phase, keeping up-to-date on the review of the operation and post operational monitoring.

You may need to check that the plants are actually dying, or that the coverage after marker dyes have been used. There may be a long delay between checks depending upon the target species and the chemical used.

A full record of the operation should be completed. Specify where this is recorded and stored.

3.13 THE REPORTING PHASE

Report annually on the control operation and monitoring results according to the Weed Control Reporting and Reviewing SOP. Monitoring results should be recorded on the monitoring spreadsheet.

Inform any interested parties of the operational outcome. This is important when the outcome is not certain: people may well want to know the results. It is also crucial to inform landowners when operating on or near private land.

Major changes to the operation may be necessary, and this will require revision of the strategy. Major changes may be required because the operation did not work. Other reasons for major changes to the strategy could be that the chemical has been banned, or there have been major rule changes.

Minor changes for next year's operation will only require a review of the Tech Specs. This might occur if a similar operation elsewhere has had a better result because of a different method, such as application rate changes or timing of application in respect to plant life cycle.

3.14 REVIEW

The Weed Control Reporting and Reviewing SOP describes the formal review process for both weed-led and site-led projects.

All weed-led projects must be reviewed at least every 3 years.

All site-led programmes that are being formally monitored must be reviewed at least every 5 years.

Reviews can be scheduled more regularly if this is desirable.

In the first instance, reviews should be planned when completing the Tech Specs as part of the programme planning.

4. Appendices

APPENDIX 4.1 WEED-LED TECHNICAL SPECIFICATIONS TEMPLATE

Weed-Led Tech Specs Template

Use this tech spec template to write your 5-year weed-led plan.

APPENDIX 4.2 SITE-LED TECHNICAL SPECIFICATIONS TEMPLATE

Site-Led Tech Specs Template

Use this tech specs template to write your 5-year site-led plan.

APPENDIX 4.3 EXAMPLE OF A COMPLETED WEED-LED TECHNICAL SPECIFICATION FORM

Weed-Led Tech Specs Template Example

This is an example of a weed-led plan.

APPENDIX 4.4 EXAMPLE OF A COMPLETED SITE-LED TECHNICAL SPECIFICATIONS FORM

Site-Led Tech Specs Template Example

This is an example of a site led plan.

APPENDIX 4.5 CRITERIA FOR EVALUATING WEED-LED AND SITE-LED CONTROL PROGRAMMES

(THIS APPENDIX HAS BEEN TAKEN FROM THE STRATEGIC PLAN FOR MANAGING INVASIVE WEEDS, AND HAS DIFFERENT WORDING FROM THE BODY OF THE SPMIW)

Based on the Department of Conservation's Strategic Plan for Managing Invasive Weeds (Owen 1998), weed threats are evaluated for the degree of risk they pose and the potential to contain, control or eradicate the weed (s) from an area.

The following information and scoring systems are designed to help staff prioritise weed control programmes and to pursue the weed control programmes that are likely to be achievable. They should be used when planning, reporting, and reviewing weed control work.

A crucial management decision in the planning phase for weed control is the decision whether the weed should be controlled under a 'weed-led' or 'site-led' control programme.

A weed-led control project by definition targets a single species, and aims to achieve either eradication or containment of the weed species.

Weed-led priorities are based on:

- The species' potential impacts on natural systems;
- The rate and success with which it establishes and spreads, and
- The practicality of eradicating or containing it on the scale proposed.

A site-led control programme is undertaken to protect natural areas administered by DOC to protect the long-term survival of New Zealand's native species and communities. One or more weeds are controlled at a site to protect the biodiversity values of the site. The objective can be eradication (where re-invasion can be managed) but is more typically ongoing control of a suite of weeds to very low levels.

Site-led priorities are based on:

- The botanical or wildlife values of the area, and the degree of risk posed to an area's values by invasive weeds;
- Preventing invasions, or stopping them at an early stage whenever possible;

- Ensuring programmes reflect the diversity of natural community types being affected by weed;, and
- integrating weed control with the management of other threats where this is possible.

ASSESSING A WEED-LED CONTROL PROJECT

A. The feasibility of a weed-led control project is the first step in determining whether the project is worth pursuing.

Several criteria determine the feasibility:

- Whether the species is capable of having major negative impacts on important indigenous communities or threatened species
- whether there an effective and acceptable control method
- whether the species is present in limited numbers and/or distribution
- whether the level of benefit is justifiable
- whether all necessary legal requirements can be met (e.g. land access, resource consents)
- whether all individuals can be identified
- the need to evaluate the risk of undertaking control or not in the absence of some of the above information.

Note that eradication should only be attempted if all of the criteria are met.

If a weed-led programme is deemed feasible, the priority of the programme must be determined through the following scoring mechanisms.

B. Calculate the Weediness score

Weediness score = (2x EoS) + the BSR

Where EoS (Table 1) = Effect on System (maximum score = 9)

BSR (Table 2) = Biological Success Rating (maximum score = 18)

There are other criteria not included in these scores (Table 3—increase in fire risk or impact, competitive ability, and resistance to management) as these are considerations managed within the other scores.

C. From the weediness scores, the **priority group** can be assigned:

Priority Group A => weediness score = 29 - 36

Priority Group B => weediness score = 26 - 28

Priority Group C => weediness score = 21- 25

Priority Group D => weediness score = 20 and below.

D. The **practicality of control** score is determined through the flowchart in Figure 1, where \bar{c} = the practicality score.

The ranking score for a weed-led programme is the species' "**priority group**" *combined with* the "**practicality of control score**".

For example: B8 or C6. The highest possible rank is A10.

Table 1. Criteria for establishing Effect on system (EoS) scores (from Shaw 1994)

Criterion	Score			
	0	1	2	3
Capable of significantly changing the composition or structure of habitat	Does not affect structurally dominant species*.	Minor change in composition of dominant species*. Little change to basic structure*.	Medium effect on composition of dominant veg. Some impact on structure*.	Major change to composition of dominant species* (e.g. sycamore replacing podocarp forest); OR major or complete change to structure* of habitat e.g.: tussockland changes to shrubland.
Significant change (aquatic species)	No significant effect on native species or water quality or movement.	Lesser degrees of (3).		One or more of: water courses covered; restricts free flow of water; major increase in sedimentation; completely suppresses native vegetation.
Suppresses regeneration.	No significant effect.	Some effect on limited component of system.	Major effect on limited component of system; OR some effect on composition of dominant species*.	Major effect on many native species or on the composition or density of dominant species*.
Plant's persistence over time.		A plant's lifespan is less than 5 years.	A plant's lifespan 5-50 years.	Individual plant's lifespan of over 50 years; OR species forms self-sustaining monoculture.

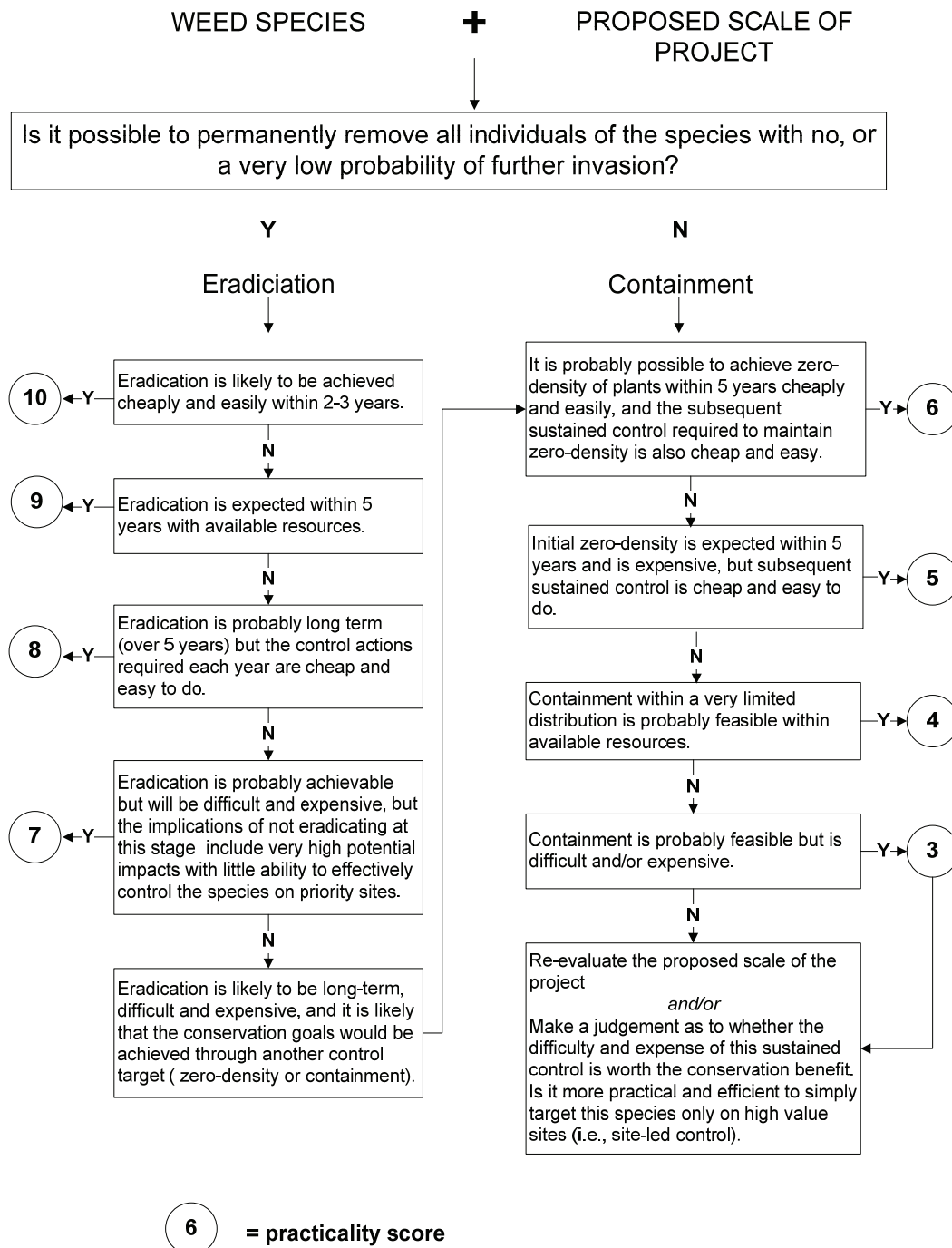
“Structure” refers to the dominant growth form; for example, forest, woodland, shrubland, tussocklands, reedbed, cushionfield, bare etc.

Dominant spp refers to the dominant canopy species (>25% of canopy) e.g. kauri or podocarp-hardwood or beech in a forest, red tussock in a tussockland, etc.

Table 2. Criteria for establishing Biological Success Rating (BSR) scores (from Shaw 1994)

Criterion	Score			
	0	1	2	3
Maturation rate		Sets seed only after 3 or more years; OR very slow vegetative growth.	Sets seed within 2-3 years; OR moderate vegetative growth.	Sets seed within first year OR has very rapid vegetative growth
Seeding ability	No seed	Low seed set.	100-1000 seeds per plant.	More than 1000 seeds per plant.
Persistence of seedbank	No seed	Seed is viable for less than one year.	Seed has an estimated viability of 1-5 years.	Seed has an estimated viability of over 5 years.
Effectiveness of dispersal		Propagules spread by gravity or human introduction (e.g. garden waste dumping, vegetative escape from planted hedge, etc.).	Propagules spread by wind or water.	Propagules spread by birds, feral animals, or very light wind-dispersed seeds
Establishment / growth rate		Poor establishment and slow growth.	Poor establishment and fast growth; OR good establishment, slow growth.	Good establishment and fast growth.
Vegetative reproduction	No asexual spread	Minor importance.	Moderate importance, e.g. stem layering, suckering.	Plant spread freely by stolons, rhizomes, bulbuls or other asexual means.

Figure 1. Evaluating the Practicality Score of a Weed-led Programme



ASSESSING A SITE-LED CONTROL PROGRAMME

The ranking score for a site-led programme is the ranking score of the management unit that is the focus of the programme. Sites outside the management unit that are seed sources, buffers etc. are not scored—they are instead ‘carried’ by the ranking score of the management unit.

A. Identify the **core management unit** for the programme. This includes the place that is ecologically important, and is of a manageable size relative to the type of weed problem.

B. Score the core priority management unit for its **botanical values** (Table 3) and wildlife values using the six-point scoring system (Table 4)

C. Identify the “**biodiversity value score**”. This is the higher of the “botanical value” or the “wildlife value” scores.

D. Identify the suite of **significant invasive weeds** that threaten the natural values of that management unit.

Determine the **overall urgency of controlling the weeds** (Table 5) in the management unit or in buffers or nearby seed sources that have or have the potential to affect the values of the management unit.

The “**Total ranking score**” for a site-led programme
(for the core priority management unit) =
(Biodiversity value score) x (urgency of control score)
The maximum total ranking score = 21

References

Elliot, G.P., Ogle, C.C. 1985: Wildlife and wildlife habitat values of Waitutu Forest, Western Southland. Fauna Survey Unit Report no 39. 108 p.

Owen, S.J. 1998: Department of Conservation Strategic Plan for Managing Invasive Weeds. Department of Conservation, Wellington.

Shaw, W.B. 1994: Botanical rankings for nature conservation. Science and Research Series No.72. Department of Conservation, Wellington. 17 p.

Table 3. Botanical Value scoring criteria (based on Shaw 1994)

Score	Criterion
6: Nationally Important	Contains a nationally threatened vegetation type, or plant species, that is endemic to the ecological district. The best representative site in the country of a nationally uncommon vegetation type.
5: Exceptional	Contains good examples of nationally uncommon vegetation types, successional sequences or mosaics. Contains vegetation types of great conservation value. For example, vegetation largely unmodified by introduced plants, browsing animals or other human influences. Sites where a vegetation type, or more than one plant species reaches a geographic limit. Contains threatened plants that are not endemic to the local district. Contains a vegetation type that is endemic to the local district. Contains communities that are (to a significant degree) representative of the natural character of the ecological district.
4: Very High	The last, or one of a few remaining examples, of a vegetation type once more widespread in the ecological district. The example must retain most of its natural character. Contains regionally uncommon vegetation types in good condition and forming part of a larger tract of native vegetation; for example, subalpine and alpine areas surrounded by a large tract of forest. An example of the vegetation of an ecological district that forms a continuous ecological or altitudinal sequence across a district, and that is not better represented elsewhere in the ecological district. The last, or one of the few remaining examples, of secondary succession that has developed following disturbance to the vegetation in pre-European or early European times. Good quality examples, or the only example, of a secondary succession that has developed following a large disturbance such as mass ground movement, storm damage or fire. Nationally uncommon ecosystems or vegetation types that have been degraded by, for example, fragmentation, weeds, burning, browsing animals. Large (over 300 ha) example of secondary vegetation where there is relatively little (e.g. less than 5%) of an ecological district remaining in native vegetation.
3: High	(a) Good quality, moderately large (300-1000 ha) example of native vegetation typical of an ecological district where there are other better quality or larger (over 1000 ha) examples present in the ecological district. (b) The last, or one of the few remaining examples of a vegetation type within an ecological district that, although in a modified condition, still retains the main elements of composition and structure. An example of the native vegetation of an ecological district that now forms part of a culturally interrupted ecological and/or altitudinal sequence. Areas where individual species or vegetation types reach the limits of their geographical distribution. Regionally uncommon vegetation types, either intact or relatively unmodified, but completely or largely surrounded by a highly modified landscape, for example, small urban reserves. Contains a rare species or two or more threatened species in a 'local' category. Nationally uncommon ecosystems or vegetation types, with a conspicuous element of exotic plant species that will eventually be replaced by native plant species. Early successional vegetation not presently representative of the natural cover of the ecological district but with the potential to develop so, and where there are very few or very small remaining other examples of natural vegetation in the ecological district.
Moderate	(a) Substantially modified native vegetation types that retain their main elements of composition and structure (for example, selectively logged, lightly burnt, grazed, weeds present), but are better represented at other sites in the ecological district. (b) Small example of native vegetation type where there are larger or better examples elsewhere in the ecological district.
Potential	(a) Mosaic(s) of native and exotic vegetation where the former are small and of no particular interest. (b) Small areas of exotic vegetation surrounded by large area of native vegetation. (c) Early successional vegetation where there are better examples in the ecological district. (d) Early successional vegetation dominated by exotic plants. (e) Contains native vegetation but essentially recently human-made.

Table 4. Wildlife value scoring criteria (based on Elliot and Ogle 1985)

Score	Criterion
6: Nationally Important	Contains animal species endemic to, or best represented in, this ecological district.
5: Exceptional	(a) An endangered, rare or restricted endemic species breeds in the unit. (b) The management unit is essential to endangered, rare or restricted species for purposes other than breeding. (c) The management unit is vital to internationally uncommon species (breeding and/or migratory). (d) The management unit is vital to internally migratory species with very limited distribution or abundance. (e) Largely unmodified ecosystems or examples of original habitat not represented elsewhere; of large size and containing viable populations of all or most animal species typical of such ecosystems.
4: Very High	(a) Site containing a native animal species that has declined significantly as a result of human influence. (b) One of a few, or the only breeding area, for a non-endemic native species of limited abundance. (c) Habitat of an uncommon, discontinuously distributed species not adequately represented in a particular ecological district. (d) Example of a largely unmodified site that is not represented to the same extent elsewhere in the ecological district and is used by most native animal species typical of that habitat in that ecological district. (e) Supports a species of an endemic family that is of limited abundance nationally although adequately represented in one ecological district but whose habitat is at risk.
3: High	(a) Supports a species that is still widely distributed but whose habitat has been reduced. (b) Contains large numbers of breeding or moulting birds or where breeding or moulting areas are of inter-regional significance. (c) Large and fairly unmodified site that is represented elsewhere in the ecological district and contains all or most native animal species typical of that habitat for that ecological district. (d) Contains a widespread native animal species that is noteworthy at this site for its abundance or behaviour.
2: Moderate	Not heavily modified and supports good numbers of native animal species typical of the habitat in the ecological district.
1: Potential Value	Small, heavily modified site that could be more valuable to native animals if left to regenerate, or managed and developed for their benefit.

Table 5. The criteria for assessing the urgency of control

Where information is not available as to the exact impacts and rate of change being caused by the weed species present on the site, the weediness scores of the individual species will give an indication of the overall urgency. (The higher the average weediness scores, the greater the overall impact will probably be on that site).

Score	Criterion
3.5	The plant community or some plant or animal species within it is known to be, or is likely to be, at risk of national extinction because of the impacts of invasive weeds.
3.0	The plant community or some plant or animal species within it is known to be, or is likely to be, at risk of local extinction because of the impacts of invasive weeds.
2.5	The important conservation values that give the management unit its biodiversity score are at risk of major damage in the near future, but the management unit is so far unaffected or little affected by invasive weeds (e.g. an undegraded, high-value tussockland at risk from <i>Pinus contorta</i>)
2.0	Significant changes to the important conservation values that give the management unit its biodiversity score are known or are very likely to have already occurred due to the invasive weed species present, with further damage to these values expected.
1.5	The current suite of invasive weeds in the management unit are unlikely to affect the important conservation values that give the management unit its biodiversity score, but are likely to affect, or be affecting, other important values within the unit.
1.0	The important conservation values that give the management unit its biodiversity score are likely to remain intact with the current suite of invasive weed species in the unit.