
Weed Surveillance

Standard Operating Procedure



Department of
Conservation
Te Papa Atawhai

New Zealand Government

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I. Purpose

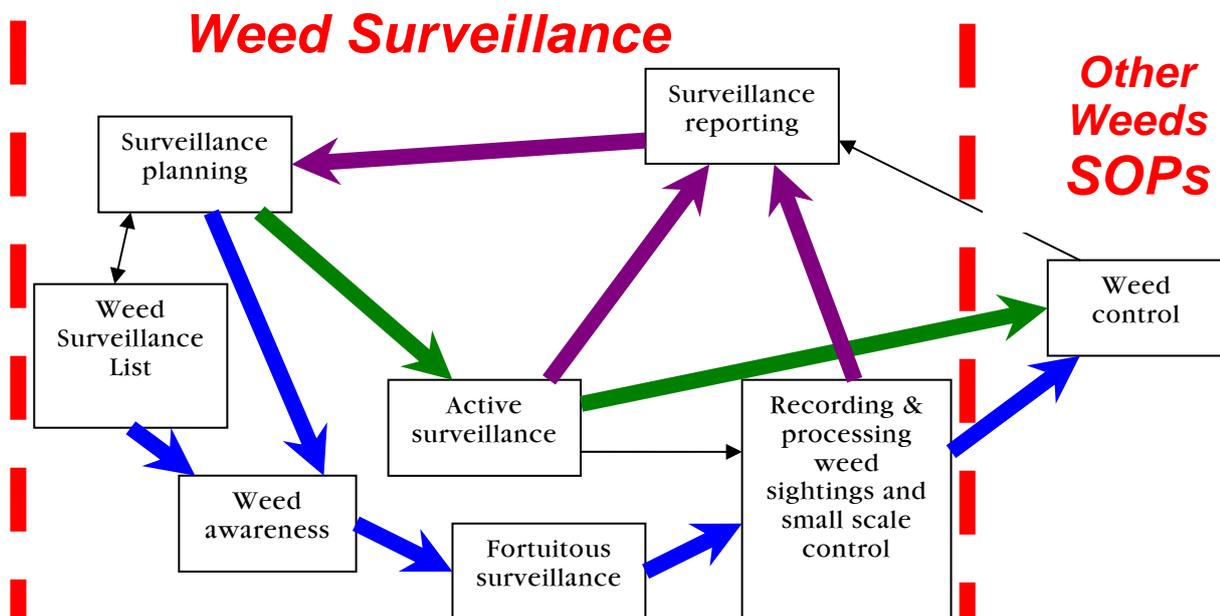
The objective of this SOP is to provide procedures and guidance for the timely and accurate detection and identification of new populations of invasive weeds. This will help minimise the impacts of invasive weeds on conservation values.

Who will use this SOP

Users of the SOP will include:

- The people who compile and update the lists of potential weeds in each Conservancy (Weed Tech, Weed Surveillance Officer, contract workers)
- The people responsible for carrying out surveillance activities for each Area Office (Area Manager, Weed Programme Manager, ranger staff)
- The people who plan and initiate active surveillance (Weed Tech, Area Weed Programme Manager)
- Anyone who wants to record new weed sightings
- The person responsible for processing weed sightings (Weed Tech, Area Weed Programme Manager)
- Those responsible for encouraging the reporting of new weed incursions (Area Weed Programme Manager, Area Community Relations Officer, Conservancy Public Awareness team, Weed Tech)

II. Process



III. Requirements table

The responsibilities for weed surveillance can vary depending on the staffing structure, staff skills and knowledge, the rate and variety of new weeds establishing. Therefore, as long as weed surveillance is carried out efficiently and effectively and the responsibilities are appropriate and clear to those concerned, responsibility can be allocated to another person.

Some particular examples are:

- All or part of the Weed Programme Manager's responsibility for surveillance may be delegated to suitable staff with weed expertise
- Some of the surveillance roles of the Weed Tech, and Weed Programme Manager in this SOP may be allocated to a Weed Surveillance Officer
- The Weed Tech may take on some of a Weed Programme Manager's role
- For activities which cover more than one Area, one Area may be allocated as the lead Area, or the activities may be co-ordinated by the Weed Tech
- For Biosecurity responses, if there is a local staff member with Biosecurity responsibility they may take the appropriate responsibilities, rather than the weeds/biodiversity staff

Note about compliance levels:

This SOP contains a range of different compliance levels, as follows:

- **Must** - Mandatory, unless there is an appropriate level of managerial sign-off to vary. The manager who signs-off the decision is accountable
- **Should** - It should be completed, unless there is a specific reason why not to. You will be held accountable for this decision
- **May** - Good ideas and options to consider, not compulsory

The requirements table summarises all the mandatory requirements.

Weed Surveillance requirements table

Requirement	Who is accountable for carrying out the requirement	For variations from the requirement, seek approval from	Links to more information	Check/Comments
Abide by all safety rules and plans.	Everyone	N/A Health and safety	SAFETY	
Ensure that they do not stray onto land which they do not have permission to be on.	Everyone	N/A Legal requirement	Land Tenure	

Making a surveillance list for an Area

Check each Area's surveillance list annually and carry out a full review every five years.	Weed Tech	TSM	Surveillance Lists	
Limit the surveillance lists to species which if found would result in weed-led control (See SPMIW pages 75-80).	Weed Tech	TSM	Area Surveillance List	
Provide information for species on each list, as shown in Section 2.8 of this SOP.	Weed Tech	TSM	Information on list species	
Distribute the Surveillance List and supporting information to each Area Programme Manager.	Weed Tech	TSM	Distribution of Lists	
Distribute information on the Surveillance Lists to Area staff.	Programme Manager	Area Manager	Distribution of Lists	

Surveillance planning and reporting

Each year, decide how surveillance effort is to be split between active surveillance and weed awareness and which sites need active surveillance.	Programme Manager & Weed Tech	Area Manager or TSM	Business planning	
Annually plan for surveillance activities making decisions as described in Section 3.5 .	Programme Manager	Area Manager	Planning Decisions	
Annually, by 31 August, produce a Surveillance Report as described in Section 3.8 , and record this on the spreadsheet - docdm-47868.	Weed Tech	TSM	Surveillance Report	

Requirements	Who is accountable for carrying out the requirements	For variations from the requirements seek approval from	Links to more information	Check/Comments
Weed awareness to promote surveillance				
Identify those people who need training on surveillance.	Programme Manager	Area Manager	Surveillance Training	
Organise local weed surveillance training.	Weed Tech	Area Manager	Surveillance Training	
Decide what weed awareness work is needed and organise.	Programme Manager	Area Manager	Weed Awareness	
Active surveillance				
Ensure active surveillance is carried out by suitably experienced and equipped people.	Programme Manager	Area Manager	Active Surveillance	
Arrange for all active sightings of new invasive weeds be recorded as described in Section 6 .	Programme Manager	Area Manager	Carrying out Active Surveillance	
Recording new weed sightings in the field				
Process all weed surveillance sighting as described in Section 6.6	Programme Manager	Area Manager	Recording sightings	
Processing weed sightings				
Processes weed sightings and enter them on the Weeds database within four weeks	Programme Manager	Area Manager	Processing sightings	
For any species new to the Area, send information and a sample to the Weed Tech.	Programme Manager	Area Manager	Note G	
Send a sample of any species that is new to the Conservancy for vouchering.	Weed Tech	TSM	New species	
Biosecurity and Unwanted Organisms				
If a notifiable organism is discovered, notify the Chief Technical Officer who declared the species a notifiable organism.	Weed Tech	N/A Statutory requirement	Notifiable Organisms	
Obtain an exemption (or permission), via the DOC Biosecurity Section, to use an Unwanted Organism.	Programme Manager or Weed Tech	N/A Statutory requirement	Unwanted Organism Permission	
Obtain an exemption to use a species which is not Unwanted, but is declared a pest in the RPMS.	Programme Manager or Weed Tech	N/A Statutory requirement	Exemptions for Pest Species	
Ring the MAF-BNZ hotline (0800 80 99 66) to report a pest species that is new to New Zealand.	The person who found the pest	N/A Statutory requirement	Species new to NZ	

IV. About this document

Owner

Manager

Threats Management Section

Research and Development

Coordinator

Senior Technical Support Officer

Threats Management Section

Research and Development

Approved for use

Approved by General Manager, Research and Development Group, on 24th January 2008.

Amendments

Please contact: SOP@doc.govt.nz for the amendment history.

Terminology and definitions

Weed surveillance is the searching for, and documenting of, new incursions of plant species of conservation concern (i.e., invasive weeds).

Invasive weeds are 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.

The term **Area** (with a capital A) is used to mean the area administered by a DOC Area office (including land of all tenure).

The term **area** (lower case) refers to any geographic space.

Surveillance is only concerned with invasive weeds that have not previously been recorded as naturalised in an area, or are of very limited distribution. Three scales of area are recognised:

- the whole area administered by a DOC Area Office

- a smaller portion of an Area where there is a barrier to invasion (an example might be a valley, separated from the neighbouring valleys by steep hills)
- a site of high conservation value (regardless of who manages the site)

The term **Weed Tech** is used to mean the Technical Support Officer in a Conservancy who deals with weed issues.

The term **Weed Programme Manager** refers to the Programme Manager in the Area office who is responsible for implementing the Area's weed programme.

A **weed-led** programme is a weed control programme 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.

A **site-led** programme is a programme to protect the natural values of a priority area from the impacts of invasive weed species.

Active surveillance is the systematic checking of an area for new weed incursions, as part of a planned programme of work.

Fortuitous surveillance is the detection of new weed incursions when not systematically checking for new weed incursions.

1. About weeds surveillance

1.1 WHY WE NEED SURVEILLANCE

Surveillance can help find populations of new invasive weed species at a stage when eradication or containment is still possible. Early action reduces the cost of controlling the weed species, and helps preserve the conservation values of the area.

1.2 THE BENEFIT OF EARLY ERADICATION

Early eradication of species which are known to be potential weeds is cost effective. The cost of control is much lower and the chance of spread is reduced. If control is delayed, the costs rise exponentially, as the weed species spreads. On a high value site, if control takes place early, the site values are not compromised, and damage to desirable species can be minimised.

Some research has been carried out, looking at the costs and benefits of controlling the first sighting of all newly established exotic plants (without necessarily evaluating their potential weediness). This research is indicating that a shoot first, ask questions later approach is cost effective. The extra cost of controlling several new plants species that may never become weeds, is more than outweighed by the cost saving of early control of one species that might become an expensive problem if we waited to see how big a problem it could become.

1.3 EXAMPLES OF SURVEILLANCE ACTIVITIES

- Keeping a watch for known weed species that have never been seen in the Area
- Looking for occurrences in the wild of plant species that are present in cultivation but which have not yet been seen naturalised
- Spotting a new infestation of a weed that is restricted to a very small patch
- Checking scenic reserves for weed infestations spreading from nearby gardens
- Watching for any new plants in important natural areas

1.4 OTHER ACTIVITIES WHICH ARE NOT SURVEILLANCE

The following are examples of activities that are **NOT** primarily surveillance. However, fortuitous surveillance may happen at the same time as some of these activities, for example if a weed inventory is being carried out, and a weed species is found that is new to the area.

- Weed Inventory - In this case, all exotic species are recorded, not just those that are new or of limited distribution
 - Survey and monitoring. These are usually planned and systematic activities that are used to assess the state of a representative place, whereas surveillance is directed mainly towards the likely places for new invasions
 - Small scale control of a weed species that is already present in an area
 - Recording the distribution or spread of a species that is already known to be present in an area
-

2. Making a surveillance list for an Area

2.1 WHY DO WE NEED SURVEILLANCE LISTS?

The lists will help concentrate weed search efforts on the most likely new threats. The lists and the supporting information will provide a good search image of likely species.

The lists will detail species that are not known in the Area, so many people may not be familiar with them. The lists can be used to raise awareness about potential weeds, for DOC staff and the wider community.

2.2 WHO PREPARES AND UPDATES THE LIST AND WHEN?

Requirement	Who is accountable:	For a variation, seek approval from:
Check each Area's surveillance list annually and carry out a full review every five years.	Weed Tech	TSM

The Conservancy Weed Tech is responsible for preparing a Surveillance List for each Area in the Conservancy, and for updating the lists.

There **must** be a Surveillance List for each Area. The Surveillance Lists **must** be checked annually and have a full review at least every five years. The checking and review of each Area Surveillance List will be carried out in consultation with the Area Weed programme manager.

However, if a new species is identified as a threat, information to update the list should be sent out, rather than waiting for an update.

2.3 WHAT IS AN AREA SURVEILLANCE LIST?

Requirement	Who is accountable:	For a variation, seek approval from:
Limit the surveillance lists to species which if found would result in weed-led control.	Weed Tech	TSM

A Surveillance List is a list of plant species that:

- Have the potential to become invasive weeds in an Area
- Have not previously been recorded as naturalised in that Area or are of very limited distribution

The Surveillance List **must** be limited to species which if found, would result in a weed-led control programme. Weed-led programmes **must** control the weed species over land of all tenure. See example below:

Purple loosestrife (*Lythrum salicaria*) is a surveillance plant in Canterbury, because it is of very limited distribution. The few purple loosestrife infestations were mainly in water margins, reserves and gardens administered by Christchurch City Council, Environment Canterbury, Ashburton District Council and Timaru District Council. All these organisations were prepared to be involved in an eradication campaign.

There were a few sightings on private property, but in most cases the owners were more than happy for DOC to control the purple loosestrife for them. Purple loosestrife was declared unwanted and Environment Canterbury was prepared to take control action under section 100 of the Biosecurity Act. (See section 8.5 for more details on these measures.) As a result control could have been enforced, at the landowners' cost, if they had not cooperated.

These factors meant that a weed-led control programme was feasible, as purple loosestrife could be controlled on land of all tenure.

The Surveillance List may be accompanied by a list of other species of concern.

2.4 EXAMPLES OF SURVEILLANCE LISTS

Hokitika Area Surveillance List	olddm-484324
Aoraki/Mt Cook Area Surveillance List	olddm-342122
All of the Northland Lists	olddm-114216

2.5 GUIDANCE ON SPECIES TO INCLUDE ON THE LIST

In many Areas there may be large numbers of candidates for inclusion on the list. Because the list is intended to inform all Area and field centre staff, the list should be kept to a manageable size. Skill and judgement will be needed to decide which species to include. The sort of species that should be on the list are:

- The species with the worst potential impact on conservation values
- The species that are most likely to occur in the near future
- Species that are currently part of a weed-led programme

- Species of conservation concern that have already been eliminated from the Area

The sort of species that should **not** normally be on the list include:

- Species that are difficult to identify, for example, *Carex longebrachiata* can only be distinguished from native species by an expert
- Species that are subject to ongoing control locally (except as part of a weed-led programme)

Additionally, in most cases, species that are common in gardens should not be included, as a successful weed-led programme would be unlikely. For example if *Agapanthus* (*Agapanthus praecox*) is already a common garden plant in an Area, a weed-led programme triggered when the species was first found naturalised, would be likely to fail.

2.6 WHAT ABOUT SPECIES NOT ON THE LIST?

The Area Surveillance List, as described above, will only contain some of the surveillance species. Other surveillance activities will be carried out in particular places, or will need specialist knowledge. A specialist list may need to be developed, see section on suggestions for other lists in this module.

The species on the list are not the only possible new invasive species; anything new or out of place should be reported.

2.7 SOURCES OF INFORMATION

Information sources should include:

- National Weeds Database
- Weed Techs from adjoining conservancies
- Annual Surveillance reports
- Conservancy botanists, and threatened species specialists
- Area Office weed staff
- Information from DOC's Biosecurity Section on plants within NZ that are identified as "unwanted organisms"
- Regional Council pest plant officers, chemical company reps

- Local councils
- Local groups (Forest & Bird, botanical societies, garden groups, etc.)
- Other organisations (Landcare, NIWA, herbariums, garden centres, etc.)
- Books, journals
- Land owners, farmers, forestry companies

2.8 INFORMATION REQUIRED TO SUPPORT THE LISTS

Requirement	Who is accountable:	For a variation, seek approval from:
Provide information for species on each list, as shown below.	Weed Tech	TSM

On every list there **must** be a note reminding the reader that the species on the list are not the only possible new invasive species, and that anything new or out of place should be reported.

For each species on the list the following information **must** be compiled:

- Botanical and common names
- Image or line drawing
- Description of the plant and its growth form
- The type of ecosystems under threat
- A concise statement justifying why the species is considered invasive in the Area

This information **should** be held in a format that is easily updated and distributed.

2.9 LIST OF EXISTING WEEDS

Each Weed Tech **should** also prepare a list of existing weeds of conservation concern in their Conservancy. This list **should** be copied to the Weed Techs in the adjoining conservancies, to assist them in compiling their Surveillance Lists. The list **should** be reviewed at least every two years.

2.10 SUGGESTIONS FOR OTHER LISTS

The Weed Tech **may** also use the pictures and information on some of the species to produce a small, easily carried list of those species that the weeds people think are highest priority to detect early. Such a list should be issued to DOC staff that regularly work in places which are vulnerable to weed invasions or are of high conservation value. An example of this is A6 size spiral bound booklets that some Conservancies (Canterbury, Nelson/Marlborough, and Whanganui) issue to field staff.

As well as a list for the whole Area, the Weed Tech (or the Area Weed Programme Manager) **may** produce a list for part of the Area; it would highlight species of concern in that part of the Area.

Similarly, in the South Island, information and training on aquatic weeds was provided for contractors carrying out a survey of fresh water sites for pest fish. As a result, the weeds aspect was included into the survey and a variety of weed infestations were discovered early enough to take action and prevent major problems.

2.11 DISTRIBUTION OF THE SURVEILLANCE LISTS

Requirement	Who is accountable:	For a variation, seek approval from:
Distribute the Surveillance List and supporting information to each Area Programme Manager.	Weed Tech	TSM
Distribute information on the Surveillance Lists to Area staff.	Programme Manager	Area Manager

The Weed Tech **must** give the Area Surveillance List and the supporting information to the Weed Programme Manager in each Area Office within the Conservancy.

The Weed Programme Manager **must** distribute information on the Surveillance Lists to staff (both those working on weeds and those who may notice weeds when performing other tasks).

The Area lists **may** be distributed to local Regional Councils/Unitary Authorities, to encourage them to include the species in their Pest Management strategy and to assist with joint responses.

This is an uncontrolled document

Surveillance lists may be distributed outside DOC (following consultation with the Area Community Relations Officer) as part of a weed awareness campaign. If a list is to be distributed outside DOC it should conform to publication design standard – see the person in Conservancy who has the responsibility for co-ordinating publishing activities.

3. Surveillance planning and reporting

3.1 WHY DO WE NEED TO PLAN SURVEILLANCE?

Surveillance needs incorporating into the planning process, to ensure that the necessary time and resources are allocated.

To ensure that surveillance effort is cost effective, it is important to prioritise surveillance activities.

3.2 PLANS AND STRATEGIES

Surveillance activities should be included in Area and Conservancy Weed plans and strategies.

If a particular species is a threat across several Conservancies, it may be appropriate for the affected Conservancies to work together. One Conservancy should act as the lead Conservancy, co-ordinating surveillance activities.

3.3 WHO DECIDES THE SURVEILLANCE PRIORITIES?

The Conservancy Weed Tech will decide the surveillance priorities for Conservancy-wide projects. The Conservancy Weed Tech should provide advice to the Weed Programme Manager who will be responsible for organising surveillance within the Area.

The decisions will be based on local information; the Area Surveillance List, Conservancy and Area weed strategies and plans, and advice from R&D and Regional Offices.

3.4 HOW DOES SURVEILLANCE FIT INTO THE BUSINESS PLANNING PROCESS?

Requirement	Who is accountable:	For a variation, seek approval from:
Each year, decide how surveillance effort is to be split between active surveillance and weed awareness and which sites need active surveillance.	Programme Manager & Weed Tech	Area Manager or TSM

Surveillance is an essential component of Invasive Weed Control and thus is a part of the business planning process. Funding for surveillance has been provided to each Conservancy from Biodiversity funding, and is expected to continue for as long as that funding stream is available.

Each year the Conservancy Weed Tech **must** decide how any Conservancy surveillance effort will be split between active surveillance and weed awareness. Similarly, the Weed Programme Manager in each Area Office, with the advice of the Weed Tech, **must** decide how the Area surveillance effort will be split between active surveillance and weed awareness and the sights where active surveillance is targeted.

The best balance of the different methods will vary according to local circumstances. All decisions on surveillance priorities should be guided by the relevant weed strategies and plans.

3.5 DECISIONS TO BE MADE AS PART OF THE PLANNING PROCESS

Requirement	Who is accountable:	For a variation, seek approval from:
Annually plan for surveillance activities making decisions as described below:	Programme Manager or Weed Tech	Area Manager or TSM

The Area Weed Programme Manager (or Weed Tech for projects initiated at Conservancy) **must** decide:

- The sites at which active surveillance will be carried out
- Who will carry out the active surveillance
- Why active surveillance is needed at each site. Is the site:
 - Valuable for conservation?
 - Vulnerable to invasion?
 - Both valuable and vulnerable?

- What weed surveillance training is planned for local staff i.e.:
 - Who is to be trained (number and work area of people)
 - How many hours of training are planned
 - What subjects are to be covered
- What weed awareness activities are proposed, i.e.:
 - Which are the target groups for weed awareness
 - Who will design each weed awareness campaign
 - What methods are to be used
- The expected costs and hours of effort for all the above activities

3.6 WHY IS A REPORT NEEDED?

Reporting will help ensure that data gathered on surveillance activities will help improve the effectiveness of surveillance in the future. The information will assist in identifying how much surveillance activity is needed. Within surveillance activities, the information will help determine the best balance between active surveillance and raising weed awareness.

3.7 WHO PRODUCES THE REPORT AND WHEN?

By 31 July each year the Weed Programme Manager in each Area **should** advise the Conservancy Weed Tech of all surveillance activities initiated locally over the last financial year.

Requirement	Who is accountable:	For a variation, seek approval from:
Annually, by 31 August, produce a Surveillance Report as described in Section 3.8 , and record this on the spreadsheet - docdm-47868.	Weed Tech	TSM

The Conservancy Weed Tech **must** compile a report each year on invasive weed surveillance activities both Conservancy-wide and in each Area in the Conservancy for the year ending 30 June. A hyperlink to the Conservancy surveillance report **must** be entered by the Weed Tech on the reporting spreadsheet - docdm-47868 within two months of the end of the year (i.e., before 31 August).

3.8 INFORMATION TO INCLUDE IN THE REPORT

The report **must** contain information as follows:

Active Surveillance sites

- Time and money spent
- Area covered in hectares
- What was found
- Follow up action initiated

Weed Awareness

- Details of training activities
- How many sightings of species on the Area Surveillance list have been reported
- Follow up activities initiated
- Details of weed awareness campaigns
- An assessment of the effectiveness of public awareness activities
- Improvements that can be made in the following year

To assist with cost/benefit assessments, for sites where surveillance weeds were found and controlled the following information shall be included:

- The cost of control
- An assessment of the cost if there had been a five year delay
- An assessment of the cost if there had been a ten year delay

3.9 EXAMPLES OF SURVEILLANCE REPORTS

Click on the links below to look at examples of Surveillance Reports

- Bay of Plenty 2005/06 [docdm-78804](#)
- Otago Conservancy 2005/06 [docdm-32973](#)
- Southland Conservancy 2005/06 [docdm-41523](#)

(Note these reports are based on the previous version of this SOP, so they do not include all the information now required.)

3.10 WHO WILL USE THE REPORT?

The Weed Tech and the Weed Programme Manager **should** use the report to review surveillance work and to help decide the surveillance priorities for the following year's business plan.

The reports can be used to help determine the effectiveness of surveillance activities and to guide the Annual Conservation Directions for subsequent years.

The weed tech may view reports from other conservancies when planning a surveillance project or revising a surveillance list.

4. Weed awareness to promote surveillance

4.1 FORTUITOUS SURVEILLANCE

Fortuitous surveillance happens when a potential weeds is spotted by someone engaged in other activities (see example below).

In South Marlborough, a DOC ranger out tramping at the weekend saw cat's claw creeper (*Macfadyena unguis-cati*). She had learnt about this weed when working in Northland, and knew it could grow to become a major problem. The landowner let DOC control the plant, and was pleased to receive a voucher for a replacement plant. With early action a future problem was prevented.

4.2 WHY DO WE WANT TO INCREASE WEED AWARENESS?

There is a wide range of different sites where a variety of new weeds could occur. Often, it is more cost effective to encourage people (from both within and outside DOC) to report new weed sightings, rather than to send staff to look in all the likely places. Weed awareness campaigns should be used to encourage fortuitous surveillance and the reporting of sightings of new weed species.

Other reasons for conducting weed awareness campaigns include:

- Publicising DOC's weed surveillance initiatives
- Informing individuals and groups about how to report sightings of new weed species
- Disseminating information to the public and to people within DOC about weed species that are of particular concern
- Maintaining support for weed surveillance programmes, by reporting successes
- Raising the knowledge of the threats from weeds to New Zealand's natural communities and native species
- Better co-ordination between DOC, MAFBNZ, regional councils, nursery industry and communities

The Area surveillance lists can be a useful way of spreading information about potential problem weeds.

4.3 WHAT AUDIENCE IS WEED AWARENESS AIMED AT?

Anyone who could help spot new invasive weeds, particularly those who would be encouraged to do so if they had more information on the likely species and how to report weed sightings. Examples include:

- DOC staff (especially field workers)
- Regional Council pest plant officers
- Local groups with environmental concerns, Forest & Bird, botanical societies, etc.
- Gardening groups and suppliers of plants
- Special interest groups such as diving clubs, boat owners, recreational anglers, tramping clubs, farmers, hunters, agricultural contractors
- Anyone who might be accidentally spreading weeds

As prevention is better than cure, effort should also be put into ensuring that these groups, and any contractors who are employed by DOC, are aware of the risk of bringing in weeds into areas of high ecological value and take appropriate precautionary measures.

4.4 SURVEILLANCE TRAINING FOR DOC STAFF

Requirement	Who is accountable:	For a variation, seek approval from:
Identify those people who need training on surveillance.	Programme Manager	Area Manager
Organise local weed surveillance training.	Weed Tech	Area Manager

The Weed Programme Manager in each Area **must** identify those people who need training on surveillance activities.

The Weed Tech **must** organise local surveillance training as requested by the Weed Programme Managers. The training may include, plant identification, collection of samples, how to carry out on the spot action, use of weed kits. It may be appropriate to combine other training (e.g. on threatened plants) with the weeds training.

Comment from Area staff member on Surveillance Training - "We had Conservancy staff come out to an area meeting and run many species that are surveillance type plants (they bring in real plants). We involved the whole area and all the staff found it a refreshing change from the usual. We hope to do it again in the near future."

4.5 WEED SURVEILLANCE KITS

Around the country, often as part of the surveillance training, Weed Surveillance Kits have been made up. These have then been supplied to DOC staff so they can record, and if feasible, control weeds wherever they are found. See details of kits below:

Surveillance Kit - Bum bag/belt bag/daypack

Containing some or all of these items:

- binoculars
- GPS
- camera
- flagging tape
- weed I/D sheets
- notebook and pencils
- plastic bags for plant collecting
- pruning saw
- secateurs
- gloves
- Vigilant gel (in snap lock bag)
- sunscreen
- first aid kit

4.6 CO-ORDINATION WITH REGIONAL AND LOCAL COUNCILS

Regional Councils and Unitary Authorities can propose and implement a Regional Pest Management Strategy (RPMS). Most Regional Councils have produced strategies that include monitoring to determine if pest plants are present. Some local councils also have an involvement in finding and controlling weeds. Although the emphasis is often on agricultural and widespread weeds, regional councils are now looking more closely at weeds of conservation concern.

The pest plant officers working for regional councils travel extensively around the countryside and receive reports about a wide variety of weeds from the public. Many pest plant officers are very observant, and are keen to pass on information on new weed sightings that they may not be able to take action on under their own strategy.

Area weed people should regularly consult their colleagues in regional and local authorities. In particular, the Area Weed Programme Manager **may** arrange to meet the Regional Council's pest plant officers to exchange information on new weed threats once a year. If the Regional Council wishes to formalise this exchange of information across their whole region, then the Conservancy Weed Tech could arrange regular meetings for staff from the Areas with the regional council staff as well as any interested local council staff.

See an example below of various agencies working together to promote awareness of aquatic weeds in Bay of Plenty.

The Aquatic Pest Awareness Campaign, run in conjunction with Environment Bay of Plenty over the summer months, was a success again. The awareness campaign was supported by the Aquatic Pest Technical Advisory Group (members from DOC, EBOP, Eastern Region Fish & Game, Te Arawa, Rotorua District Council, and LINZ).

Over the New Year and Easter period DOC and EBOP staff were out at boat ramps around the Rotorua Lakes checking boats were clean of weed prior to launching and when leaving the lakes. Summary reports from these surveys can be found on olddm-180754.

4.7 WEEDBUSTERS

Weedbusters is a weeds awareness and education programme that aims to protect New Zealand's environment from the increasing weed problem. Weedbusters was launched with backing from DOC and is supported by an interagency group.

There is a national coordinator, who acts as main contact point for Weedbusters nationally. The website www.weedbusters.org.nz is a useful source of information on weeds and education resources. Use this link to access control information, photos, etc. for a wide range of weed species
http://www.weedbusters.org.nz/weed_info/advanced.asp

Weedbusters also operate at a regional level; in most regions a DOC and a regional council representative work together to promote Weedbusters. Individuals and groups can register as Weedbusters.

DOC also runs a Weedbusters local initiative programme, where funding is used to help set up and equip group’s weedbusting on land administered by DOC. Each group has a DOC staff member as their contact; the contacts are not just limited to Biodiversity staff, for example on the Chatham Islands, the Community Relations Officer is organising the Weed Swap scheme, with help from staff in Conservancy and the Area Office.

4.8 HOW DOES WEEDBUSTERS HELP WITH SURVEILLANCE?

The Weedbusters website is a useful source of information for people in the community who do not have access to information, such as the DOC Weeds database. The information includes a picture, description, why the weed is a problem, and control techniques. The website also has a calendar of events and news items and Woody Weed, the Weedbusters mascot, keep cropping up at events around the country. All this keeps the issue of weeds and the threat they pose, in the public eye.

Members of the public can report weed sighting and ask questions via the website, thus feeding in more useful weed sightings into the surveillance system.

DOC, regional and local government, community groups, etc can use the Weedbusters name to cooperatively produce weed awareness material and to run publicity campaigns.

4.9 WHO INITIATES AND CARRIES OUT OTHER WEED AWARENESS WORK?

Requirement	Who is accountable:	For a variation, seek approval from:
Decide what weed awareness work is needed and organise.	Programme Manager	Area Manager

The Weed Programme Manager in the Area office **must** decide how much weed awareness work is needed for surveillance, and organise how the work will be carried out. Alternatively, the Conservancy Weed Tech may take responsibility for a Conservancy Weed Awareness Campaign. This weed awareness work should be identified in a work plan.

The design and implementation of a publicity campaign may also be carried out by DOC community relations staff or by an outside contractor. If community relations staff have the resources to carry out weed awareness work, agreement should be reached on how the weeds and community relations staff can work together to get the greatest benefit.

The Weed Programme Manager **must** consult the Area or Conservancy Community Relations Team about local publicity campaigns, as well as checking any publicity material with the Conservancy Weed Tech. The community relations staff are the experts at providing information in an easily understood form for the public. The Weed Tech will check the accuracy of the information.

4.10 SOME SUGGESTIONS

A campaign to raise awareness is often more successful if information is received from several sources e.g., a talk, a leaflet, a poster, a newspaper article, a slot on local television or radio.

Talk to regional and district council staff, they might want to be involved. They may have useful ideas, information and resources.

It may be appropriate to incorporate weed awareness publicity with other material, as long as the message is not diluted, for example:

- For DOC field staff information on threatened plants may also be useful, but it must be clear which plants need protecting, and which need killing
- Local publicity campaigns might also focus on the dangers of dumping garden waste

It is often more effective to target a particular group e.g., farmers, gardening groups, diving clubs. It is easier to get the information out and there is likely to be a higher proportion of useful sightings.

A campaign may be about one weed species, several weed species or it may concentrate on an issue such as garden escapes.

The target group should be advised on how to report weed sightings.

Make sure you have the capacity to respond to all reports and requests for information. For example, ensure that you give a contact telephone number, and that someone who knows about your campaign will answer the phone.

Local newspapers often welcome articles, especially when there is a local link and a photograph accompanies the article.

4.11 FOLLOW UP ACTION

The details of any plant found and its location should be recorded, preferably on one of the standard forms provided on the Weeds database: Weed Observation Form. All reports shall be evaluated using the process described in sections [6](#) and [7](#) of this SOP.

Information on the number of sightings received and how many of them resulted in follow up action shall be kept and used in the annual report on weed surveillance activities.

5. Active surveillance

5.1 WHAT IS ACTIVE SURVEILLANCE?

Active surveillance is:

- The systematic checking of a site for new incursions of invasive weeds
- The systematic checking of an area for the presence of a particular invasive weed species

Active surveillance is a planned activity, part of a weed strategy or weed surveillance programme. In comparison, a fortuitous weed sighting occurs when someone finds a new weed whilst they are engaged in other activities.

5.2 WHY DO WE NEED ACTIVE SURVEILLANCE?

Active surveillance will be carried out to check for the presence of new invasive weeds on sites which are either:

- a) Likely places for invasive weeds to establish first (**vulnerable sites**) or
- b) Sites of high conservation value (**valuable sites**)

By finding a new incursion early, control action can be initiated early, reducing control costs and environmental impact. This increases the chance of eradicating or containing the spread of a new weed.

5.3 WHO INITIATES ACTIVE SURVEILLANCE?

The Weed Programme Manager in the Area office will decide how much active surveillance is needed in the Area, and determine how the work will be carried out. Sites for active surveillance should be identified during the business planning process.

The Weed Programme Manager should involve the Conservancy Weed Tech and other experts as necessary to organise the active surveillance projects. New active surveillance should be included in a Weed Strategy or Weed Surveillance Programme.

For Conservancy-wide surveillance the Weed Tech should decide how much active surveillance is needed and how the work will be carried out, and should identify Conservancy active surveillance during the business planning process. Alternatively one of the Area Offices may take the role of lead Area.

5.4 WHO CARRIES OUT THE ACTIVE SURVEILLANCE?

Requirement	Who is accountable:	For a variation, seek approval from:
Ensure active surveillance is carried out by suitably experienced and equipped people.	Programme Manager	Area Manager

Active surveillance can be carried out by DOC staff or by contract. Whoever carries out the surveillance **must** be suitably experienced and equipped, this is especially important where the use of specialised equipment and techniques is required, e.g., abseiling down steep slopes. They also need to be familiar with the area and know which weed species are, and are not, established locally.

Below is an example of active surveillance:

Large areas of Stewart Island had not been surveyed for many years. In 2005/06, funding was secured to complete a weed surveillance flight, more details can be seen by clicking on this link: [olddm-416290](#)

5.5 ACTIVE SURVEILLANCE KIT

If active surveillance is carried out from a vehicle, a much more comprehensive surveillance kit can be carried. This will enable the person carrying out surveillance to carry out on the spot control for a wide range of weed species, and to supply fact sheets.

Below is a list of the contents of the Active Surveillance Kit used by the West Coast Weed Tech.

- The bumbag containing surveillance kit for forays away from the vehicle (see section 4.5).
- 2x Solo knapsack sprayers
- 2x 20 L water containers
- Plastic bin of herbicides, usually: Glyphosate (5 L), Metsulphuron (500 g pack), Tordon brushkiller (1 L), Grazon (1 L), Amitrole (1 L), Gallant (1 L), Versatill (1 L), several spare tubes of Vigilant, small quantity of Tordon 2 g granules, measuring jugs, etc. This is the "gloves on" bin! (Note: I hardly ever use the Versatill, Amitrole, gallant and Tordon Granules - could do without these.)
- Separate plastic bin for non-herbicides. Contains hand tools (loppers, pruning saw, axe, secateurs, bow saw, etc), safety gear (several pairs gauntlet gloves and washable cotton liner gloves, disposable face masks, disposable overalls, safety glasses, Hi vis vest, spare parts for sprayers, etc.). (Note: the handiest tool I have in the kit is my folding pruning saw...I can use it for cutting through anything from a skinny wiry vine stem to a 10-15 cm thick trunk. I hardly ever use the loppers, axe or bow saw, but still lug them round in the back of the truck just in case.)
- Separate bin for reference material and public awareness material (Weed Manager, Agrichemical manual, weed surveillance lists, copies of MSDS, Clipboard with sheets for recording observations, scrapbook and/or plant press for taking samples, brochures and factsheets and Weedbuster giveaways (badges, bookmarks, etc.).
- 2 pairs cotton overalls, 1 pair gumboots, broad-brimmed DOC hat (all of which I take home regularly for cleaning).

5.6 WHERE TO LOOK?

Active surveillance sites should be identified in the Area Surveillance Plan. They may be:

- Vulnerable sites or valuable sites (such as islands and species protection sites)
- On land administered by DOC or on land administered by another agency
- Terrestrial or aquatic sites

The area searched should include the buffer areas around the site.

Search effort should be concentrated at the most likely spots. Parts of a site which should be intensively searched may include:

- Along roads and tracks, particularly road ends, and likely rubbish dumping areas
- Sites where intensive management is carried out (for example mainland islands or construction sites)
- Places modified by humans, e.g., along railways, near quarries and shingle dumps, land no longer cultivated, old homesteads, near towns
- Areas affected by introduced animals, e.g., browsed or grazed
- Areas of open ground, or with low vegetation
- In and near rivers, streams, lakes, cliffs and coastal areas

- Places subject to disturbance (fire, flood, slips)
- Areas which have been affected by changing conditions (e.g., unusual prolonged drought, dramatic reduction in rabbit numbers)
- Near, down-wind or down-stream from a weedy area
- Along boundaries, particularly reserve boundaries, and especially near habitation

5.7 WHEN TO LOOK?

Particular times of year may be more suitable for detecting some weed species. For example, in spring when Darwin's barberry (*Berberis darwinii*) is in flower, it is much easier to spot from a distance.

It may be important not to disturb areas at certain times (to minimise disturbance to nesting birds for example).

The timing of the surveillance may need to be co-ordinated with other people (e.g., to avoid interference with other conservation projects). Surveillance may have to be scheduled to fit in with other activities or to take place when transport is available (for example travelling to remote islands).

Click on this link [Weed Surveillance - how often to search?](#) to see the publication on recommended surveillance intervals, which includes guidance on how frequently it is necessary to return to surveillance sites to have a reasonably probability of finding new weed infestations before they become expensive to control.

5.8 SOME THINGS TO CONSIDER

SAFETY - Searchers **must not** put themselves or anyone else at risk in the pursuit of a closer look at a new weed. Normal safety rules apply. Particular care should be taken on uneven terrain and near water.

LAND TENURE - Searchers **must** ensure that they do not stray onto land which they do not have permission to be on.

5.9 HOW ACTIVE SURVEILLANCE WILL BE CARRIED OUT

Requirement	Who is accountable:	For a variation, seek approval from:
Arrange for all active sightings of new invasive weeds be recorded as described in Section 6 .	Programme Manager	Area Manager

The Area Weed Programme Manager or the Conservancy Weed Tech determine the extent and timing of the search, and specify where intensive searching should be concentrated, as detailed in [5.3](#) and [5.6](#). It may be appropriate to combine active weed surveillance with other activities, e.g., while checking for threatened plants.

Use the Area Surveillance List (see [Surveillance List](#)), but **the search is not restricted to species on the list**, any new invasive species should be recorded.

Remember: Only record those invasive weeds that have not previously been recorded as naturalised in the area, or are of very limited distribution.

All active surveillance sightings of new invasive weeds **must** be recorded as described in [Section 6](#) of this SOP. The details and location of all surveillance species found should be recorded on the standard forms provided on the Weeds database: Weed Observation Form.

All active surveillance sightings of new invasive weeds **must** be accompanied with a sample taken to vouchering standards (see [Appendix](#)).

It may be effective to combine weed surveillance with other activities. For example, contract staff who are surveying for pest fish in the South Island have been trained on identifying aquatic weed species. They carried out weed surveillance in the waterways that they visited.

6. Recording new weed sightings in the field

6.1 WHY RECORD NEW WEED SIGHTINGS?

Completing the records on-site improves the accuracy of the information and helps ensure that all the relevant details are recorded. Information about the weed and its location will help the Weed Programme Manager or Weed Tech decide what action should be taken.

It is particularly important to complete full and accurate records for remote sites and places that are hard to re-locate, as it may be costly and difficult to revisit the site.

6.2 WHO CAN RECORD SIGHTINGS?

Anyone, including:

- DOC staff or contractors carrying out inspections for weeds
- Staff or contractors involved in any sort of DOC work
- DOC staff who see a new weed in their leisure time
- Members of the public

6.3 WHERE CAN THE NEW WEEDS BE?

Anywhere. New weed occurrences can arise on DOC managed land, but they could also be on private property. The weeds may be on land, on islands, or in any aquatic environment (wetlands, streams, rivers, and lakes, estuaries, coastal and marine).

6.4 EQUIPMENT THAT MAY BE USEFUL

- Recording sheet and pen/pencil

- Map or aerial photo of the area
- Binoculars or spotting scope
- Camera
- GPS unit
- Flagging tape
- Lists of potential weeds, with descriptions and photos
- Weed identification books
- Hand lens
- Plastic bag to collect specimens
- Saw or secateurs

6.5 REMINDERS

SAFETY - Searchers shall not put themselves or anyone else at risk in the pursuit of a closer look at a new weed. Normal safety rules apply. Particular care should be taken on uneven terrain and near water.

LAND TENURE - Searchers shall ensure that they do not stray onto land which they do not have permission to be on.

6.6 RECORDING OF WEED SIGHTINGS

Requirement	Who is accountable:	For a variation, seek approval from:
Process all weed surveillance sighting as described below.	Programme Manager	Area Manager

These steps **must** be followed:

- 1) Is surveillance appropriate for the plant found? i.e.
 - Does the plant species have the potential to become an invasive weed?
 - If you can identify the plant - are you sure that the species has never been recorded as naturalised in the area, or is the species of very limited distribution?
- 2) Record the details of the plant and its location, preferably on one of the standard forms provided on the Weeds database: Weed Observation Form.

If you do not have a copy of the standard form, the following information will be useful: a sketch or map, details of the precise location, the vegetation & terrain type, the area & density of the infestation, the species' likely arrival method, and the potential impact of the species.

- 3) If necessary, mark the spot (e.g., with flagging tape) to enable the weed to be re-located.
- 4) If you can definitely identify the plant and you know it is new to the Area, take a specimen to voucher (see [Appendix](#) for details).
- 5) If you can definitely identify the plant as a new weed, and you can remove all of it immediately, do so. (N.B. A written record and a specimen of the plant will still be needed).
- 6) If you can not positively identify the plant take a specimen, preferably to vouchering standards (see [Appendix](#) for details).
- 7) Send the record and any specimen to the Weed Programme Manager in the Area office.

6.7 FOLLOW-UP ACTION

If the plant needs to be identified, send it to the Area Weed Programme Manager, or ask the Conservancy Weed Tech or botanist.

6.8 WEED SIGHTING BY NON-DOC PEOPLE

Reports of new weed sightings shall be accepted from anyone.

Ideally the person reporting the sighting should provide the same information as a DOC staff member, and a plant sample if necessary. The Weed Programme Manager shall try to follow up all reported sightings; however, they are more likely to be able to respond quickly if sufficient information is provided, preferably on one of the standard forms provided on the Weeds database:- Weed Observation Form. In particular, the precise location, and a positive identification or a good quality plant sample, are very important.

7. Processing weed sightings

7.1 WHY DO WE NEED A STANDARD PROCEDURE FOR PROCESSING SIGHTINGS?

The standard procedure helps ensure that all weed sightings are followed up, and that only those sightings that are genuine surveillance sightings are actioned as surveillance activities. The procedure provides a prompt on the decisions to be made, and the actions to be taken.

7.2 SOURCES OF ADVICE AND INFORMATION

Useful sources for advice and information may include:

- Conservancy experts (Weed Tech, botanist, etc.)
- Area Office and Field Centre weed staff
- The L\Weeds email list (contact the administrator to be included on the list)
- Regional Council pest plant (or biosecurity) officers
- Local councils
- Local groups (Forest & Bird, botanical societies, etc.)
- Other organisations (Landcare, NIWA, herbaria, etc.)
- Department of Conservation Strategic Plan for Managing Invasive Weeds
- DOC National Weeds Database
- Reference books

7.3 THE PROCESSING SYSTEM

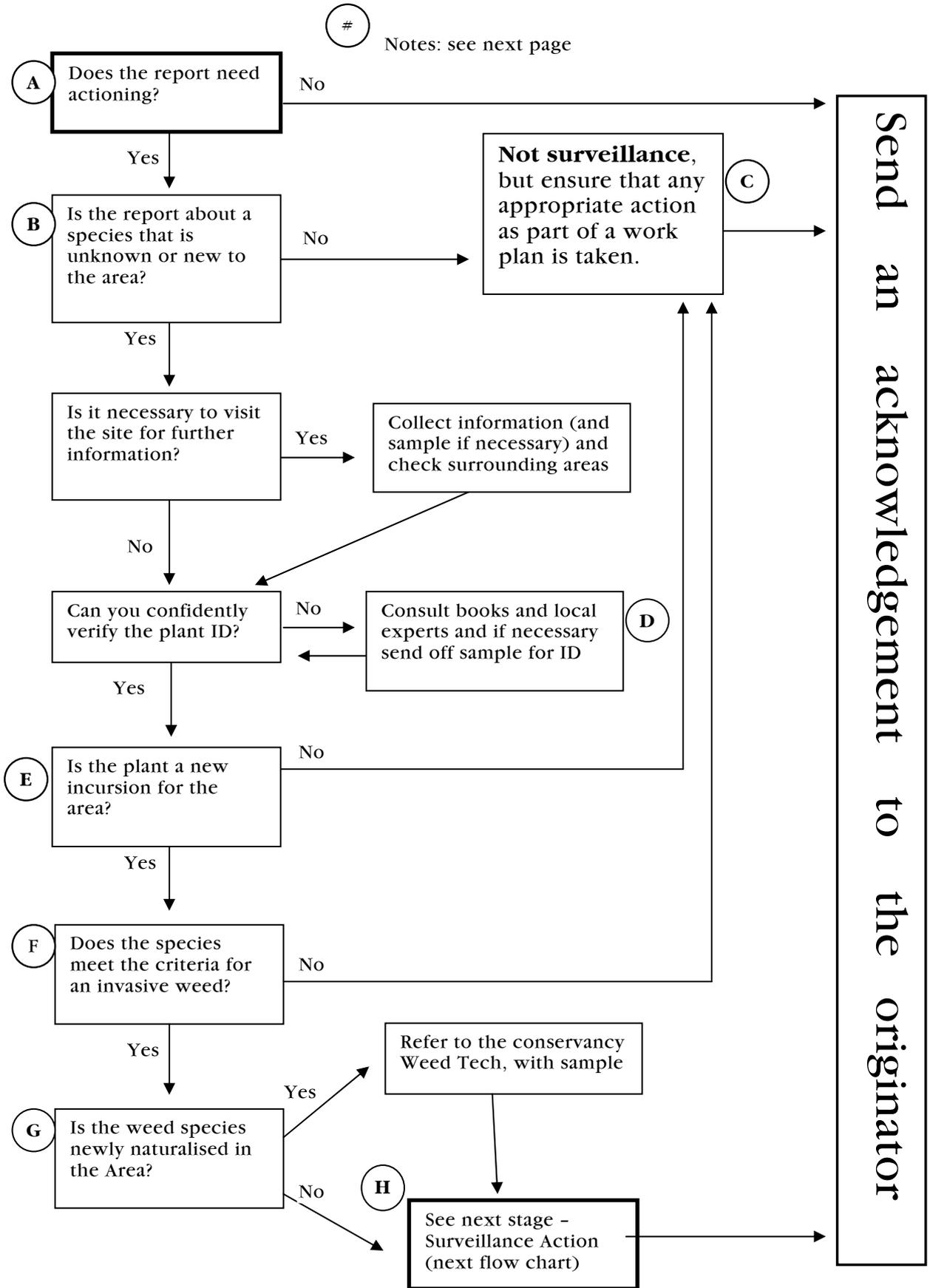
Requirement	Who is accountable:	For a variation, seek approval from:
Processes weed sightings and enter them on the Weeds database within four weeks.	Programme Manager	Area Manager

The Area Weed Programme Manager **must** ensure the weed sightings for the Area are processed within four weeks. This includes entering confirmed sightings on the weeds database (see [Recording information in the National Weeds Database](#)). The flowcharts and notes on the next three pages indicate how this should be done.

In the flowcharts and notes, as in the rest of the SOP the following definitions are used:

- The term Area (with a capital A) is used to mean the area administered by a DOC Area office (including land of all tenure).
- The term area (lower case) refers to any geographic space.

7.4 FLOWCHART - SORTING WEED REPORTS



7.5 NOTES ON FLOWCHART - SORTING WEED REPORTS

A

Does the report need actioning?

It may not be possible or desirable to take action for a variety of reasons, in particular:

- If the species is already widespread in the wild
- If the species is not of conservation concern (e.g., an agricultural weed like ragwort)
- If there is insufficient information to proceed

B

Is the report about a species that is unknown or new to the area?

To proceed, one of the following must be true:

- The plant species is not known
- The species is an invasive weed species that has not previously been recorded as naturalised in the area
- The species is an invasive weed species that is of very limited distribution

C

Ensure that any appropriate action as part of a work plan is taken.

Action is not called for as weed surveillance; however, the sighting should be recorded on the Weeds Database and the information may be useful for a new or existing work plan. For example the plant may be an agricultural weed subject to a Regional Pest Management Strategy.

D

Consult books and local experts and if necessary send off sample for ID.

Continue the process until a positive ID can be made. If this proves difficult, it may be necessary to collect a fresh plant specimen. In some case it may not be possible to locate the original sighting, in such a case, the sighting should be recorded.

E

Is the plant a new incursion for the area?

For surveillance, either the species must not have previously been recorded as naturalised in the area, or it must be a species that is of very limited distribution.

F

Does the species meet the criteria for an invasive weed?

Invasive weeds are 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.

G

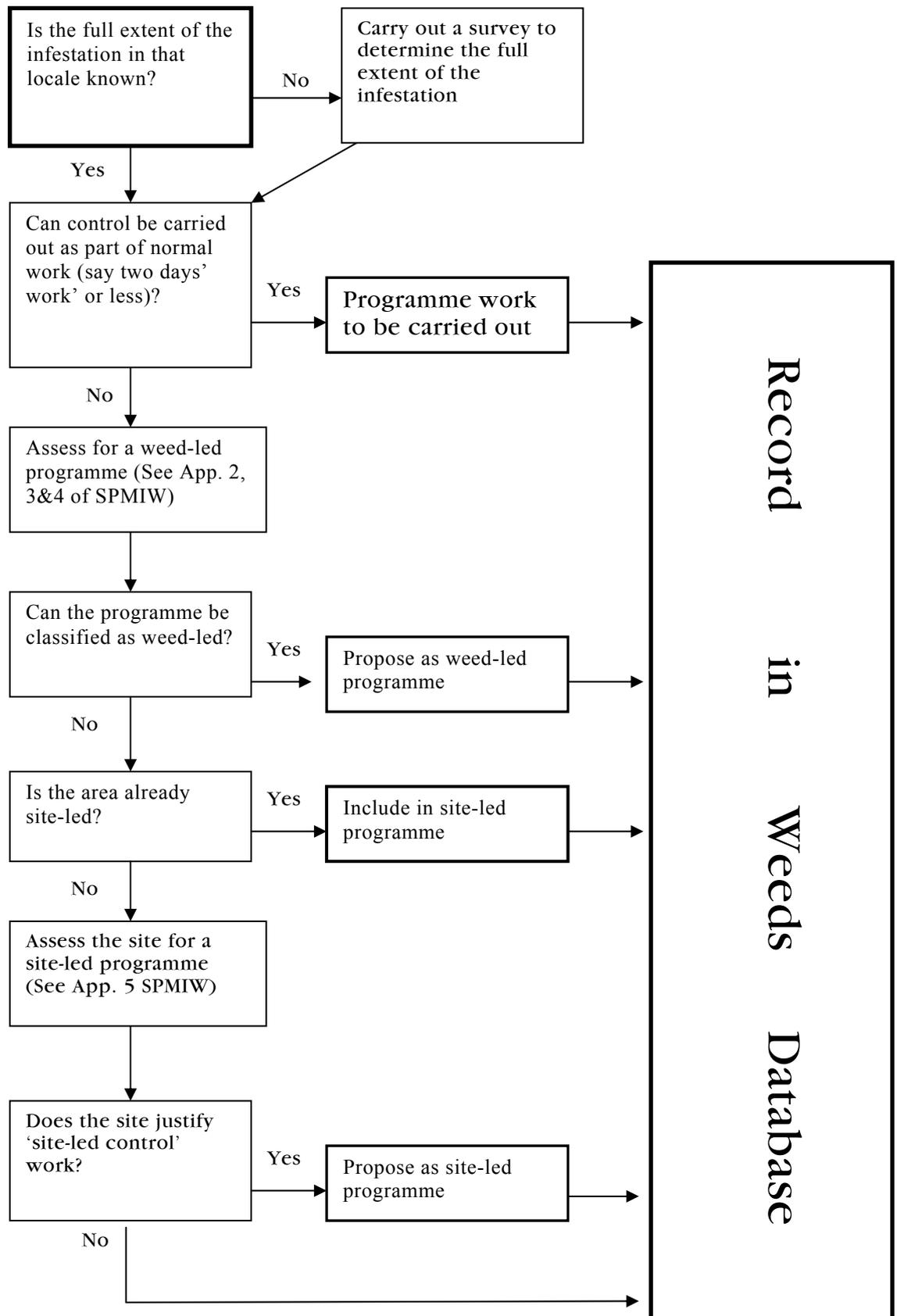
Is the weed species newly naturalised in the Area?

If this is the first reported naturalisation of the species for the area covered by the Area Office, then a specimen will be needed for vouchering. The details of the report and the specimen **must** be sent to the Conservancy Weed Tech.

H

See next stage – Surveillance Action

7.6 FLOWCHART - SURVEILLANCE ACTION



7.7 PROPOSING A NEW PROGRAMME

Proposing a new programme should be carried out in consultation with the Weed Tech.

In some years there may be no funding available for new weed-led or site-led programmes. If this is the case, then the proposed programme should be prioritised along with existing funded weed programmes in the Area, to see if funding can be reallocated. If no funding is available and the programme is high priority according to the criteria in the SPMIW, then the Weed Tech should be asked to investigate other funding priorities within the Conservancy or nationally.

7.8 ACKNOWLEDGING THE REPORTS

All genuine reports of weed sightings **should** be acknowledged, even if no follow up action is taken. This is very important as the person who reports a weed will be more likely to continue to look if they have some feed-back.

7.9 RECORDING INFORMATION IN THE NATIONAL WEEDS DATABASE

The Weed Programme Manager **must** arrange for a record of the species name, and location information (as a grid reference) to be entered into the Weeds Database within four weeks. Even when the infestation is excluded from surveillance (e.g. a new infestation of a weed already present in the Area), the information about the infestation should still be entered onto the database.

Check the database for information on the species that you have found.

- If the species occurs in the database, and provided that other DOC staff have entered data on it, you should be able to determine where it occurs in New Zealand
- If the species is not recorded in the database, then double-check your identification of the plant and enter information about the species in the relevant fields
- A photo may need to put on the database. If one is required you may be in the best position to take a photo of the plant

You will need write access to the Weeds Database to enter information, to arrange this, contact your Conservancy Weed Tech or the Database Administrator.

7.10 ACTION BY THE WEED TECH ON SPECIES WHICH ARE NEW TO THE AREA

The Weed Tech will receive a report and sample of any species that is new to the Area. The information is to be checked and verified and the following action taken:

For a species which is new to the Area

- Discuss with the Area Weed Programme Manager any further action which is advisable, e.g., active surveillance for the species, a publicity campaign, etc.

If the species is not known to be present in the neighbouring Areas, inform the Weed programme manager in those Areas

- Consider sending a sample for vouchering.

Requirement	Who is accountable:	For a variation, seek approval from:
Send a sample of any species that is new to the Conservancy for vouchering.	Weed Tech	TSM

Additionally for a species which is new to the Conservancy

- A sample **must** be sent to one of the herbaria for vouchering
- If the species is not known to be present in the neighbouring conservancies, inform the Weed Tech in those conservancies

Additionally for a species which is new to the country

- If the species has the potential to be significant invasive weeds and was not known to be present in New Zealand, then advise DOC's Biosecurity section, so the species can be considered for classification as an "unwanted organism"

A useful link to help find out if a species is new to New Zealand is the MAF Plants Biosecurity Index:

<http://www1.maf.govt.nz/cgi-bin/bioindex/bioindex.pl>

If a species is not on the list then it is probably not known to be in New Zealand. (If the species is listed as **Entry prohibited**, it is present in New Zealand, but new seeds and nursery stock may not be imported.)

8. Biosecurity and unwanted organisms

8.1 THE BIOSECURITY ACT 1993

Biosecurity is the exclusion, eradication or effective management of risks posed by pests and diseases to the economy, environment and human health (Biosecurity Strategy, 2003).

The Biosecurity Act 1993 provides pest management tools and powers to enforce them in order to prevent pests entering the country or dealing with them once they are here. It is administered primarily by the Ministry of Agriculture & Forestry - Biosecurity New Zealand (MAF-BNZ) and provides the main legal basis for responding to risk species.

MAF-BNZ is charged with preventing exotic pests and diseases from being unintentionally imported, and for eradicating them or coordinating their control should they arrive.

For further information on national biosecurity roles and responsibilities see the Biosecurity SOPs and Guidelines.

The latest version of the Biosecurity Act can be seen on line. Currently (October 2007) the link below will take you to the relevant list of Acts, make sure you look at the most recent version. This is for information only, to get an interpretation of the Act consult your Conservancy solicitor.

http://rangi.knowledge-basket.co.nz/gpacts/maps/acts_b.html

8.2 UNWANTED ORGANISMS

Organisms that are capable of harming natural and physical resources or human health can be declared unwanted. The Chief Technical Officer (CTO) in any of the departments with Biosecurity responsibilities (including DOC), can make this declaration.

Once a species is declared “unwanted”, it is illegal to knowingly transport, release, spread, sell, propagate, breed, or multiply it – or cause any of these things to occur. However, unwanted organism status does not necessarily mean that the species has to be eradicated.

Some widespread weeds such as broom and gorse have not been declared unwanted organisms. This is because the unwanted organism measurers are primarily to prevent the deliberate spread of pests, and these widespread weeds are rarely spread deliberately.

8.3 WHERE IS THE UNWANTED ORGANISM REGISTER HELD?

BNZ maintain the Unwanted Organism Register. The current link to the register is: <http://mafuwsp6.maf.govt.nz/uor/searchframe.htm>

If this does not work try searching for unwanted organisms on the website of MAF (www.maf.govt.nz) or BNZ (www.biosecurity.govt.nz)

Note, you can select from any of the drop down boxes, but if you use the type box select Plant, rather than Weed.

8.4 NOTIFIABLE ORGANISMS

Requirement	Who is accountable:	For a variation, seek approval from:
If a notifiable organism is discovered, notify the Chief Technical Officer who declared the species a notifiable organism.	Weed Tech	N/A Statutory requirement

An unwanted organism that can cause serious harm to natural and physical resources or to human health can also be declared a notifiable organism. Examples include pyp grass (*Ebrharta villosa*) and water primrose (*Ludwigia peruviana*). Currently 28 of the weed species that are listed on the unwanted organism register are notified. To see the list go to the register, via this link:

<http://mafuwsp6.maf.govt.nz/uor/searchframe.htm>

Then select Plant from the Type box

And then select Notifiable Organism from the Category box

The register will show which Chief Technical Officer declared the species a notifiable organism.

We **must** notify the relevant Chief Technical Officer, if we discover a notifiable organism. This should be notified via the Conservancy Weed Tech and the DOC Biosecurity Section.

8.5 REGIONAL PEST MANAGEMENT STRATEGIES

Under the Biosecurity Act, Regional Councils and Unitary Authorities have powers to produce and enforce Regional Pest Management Strategies (RPMS). They can declare species as pests within their strategy, and ban them from communication, release, spread, sale, exhibition or propagation in their region.

Different Regions have concerns about different pest species, and the rules and classifications they use in the strategy vary around the country. The species that they declare as pests do not have to be unwanted organisms. For example, in Canterbury, some of the strategy pests which are not classed as unwanted include: broom, gorse, ragwort, baccharis, bell heather, buddleia, and Cape ivy.

For a weed species that is declared unwanted and identified as a new pest in a region, the council can also decide to take action under section 100 of the Biosecurity Act, rather than waiting for a new or updated RPMS. The conditions for section 100 action include that the organism can be eradicated or controlled effectively by small-scale measures within three years of commencing control.

You need to be aware of your local RPMS, and the rules relating to species which are listed in the RPMS. As regional boundaries are different from DOC Conservancy boundaries, more than one RPMS may apply to an Area Office.

8.6 NATIONAL PEST PLANT ACCORD

The National Pest Plant Accord (NPPA) is an agreement between the Nursery and Garden Industry Association (NGIA), regional councils and government departments with biosecurity responsibilities (including DOC).

The aim of the NPPA list is to prevent weedy species from being sold and thus establishing and spreading.

All species on the NPPA list have to be declared unwanted, but there are some species (for example, bartlettina) which are declared unwanted but are not on the NPPA list. These species are, however, still banned from communication, release, or spread.

8.7 EXEMPTION (OR PERMISSION) FOR UNWANTED ORGANISMS

Requirement	Who is accountable:	For a variation, seek approval from:
Obtain an exemption (or permission), via the DOC Biosecurity Section, to use an Unwanted Organism.	Programme Manager or Weed Tech	N/A Statutory requirement

Even if an unwanted organism is fairly widespread (like for example tradescantia) it is illegal to knowingly transport, release, spread, sell, propagate, breed, or multiply it - or cause any of these things to occur. This means, unless you have an exemption (or permission), it would be an offence to take the plant material to, for example, use in a display at a show. To obtain permission, you **must** contact the DOC Biosecurity Section.

For details on the DOC Biosecurity Section, click on this link: [Biosecurity](#).

Permissions were previously referred to as Exemptions by BNZ.

8.8 EXEMPTIONS FOR PEST SPECIES

Requirement	Who is accountable:	For a variation, seek approval from:
Obtain an exemption to use a species which is not unwanted, but is declared a pest in the RPMS.	Programme Manager or Weed Tech	N/A Statutory requirement

Similarly, if you wish to use a species which is not an unwanted organism, but is declared a pest in your local RPMS, you **must** obtain an exemption (or permission) from the Regional Council or Unitary Authority.

8.9 THE PROCESS TO DECLARE AN UNWANTED ORGANISM

The Chief Technical Officer in DOC can declare species unwanted and can also suggest they be included in the NPPA or that they be made notifiable.

The Department has a set of criteria that must be fulfilled in order to declare a species an unwanted organism. DOC's policy is that unwanted organism status is a tool that should be used to support a pest programme. Unwanted organism status should be accompanied by pest management actions. The legal powers can then be accessed for pest management activities such as compliance, control, public awareness, etc.

The process for recommending a pest to be an unwanted organism is outlined in the Unwanted Organism Declaration Template (olddm-725399). This is a self-explanatory blank template to guide the process of writing an unwanted organism declaration.

Any request to declare a weed species unwanted should be discussed with the Conservancy Weed Tech and referred to the Biosecurity Section.

For further information on biosecurity legal requirements, and how to process an unwanted organism declaration or exemption, see the following SOP on the Knowledge Site: Biosecurity Legal Requirements (Module 2), QD1644.

8.10 WHAT TO DO IF YOU FIND AN UNWANTED ORGANISM

In most cases, the usual surveillance steps should be sufficient for unwanted organisms, (see [Recording sightings](#) and [Processing sightings](#)). For exotic plants that are a threat and new to New Zealand, (or of very limited distribution), if a national scale response is needed, MAF-BNZ is the lead agency; but check with DOC's Biosecurity Section to see which agency is responsible for the species. If MAF-BNZ is the lead agency for the response, they will initiate all control and all media releases. In May 2007 the weeds in this category are:

- Cape tulip
- Hornwort (South Island only; it is well established in the North Island)
- Hydrilla
- Johnson grass
- Manchurian wild rice
- Phragmites
- Pyp grass

- Salvinia
- Water hyacinth
- White bryony

For the listed species, Area staff should send the details to the Weed Tech; the Weed Tech should liaise with the DOC Biosecurity Section who will contact MAFBNZ as required.

Requirement	Who is accountable:	For a variation, seek approval from:
Ring the MAFBNZ hotline (0800 80 99 66) to report a pest species that is new to New Zealand.	The person who found the pest	N/A Statutory requirement

For any new to New Zealand species, the person who found the new species **must** urgently ring the MAF-BNZ hotline 0800 80 99 66 to report the find.

The Conservancy Weed Tech should then be notified and they will liaise with the DOC Biosecurity Section to inform them that a report has been made.

If MAFBNZ decides to take responsibility, the onus is on them to organise any necessary actions, until they eradicate the species or decide that eradication at a national level is not feasible.

For further information on national biosecurity roles and responsibilities see the Biosecurity Overview Guideline information.

8.11 IMPLICATIONS FOR WEED SURVEILLANCE

- Biosecurity and unwanted organisms procedures do not change the basic principles of weed surveillance.
- The Biosecurity and unwanted organism processes may help in the control and eradication of weeds that are a threat to native species and ecosystems.
- You need to be aware that you may need permission or an exemption to move, display or grow weeds which are unwanted organisms or are classified as pests.

In the past there have been changes to the Biosecurity Act and its interpretation, so if in doubt, check with your Conservancy Weed Tech or the DOC Biosecurity Section.

9. Appendices

9.1 COLLECTING AND SENDING SPECIMENS FOR IDENTIFICATION

While it is sometimes possible to identify a plant from a scrap (or even a verbal description), good quality specimens are much easier to work with, and it is important to collect them properly. Where a plant is found which is new to an area it may be placed in a collection such as the herbarium at Landcare Research, Lincoln. Herbarium specimens can be kept for hundreds of years, so do a good job for future generations!

If there is only a small quantity of a plant in the field, and you are not sure whether it is native, it is important not to pull it all up or to damage it more than necessary. After all the plant might not be a weed. The following instructions are intended for ideal collections where there is plenty of plant material. If there is not much, collect less of the plant and take more notes. On the other hand, if it is a weed you know in a new site, and you can remove the whole plant, then it can be a good idea to do so.

Taking notes

Taking good notes is VERY important. Without good notes an otherwise good specimen can be virtually useless.

Any features which may deteriorate while the plant is in transit and any features not obvious from the specimen should be described in the notes. The notes should also state WHERE the plant was collected, WHO collected the plant and WHEN. The name of the location or a good description is essential, and a grid reference should be given if at all possible. Remember if the plant is a weed somebody may have to go back and kill it! It is also useful to describe the habitat in which the plant was growing, as it may help with identification or evaluating the threat.

Trees and shrubs

Collect leaves attached to the stem, preferably with flowers and/or fruit. Rather than just collecting a branch tip, try to collect parts from both the end and further down the branches. Collect flowers and fruits attached to the stem and unattached.

If there are suckers from the base or juvenile leaves these should also be collected, as should a sample of bark wherever possible.

Any features not obvious from the sample (e.g., habit and height of plant) or likely to deteriorate (e.g., colour of flowers, fragrance of flowers or foliage) should also be noted.

Herbaceous plants

Small herbs can be collected whole. With larger plants collect flowering and fruiting stems, as well as leafy stems which are sometimes different. Try to collect a sample from the base of the stem as well as the tip. Basal leaves of rosette herbs should be collected, even if they have died off, as they can be an important diagnostic feature. Where possible collect part of the root system, e.g., any rhizomes, stolons or tubers - if this is not possible you can describe it.

As for trees and shrubs features such as habit and flower colour should be noted.

Grasses and other monocot groups

Grasses and other grass-like plants are notoriously difficult to identify unless they have flowers or fruit. Only collect sterile samples of these plants if it is really important, and wherever possible in these cases collect a specimen which can be grown until it flowers, i.e., get some roots and soil.

Collect whole clumps of the plant from the bases of the stems to the leaf tips and flower heads, and if they are too big fold them up neatly.

Ferns and palms

It is important that the whole frond is collected, particularly the base. If the fronds are too large they can be folded. With very large ferns and palms it is acceptable to cut the leaflets off on one side of the frond, but is essential to leave at least 1 cm of the bases of the leaflets. Do not do this if the frond is visibly asymmetric.

Collect fern fronds with spores, or if there are two types of frond collect both sterile and fertile. Fern rhizomes should be collected where possible but this can be destructive, and native and exotic ferns are not easy to distinguish. If in doubt, do not collect the rhizome but describe the habit (tufted, creeping, trunk) and collect samples of scales or hair from the rhizome (which are usually easily removed).

For palms, describe the habit and trunk if the plant has one. Most palms do not flower until they are quite large and flowers and fruit can be difficult to collect, so describe them if they cannot be collected.

Climbers

Collect as for trees and shrubs, but also note how they climb, e.g., tendrils, twining, self-clinging. If the sample is difficult to separate from the host specimen it may be necessary to collect some of the host too. This is particularly important with tendrils, which are important features of the plant and difficult to remove without removing some of the plant that they are climbing on.

Take note of the supporting plant species. If you don't know what it is, collect some. Even if it is dead it may be possible to at least partly identify it, for example from the bark.

Sending plant specimens.

The best way to send most specimens is fresh in a sealed plastic bag. Or the specimen can be wrapped in damp newspaper and placed in a plastic bag. However short-lived flowers are best placed between sheets of paper or cardboard and sent flat. Aquatic plants may last if kept in water for a few days, but for sending by post or courier this is not ideal. Place the plant between sheets of damp paper and send them flat.

Don't forget to include the notes which you took with the specimen (i.e., collector, date, locality, etc). If specimens and notes get separated it can be difficult to match them up again. Writing the notes on sticky-backed paper (e.g., post-it notes) can help to keep them together.

Try to ensure specimens arrive as quickly as possible to minimise the deterioration. Do not leave specimens in transit over the weekend, it is better to put them in the fridge and post on a Monday.

In cases where it is difficult to get the specimen sent quickly it is often better to press and dry the specimen. Pressing specimens is a fairly skilled activity, and is not covered fully here. However it is worthwhile to have a go. Chances are you won't have a plant press in the field, so you may need to be creative. One of the best field presses is a hardcover book (old "Boy's Own" annuals or similar books are popular). It is worthwhile carrying one if you think you may collect specimens. If you don't have a book, try flattening it under your sleeping bag or inside your pack against your back. It's not ideal, but better than a shrivelled specimen. The pressing can then be finished properly later.

As a last resort, even badly shrivelled specimens can often be revived by completely immersing them in a bucket of cold water for 24 hours. But it is best to stop them getting into this condition in the first place. So don't leave them lying in vehicles in the sun, or scrunched at the bottom of your pack.

Finally, if you are sending fresh plant material, label the package "Live plant material, keep cool" or something similar. If the plant arrives at its destination and the person you have sent it to is away, hopefully somebody will take note, and pop it in the fridge.

Photographs

For plant identification there is nothing better than having the actual plant specimen. This is particularly the case with plants (for example, grasses and daisies) where there is a good chance that you may need to dissect the flowers to get an identification.

However, a photograph can be an excellent supplement to your specimen and notes. Photos are good for giving a better idea of the habitat of the plant and how big the patch is. They are also good for reminding yourself later on. There may also be circumstances where they are all you can get, particularly if there is a very small amount of an unknown plant, or the plant is in a dangerous or inaccessible location.

As a backup to the actual specimen, fresh plant material can be very effectively scanned into a computer or laser copied. The detail in scans and colour copies, taken directly from plant specimens is as good, if not better, than in a photograph.

Collecting and sending aquatic plant specimens

Here are a few points to be aware of when collecting and sending aquatic plant specimens as compared to terrestrial plants:

- Many aquatic plants have different growth forms depending on whether they are growing submerged or out of the water
- Flowers of aquatic plants are often inconspicuous
- A significant number of the weedy aquatic plants in New Zealand do not set seed
- Some aquatic plants may grow fully submerged, but only flower and fruit on emergent foliage
- Changes in water levels can make terrestrial plants appear to be growing as aquatics, and vice versa

Collect enough material to show the range of variation. Look carefully to determine whether there is more than one foliage type on the same plant, whether there are flowers, etc.

Determine whether the plant is growing attached to the substrate. If so, try to collect some of the roots, rhizomes, etc., as these can be important in identification, particularly with floating-leaved species.

Sending aquatic plant specimens

Because they are adapted to wet environments, aquatic plants dry out easily in transit. The best way to send them is wrapped in damp newspaper or paper towels inside a plastic bag. The newspaper needs to be wetter than would be used for terrestrial plants. While it is possible to transport specimens in containers of water, this creates problems with the weight of the specimen and leaks, and is unnecessary.

Pressing aquatic plants is more complicated than pressing most terrestrial plants. Many plants are very delicate and inclined to stick to the paper used to press them. It is not generally recommended unless you have suitable materials and experience.

These guidelines are related specifically to freshwater aquatic plants. However, the guidelines on collecting and sending can also be applied to marine plants.