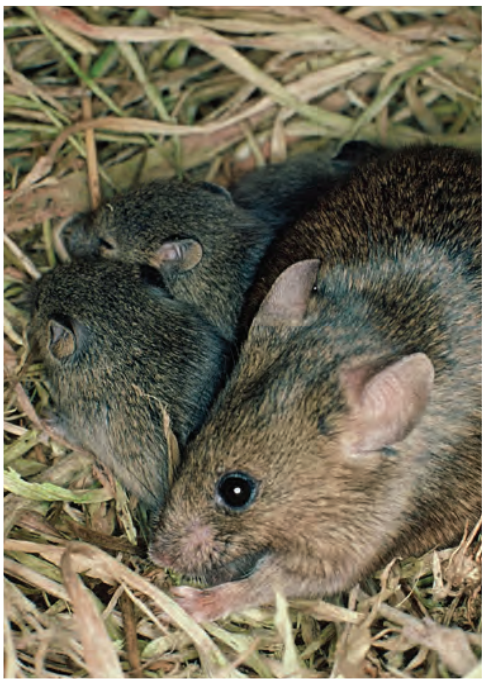
Regional Pest Management Strategy for Southland



environment SOUTHLAND
Te Taiao Tonga

Regional Pest Management Strategy for Southland

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Biosecurity Act 1993

Certificate of Strategy Adoption

It is hereby certified that this is the Regional Pest Management Strategy for Southland.

Consent to the adoption of the Regional Pest Management Strategy for Southland was given by the Southland Regional Council on 27 February 2013.

DATED this 27th day of February 2013

The Common Seal of the Southland Regional Council was affixed pursuant to a resolution of the Council dated 27 February 2013

SOUTHLAND REGIONAL COUNCIL
SOUTHLAND
IN UNITY WE PROGRESS
common seal

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R.A. Phillips, **Chief Executive**

.....

Ali Timms, **Chairman**

The Regional Pest Management Strategy for Southland shall become operative on the 1st day of March 2013.

Foreword

This Regional Pest Management Strategy replaces the previous strategy which expired on 31 August 2012 at the end of its statutory five year life.

Unusually, the provisions of this strategy are identical to those of its predecessor, and this is because of the timing of substantial amendments to the biosecurity legislation. Once the National Policy Direction has been ratified, it will prescribe how the Biosecurity Law Reform Act will be implemented and will come into force in June 2013. We are developing a new strategy which will comply with the amended legislation and we expect that a proposed strategy will be publicly notified in the second half of 2013.

The Regional Pest Management Strategy provides the means, under the provisions of the Biosecurity Act 1993, to reduce the adverse impacts of harmful organisms in the Southland region. It includes a total of 114 animals, plants, insects and aquatic and marine species which have been designated as pests. These are organisms considered to affect the economy, the environment as well as social and cultural values.

After consulting widely before 2007 the Council agreed to designate a large number of pests to broadly meet community expectations. However it also decided that it would need to focus management effort and resources on those pests where the greatest gain could be achieved from management for the least cost. This led to classifying each pest according to its potential to cause loss or harm and the cost of its management.

As a general principle the cheapest way to manage a pest is not to have one – so a range of potential pests not already present in the region were designated exclusion pests, eg exotic ants. Those pests that were already present but in low numbers and a few locations, eg rooks, and Old man's beard, would be targeted for eradication. Those that were only present in some parts of the region were designated as containment pests which would be prevented from spreading. The most effective way to manage these low incidence pests was for Environment Southland to control them directly under planned work programmes.

For those high incidence pests that were already so well established and widespread in the region that they could not be eradicated or contained, eg rabbits, possums, gorse, and broom, a land owner responsibility principle was applied. This means that landowners may have these pests on their land but must not allow them to affect their neighbours. This is achieved by the application of pest density and 'boundary control' rules.

These systems of pest management have operated satisfactorily over the last five to ten years and have provided a reasonable response to most ratepayers who are impacted by pests. These will continue until the next planned strategy review is completed.

Environment Southland will be seeking the views of ratepayers and the wider community when we publicly notify the next generation proposed Regional Pest Management Plan in mid-2013 and call for formal submissions.

Ali Timms
Chairman

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1.0 Regional Pest Management Strategy for Southland

1.1 Purpose of the Strategy

The purpose of the Strategy is to provide a strategic, regulatory and funding framework for efficient and effective pest management so as to:

- minimise the actual and potential adverse effects of pests on the environment and the community; and
- maximise the effectiveness of individual pest management action, through a regionally coordinated approach.

This Regional Pest Management Strategy (the Strategy) addresses pests on land, in freshwater and in the marine environment within Southland. If unchecked, pest populations can increase to the point where they cause major damage to our natural and physical resources. Pests can impact severely on biodiversity and be a causal factor in the extinction of endemic species. Some pests can trigger soil degradation or reduce water quality. Pest infestation can cause economic damage to agricultural activity. They can pose a threat to the intrinsic values and characteristics of an area, with potential for detrimental effects on recreation and the tourism industry, and therefore, New Zealand's overseas image. Pests are capable of causing serious adverse effects on the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

A main focus of this Strategy is land occupier responsibility. This means that a land occupier is largely responsible for managing the pests that exist on that land. The land occupier must ensure that pests present on that land do not impact on any neighbour. However, for Exclusion and Eradication pests (see page 5 where these pest classifications are explained) Environment Southland will be responsible for work to eradicate them, as this has a region-wide benefit which constitutes a greater public good. This approach is strongly reflected in the objectives and rules contained in the Strategy.

In this Strategy, an organism is only designated as a pest when it meets the criteria in the Biosecurity Act 1993 (the Act), including regional benefit. To demonstrate regional benefit, it is necessary to show not only that the pest has severe adverse impacts, but also that the benefits of managing the pest exceeds the costs, both at the individual and the community level. Environment Southland commissioned a cost-benefit analysis of the proposed pests to ensure statutory guidelines were met.

It is unreasonable to expect the Strategy to solve all perceived pest issues. Pests not covered by the provisions of this Strategy may be controlled by other means. These include small scale management programmes, through Section 100 provisions of the Act, or their inclusion in strategies prepared by other parties.

The key roles for Environment Southland[1] include:

1. identifying pests that pose significant risks and, where possible, controlling or eradicating them at an early stage of infestation;

2. public liaison including implementing public awareness programmes, providing public information and advice, explaining people's obligations under the Strategy and responding to complaints from the public;

3. implementing inspections, surveillance and monitoring in accordance with the Strategy;

4. service delivery to eradicate or contain certain pests in appropriate cases;

5. regulatory enforcement of Strategy rules in appropriate cases;

6. promoting biological control when suitable agents are available. Biological Control offers the prospect of ongoing control without the continuing costs of other forms of control.

1.2 Duration

This Strategy will take effect from 1 March 2013 and will remain in force for five years from that date.

The Strategy may also be reviewed if Environment Southland believes it is failing to achieve its purpose, if there is a significant change in circumstances, or at the expiry of the Strategy.

The Strategy also ceases to have effect if Environment Southland declares, by public notice, that it has achieved its purpose.

1.3 Area of Effect

This Strategy shall apply to the entire Southland region. The Southland region (Figure 1) refers to the land, rivers, lakes and coastal marine area that lie within the administrative boundaries of Environment Southland.

The boundaries of the region are defined by the Local Government Reorganisation Order (1989), and amended by Gazette Notice of 22 December 1999 p. 4360. It covers a total land and sea area of 5,504,873 ha (Statistics New Zealand 2006 Digital Boundaries) at the southern end of the South Island including Stewart Island/Rakiura.

[1] *Environment Southland is the brand name of the Southland Regional Council.*

Figure 1 – Southland Region

2.0 Hierarchy of Pest Classifications

The new hierarchy was developed to address shortcomings, which were identified in the pest classifications in the Regional Pest Management Strategy for Southland, adopted in 2002. In particular, the 2002 pest classification did not adequately recognise the importance of excluding undesirable organisms from the region as the most cost effective form of pest management. It also fostered the impression that eradication of some widespread pests was an achievable goal, when this is not feasible. It did not fully recognise the potential value of preventing the spread of pests to un-infested parts of the region.

It is worth bearing in mind that widespread pests such as Gorse and Possums would not be a major problem today if their future impacts had been recognised at the time of their introduction. The best value for money, and most efficient management, is achieved by the exclusion or eradication of pests. This is why it is so important to determine the potential impacts of pests now. That way we can be proactive and exclude or eradicate pests before they have the chance to become established permanently.

Classifying pests into categories makes it easier to understand pest risks and impacts. It also facilitates the design of programmes, in order to respond to the different pests most effectively.

2.1 Infestation Curve

Environment Southland has used a model called the "Infestation Curve" to help classify pests and identify pest management options.

The basic infestation curve model stems from population dynamics[2].There is much evidence to support this model in classifying pest populations according to their different levels of infestation. The model is illustrated in Figure 2.

The Infestation Curve can be broken down and explained in terms of four phases:

1. **Absent Phase:** if a potential pest is absent from the region, the most cost effective form of management is to continue to exclude it.

2. **Lag Phase:** this phase represents initial establishment. The pest numbers are low and the rate of population increase is slow, as it adapts to a new environment. It is at this point that the most cost effective option is eradication, to prevent it establishing further.

3. **Explosive Phase:** this is when population and density increase rapidly. This occurs after the lag phase, when it has adapted to its environment and has reached a population base that allows exponential growth rates. At this stage, it is not realistic or cost effective to eradicate the pest. However, preventing further spread or "containment" is a worthwhile option.

4. **Consolidation Phase:** This phase occurs when explosive growth slows, as the pest fills most of its available habitat. Eradication is not technically feasible, and infestations can only be suppressed to mitigate their impacts. Biological control agents can be a practical method for managing pests in this phase.

[2] Kormondy, Edward J, Concepts of Ecology. Pub Prentice-Hall, 1969, Page 64.Panetta, F Dane, Identifying and managing the next century's problem weeds. Papers presented toNew Zealand Plant Protection Society Seminar, 1994.

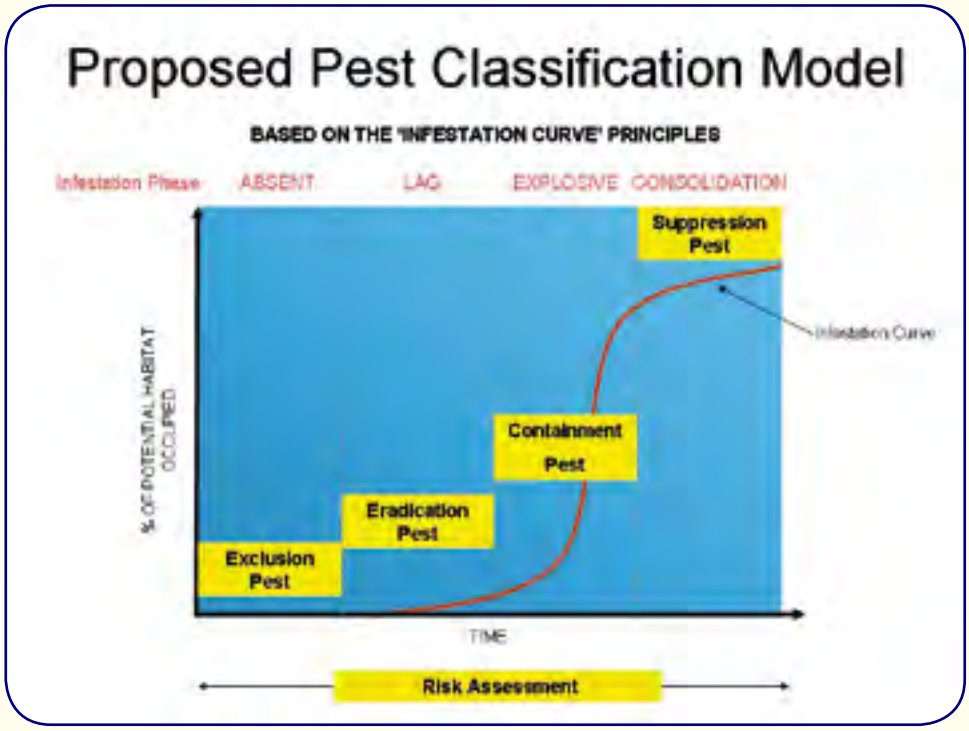

Figure 2 – Infestation Curve – Pest Classification Model

2.2 Pest Classifications

"EXCLUSION PEST" means a potential pest, which has not yet been identified as being present in Southland. There are a large number of pest species present in New Zealand or overseas, which are not yet found in Southland but have the potential to establish in the region. These may be capable of causing adverse effects, which would warrant them being designated as pests if they were present. The goal is to prevent a known undesirable organism from entering and establishing in the region.

Management Approach: Environment Southland will undertake research, surveillance and raise public awareness of exclusion pests to prevent their establishment in the region. If an "Exclusion Pest" is found in the region, Environment Southland will take all practical steps to achieve eradication, at no cost to the land occupier.

"ERADICATION PEST" means a pest of limited distribution and density in the Southland Region, which nevertheless has the potential to have serious negative impacts on the community or environment. The goal is to eradicate these pests from Southland.

Eradication is defined as "removing every live individual of the species and permanently eliminating the possibility of any further reproduction or propagation within the region". Realistically, eradication will only be possible at some sites, for example, where populations are very small (e.g. <100 individuals), of very limited extent (e.g. <1.0 ha), where special biological conditions exist, or extremely efficient control measures can be employed.

Management Approach: Control of Eradication pests will be carried out by Environment Southland staff and their contractors or, with agreement, by other agencies. Control of Eradication pests will be carried out at no cost to the land occupier.

"CONTAINMENT PEST" means a pest that is established in Southland, but is of limited distribution in suitable habitat within the region. The goal is to prevent the Containment pest from spreading outside of its defined Containment Area. A Containment pest is present in the region at a distribution and density that means that eradication is not possible or cost effective.

Management Approach: Environment Southland will assist land occupiers to control Containment pests on their properties, by providing advice and information. Environment Southland will also ensure land occupiers comply with Strategy rules designed to prevent the spread of a Containment pest. Land occupiers within the area specifed for each respective containment pest, must destroy that pest.

"SUPPRESSION PEST" means a pest that is widespread in suitable habitat throughout mainland Southland. The goal is to suppress the pest so that impacts on the community and the environment are minimised. The goal will also be to exclude the pest from offshore islands, where it is not present.

Management Approach: Environment Southland will assist land occupiers to manage Suppression pests on their properties by providing advice and information, lending traps and provision of biocontrol agents. Environment Southland will also ensure land occupiers are acting as good neighbours by enforcing Strategy rules regarding pest density levels and boundary control distances.

"RISK ASSESSMENT PEST" means a pest which is of potential concern to the region, but about which little is known of its distribution or the risk it presents to Southland. The goal is to improve our knowledge about the pest and its distribution through monitoring, so that it can be classified and appropriately managed when the Strategy is next reviewed.

Management Approach: Environment Southland staff will record information about the distribution, density and impacts of the Risk Assessment pest over the term of the Strategy. Information about how to manage these pests will be researched and provided to the public. Increasing the awareness of these pests and carrying out initiatives to minimise any adverse impacts they have, is also desirable during the term of the Strategy.

If information gathered through monitoring indicates that a Risk Assessment pest poses a threat to the region and eradication is achievable, control will be carried out by Environment Southland staff and their contractors, or in collaboration with other agencies, at no cost to the land occupier.

2.3 Pest Management Priorities

The infestation curve model can be used to assist with prioritising pest management. This can be done because the position of a pest on the infestation curve will broadly indicate the level of sustainable benefit that can be provided by investing in pest management. This is illustrated in the Figure 3 below.

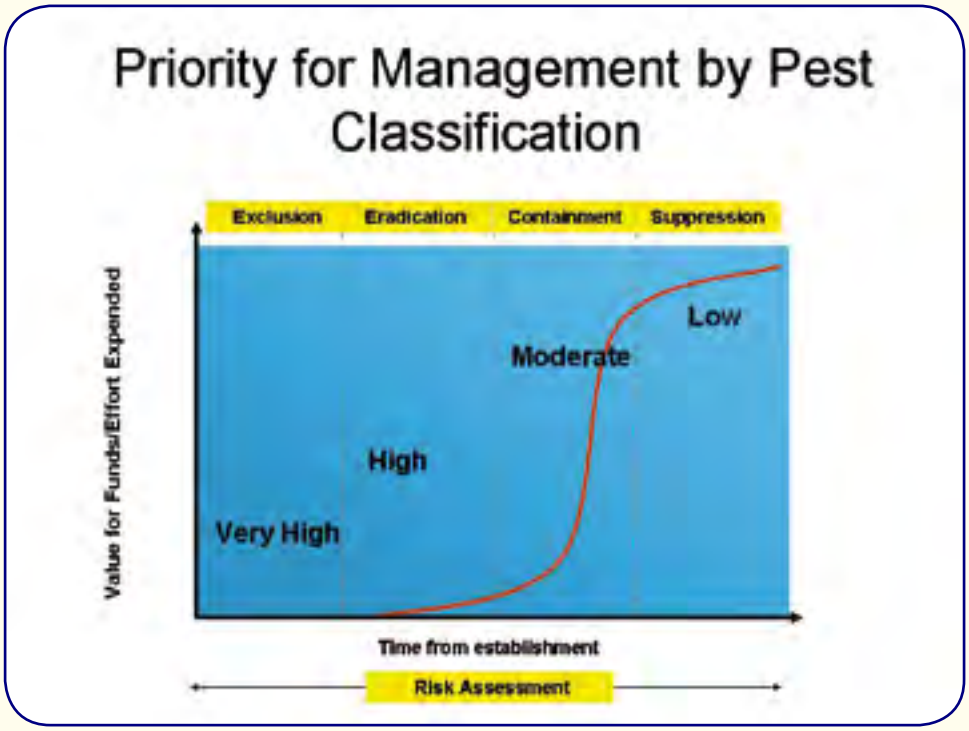

Figure 3 – Priority for pest management by pest classification

The model in Figure 3 indicates that pests are managed most cost effectively at the "left hand" end of the curve (i.e. absent phase). When you can successfully exclude a pest from the region then the management costs are very low. Therefore, it has a "very high" priority for management. Good examples are by excluding Nasella tussock, Hornwort and Sika deer from the region.

If a pest is present, but can be eradicated before it has a chance to establish properly in the region (i.e. lag phase), then the returns on the investment made in its removal will be high. There will not be any risk of further spread or only minimal ongoing maintenance costs. Therefore, it has a "high" priority for management. Environment Southland has virtually eradicated Rooks and Boxthorn from the region, and intends to complete this process within the life of this Strategy. This is a very cost effective management approach.

Once a pest has entered the "explosive phase" the control costs become much higher. In fact they will increase exponentially with time as the pest spreads. Here the best course of action may be to limit the spread and attempt to contain the pest within certain areas. There will be a need for ongoing control and surveillance. As a result the return on effort and resources expended will be decrease significantly. Therefore, it has a "moderate" priority for management. Darwin's barberry and Feral goats are good examples of pests which are well established in some parts of the region, but can be prevented from becoming more widely spread.
When a pest reaches the "consolidation phase" then eradication or containment are no longer possible. Nor will it be possible to achieve long term relief from its adverse impacts without continuous and high levels of expenditure. If the community wishes to suppress the worst impacts of certain pests, which are in the consolidation phase, it must be prepared to expend resources on a long term basis with no prospect of a permanent solution. Therefore it has a "low" priority for management. Gorse, Broom, Ragwort and Rabbits are examples of pests which we have to learn how to live with. We can control them to a certain extent, but their biological and ecological attributes mean that their populations recover, and they will need to be controlled again. Biological control, using a pest's natural predators or competitors can sometimes provide long term benefits.

2.4 Pest Management Methods

The classification of a pest on the infestation curve will also determine the most appropriate management methods that should be applied.

There are eight main types of pest management which are generally used in combination (see Figure 4 on next page). These include:

Public awareness – providing information about pests impacts and pest management through media publicity, publications, meetings, field days, websites.

Surveillance – collecting and analysing information about pest distribution and impacts through surveys, reports from the public, other agencies, etc. This also includes the routine monitoring of all pest management operations.

Service delivery – where pest control is provided by Environment Southland or another agency. This is on the basis that it is the most cost effective management option for that pest at that time.

I**ncursion response** – this is responding to the invasion of a newly arrived pest in the region, in the form of service delivery aimed specifically at preventing its establishment.

Occupier control – voluntary and regulatory – the Strategy may encourage or require occupiers to control certain pests on their land. This is done to prevent further spread.

Regulatory enforcement – the Strategy contains rules which require occupiers to control certain pests. Non

compliance with Strategy rules may be determined by complaints or inspections. Failure to comply with a Notice of Direction issued in relation to a breach, can result in default control being undertaken at the expense of the occupier. Prosecution through the Court can also be used if necessary.

Community initiatives – Environment Southland encourages collective, community-initiatives for managing pests particularly in High Value Areas. It will provide advice and support to community groups wishing to achieve specific medium-long term pest management objectives. Current examples of this are the Southern Pest Eradication Society, Aparima Pest Busters, Otatara Landcare Group and Stewart Island/ Rakiura Community & Environment Trust.

Biological control – biological control involves the introduction of a pest's natural predators and/or competitors. Biological control agents, often insects or pathogens, are tested stringently before they can be used in New Zealand. This is a long term form of pest management which can be very cost effective if successful.

The use of these pest management methods is shown in Figure 4 below:

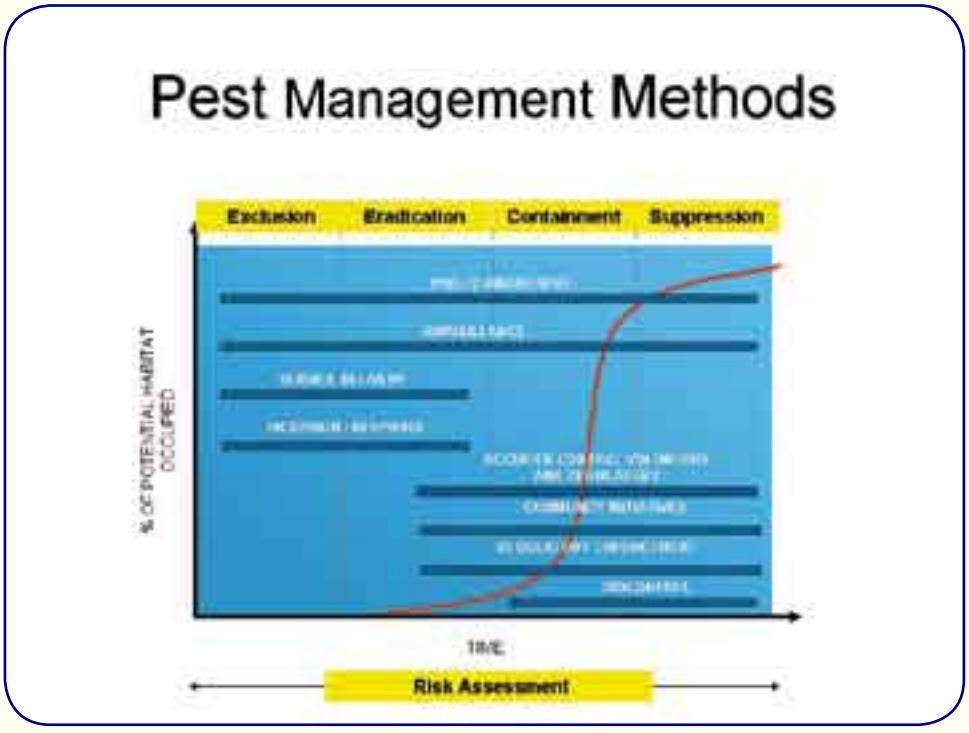

Figure 4 – Pest management methods

2.5 High Value Areas - Promoting Biodiversity Protection at Key Sites

Environment Southland has statutory obligations to recognise and provide for the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna values in the region. These obligations are stated explicitly in the Resource Management Act 1991 and the Regional Policy Statement for Southland. There is an increasing level of land owner and community interest in looking after native species and natural habitats in the landscape for ecological as well as social and cultural reasons.

Environment Southland recognises these obligations in the Strategy by making provision to designate areas of significant natural habitat called High Value Areas (HVAs). The biodiversity values at these sites can then be targeted for protection and enhancement by focussed pest management.

HVAs will be sites where significant native ecological values exist, e.g. forest, shrubland, grassland, wetland, riparian margins, etc., which contribute diversity and resilience to the landscape. These sites will be identified in consultation with the owners of the land. No decisions on the designation of HVAs will be made, without the express approval of land owners.

Environment Southland is developing a process for identifying and ranking HVAs. This will involve the collection of data which accurately describes a site and its ecology. The data will be used to measure the ecological condition of the site and enable objective comparisons to be made with other similar sites. In developing the site identification and ranking process, consideration will be given to science-based tools such as the Threatened Environments Classification. The HVA designation process will require comprehensive consultation with stakeholders and communities before it is implemented.

Designating a site as a HVA would provide land owners and/or communities with strong justification to seek additional resources to help achieve the desired level of biodiversity protection through pest management, e.g. control of predators/invasive weeds.

Environment Southland will consider applications for financial assistance with pest control in HVAs on a case by case basis through the Annual Plan/LTCCP process. There would be a particular focus on sites where land occupiers either had made, or are prepared to make, a long term commitment to biodiversity protection, e.g. through a legally binding covenant agreement. In providing assistance to the land owner for pest control, Environment Southland will give recognition of the community wide and environmental benefits the land owner provides, by protecting and enhancing biodiversity on their land.

HVA status could also support and strengthen bids to other funding bodies, ie., Biodiversity Condition Fund, Transpower Landcare Trust Fund, etc., as well as grants from local funders, corporate donations and sponsorships. HVA designation would provide an impetus to involve local communities through volunteer work programmes, etc.

Environment Southland already actively assists land holders and communities with the protection of biodiversity values from pest impacts. We have worked with private land occupiers of QEII Trust Covenants and with community based projects such as Aparima Pest Busters, Otatara Landcare Group and Stewart Island/Rakiura Community & Environment Trust.

Environment Southland also actively supports Biodiversity Southland. This is an interagency and stakeholder group, set up to co-ordinate the protection and enhancement of native habitat on private land in the region. Biodiversity Southland has now assisted a number of private land owners with successful applications for funding to protect natural values on their land.

3.1 Management Agency

Environment Southland is the management agency responsible for implementing this Strategy.

The prime responsibilities of the management agency include preparing and administering systems to ensure the objectives of the Strategy are being achieved. Responsibilities also include developing and managing systems that ensure funding, research, monitoring and review processes are consistent with the Act and any other statutory obligations.

Environment Southland, in determining that it shall be the management agency, is satisfied that it meets the requirements of Section 84(3) of the Act, in that it:

- is accountable to its ratepayers, through representation and the annual reporting process;
- is acceptable to ratepayers and those persons subject to the management provisions under the Strategy;
- has the capacity, competency and expertise to carry out the implementation of the Strategy.

The principal methods by which Environment Southland will implement the Strategy and undertake its management responsibilities are found in Part One Section 2 of the Strategy.

It should be noted that the Strategy does not bind the Crown or Crown Agencies. This is a consequence of Section 87 of the Biosecurity Act (for more information see Section 20.4, page 146). However, the Crown and Crown Agencies may agree to carry out pest control on Crown land by negotiation with other agencies and private land occupiers.

3.2 Actions to be Taken by Territorial Local Authorities

There are three territorial local authorities within the Southland region:

- Southland District Council
- Invercargill City Council, and
- Gore District Council.

Territorial local authorities occupy land (e.g. parks and reserves) and are a road controlling authority in their locality.

District and city councils (and Environment Southland) are required to carry out pest management on land they occupy, including road reserves, as set out in any Strategy rule prescribed in Part Two of this Strategy.

3.3 Road Reserve Responsibilities

Control of pests on road reserves is an important part of regional pest plants control. Road reserves provide a corridor that can permit a pest to spread. They have a boundary with (generally) private land, and they are very widely used public areas. The term “road reserve”, used in this context, usually means land on which the road lies, plus the verge area extending to adjacent property boundaries. Road reserves also include unformed legal roads, which often border riverbeds, which are not marginal strips.

A Pest Management Strategy sets the responsibility for pest management of road reserves on either the adjacent land occupier, or on the road controlling authority. This Strategy specifies that adjoining occupiers are not legally responsible for pest plants on road reserves. Therefore, by default, responsibility for all pest management on road reserves lies with the relevant road controlling authority (territorial local authorities and Transit New Zealand), in accordance with Sections 6, 76(1)(i) and 80A(g) of the Biosecurity Act 1993.

A written exemption provision will apply where roadside verges are inaccessible, or rely on all vegetation cover for stabilisation purposes. Where documented by an authorised person, these areas are not required to be kept clear. Also, where there is a common boundary, such as with railway reserve land, control of half this adjacent reserve land is required by roading authorities.

3.4 Rail Corridors

The rail corridor is Crown land. The New Zealand Railways Corporation (trading under the name ONTRACK) is responsible for managing and maintaining the network of rail corridor in Southland.

Both the Crown, as owner of the land and ONTRACK as the Crown's agent, enjoy immunity from the obligations of the Strategy. However, Environment Southland negotiates with ONTRACK for the control of pest plants in particular, on an annual basis. ONTRACK has agreed to develop a standardised ongoing vegetation management programme in conjunction with Environment Southland.

ONTRACK acknowledges that it is in an important position when it comes to land management with the potential to affect many neighbours. Taking a proactive leadership role will have long-term benefits for ONTRACK, adjacent neighbours and the surrounding community.

3.5 River Beds

Pest control is being carried out within many of the region's waterways by Land Information New Zealand and the Department of Conservation. The Crown owns the river beds and Land Information New Zealand has been given responsibility for the administration of pest control within those areas. The Department of Conservation occupies some land adjacent to river beds, including marginal strips. Land Information New Zealand is responsible for all unalienated Crown land.

Staff from Environment Southland, Land Information New Zealand and the Department of Conservation liaise closely, resulting in a co-ordinated effort to achieve long term control of pests, in Southland river beds.

Environment Southland's activities in relation to vegetation control within the river bed system of Southland, are confined to flood fairways of the Aparima, Mataura, Oreti and lower Waiau Rivers. Activities are funded by way of catchment rates and, in the case of the Waiau, a contribution from Meridian Energy Limited.

The control programme implemented on these river beds is not restricted to just pest plants, but is for general vegetation control that happens to include pest plants. The purpose of the control programme on these river systems is to maintain a specified, pre-determined width of flood fairway to allow for the unimpeded passage of floodwaters, thus assisting with the overall flood alleviation schemes. While Environment Southland is not legally responsible for the land on which the work is carried out, it is done to ensure benefit to all land occupiers receiving protection from the individual flood schemes.

In addition to the main river systems, Environment Southland also carries out vegetation control on minor water channels to allow for the unimpeded access of machinery, for the purposes of carrying out maintenance programmes. This work is funded through works rating districts.

3.6 Managing Pests Outside of the Strategy

Environment Southland has, from time to time, had to deal with undesirable organisms outside of the Strategy, e.g. cattle ticks, undaria. This has been necessary because urgent action was required and there was insufficient time or resources available to develop and approve a new Strategy for the pest.

Under the Biosecurity Act 1993, Environment Southland can undertake monitoring and surveillance of potential pests (Section 13). It can also declare and implement a small scale management programme (Section 100) if the organism has been declared "unwanted" by a Chief Technical Officer. Under this provision work can be carried out for up to three years to eradicate or effectively control an organism.

Environment Southland also participates in pest management outside of the Strategy, in partnership with other agencies, e.g. with the Animal Health Board (NPMS for Bovine Tb), the Varroa Agency (NPMS for the Varroa Bee Mite). It also collaborates with Biosecurity New Zealand the Department of Conservation, Fish and Game New Zealand, and other agencies, on other biosecurity issues, e.g. the incursion response for the exotic freshwater algae, Didymosphenia geminata.

In August 2003, Government approved the Biosecurity Strategy for New Zealand. This Strategy aims to integrate the management of biosecurity risks from beyond our borders, at our borders and within New Zealand. It tasks the Ministry of Agriculture and Forestry, through Biosecurity New Zealand, with the leadership of and accountability for the national Strategy. It also requires co-operation and collaboration between a range of Government Departments, regional agencies, industry sectors and stakeholder groups.

Environment Southland will continue to take a proactive and collegial approach to dealing with new biosecurity and pest management threats to the region.

3.7 Marine Pests

Environment Southland has designated nine marine organisms as pests in the Strategy. These are considered to pose significant risk to economic, environmental, social and cultural values in our coastal marine area. Their designation as pests allows for the marine biosecurity provisions in the Regional Coastal Plan for Southland to operate with greater certainty. Environment Southland may consider collaborative programmes to manage marine pests which are resourced by Biosecurity New Zealand, other Crown Agencies and stakeholders.

4.1 Pest Management Programmes

Strategy Pests

Part Two describes the organisms covered by this Strategy and their classification as pests. It briefly describes the reason they are considered to be a pest, the objectives (either generic or pest specific) and the rules that govern their management (again, either generic or pest specific).

Organisms to Which the Strategy Applies

After having regard to Section 72 of the Act, Environment Southland has decided that the organisms listed fully in Appendix 1 are declared to be pests. The tables entitled Pest Plant Finder, Pest Animal Finder, and Marine Pest Finder are a quick reference user guide. These tables are set out using only common names.

All pests identified in this Strategy are banned from sale, distribution, or propagation in accordance with Sections 52 and 53 of the Biosecurity Act 1993.

Common Name *(scientific names - Appendix 1)*	*Pest Classification*	*Area*	*Page*
African club moss	Containment (Risk Assessment)	Stewart Island/Rakiura (Mainland Southland & Offshore Is)	36 83
Aluminium plant	Risk Assessment	All of Southland	83
Angelica	Risk Assessment	All of Southland	83
Banana Passionfruit	Risk Assessment	All of Southland	84
Barberry *Darwin's, Common*	Containment	See Containment Map	38
Bittersweet	Suppression	All of Southland	78
Blackberry	Containment (Suppression)	Te Anau Ward (Rest of Mainland Southland, Stewart Island/Rakiura & offshore Is)	42 78
Bomarea	Risk Assessment	All of Southland	84
Boxthorn	Eradication	All of Southland	24
Broom	Suppression	All of Southland	70
Buddleja	Risk Assessment	All of Southland	84
Californian thistle	Suppression	All of Southland	72
Cape honey flower	Risk Assessment	All of Southland	85
Cherry laurel	Risk Assessment	All of Southland	85
Chilean fire bush	Risk Assessment	All of Southland	85
Chilean flame creeper	Containment	See Containment Map	44
Collomia	Exclusion	All of Southland	21
Common Ivy	Suppression	All of Southland	78
Contorta pine	Containment	All of Southland	46
Cotoneaster	Containment	See Containment Map	48
Crack willow	Suppression	All of Southland	73
Egeria	Exclusion	All of Southland	21
Elderberry	Suppression	All of Southland	79
European spindleberry	Risk Assessment	All of Southland	86
German ivy	Eradication	All of Southland	25
Giant hogweed	Risk Assessment	All of Southland	86
Gorse	Suppression	All of Southland	74
Green daphne	Risk Assessment	All of Southland	86
Grey willow	Risk Assessment	All of Southland	87
Gunnera	Eradication (Risk Assessment)	Stewart Island/Rakiura (Mainland Southland & Offshore Is)	26 87
Hawkweeds	Containment (Suppression)	Stewart Island/Rakiura (Mainland Southland & Offshore Is)	50 79
Hawthorn	Suppression	All of Southland	79

Common Name *(scientific names - Appendix 1)*	*Pest Classification*	*Area*	*Page*
Hemlock	Suppression	All of Southland	79
Himalayan honeysuckle	Suppression	All of Southland	79
Holly	Containment (Suppression)	Stewart Island/Rakiura (Mainland Southland)	52 79
Hornwort	Exclusion	All of Southland	22
Ice plant	Risk Assessment	All of Southland	87
Japanese honeysuckle	Risk Assessment	All of Southland	88
Lagarosiphon	Containment	Affected water bodies	54
Montbretia	Suppression	All of Southland	79
Mountain pine	Containment	All of Southland	56
Nassella tussock	Exclusion	All of Southland	22
Nodding thistle	Containment	All of Southland	58
Old man's beard	Eradication	All of Southland	27
Pampas grasses *Pampas grass,* *Purple pampas*	Risk Assessment	All of Southland	88
Periwinkle	Risk Assessment	All of Southland	88
Potato wart	Eradication	All of Southland	28
Purple loosestrife	Eradication	All of Southland	29
Ragwort	Suppression	All of Southland	76
Reed sweet grass	Containment	See Containment Map	60
Scotch thistle	Suppression	All of Southland	77
Siberian lyme grass	Eradication	All of Southland	30
Smilax	Eradication	All of Southland	31
Spanish heath	Eradication (Risk Assessment)	Stewart Island/Rakiura (Mainland Southland & Offshore Is)	32 89
Spartina	Eradication	All of Southland	33
Stonecrop	Containment	See Containment Map	64
Sweet brier	Suppression	All of Southland	80
Sycamore	Containment (Suppression)	Stewart Island/Rakiura (Mainland Southland)	66 80
Tradescantia	Risk Assessment	All of Southland	89
Tutsan	Eradication (Risk Assessment)	Stewart Island/Rakiura (Mainland Southland & Offshore Is)	34 89
Wild turnip	Suppression	All of Southland	80

Common Name (scientific names - Appendix 1)	*Pest Classification*	*Area*	*Page*
Ant *Argentine, Darwin's*	Exclusion	All of Southland	95
Bengal cat	Exclusion	All of Southland	96
Cattle tick	Exclusion	All of Southland	97
Chamois	Containment	See Containment map	108
Chinchilla	Exclusion	All of Southland	98
Deer *Sika, Samba, Rusa*	Exclusion	All of Southland	99
Feral cat ***	Exclusion (Suppression)	Offshore & inland islands (Mainland Southland & Stewart Island/Rakiura)	103 116
Feral deer *Wapiti, Red, Fallow, Hybrids*	Suppression	All of Southland	117
Feral goat	Containment	See Containment map	110
Feral pig	Exclusion (Suppression)	Stewart Island/Rakiura, offshore & inland Is (Mainland Southland)	103 118
Feral whitetail deer	Containment	All of Southland	112
Fish *Rudd, Tench, Orfe, Koi carp, Catfish, Gambusia*	Exclusion	All of Southland	100
Hedgehog	Exclusion (Suppression)	Offshore & inland islands (Mainland Southland & Stewart Island/Rakiura)	103 119
Himalayan thar	Exclusion	All of Southland	101
Magpie ***	Exclusion (Suppression)	Stewart & offshore Is (Mainland Southland)	103 120
Mustelids *** *Ferret, Stoat, Weasel*	Exclusion (Suppression)	Stewart Island/Rakiura, offshore & inland Is (Mainland Southland)	103 121
Possum ***	Exclusion (Suppression)	Offshore & inland islands (Mainland Southland & Stewart Island/Rakiura)	103 122
Rabbit	Exclusion (Suppression)	Stewart Island/Rakiura, offshore & inland Is (Mainland Southland)	103 126
Rodent *House mouse*	Exclusion (Suppression)	Stewart Island/Rakiura, offshore & inland Is (Mainland Southland)	103 127
Rodent *Norwegian, Ship, Kiore*	Exclusion (Suppression)	Offshore & inland islands (Mainland Southland & Stewart Island/Rakiura)	103 127
Rook	Eradication	All of Southland	106
Wallaby *Bennett's, Dama, Parma, Swamp, Black-striped*	Exclusion	All of Southland	102
Wasps	Suppression	All of Southland	128

*** *Traps available from ES to assist Land Occupier with Pest Control*

Common Name (*scientific names - Appendix 1*)	*Pest Classification*	*Area*	*Page*
Asian clam	Exclusion	All of Southland	130
Caulerpa seaweed	Exclusion	All of Southland	131
Chinese mitten crab	Exclusion	All of Southland	132
European shore crab	Exclusion	All of Southland	133
Mediterranean fanworm	Exclusion	All of Southland	134
Northern pacific seastar	Exclusion	All of Southland	135
Sea Squirt *Didemnum vexillum*	Exclusion	All of Southland	136
Sea squirt *Styela Clava*	Exclusion	All of Southland	137
Undaria	Containment	All of Southland	138

For more information, visit our website at www.es.govt.nz or contact Environment Southland on 03 211 5115

5.0 Pest Plants

Pest plants have to meet certain criteria under the Biosecurity Act 1993 to be designated pest plants in the Strategy. They either cause, or have the potential to cause, adverse impacts on Southland's environment. These plants have been introduced by people either by accident such as ragwort, introduced in contaminated seed crops, or for other reasons such as adorning gardens. Unfortunately, these plants have spread out into the wider environment. The ability of plants to disperse using birds, wind, water or other vectors means they can spread over long distances and invade different habitats throughout the region. Even when plants are not evident, they can persist as seeds or spores in the soil.

Environment Southland's approach to managing pest plants is to classify them according to their distribution, abundance and impacts in the region. These plants are broken down into five classifications – Exclusion, Eradication, Containment, Suppression and Risk Assessment (see pages 5 and 6 for full definitions).

The last part of the Pest Plants section discusses the National Pest Plant Accord (the Accord). This is a co-operative agreement between regional councils and government departments with biosecurity responsibilities. The Accord lists pest plants that have been declared Unwanted Organisms under the Biosecurity Act 1993. Environment Southland carries out inspections of plant nurseries and shops annually to prevent the commercial sale and/or distribution of these plants under the Accord.

Exclusion plants are not yet known to exist in Southland, but they are plants which could cause serious adverse impacts on our environment if they did arrive here. The goal is to prevent these plants from entering and establishing in Southland. However, if an Exclusion plant is discovered in the region, the aim will be to eradicate it, if at all possible. Control of Exclusion plants will be carried out by Environment Southland staff and their contractors or, with agreement, by other agencies. Land occupiers will not incur any direct costs for the control of Exclusion plants.

Pest Plant Finder - *your quick reference user guide*

Objectives and Rules for Exclusion Plants

The objectives and rules for Exclusion plants are generic for all plant species in this category.

Objectives

1. To prevent Exclusion plants entering Southland over the term of the Strategy.
2. To destroy Exclusion plants should they enter Southland over the term of the Strategy.
3. To ensure the Southland community is aware of Exclusion plants throughout the term of the Strategy.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any Exclusion plants within the Southland region.
2. Every person who knows of or suspects any exclusion plant is present at any place must immediately report the presence or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.

COLLOMIA
(Collomia cavanillesii)

COLLOMIA is an erect annual herb, growing to about 50 cm tall. It has purplish stems and both the leaves and stems are coated with white hairs. Older leaves lose the hairs on the leaf surface but retain them on the edge. Little is known about the adverse impacts of Collomia. In dry areas it is known to invade stony, gravel sites such as lakeshores, dry riverbeds and along roadsides. It may replace low-growing vegetation at these sites but is not likely to be a problem in areas of taller vegetation, as other plants will out-compete Collomia. Collomia is currently found in the Otago region on lakeshores, roadsides and riverbeds. There are concerns it may become widespread in the future, increasing the opportunity for Collomia to establish in Southland.

EGERIA
(Egeria densa)

EGERIA is a submerged, bottom-rooted perennial freshwater plant. It grows in water depth to five metres, forming dense growths where it establishes. It produces many white flowers that protrude above the water surface in summer. Egeria shades out smaller aquatic plant species and is a nuisance in recreational water bodies. Large clumps can dislodge and float downstream, contributing to flooding. Rotting mats of Egeria can cause water to stagnate, killing flora and fauna in affected water bodies. Eradication of Egeria is extremely difficult once it has established in a water body. Therefore, the best option is to prevent Egeria establishing in Southland

HORNWORT

(Ceratophyllum demersum)

Hornwort is an entirely submerged freshwater perennial plant, which usually grows with the stem base buried in sand or silty sediments. It has buoyant stems and grows in water depths up to 10 metres. Hornwort forms dense growths shading out other species. Dense mats can dislodge, contributing to flooding and blocking the intake screens on hydroelectric lakes. Hornwort is extremely difficult to eradicate once it has established in a water body.

NASSELLA TUSSOCK

(Nassella trichotoma)

Nassella tussock is a tufted perennial grass with fine leaves, which are erect when young but droop slightly when older. The leaves feel rough when rubbed downwards. It is very similar to native tussocks in appearance, which can make correct identification difficult. Mature plants grow up to half a metre high and one metre across. Each mature plant can produce up to 100,000 seeds per year, and the seeds can survive in the soil for 25 years or longer. Nassella tussock invades pasture, tall and short tussock grassland, disturbed shrubland, rocky and coastal areas, river systems and bare land. It forms long-lived pure colonies, is unpalatable to stock and prevents the recruitment of desirable species where it establishes. Nassella tussock is not known to occur in Southland but it is known to occur in Otago - near Roxburgh, Alexandra and in the Cardrona Valley.

Eradication plants are those plants that are of limited distribution and density in the region but have the potential to have serious negative impacts on the economic, environmental, social and cultural values of Southland. The goal is to eradicate these plants from the region.

Eradication is defined as "removing every live individual of the species, and permanently eliminating the possibility of any further reproduction or propagation within the region". Control of Eradication plants will be carried out by Environment Southland staff and their contractors or, with agreement, by other agencies. Land occupiers will not incur any direct costs for the control of Eradication plants.

Pest Plant Finder - *your quick reference user guide*

BOXTHORN
(Lycium ferocissimum)

Description
Boxthorn is a dense, spiny evergreen shrub with white flowers and scarlet berries growing up to six metres tall, with many stems emanating from ground level. Boxthorn is particularly invasive in coastal areas on sand dunes, cliffs, and islands. It over-tops native plant species and can become the only woody plant species at a site. Boxthorn has tough rigid spines that can entangle seabirds, causing their death.

Pest Classification
Boxthorn is an "Eradication" plant throughout the Southland region.

Objectives
1. To support the Department of Conservation's programme to eradicate Boxthorn in Southland over the term of the Strategy.
2. To prevent the human spread of Boxthorn throughout the term of the Strategy.
3. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Boxthorn.
4. To gather information and keep records relating to the distribution, density and abundance of Boxthorn in Southland.

Rules
1. Every person who knows of or suspects that Boxthorn is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Boxthorn within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

GERMAN IVY
(Senecio mikanioides)

Description
German ivy is a scrambling perennial vine growing up to more than three metres high. It has thin, broad leaves and produces yellow flowers in dense clusters, from May to October. German ivy is invasive in a wide range of habitats, including coastal areas and lowland forest margins, shrubland, roadsides, quarries, swamps and other damp areas. It smothers small trees and lower vegetation. Its presence at a site often leads to the invasion of more aggressive pest plant species. In Southland, German ivy is currently known at three sites on Stewart Island/Rakiura, which are controlled annually by the Department of Conservation. However, German ivy has the potential to become more abundant throughout Southland if we let it.

Pest Classification
German ivy is an "Eradication" plant throughout the Southland region.

Objectives
1. To support the Department of Conservation's programme to eradicate German ivy from Stewart Island/Rakiura throughout the term of the Strategy.
2. To ensure German ivy does not establish in the rest of Southland over the term of the Strategy.
3. To prevent the human spread of German ivy in Southland over the term of the Strategy.
4. To initiate public awareness campaigns over the term of the Strategy to ensure the Southland community is aware of German ivy.
5. To gather information and keep records relating to the distribution, density and abundance of German ivy in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that German ivy is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any German ivy within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.

GUNNERA
(Gunnera tinctoria)

Description
Gunnera is a summer green herb with leaves up to two metres long with five to seven lobes. It has flower panicles up to one metre long that contain hundreds of fruits, that are dispersed by birds and water. Gunnera forms dense patches that exclude almost all other plant species. It is invasive in damp coastal bluffs, riparian margins and disturbed ground. Herbfields, turf communities and other low stature vegetation are also susceptible to invasion by Gunnera. Gunnera has been planted as an amenity plant around ponds and streams in gardens and parks throughout New Zealand.

Pest Classification
Gunnera is an "Eradication" plant on Stewart Island/Rakiura. Gunnera is a "Risk Assessment" plant on mainland Southland and offshore islands.

Objectives
1. To ensure all sites of Gunnera on Stewart Island/Rakiura are destroyed on an annual basis.
2. To prevent the human spread of Gunnera in Southland over the term of the Strategy.
3. To support community initiatives to destroy Gunnera at High Value Areas in Southland.
4. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Gunnera.
5. To gather information and keep records relating to the distribution, density and abundance of Gunnera in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that Gunnera is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Gunnera within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers on Stewart Island/Rakiura agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

OLD MAN'S BEARD
(Clematis vitalba)

Description
Old man's beard is a deciduous, woody, perennial climber that can grow up to 25 metres in height. It has conspicuous small fragrant flowers from December to May, followed by silky seed balls. Individual plants reach maturity in four to five years and have a life span of more than 30 years. Old man's beard invades forest margins, disturbed bush, shrubland, riverbeds, cliffs, hedgerows and gardens. It grows quickly and produces heavy permanent tangled masses of vines that kill host plants and prevent the regeneration of other species. Old man's beard produces a prolific amount of viable seed, estimated to be more than 10,000 seeds per square metre, which are dispersed primarily by wind and water.

Pest Classification
Old man's beard is an "Eradication" plant throughout the Southland region.

Objectives
1. To support the Department of Conservation's programme to eradicate Old man's beard in Southland over the term of the Strategy.
2. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Old man's beard.
3. To gather information and keep records relating to the distribution, density and abundance of Old man's beard in Southland.

Rules
1. Every person who knows of or suspects that Old man's beard is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Old man's beard within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

POTATO WART
(Synchtryium endobioticum)

Description
Potato wart is a soil-borne fungus which appears as "warty" or cauliflower-like growths on the tubers and underground stems of potatoes. The growths are white at first and then darken as the infection gets older. It renders the potato tubers inedible, and can remain viable in the soil for many years if not treated. Potato wart can be spread to new areas from soil on infected tubers, by machinery used in potato cultivation, from contaminated footwear and manure from animals that have fed on infected tubers. Potato wart was first found in Invercargill in the 1970s and all sites were eradicated shortly after being found. However, if potato wart became established in commercial potato crops in New Zealand it could restrict the export of potatoes and other tuber, root and bulb crops overseas.

Pest Classification
Potato wart is an "Eradication" pest throughout the Southland region.

Objectives
1. To support Biosecurity New Zealand's programme to ensure Potato wart is eradicated from Southland throughout the term of the Strategy.
2. To prevent the human spread of Potato wart in Southland over the term of the Strategy.
3. To prevent Potato wart establishing in commercial potato and bulb crops in Southland over the term of the Strategy.
4. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Potato wart.

Rules
1. Every person who knows of or suspects that Potato wart is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release Potato wart within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.

PURPLE LOOSESTRIFE
(Lythrium salicaria)

Description
Purple loosestrife is an erect, hairy summer-green perennial herb. It has many-branched stems that grow to one to two metres tall, are pink at the base and die off in winter. The leaves occur opposite each other along the stems. The flower head is a terminal spike 20-25 cm long with many purple-magenta flowers found from December to February. Purple loosestrife is invasive along the margins of wetlands, lakesides, streams, ditches and other damp areas. It can form large impenetrable stands that exclude all other species. Purple loosestrife destroys wetland habitat for fish and bird species and can cause blockages, which can contribute to flooding. Mature plants are capable of producing more than two million seeds in one growing season.

Pest Classification
Purple loosestrife is an "Eradication" plant throughout the Southland region.

Objective
1. To prevent the human spread of Purple loosestrife into Southland over the term of the Strategy.
2. To ensure all sites of Purple loosestrife are destroyed on an annual basis.
3. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Purple loosestrife.
4. To gather information and keep records relating to the distribution, density and abundance of Purple loosestrife in Southland.

Rules
1. Every person who knows of or suspects that Purple loosestrife is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Purple loosestrife within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

SIBERIAN LYME GRASS

(Leymus racemosus)

Description

Siberian lyme grass is a perennial grass with stout rhizomes and very robust tufts, growing up to 1.5 metres tall. The leaves are strongly ribbed and are almost entirely without hairs. Siberian lyme grass was introduced into New Zealand for agriculture and was first reported growing outside cultivation in 1895. It invades coastal dunes, foreshore areas and other sandy places forming a dense monoculture, completely replacing desirable species in these areas.

Pest Classification

Siberian lyme grass is an "Eradication" plant throughout the Southland region. The Department of Conservation has been controlling Siberian lyme grass at the two sites it is known to occur in Southland (Bluff and Colac Bay/Oraka). The aim is to eradicate Siberian lyme grass at these sites and prevent it establishing in other areas throughout Southland.

Objectives

1. To support the Department of Conservation's programme to eradicate Siberian lyme grass in Southland over the term of the Strategy.
2. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Siberian lyme grass.
3. To gather information and keep records relating to the distribution, density and abundance of Siberian lyme grass in Southland.

Rules

1. Every person who knows of or suspects that Siberian lyme grass is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Siberian lyme grass within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

SMILAX
(Asparagus asparagoides)

Description
Smilax is a scrambling, slightly woody perennial vine. It has slender wiry stems that can climb up to three metres high. The leaves are an ovalish, flat shape, with a pointed tip and have approximately seven veins, evident on the upper surface. Small greenish-white flowers are found in July and August, followed by round red berries. Smilax smothers low growing plants and seedlings, usually in low canopy habitats such as coastal and estuarine areas, roadsides, hedgerows and bare sites. Smilax produces tubers near the surface that allow it to survive and re-sprout after stems have been cut or the foliage sprayed with herbicide. These persistent tubers make Smilax difficult to destroy once it has established at a site.

Pest Classification
Smilax is an "Eradication" plant throughout the Southland region. Smilax is known at four sites in Southland to date. The aim is to destroy it at these sites and prevent Smilax establishing elsewhere in Southland.

Objectives
1. To ensure all sites of Smilax are destroyed on an annual basis.
2. To prevent the human spread of Smilax into Southland over the term of the Strategy.
3. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Smilax.
4. To gather information and keep records relating to the distribution, density and abundance of Smilax in Southland.

Rules
1. Every person who knows of or suspects that Smilax is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Smilax within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

SPANISH HEATH
(Erica lusitanica)

Description
Spanish heath is a brittle and erect woody perennial shrub growing up to two metres high. It is densely covered in small, needle-like leaves, arranged in groups of three or four. Spanish heath produces masses of snowy white flowers from March to December. The seeds are very small and light, and are contained within smooth capsules about three millimetres long. They are readily dispersed by wind, especially along roadsides. Spanish heath forms dense stands on disturbed and bare sites. These stands can be persistent in short vegetation types such as herb fields, tussockland and fernland. The persistent stands of Spanish heath prevent the recruitment of desirable species in these situations. It is usually succeeded in taller growing plant communities. Spanish heath has a large altitudinal range growing from near sea level up to 1000 metres.

Pest Classification
Spanish heath is an "Eradication" plant on Stewart Island/Rakiura. The aim is to support the Department of Conservation's programme to eradicate Spanish heath on Stewart Island/Rakiura. Spanish heath is a "Risk Assessment" plant on mainland Southland and offshore islands.

Objectives
1. To support the Department of Conservation's programme to eradicate Spanish heath on Stewart Island/Rakiura.
2. To prevent the human spread of Spanish heath in Southland over the term of the Strategy.
3. To support community initiatives to destroy Spanish heath at High Value Areas in Southland.
4. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Spanish heath.
5. To gather information and keep records relating to the distribution, density and abundance of Spanish heath in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that Spanish heath is present on Stewart Island/Rakiura must immediately report the presence or possible presence to Environment Southland.
.2. No person shall possess, sell, offer for sale, propagate, transport or release any Spanish heath within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers on Stewart Island/Rakiura agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

SPARTINA
(Spartina anglica)

Description
Spartina is a perennial estuarine sward grass, commonly one metre tall and growing in shallow saltwater. It has stiff, upright stems, originating from thick rhizomes. The stems have broad, pointed leaves from their base to the top, where several long fingers contain the seed. Spartina can grow from either root pieces or seed. Shoots rapidly sprout from below-ground rhizomes, while the seed falls into the water and floats away. Colonies of Spartina form dense grassy clumps, and these can spread laterally from underground rhizomes, or by over ground side shoots (tillers). Spartina forms vast meadows in estuaries causing a build up of sediment. This can increase the risk of flooding and also alter the habitat for wading bird species and other estuarine flora and fauna.

Pest Classification
Spartina is an "Eradication" plant throughout the Southland region. The programme to control Spartina in the estuaries around Southland has been led by the Department of Conservation in conjunction with Invercargill City Council and Environment Southland. Spartina has been eradicated from most Southland estuaries, with only small amounts remaining in the New River estuary. The aim is to eradicate Spartina from New River estuary and prevent it re-establishing elsewhere in the region.

Objectives
1. To support the Department of Conservation's programme to eradicate Spartina in Southland over the term of the Strategy.
2. To prevent the human spread of Spartina in Southland over the term of the Strategy.
3. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of the risks posed by Spartina.
4. To gather information and keep records relating to the distribution, density and abundance of Spartina in Southland.

Rules
1. Every person who knows of or suspects that Spartina is present in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall possess, sell, offer for sale, propagate, transport or release any Spartina within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

TUTSAN
(Hypericum androsaemum)

Description
Tutsan is a semi-evergreen shrub growing to 1.5 metres high. The stems are semi-woody and usually reddish. The leaves occur opposite each other along stems, are green but usually turn red in autumn. Yellow flowers are found from November to February, followed by round red berries, which turn black when ripe. Tutsan is an understorey plant, which invades disturbed forest and shrubland, tussockland, rocklands and other areas of low-growing vegetation. Tutsan will form dense stands and inhibit the recruitment of other species in habitats with short stature vegetation. It is usually succeeded by taller growing species in other vegetation types.

Pest Classification
Tutsan is an "Eradication" plant on Stewart Island/Rakiura. The aim is to support the Department of Conservation's programme to eradicate Tutsan on Stewart Island/Rakiura. Tutsan is a "Risk Assessment" plant on mainland Southland and offshore islands.

Objectives
1. To support the Department of Conservation's programme to eradicate Tutsan on Stewart Island/Rakiura.
2. To prevent the human spread of Tutsan in Southland over the term of the Strategy.
3. To support community initiatives to destroy Tutsan at High Value Areas in Southland.
4. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Tutsan.
5. To gather information and keep records relating to the distribution, density and abundance of Tutsan in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that Tutsan is present on Stewart Island/Rakiura must immediately report the presence or possible presence to Environment Southland.
.2. No person shall possess, sell, offer for sale, propagate, transport or release any Tutsan within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Unless land occupiers on Stewart Island/Rakiura agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

Containment plants are those plants which have established in Southland and their distribution and abundance has reached such an extent that eradication is not cost effective, or indeed possible. However, "Containment" plants have not yet spread to all suitable habitats in the region. The goal is to prevent these plants spreading out from the defined containment area for each particular plant, or from affected properties in the case of Contorta pine, Mountain pine, Nodding thistle and Blackberry. Within the containment areas, Environment Southland will also encourage and support communities and land occupiers who carry out control of Containment plants where they present a serious threat to Southland's environment and in High Value Areas. Environment Southland will assist land occupiers to control Containment pests on their properties, by providing advice and information. Environment Southland will also ensure land occupiers comply with Strategy rules designed to prevent the spread of a Containment pest. The rules and maps for each Containment pest set out areas where land occupiers must destroy that pest.

Pest Plant Finder - *your quick reference user guide*

AFRICAN CLUB MOSS
(Selaginella kraussiana)

Description
African club moss is a fern ally or club moss - a primitive type of plant that evolutionally fits between mosses and ferns. It produces cones with spores rather than flowers. African club moss has creeping and irregularly branched stems that root at the nodes, forming a loose mat. The leaves are small and in four rows on the stem. African club moss grows on damp forest floors and stream banks. It can be found in gardens, shade houses, nurseries and ferneries.

African club moss reproduces both vegetatively and sexually. Pieces less than one centimetre long are capable of establishing new plants and spores can be picked up on clothing and footwear and carried into new areas. Once established in an area, African club moss excludes desirable species from co-existing with it.

Pest Classification
African club moss is a "Containment" plant on Stewart Island/Rakiura. African club moss is a "Risk Assessment" plant on mainland Southland and offshore islands.

Objectives
1. To support the Department of Conservation's programme to control African club moss on Stewart Island/Rakiura over the term of the Strategy.
2. To prevent the human spread of African club moss in Southland throughout the term of the Strategy.
3. To destroy African club moss where it is found to present a serious risk to the environment of Southland.
4. To support community initiatives to destroy African club moss at High Value Areas in Southland.
5. To initiate public awareness campaigns over the term of the Strategy to ensure the Southland community is aware of African club moss.
6. To gather information and keep records relating to the distribution, density and abundance of African club moss in Southland over the term of the Strategy.

Rules
1 Every person who knows of or suspects that African club moss is present within the Southland region must immediately report the presence or possible presence to Environment Southland.
2. No person shall sell, offer for sale, propagate, transport or release any African club moss within the Southland region.
3. Land occupiers on Stewart Island/Rakiura must destroy all African club moss on land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note Land occupiers on Stewart Island/Rakiura will be expected to co-operate with any organised control programme which includes African club moss. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.

Figure 5 – African Club Moss Containment Area

BARBERRY
DARWIN'S BARBERRY, COMMON BARBERRY
(Berberis darwinii, B.glaucocarpa)

Description
Two species of barberry are of concern in Southland. Darwin's barberry (***Berberis darwinii)*** is an evergreen, spiny, yellow-wooded shrub growing up to five metres tall. It has deep orange-yellow flowers found from July to February, followed by purplish-black berries. Common barberry (***B. glaucocarpa)*** grows to a similar height as Darwin's barberry. It has yellow flowers found from October to November, followed by reddish-black berries. Darwin's barberry is more abundant in Southland than Common barberry. The impacts of both Barberry species are similar. They are invasive in pasture, disturbed forest, shrubland, tussockland, along roadsides and other scarcely vegetated sites. They form dense colonies that replace existing vegetation and prevent the establishment of desirable plants. Darwin's barberry will also establish under canopy in forest and shrubland. It can grow more rapidly than native species when suitable conditions arise, allowing it to dominate sites where it establishes. The seeds of both Barberry species can be spread long distances by birds.

Pest Classification
Darwin's barberry and Common barberry are "Containment" plants in Southland (see map page 41). The aim is to destroy Darwin's barberry and Common barberry outside the Containment Area and reduce their distribution and abundance within the Containment Area, particularly where they are causing serious adverse effects in High Value Areas.

Objectives
1. To prevent the invasion of Darwin's barberry and Common barberry into important indigenous ecosystems on Stewart Island/Rakiura and in Fiordland.
2. To support the Department of Conservation's programme to eradicate Darwin's barberry and Common barberry from Stewart Island/Rakiura.
3. To ensure all sites of Darwin's barberry and Common barberry outside the Barberry Containment Area are destroyed on an annual basis.
4. To prevent the human spread of Darwin's barberry and Common barberry in Southland over the term of the Strategy.
5. To support community initiatives to destroy Darwin's barberry and Common barberry at High Value Areas in Southland.
6. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Darwin's barberry and Common barberry.
7. To gather information and keep records relating to the distribution, density and abundance of Darwin's barberry and Common barberry in Southland.

Rules

1. Land occupiers outside the Barberry Containment Area within the Southland region must destroy all Darwin's barberry and Common barberry on land they occupy.[x]
2. No person shall sell, offer for sale, propagate, transport or release any Darwin's barberry and Common barberry throughout the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] Note *Land occupiers on Stewart Island/Rakiura will be expected to co-operate with any organised control programme which includes Darwin's and Common Barberry. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

BLACKBERRY
(Rubus fructicosus agg.)

Description
Blackberry is a group of closely related species (called an aggregate) that have become widespread throughout much of New Zealand. They are prickly scrambling perennial shrubs with semi-erect woody stems (canes) which grows in thickets reaching 2 metres or higher. Blackberry is semi-deciduous shedding its leaves in winter. Each spring, new canes emerge from buds on the woody root crown and grow very rapidly during spring/summer. The canes will form roots where they touch the ground, forming thickets once established at a site. Clusters of flowers with five pale pink, mauve or white petals are formed at the end of short branches. They are found from late November through to early April. The fruits of blackberry are normally produced from January to March, are 1-3 cm in diameter and turn from green to red to black as they ripen. Blackberry can be spread over long distances by birds eating the fruits.

Blackberry can form impenetrable thickets if left uncontrolled. It invades the banks of watercourses, roadsides, exotic forests, shrubland, forest margins and clearings, sand dunes and waste areas. It can also invade pasture, reducing carrying capacity and impede stock movement. Access for recreational activities such as fishing, can also be hindered by the presence of blackberry.

Pest Classification
Blackberry is a “Containment” plant in the Te Anau ward (see map next page). The aim is to destroy Blackberry at existing sites in the Te Anau ward and prevent it establishing elsewhere. Blackberry is a “Suppression” plant throughout the rest of mainland Southland, Stewart Island/Rakiura & offshore islands.

Objectives
1. To ensure all sites of Blackberry in the Te Anau ward are destroyed on an annual basis.
2. To prevent the spread of Blackberry to islands where it does not currently exist.
3. To prevent the human spread of Blackberry in Southland over the term of the Strategy.
4. To support community initiatives to destroy Blackberry at High Value Areas in Southland.
5. To gather information and keep records relating to the distribution, density and abundance of Blackberry in Southland over the term of the Strategy.

Rules
1. Land occupiers in the Te Anau ward must destroy all Blackberry on land they occupy.
2. No person shall sell, offer for sale, propagate, transport or release any Blackberry within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

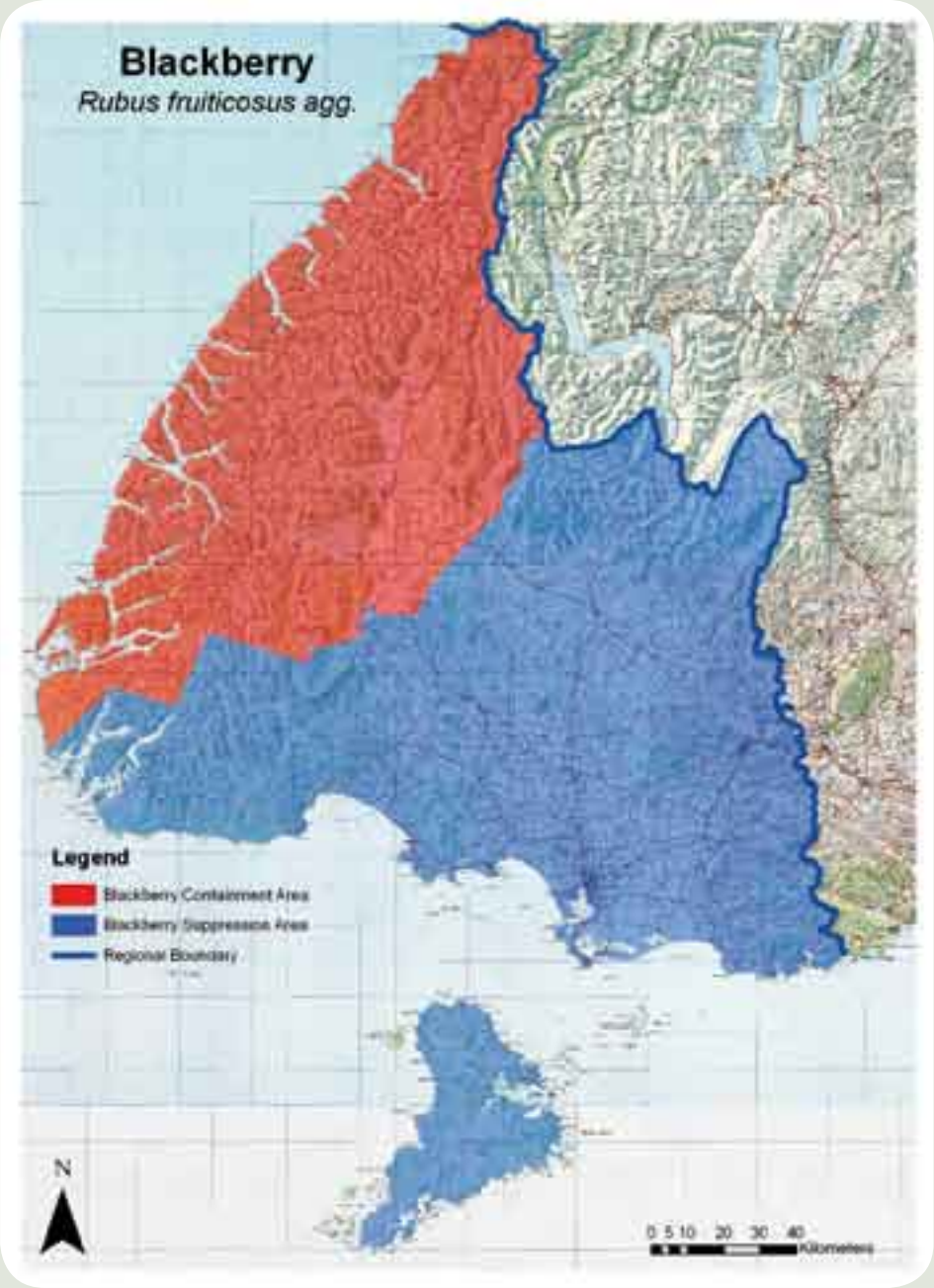

Figure 7 – Blackberry Containment Area

CHILEAN FLAME CREEPER
(Tropaeolum speciosum)

Description
Chilean flame creeper is a slender stemmed climber with five fingered leaves. It flowers during summer and has small scarlet coloured flowers about 15 mm across. The dark blue-black fruits are taken by birds. Chilean flame creeper invades forest remnants, forest clearings, scrub, roadsides and other bare ground. It climbs high into the canopy, smothering the plants it grows over and prevents desirable species from establishing. The distribution and abundance of Chilean flame creeper has significantly increased in Southland since the severe frost event in 1996, which increased its ability to invade areas of damaged vegetation.

Pest Classification
Chilean flame creeper is a "Containment" plant in Southland (see map next page). The aim is to destroy Chilean flame creeper outside the Containment Area and reduce its distribution and abundance within the Containment Area, particularly where it is causing serious adverse effects in High Value Areas.

Objectives
1. To support the Department of Conservation's programme to control Chilean flame creeper on Stewart Island/Rakiura over the term of the Strategy.
2. To ensure Chilean flame creeper on Stewart Island/Rakiura and outside the Chilean flame creeper Containment Area is destroyed at all sites on an annual basis.
3. To support community initiatives to destroy Chilean flame creeper at High Value Areas in Southland.
4. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Chilean flame creeper.
5. To gather information and keep records throughout the lifespan of the Strategy relating to the distribution, density and abundance of Chilean flame creeper in Southland.

Rules
1. Every person who knows of or suspects that Chilean flame creeper is present on Stewart Island/Rakiura or outside the Chilean flame creeper Containment Area within the Southland region must immediately report the presence or possible presence to Environment Southland.
2. No person shall sell, offer for sale, propagate, transport or release any Chilean flame creeper within the Southland region.
3. Land occupiers outside the Chilean flame creeper Containment Area within the Southland region must destroy all Chilean flame creeper on land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] Note *Land occupiers on Stewart Island/Rakiura and outside the Chilean flame creeper Containment Area will be expected to co-operate with any organised control programme which includes Chilean flame creeper. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

A3 Fold out map

CONTORTA PINE
(Pinus contorta)

Description
Contorta pine is a small to medium sized pine tree, usually with twisted branches and paired needles. It is monoecious (both female and male parts on the same tree). Trees mature at approximately five years of age, though peak seed production occurs after eight to ten years. The seed cones take 15 months to mature and can contain up to 300,000 seeds/kg. The seeds are very small and light and are capable of spreading long distances with the wind. Contorta pine can form dense, often pure stands above the native tree line in New Zealand, altering the subalpine environment. Other typical habitats invaded include disturbed and open forest, shrubland, tussockland, herb fields, screes, slopes and other bare areas. A dense litter of needles forms on the ground beneath stands of Contorta pine, preventing desirable species from establishing.

Pest Classification
Contorta pine is a "Containment" plant throughout the Southland region. A control programme is underway in the Mid Dome Wilding Tree Programme Area (see map next page). The aim of this programme is to remove Contorta pine in the Mid Dome area. The programme involves central government agencies responsible for land in the Mid Dome area, the Mid Dome Wilding Trees Charitable Trust and other stakeholders. The aim for Contorta pine throughout the rest of the region is to reduce its distribution and abundance, particularly in areas where it has the potential to cause serious adverse impacts.

Objectives
1. To contribute to the programme to control Contorta pine within the Mid Dome Wilding Tree Programme Area.
2. To destroy Contorta pine at sites where it is found to present a serious risk to the environment of Southland.
3. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Contorta pine.
4. To gather information and keep records throughout the term of the Strategy relating to the distribution, density and abundance of Contorta pine in Southland.

Rules
1. Land occupiers within the Southland region must destroy all Contorta pine on land they occupy.[x]
2. No person shall sell, offer for sale, propagate, transport or release any Contorta pine within the Southland region .

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] Note *Occupiers within the Mid Dome Wilding Tree control area will be expected to co-operate with any organised control programme which includes Contorta pine. Under such a programme, unless occupiers agree in writing with Environment Southland to carry out the control work themselves, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

The Mid Dome Wilding Tree Programme Area is not prepared for, nor necessarily intended to be used as a basis for, any future rating proposal to assist with the removal of wilding trees in the Mid Dome area.

Figure 9 – Contorta pine Containment Area and Risk Assessment Area

COTONEASTER

(Cotoneaster franchettii, C. glaucophyllus, C.simonsii)

Description

There are many species of Cotoneaster, but only three are of concern in Southland. They are shrubs that grow to three to four metres high, producing clusters of small flowers over summer that are white or pinkish in colour. These are followed by clusters of fruit that vary in colour from scarlet to orange-red. Cotoneasters invade a wide range of habitats including forest margins and gaps, coastal areas and roadsides. They will out-compete native shrub species and form dense stands where they establish. Cotoneasters are long-lived shrubs, that can become the only understorey species and completely prevent other species from growing.

Pest Classification

Cotoneaster is a "Containment" plant in Southland. The Cotoneaster Containment Area is shown on the map on the next page for the purposes of the Strategy. The aim is to destroy Cotoneaster outside the Containment Area and reduce its distribution and abundance within the Containment Area, particularly where it is causing serious adverse effects in High Value Areas.

Objective

1. To prevent the invasion of Cotoneaster into important indigenous ecosystems on Stewart Island/Rakiura and in Fiordland.
2. To ensure all sites of Cotoneaster outside the Cotoneaster Containment Area are destroyed on an annual basis.
3. To prevent the human spread of Cotoneaster in Southland over the term of the Strategy.
4. To support community initiatives to destroy Cotoneaster at High Value Areas in Southland.
5. To initiate public awareness campaigns over the term of the Strategy to ensure the Southland community is aware of Cotoneaster.
6. To gather information and keep records over the term of the Strategy relating to the distribution, density and abundance of Cotoneaster in Southland.

Rules

1. Land occupiers outside the Cotoneaster Containment Area within the Southland region must destroy all Cotoneaster on land they occupy.
2. No person shall sell, offer for sale, propagate, transport or release any Cotoneaster within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

A3 Fold out map

HAWKWEEDS
(Hieracium spp.)

Description
Hawkweeds is a generic term for Hieracium species, all of which are designated pests in this Strategy. They are a problem in the tussock grassland environments, especially in the hill and high country of the eastern South Island. They can reduce the productivity of grasslands for agriculture to such an extent that tens of thousands of hectares in Otago and Canterbury have already been degraded to zero grazing value. Hawkweeds are common in northern and western Southland. They have reduced the native conservation values of many native grasslands by taking up space that could be occupied by native species.

Pest Classification
Hawkweeds are "Containment" plants on Stewart Island/Rakiura. Hawkweeds are "Suppression" plants on mainland Southland and offshore islands.

Objectives
1. To support the Department of Conservation's efforts to control Hawkweeds on Stewart Island/Rakiura over the term of the Strategy.
2. To support investigations into biological control agents for Hawkweeds over the term of the Strategy.
3. To increase the distribution of biological control agents for Hawkweeds (should they become available) in Southland over the term of the Strategy.
4. To prevent the spread of Hawkweeds to any Islands where they do not currently exist.
5. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Hawkweeds.
6. To prevent the human spread of Hawkweeds throughout the term of the Strategy.
7. To support community initiatives to destroy Hawkweeds at High Value Areas in Southland
8. To gather information and keep records relating to the distribution, density and abundance of Hawkweeds in Southland over the term of the Strategy.

Rules
1. No person shall sell, offer for sale, propagate, transport or release any Hawkweeds within the Southland region.
2. Land occupiers on Stewart Island/Rakiura must destroy all Hawkweeds on land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] Note *Land occupiers on Stewart Island/Rakiura will be expected to co-operate with any organised control programme which includes Hawkweeds. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

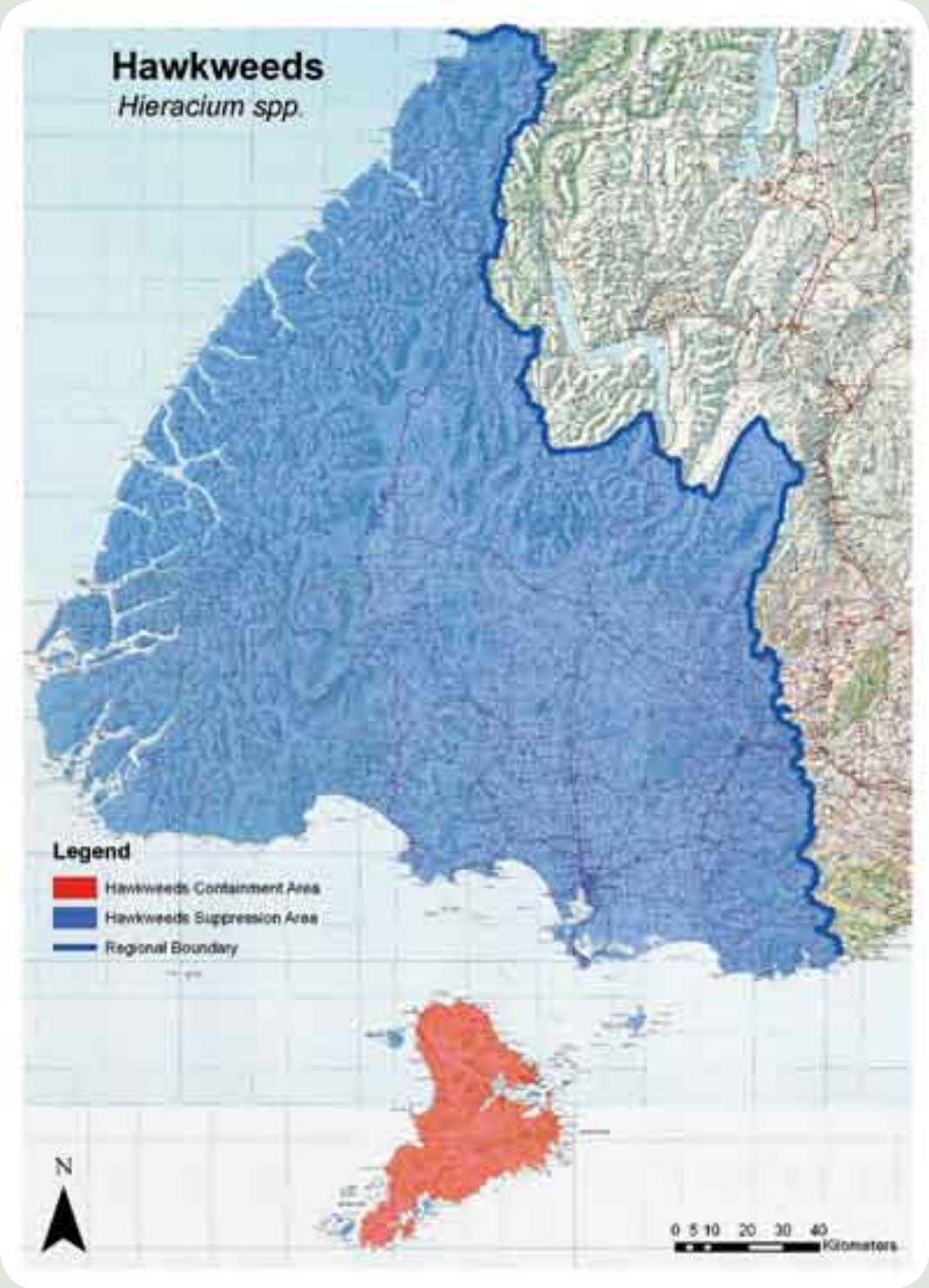

Figure 11 – Hawkweeds Containment Area

HOLLY
(Ilex aquifolium)

Description
Holly is an evergreen shrub or small tree growing up to 12 metres high. It has dark green glossy leaves with deeply serrated edges, and red berries found on female plants. Birds can spread these berries over long distances. Holly invades disturbed forest and is one of the few pest plant species that is tolerant of shading. Holly will out-compete native tree and shrub species, creating conditions that are not suitable for their regeneration. Holly has been widely planted throughout Southland as a hedge and specimen small tree. Variegated and spineless forms of holly are also cultivated but have not been recorded growing in the wild.

Pest Classification
Holly is a "Containment" plant on Stewart Island/Rakiura (see map next page). The aim is to destroy Holly at existing sites on Stewart Island/Rakiura and prevent it establishing elsewhere. Holly is a "Suppression" plant on mainland Southland and offshore islands.

Objectives
1. To ensure all sites of Holly on Stewart Island/Rakiura are destroyed on an annual basis.
2. To prevent the human spread of Holly in Southland over the term of the Strategy.
3. To prevent the spread of Holly to any islands where it does not currently exist.
4. To support community initiatives to destroy Holly at high value areas in Southland.
5. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Holly.
6. To gather information and keep records relating to the distribution, density and abundance of Holly in Southland over the term of the Strategy.

Rules
1. Land occupiers on Stewart Island/Rakiura must destroy Holly on land they occupy.
2. No person shall sell, offer for sale, propagate, transport or release any Holly within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

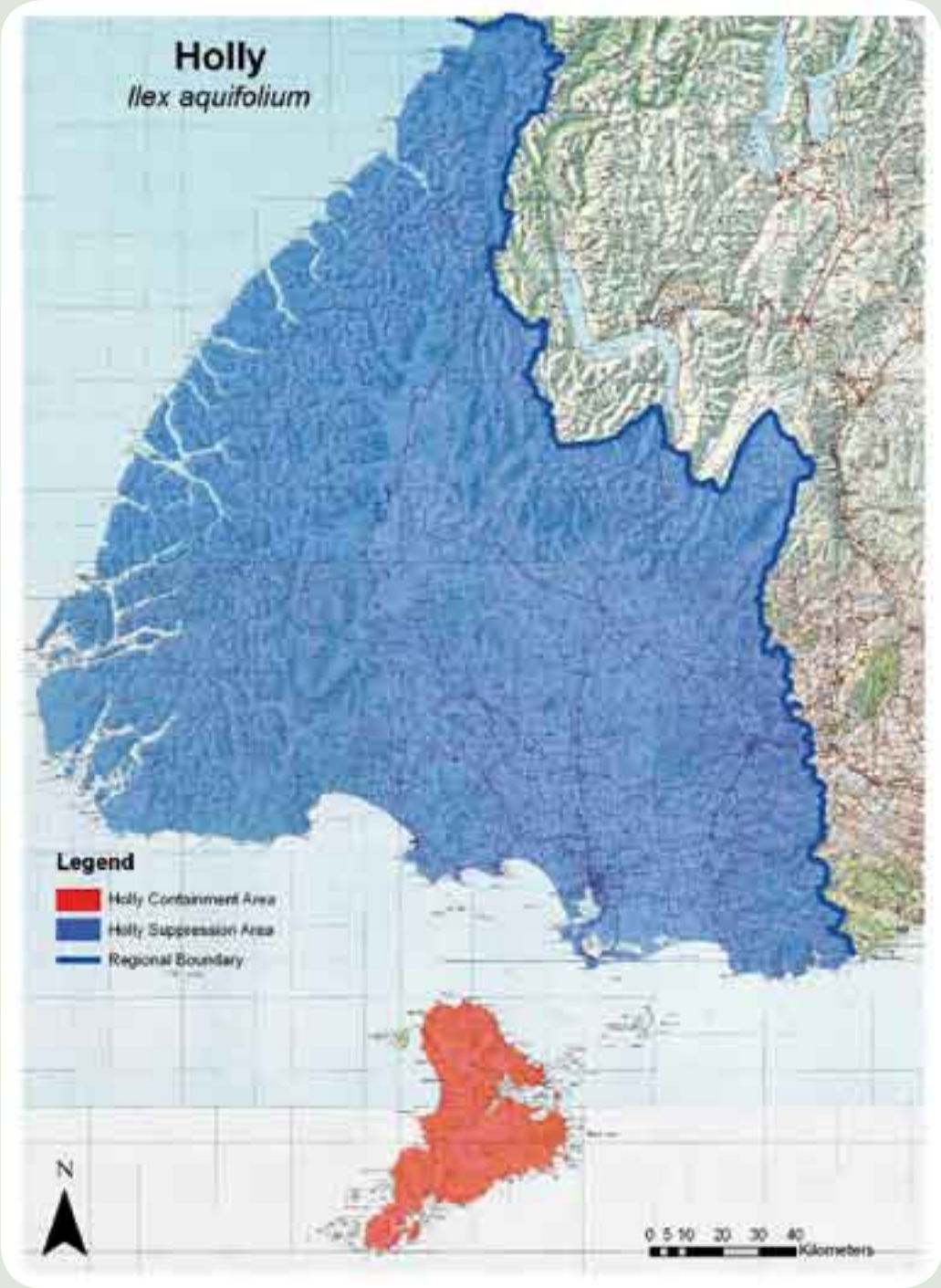

Figure 12 – Holly Containment Area

LAGAROSIPHON
(Lagarosiphon major)

Description
Lagarosiphon is a rhizomatous perennial freshwater herb. It has spiralled leaves on a much-branched stem. The stems can be up to five metres long and form large interwoven mats below the water surface. Introduced from southern Africa as an aquarium plant, lagarosiphon grows wholly submerged in fresh water. Its favoured habitats are sheltered fresh water ponds, lakes and slow moving streams, with silty or sandy bottom mud. It grows to depths of six and a half metres. Lagarosiphon forms vast, deep meadows that shade out other species. Large clumps can dislodge, causing blockages and flooding. Lagarosiphon can restrict recreational activities such as boating and fishing on affected water bodies.

Pest Classification
Lagarosiphon is a "Containment" plant throughout the Southland region (see map next page).

Note *See Appendix 6 for information on Pest Dispersal through Contaminated Gravel, Machinery and Equipment*

Objectives
1. To prevent the human spread of Lagarosiphon in Southland over the term of the Strategy.
2. To support Environment Southland's programme to control Lagarosiphon in the Oreti River and Waihopai River.
3. To support community initiatives to destroy Lagarosiphon at High Value Areas and other infected water bodies in Southland.
4. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Lagarosiphon.
5. To gather information and keep records relating to the distribution, density and abundance of Lagarosiphon in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that Lagarosiphon is present in any waterbody in Southland must immediately report the presence or possible presence to Environment Southland.
2. No person shall sell, offer for sale, propagate, transport or release any Lagarosiphon within the Southland region.
3. Land occupiers within the Southland region must destroy all Lagarosiphon in waterbodies on or through land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] Note *Land occupiers in the Oreti and Waihopai catchments will be expected to co-operate with any organised control programme which includes Lagarosiphon. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

Figure 13 – Lagarosiphon Containment Area

MOUNTAIN PINE
(Pinus mugo)

Description
Mountain pine is a small-to-medium sized, multi-stemmed tree with dark brownish-grey bark, which peels in small thin flakes. The foliage is often dense with needle-like leaves occurring in bundles of two. The needles are dark green, rigid and curved. Mountain pine can form dense, often pure, stands above the native tree line in New Zealand, altering the subalpine environment. Other typical habitats invaded include disturbed and open forest, shrubland, tussockland, herb fields, screes, slopes and other bare areas. A dense litter of needles forms on the ground beneath stands of Mountain pine, preventing desirable species from establishing.

Pest Classification
Mountain pine is a "Containment" plant throughout the Southland region. A control programme is underway in the Mid Dome Wilding Tree Programme Area (see map next page). The aim of this programme is to remove Mountain pine in the Mid Dome area. The programme involves central government agencies responsible for land in the Mid Dome area, the Mid Dome Wilding Trees Charitable Trust and other stakeholders. The aim for Mountain pine throughout the rest of the region is to reduce its distribution and abundance, particularly in areas where it has the potential to cause serious adverse impacts.

Objectives
1. To contribute to the programme to control Mountain pine in the Mid Dome Wilding Tree Programme Area.
2. To destroy Mountain pine at sites where it is found to present a serious risk to the environment of Southland.
3. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Mountain pine.
4. To gather information and keep records throughout the term of the Strategy relating to the distribution, density and abundance of Mountain pine in Southland.

Rules
1. Land occupiers within the Southland region must destroy all Mountain pine on land they occupy.[x]
2. No person shall sell, offer for sale, propagate, transport or release any Mountain pine within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x] *Note Occupiers within the Mid Dome Wilding Tree Programme Area will be expected to co-operate with any organised control programme which includes Mountain pine. Under such a programme, unless occupiers agree in writing with Environment Southland to carry out the control work themselves, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

The Mid Dome Wilding Tree Programme Area is not prepared for, nor necessarily intended to be used as a basis for, any future rating proposal to assist with the removal of wilding trees in the Mid Dome area.

Figure 14 – Mountain pine Containment Area and Mid Dome Wilding Trees Programme Area

NODDING THISTLE
(Carduus nutans)

Description
Nodding thistle is an annual or biennial thistle, that grows from an over-wintering rosette. It has erect flowering stems growing up to 1.5 metres high. The flowers are large crimson heads that drop or "nod" when mature. Nodding thistle grows in a wide range of habitats including pasture, riverbeds and along roadsides, but prefers sunny, free-draining, dry sites. A single mature Nodding thistle plant is capable of producing up to 10,000 seeds. It is not readily grazed because of its spiny foliage. Single rosettes can occupy an area greater than one metre, so large infestations of Nodding thistle can seriously reduce the stock carrying capacity of affected pasture.

Pest Classification
Nodding thistle is a "Containment" plant throughout the Southland region. (see map next page)

Objectives
1. To contain the distribution and abundance of Nodding thistle in Southland over the term of the Strategy
2. To prevent the human spread of Nodding thistle in Southland over the term of the Strategy.
3. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Nodding thistle.
4. To gather information and keep records relating to the distribution, density and abundance of Nodding thistle in Southland.

Rules
1. Land occupiers within the Southland region must destroy all Nodding thistles, before seeding, on land they occupy .
2. No person shall sell, offer for sale, propagate, transport or release any Nodding thistle within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Figure 15 – Nodding thistle Containment Area

REED SWEET GRASS
(Glyceria maxima)

Description
Reed sweet grass is a perennial mat-forming grass that grows to almost two metres tall. It has erect stems with wide bright light green soft leaves. Reed sweet grass establishes along the margins of lakes, streams, ditches, and other waterways. It can also form dense mats on top of the water as well as survive and persist in damp pasture areas. Reed sweet grass replaces nearly all other species where it establishes and degrades the habitat for aquatic fauna and flora. It can cause a build up of silt and other material leading to an increase in flooding. In wetland areas, Reed sweet grass can attract cattle in for grazing, causing further degradation in such areas

Pest Classification
Reed sweet grass is a "Containment" plant within the Southland region (see map next page). The aim is to contain Reed sweet grass to the Mataura Containment Area and destroy all Reed sweet grass outside this area. Reed sweet grass is currently known to occur throughout the Mataura catchment as well as in parts of the Makarewa and Waiau catchments.

Note *See Appendix 6 for information on Pest Dispersal through Contaminated Gravel, Machinery and Equipment*

Objectives
1. To support the Department of Conservation's programme to control Reed sweet grass in the Waiau catchment.
2. To support Environment Southland's programme to control Reed sweet grass in the Makarewa catchment.
3. To prevent the human spread of Reed sweet grass in Southland over the term of the Strategy.
4. To support community initiatives to destroy Reed sweet grass at High Value Areas in Southland.
5. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Reed sweet grass.
6. To gather information and keep records relating to the distribution, density and abundance of Reed sweet grass in Southland over the term of the Strategy.

Rules
1. Every person who knows of or suspects that Reed sweet grass is present in Southland outside the Containment Area must immediately report the presence or possible presence to Environment Southland.
2. No person shall sell, offer for sale, propagate, transport or release any Reed sweet grass within the Southland region.
3. Land occupiers outside the Reed sweet grass Containment Area must destroy all Reed sweet grass on land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

x Note *Land occupiers outside the Reed sweet grass Containment Area will be expected to co-operate with any organised control programme which includes Reed sweet grass. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

A3 Fold out map

STONECROP
(Sedum acre)

Description
Stonecrop is a low-growing succulent, perennial herb with creeping stems. The stems are fleshy, round and are able to produce roots at each node. Stonecrop grows on gravel, shingle, sand, rocks and most light porous substrates from sea level to nearly 1500 metres. It is invasive on coastal cliffs, riverbeds, roadsides, railway tracks and bare sites in and around settlements. Stonecrop forms dense mats that exclude nearly all other species where it establishes. Low growing native plant communities in coastal and shingle areas are particularly susceptible to invasion by Stonecrop.

Pest Classification
Stonecrop is a "Containment" plant in Southland (see map next page). The aim is to prevent the further spread of Stonecrop throughout Southland and support the Department of Conservation's programme to control Stonecrop in the Te Anau ward.

Objectives
1. To prevent the human spread of Stonecrop throughout the term of the Strategy.
2. To support the Department of Conservation's programme to control Stonecrop in the Te Anau ward.
3. To support community initiatives to destroy Stonecrop at High Value Areas in Southland
4. To initiate public awareness campaigns throughout the lifespan of the Strategy to ensure the Southland community is aware of Stonecrop.
5. To gather information and keep records relating to the distribution, density and abundance of Stonecrop in Southland.

Rules
1. No person shall sell, offer for sale, propagate, transport or release any Stonecrop within the Southland region.
2. Land occupiers inside the Stonecrop Containment Area (the Te Anau ward) must destroy all Stonecrop on land they occupy.[x]

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

[x Note] *Land occupiers in the Te Anau ward will be expected to co-operate with any organised control programme which includes Stonecrop. If a land occupier does not wish to co-operate with the control programme the land occupier must agree in writing with Environment Southland to carry out the control work themselves. Otherwise, control will be undertaken by Environment Southland, by exercise of the administrative powers in Part VI of the Biosecurity Act 1993, if necessary.*

Figure 17 – Stonecrop Containment Area

SYCAMORE
(Acer pseudoplatanus)

Description
Sycamore is a deciduous tree growing up to 20 metres high. It has smooth grey bark and characteristic "helicopter" winged fruits. Sycamore invades disturbed and intact forest and shrubland, tussockland, riparian areas, roadsides and other bare areas. It is long-lived and forms dense stands, which prevent the recruitment of desirable species. Seedlings of Sycamore are shade tolerant, allowing it to invade and ultimately become dominant in forests that are usually resistant to the invasion of other pest plant species.

Pest Classification
Sycamore is a "Containment" plant on Stewart Island/Rakiura (see map next page). The aim is to destroy Sycamore at existing sites on Stewart Island/Rakiura and prevent it establishing elsewhere. Sycamore is a "Suppression" plant on mainland Southland and offshore islands.

Objectives
1. To ensure all sites of Sycamore on Stewart Island/Rakiura are destroyed on an annual basis.
2. To prevent the human spread of Sycamore in Southland over the term of the Strategy.
3. To prevent the spread of Sycamore to any islands where it does not currently exist.
4. To support community initiatives to destroy Sycamore at High Value Areas in Southland.
5. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Sycamore.
6. To gather information and keep records relating to the distribution, density and abundance of Sycamore in Southland over the term of the Strategy.

Rules
1. Land occupiers on Stewart Island/Rakiura must destroy Sycamore on land they occupy.
2. No person shall sell, offer for sale, propagate, transport or release any Sycamore within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

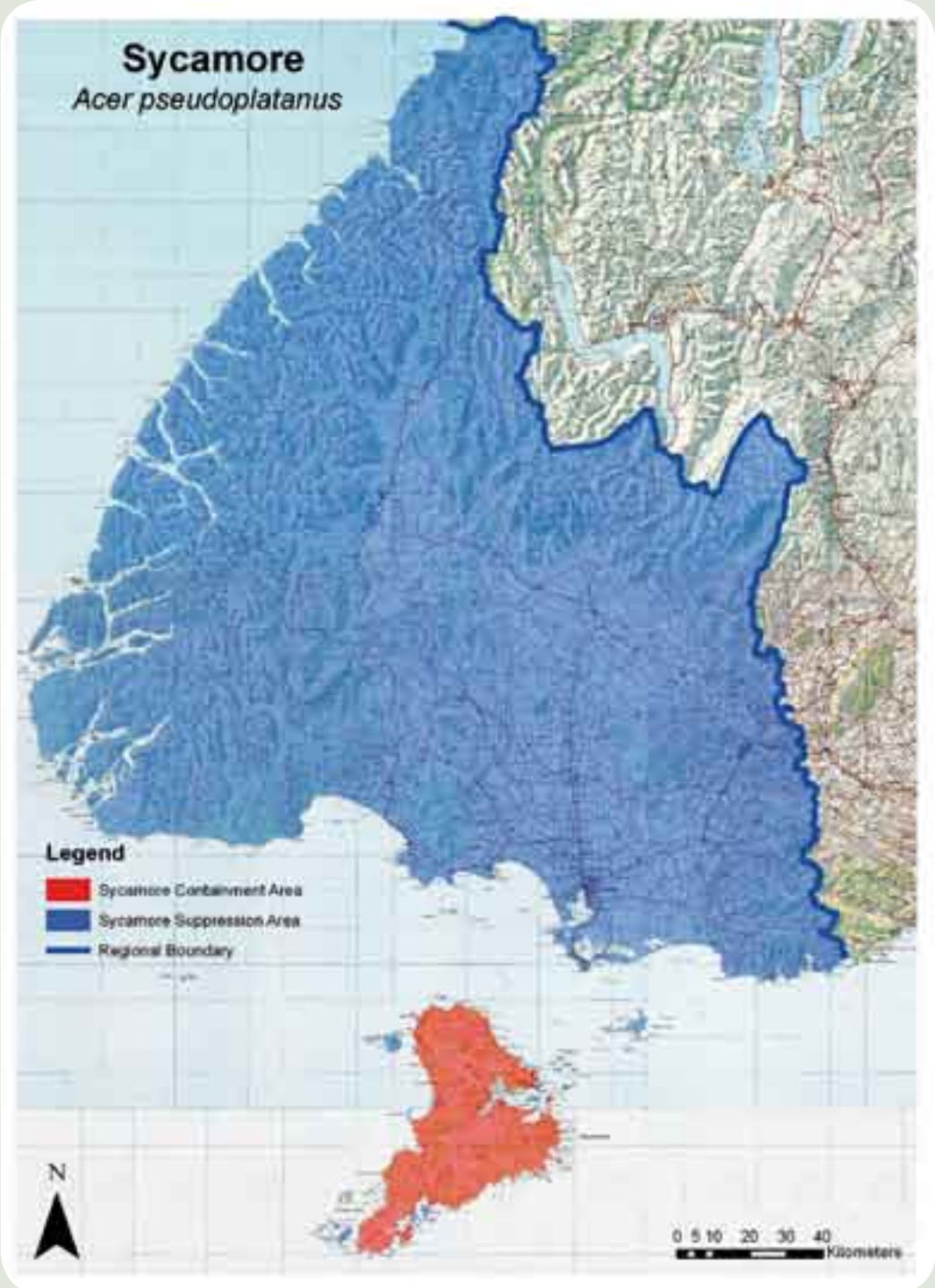

Figure 18 – Sycamore Containment Area

Suppression plants are widespread and abundant throughout suitable habitat in Southland. The goal is to suppress these plants to levels whereby their impacts upon the economic, environmental, social and cultural values of Southland are minimised. Environment Southland will ensure occupiers are acting as good neighbours by enforcing Strategy rules regarding Broom, Gorse and Ragwort.

We will also support research into biological control agents that can assist minimising the impacts of Suppression plants. If such biological control agents become available, Environment Southland will distribute the agents in appropriate parts of the region. Occupiers may be contacted to use their land as a release site for the biological control agents, if the land is suitable for this purpose. There is no direct cost to occupiers who agree to biological control agents being released on land they occupy.

Pest Plant Finder - *your quick reference user guide*

Common Name (scientific names - Appendix 1)	Pest Classification	Area	Page
BITTERSWEET	Suppression	All of Southland	78
BLACKBERRY	Suppression (Containment)	Rest of Southland, (Te Anau Ward)	78 42
BROOM	Suppression	All of Southland	70
CALIFORNIAN THISTLE	Suppression	All of Southland	72
COMMON IVY	Suppression	All of Southland	78
CRACK WILLOW	Suppression	All of Southland	73
ELDERBERRY	Suppression	All of Southland	79
GORSE	Suppression	All of Southland	74
HAWKWEEDS	Suppression (Containment)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	79 50
HAWTHORN	Suppression	All of Southland	79
HEMLOCK	Suppression	All of Southland	79
HIMALAYAN HONEYSUCKLE	Suppression	All of Southland	79
HOLLY	Suppression (Containment)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	79 52
MONTBRETIA	Suppression	All of Southland	79
RAGWORT	Suppression	All of Southland	76
SCOTCH THISTLE	Suppression	All of Southland	77
SWEET BRIER	Suppression	All of Southland	80
SYCAMORE	Suppression (Containment)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	80 66
WILD TURNIP	Suppression	All of Southland	80

BROOM
(Cytisus scoparius)

Description
Broom is a woody deciduous shrub, growing up to three metres tall, with small narrow leaves, in threes, on ridged green stems. It is easily recognisable in spring by its bright yellow flowers that develop into pods up to six centimetres long. These pods contain seeds, initially green but turning black as the pod ripens. Summer heat causes the pods to explode, dispersing the seeds several metres onto adjacent ground. Broom forms almost pure stands where it establishes, dominating sites, reducing the amount of grazing available to stock and inhibiting the recruitment of desirable species, in a wide range of habitats. In urban areas, Broom establishes on vacant land harbouring pest animals such as rats and possums. It also contributes to a build-up of rubbish, acts as a fuel load for fire and is regarded as a general nuisance, particularly by those living close by.

Pest Classification
Broom is a "Suppression" plant throughout the Southland region. There are separate Strategy rules for Broom in both the specified urban areas (refer to Figure 19 on next page and Appendix 3 at the back of the Strategy) and in the remaining 'rural' parts of the region.

Objectives
1. To suppress the distribution and abundance of Broom within specified urban areas (see map next page) over the term of the Strategy.
2. Over the term of the Strategy, prevent the spread of Broom onto properties that are clear of, or being cleared of Broom (excluding the specified urban areas)
3. To increase the distribution of biological control agents for Broom in Southland over the term of the Strategy.

Rules
1. Land occupiers in the specified urban areas must destroy all Broom on land they occupy.
2. Land occupiers outside the specified urban areas:
   (a) must destroy all Broom on land they occupy that is within 10 metres of any open drain or watercourse that extends or discharges beyond the boundary of their land;
   (b) must destroy all Broom within 10 metres of a property boundary where the neighbouring property is clear of Broom within 10 metres of that boundary;
   (c) except, that occupiers may maintain permanent hedges or live fences consisting of Broom providing these are regularly trimmed (both sides and top) to reduce flowering. No new Broom hedges shall be allowed to established within the 10m clearance area
3. No person shall sell, offer for sale, propagate, transport or release any Broom within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Figure 19 – Specified urban areas - Broom

CALIFORNIAN THISTLE

(Cirsium arvense)

Description

Californian thistle is a perennial thistle with a far-reaching, extensive, root system. Each plant also sends up numerous aerial shoots that can grow to one metre high. As a result, large patches of thistles are formed which can be difficult to control. The flowers are a pale purple-mauve colour, followed by seeds and thistle down. After flowering, the shoots die down in late autumn. The roots are easily broken by cultivation and give rise to new plants. It is one of the most economically costly weeds in New Zealand, dramatically reducing the amount of grazing available to stock where dense patches form. Stock avoid grazing in and around dense patches of Californian thistle. The mouths of young sheep can be damaged and become infected if they are forced to eat it.

Pest Classification

Californian thistle is a “Suppression” plant throughout the Southland region.

Objectives

1. To reduce the economic impacts of Californian thistle in Southland over the term of the Strategy.
2. To support investigations into biological control agents for Californian thistle over the term of the Strategy.
3. To increase the distribution of biological control agents for Californian thistle (should they become available) in Southland over the term of the Strategy.

Rules

1. No person shall sell, offer for sale, propagate, transport or release any Californian thistle within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

CRACK WILLOW
(Salix fragilis)

Description
Crack willow is a deciduous tree growing to 25 metres tall. It has a spreading crown and multiple trunks. Bright red rootlets are present when Crack willow is in or near water. The shoots are dark-brownish green and snap with a characteristic "crack" when bent.

Crack willow can be useful as a river management tool, and is used by the Catchment Division at Environment Southland. The roots of Crack willow provide protection from flooding by holding banks in place. However, Crack willow can form large, dense stands along river and stream channels, displacing native species, choking waterways and increasing the risk of flooding. The branches are very fragile and fragments break off readily. The smallest of Crack willow fragments will root in mud and produce mature trees wherever conditions are favourable. The growth and spread of Crack willow is exponential - slow to start with, then very rapid as the population grows. The potential adverse effects of Crack willow make finding an alternative species to use as a river management tool a high priority.

Pest Classification
Crack willow is a "Suppression" plant throughout the Southland region. The aim is to prevent Crack willow being planted in waterways that are currently free of it, and to support initiatives to control Crack willow in High Value Areas.

Objectives
1. To prevent the human spread of Crack willow in Southland unless authorised by Environment Southland.
2. To support community initiatives to destroy Crack willow at High Value Areas in Southland.
3. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of the adverse impacts of Crack willow.
4. To gather information and keep records relating to the distribution, density and abundance of Crack willow in Southland over the term of the Strategy.

Rules
1. No person shall sell, offer for sale, propagate, transport or release any Crack willow within the Southland region

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note: *Control of Crack willow within the Southland region may be undertaken by Environment Southland by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

GORSE

(Ulex europeaus)

Description

Gorse is a deep rooted, woody, perennial legume that grows up to four metres tall. It has densely spined branches and bright yellow flowers. Gorse forms almost pure stands where it establishes, dominating sites, reducing the amount of grazing available to stock and inhibiting the recruitment of desirable species in a wide range of habitats. In urban areas Gorse establishes on vacant land, harbouring pest animals such as rats and possums. It also contributes to a build-up of rubbish, acts as a fuel load for fire, and is regarded as a general nuisance, particularly by those living close by. Gorse has a wide altitudinal range and is found from sea level up to 1000 m high.

Pest Classification

Gorse is a "Suppression" plant throughout the Southland region. There are separate Strategy rules for Gorse in both the specified urban areas (refer to Figure 20 on next page and Appendix 3 at the back of the Strategy) and in the remaining 'rural' parts of the region.

Objectives

1. To suppress the distribution and abundance of Gorse within specified urban areas (see map next page) over the term of the Strategy.
2. Over the term of the Strategy, prevent the spread of Gorse onto properties that are clear of, or being cleared of Gorse (excluding the specified urban areas)
3. To increase the distribution of biological control agents for Gorse in Southland over the term of the Strategy.

Rules

1. Land occupiers in the specified urban areas must destroy all Gorse on land they occupy.
2. Land occupiers outside the specified urban areas:
   (a) must destroy all Gorse on land they occupy that is within 10 metres of any open drain or watercourse that extends or discharges beyond the boundary of their land;
   (b) must destroy all Gorse within 10 metres of a property boundary where the neighbouring property is clear of Gorse within 10 metres of that boundary;
   (c) except, that occupiers may maintain existing permanent hedges or live fences consisting of Gorse providing these are regularly trimmed (both sides and top) to reduce flowering. No new Gorse hedges shall be allowed to established within the 10m clearance area.
3. No person shall sell, offer for sale, propagate, transport or release any Gorse within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Figure 20 – Specified urban areas - Gorse

RAGWORT
(Senecio jacobaea)

Description
Ragwort is an erect biennial or perennial herb, that is commonly 45-60 centimetres tall, but can grow to almost two metres high. It produces bright yellow flowers in clusters, from November to April. Ragwort is toxic to grazing animals, directly affecting the liver by increasing its ability to accumulate copper. However, animal deaths from Ragwort poisoning are not common, as cattle and horses selectively avoid grazing it. Sheep will eat Ragwort without any apparent adverse effects, unless they are continually exposed to it in large quantities, or if they are not used to feeding on it. Ragwort can dominate pasture once established, almost completely excluding other pasture species in the worst instances. It can significantly reduce the amount of grazing available to stock. It is also invasive in riverbeds, disturbed forest and shrubland, coastal areas, bare land and other short-stature vegetation types. It forms dense stands in these areas as it does in pasture, though usually disappears when a canopy forms, which decreases light levels reaching the ground layer.

Pest Plant Classification
Ragwort is a “Suppression” plant throughout the Southland region.

Objective
1. Over the term of the Strategy, prevent the spread of Ragwort onto properties that are clear of, or being cleared of Ragwort.
2. To prevent the human spread of Ragwort in Southland over the term of the Strategy.
3. To increase the distribution of biological control agents for Ragwort in Southland over the term of the Strategy.

Rules
1. Land occupiers within the Southland region must destroy all Ragwort, before seeding, on land they occupy, within 50 metres of boundaries (including watercourses and neighbouring properties).
2. No person shall sell, offer for sale, propagate, transport or release any Ragwort within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

SCOTCH THISTLE

(Cirsium vulgare)

Description

Scotch thistle is a stout, well-branched biennial thistle that forms a rosette and grows up to 1.5 metres high. It has reddish-purple flower heads, which produce seeds with a mass of thistledown. Scotch thistle grows in pasture and arable land, waste places, disturbed forest and roadsides. Stock tend to avoid grazing Scotch thistle because of its spines. If stock do graze it, the spines can cause damage around the mouth and eyes. The presence of Scotch thistle in wool also degrades its value.

Pest Classification

Scotch thistle is a "Suppression" plant throughout the Southland region.

Objectives

1. To reduce the economic impacts of Scotch thistle in Southland over the term of the Strategy.
2. To support investigations into biological control agents for Scotch thistle over the term of the Strategy.
3. To increase the distribution of biological control agents for Scotch thistle (should they become available) in Southland over the term of the Strategy.

Rules

1. No person shall sell, offer for sale, propagate, transport or release any Scotch thistle within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

The following group of pest plants are widespread and abundant throughout suitable habitat in the region. We know about their distribution, the risks they present to Southland's environment and how to manage them appropriately.

Pest Classification

Bittersweet, Common ivy, Elderberry, Hawthorn, Hemlock, Himalayan honeysuckle, Montbretia, Sweet brier, and Wild turnip are classified as "Suppression" plants throughout the Southland region.

Objectives

1. To initiate public awareness campaigns and attempt to reduce the spread of these pest plants through occupiers voluntarily controlling them.
2. To support community initiatives to destroy this group of pest plants in High Value Areas.

Rules

1. No person shall sell, offer for sale, propagate, transport or release any Bittersweet, Common ivy, Elderberry, Hawthorn, Hemlock, Himalayan honeysuckle, Montbretia, Sweet brier, and Wild turnip, within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Blackberry, Hawkweeds, Holly and Sycamore are classified as "Suppression" plants in some areas within the Southland region, and classified as "Containment" plants in other areas within the Southland region (refer to each individual pest plant page within the Containment section for full details).*

BITTERSWEET

(Solanum dulcamara)

Bittersweet is a scrambling perennial herb with fleshy stems that are woody at the base. Small drooping purple flowers are found from November to March, followed by bright scarlet ovoid berries. Bittersweet invades damp, shady areas and is found in scrub, in forest and along river margins, as well as waste areas. It scrambles over vegetation on the ground growing up into the shrub layer and smothers other vegetation. All parts of Bittersweet are poisonous, especially the berries. Symptoms include headaches, nausea, stomach pain, vomiting and diarrhoea.

BLACKBERRY

(Rubus fruiticosus agg.)

Blackberry is a "Suppression" plant on mainland Southland (excluding the Te Anau Ward), Stewart Island/Rakiura & offshore islands. Blackberry is a "Containment" plant in the Te Anau ward (see pages 42 & 43 for full details and map).

COMMON IVY

(Hedera helix subsp. helix)

Common ivy is a perennial climber with dark green leaves and shoots, which will climb and support itself using small aerial roots. It has small greenish flowers, followed by blue-black berries. The berries are five to eight millimetres in diameter and dispersed by birds over long distances. Common ivy will grow in waste places, riverbeds, stream banks and cliffs. It will often climb over trees and hedges, smothering them. It is often found in vacant lots, in cemeteries and around old homesteads.

ELDERBERRY
(Sambucus nigra)

Elderberry is a deciduous shrub or small tree growing to six metres high. It has smelly oval-shaped leaves and masses of small white flowers produced in dense clusters from November to January. Shiny black berries are dispersed over long distances by birds. Elderberry invades disturbed forest and shrubland, forming moderately dense stands that exclude native species. It is also found in hedges, in cutover forest, along roadsides and other waste ground.

HAWKWEEDS
(Hieracium spp.)

Hawkweeds are "Suppression" plants on mainland Southland and offshore islands. Hawkweeds are "Containment" plants on Stewart Island/Rakiura. (See pages 50 and 51 for full details and map)

HAWTHORN
(Crataegus monogyna)

Hawthorn is a thorny much-branched, deciduous shrub or small tree growing up to ten metres tall. It has been widely planted throughout Southland, often as a hedgerow. Hawthorn produces many long-lived seeds that are spread by birds. It can form dense thickets, blocking access and replacing desirable species along forest margins, shrubland, short tussock grasslands and other low-growing habitats. Hawthorn can also be found along roadsides and in deserted habitations, where it acts as a seed source for invasion into areas of native vegetation.

HEMLOCK
(Conium maculatum)

Hemlock is an erect biennial herb growing up to three metres high. It has hollow, hairless stems, which are marked with purple blotches. The leaves are hairless and fernlike, with deep cut segments. The flowers are small and white, in dense compound heads, and look similar to parsley, celery or carrot. If crushed, hemlock has a strong and unpleasant smell. Hemlock contains five toxic alkaloids and is toxic to both humans and stock. Hemlock can also cause dermatitis when handled.

HIMALAYAN HONEYSUCKLE
(Leycesteria formosa)

Himalayan honeysuckle is a deciduous or semi-deciduous multi-stemmed shrub growing to two metres high. It has large, broadly heart-shaped leaves and deep reddish-purple modified leaves (bracts) that make up part of the flower. Himalayan honeysuckle invades wet forest, shrublands, margins, streamsides and damp gullies. It is a competitive, colonising plant, which is often common in cutover forest. Himalayan honeysuckle replaces native pioneer species but does not tolerate shading. Its presence at a site can lead to invasion by other pest plant species.

HOLLY
(Ilex aquifolium)

Holly is a "Suppression" plant on mainland Southland and offshore islands. Holly is a "Containment" plant on Stewart Island/Rakiura (see pages 52 and 53 for full details and map).

MONTBRETIA
(Crocosmia x crocosmiiflora)

Montbretia is an evergreen or summer-green clump-forming perennial with underground rhizomes. It has sword-shaped leaves growing to 90 centimetres tall and orange-crimson flowers found in January to February. Montbretia invades open or disturbed forest, shrubland, stream and river margins and most low-growing habitats. It forms very dense clumps, which prevent the regeneration of native species. Specialised low growing species may be completely displaced, especially along stream and river margins. The masses of corms in the soil produced by Montbretia can contribute to the breakdown of stream banks, erosion and siltation.

SWEET BRIER

(Rosa rubiginosa)

Sweet brier is a deciduous, erect shrub with many stems, that grows to three metres tall, or occasionally taller. The leaves are divided into five to nine narrow oval leaflets. Pink, rose-like flowers are found in clusters of one to three from November to January. Sweet brier forms dense long-lived stands in harsh, open habitats, inhibiting the recruitment of other species. It is found in the drier parts of Southland and is invasive in tall and short tussock grasslands, riverbeds, stabilised screes, and steep open slopes. Its presence in riverbeds can increase the risk of flooding.

SYCAMORE

(Acer pseudoplatanus)

Sycamore is a "Risk Assessment" plant on mainland Southland and offshore islands. Sycamore is a "Containment" plant on Stewart Island/Rakiura (see page 66 and 67 for full details and map).

WILD TURNIP

(Brassica rapa ssp. slyvestris)

Wild turnip is a persistent annual, which looks very similar to the cultivated turnip when young. It has bright yellow stalked flowers arranged along an elongate flower head. Wild turnip is easy to distinguish from other wild brassicas, as the open flowers of wild turnip are higher than the unopened buds. Wild turnip grows very quickly and matures early. It is widespread throughout Southland, especially on roadsides, waste areas and in arable crops. The seeds persist in the soil for a long time and continue to grow, as the ground is cultivated.

Risk Assessment plants are those of potential concern to the region, but about which more information is needed about their distribution, the risks they present to Southland's environment, and how to manage them appropriately. The aim is to improve our knowledge about these plants in the region so they can be assessed when the Strategy is reviewed in five years time.

Environment Southland staff will record information about the distribution, density and impacts of Risk Assessment plants over the term of the Strategy. Information about how to manage these plants will also be researched and provided to the public. Increasing the awareness of these pests and carrying out initiatives to minimise any adverse impacts they have is also desirable during the term of the Strategy.

If the information gathered during the term of the Strategy indicates that a Risk Assessment plant presents a serious threat to the region, then control of the plant may occur. This work may be carried out by Environment Southland staff, contractors, or by agreement with other agencies. Environment Southland will also encourage and support local communities to manage Risk Assessment plants at High Value Areas in Southland.

Objectives and Rules for Risk Assessment Plants

The objectives and rules for Risk Assessment plants are generic for all species in this category. The reasoning behind the objectives and rules is to learn more about these plants in Southland, and to prevent any human assisted spread until we understand more about the risk they present to Southland's environment.

Objectives

1. To gather information and keep records relating to the distribution, density and abundance of Risk Assessment plants in Southland over the term of the Strategy.
2. To prevent the human spread of Risk Assessment plants throughout the term of the Strategy.
3. To destroy Risk Assessment plants where they are found to present a serious threat to Southland's environment during the term of the Strategy.
4. To support community initiatives to destroy Risk Assessment plants at High Value Areas in Southland over the term of the Strategy.
5. To initiate public awareness campaigns throughout the term of the Strategy to ensure the Southland community is aware of Risk Assessment plants.

Rules

1. No person shall sell, offer for sale, propagate, transport or release any Risk Assessment plants within the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Note *Land occupiers within the Southland region will be expected to co-operate with any organised control programme which includes any Risk Assessment plant. Unless occupiers agree in writing with Environment Southland to carry out control work themselves, control work will be undertaken by the Council by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

Pest Plant Finder - *your quick reference user guide*

Common Name (scientific names - Appendix 1)	Pest Classification	Area	Page
AFRICAN CLUB MOSS	Risk Assessment (Containment)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	83 36
ALUMINIUM PLANT	Risk Assessment	All of Southland	83
ANGELICA	Risk Assessment	All of Southland	83
BANANA PASSIONFRUIT	Risk Assessment	All of Southland	84
BOMAREA	Risk Assessment	All of Southland	84
BUDDLEJA	Risk Assessment	All of Southland	84
CAPE HONEY FLOWER	Risk Assessment	All of Southland	85
CHERRY LAUREL	Risk Assessment	All of Southland	85
CHILEAN FIRE BUSH	Risk Assessment	All of Southland	86
EUROPEAN SPINDLEBERRY	Risk Assessment	All of Southland	86
GIANT HOGWEED	Risk Assessment	All of Southland	86
GREEN DAPHNE	Risk Assessment	All of Southland	87
GREY WILLOW	Risk Assessment	All of Southland	87
GUNNERA	Risk Assessment (Eradication)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	87 26
ICE PLANT	Risk Assessment	All of Southland	87
JAPANESE HONEYSUCKLE	Risk Assessment	All of Southland	88
PAMPAS GRASSES Pampas grass, Purple pampas	Risk Assessment	All of Southland	88
PERIWINKLE	Risk Assessment	All of Southland	88
SPANISH HEATH	Risk Assessment Eradication)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	89 32
TRADESCANTIA	Risk Assessment	All of Southland	89
TUTSAN	Risk Assessment (Eradication)	Mainland Southland & Offshore Is (Stewart Island/Rakiura)	89 34

AFRICAN CLUB MOSS

(Selaginella kraussiana)

African club moss is a "Risk Assessment" plant on mainland Southland and offshore islands. African club moss is a "Containment" plant on Stewart Island/Rakiura (see page 36 for full details).

ALUMINIUM PLANT

(Galaeobdolon luteum)

Aluminium plant is a perennial herb with stalked leaves that are pointed and have distinctive pale silvery-grey patches on the upper surface. Yellow flowers are found from December to May. Aluminium plant spreads by horizontal stems along the ground. It is invasive in disturbed bush, shrubland and forest margins. Aluminium plant forms a dense groundcover that prevents the recruitment of desirable species.

ANGELICA

(Angelica pachycarpa)

Angelica is a short-lived, stout, fleshy perennial herb growing up to one metre tall, with a faint aniseed odour. The leaves are dark green, glossy and are variable in shape. The stems are hollow and grooved. Numerous greenish-white flowers are found in an umbrella-shaped flower head from November to January. Angelica is invasive in coastal areas where dense colonies form, taking over the habitat of desirable plant species. It can also establish along roadsides and in other bare areas. The seeds are dispersed by wind and water. Angelica can also be spread by humans dumping garden waste containing angelica.

BANANA PASSIONFRUIT

(Passiflora tripartita var. mollissima, P mixta)

Banana passionfruit is a large, scrambling, evergreen member of the passionfruit family. It is present in the Otago region, including the Catlins, and in some gardens in coastal areas of Southland. It can climb up to 10 metres high using its tendrils to assist it and smother the canopy, adding extra weight, which can cause the canopy to collapse. Banana passionfruit has large pink flowers, which are hermaphrodite and produce 12 centimetre long yellow fruit with edible pulp. Banana passionfruit is commonly found in parts of New Zealand growing on bush edges, plantations, waste margins and roadsides.

BOMAREA

(Bomarea caldasii, B. multiflora)

Bomarea is a multi-stemmed vine that arises from short underground rhizomes, which bear numerous tubers. The flowers are clumped in a dense pendulous bunch of 15 to 20. The flowers are reddish on the outside and yellow with red spots on the inside, and develop into capsules about two centimetres in diameter. When these are ripe they split open to reveal bright fleshy orange seeds, which can be dispersed over long distances by birds. The vines grow into the forest canopy, forming large masses, which overtop and smother supporting trees. Large infestations of Bomarea can alter light levels in forests, kill mature trees and prevent seedlings from establishing.

BUDDLEJA

(Buddleja davidii)

Buddleja is a multi-stemmed shrub growing to three metres tall. It has willow-shaped leaves that are white or grey on the underside. The flower head is a distinctive, dense, cone-shaped panicle with small fragrant purple or white flowers found from December to February. Buddleja forms dense, self-replacing thickets along forest margins, areas of revegetation, riverbeds and plantation forests (especially following disturbance) and waste ground. In riverbeds, Buddleja can cause a build up of material and increase the risk of flooding.

CAPE HONEY FLOWER

(Melianthus major)

Cape honey flower is a shrub growing to approximately two metres high. It has large frond-like leaves and soft-wooded hollow stems. Dark reddish-brown, foetid smelling flowers are found nearly all year round. Cape honey flower is invasive in coastal areas, smothering low-growing coastal vegetation. Cape honey flower is toxic to humans and stock do not usually graze it because of the taste and toxicity. Symptoms include anxiety, increased urination, breathing difficulties, excess saliva and bloody diarrhoea.

CHERRY LAUREL

(Prunus laurocerasus)

An evergreen small tree growing to ten metres tall, cherry laurel has thick, oval-to-lance shaped leaves that are ten to fifteen centimetres long. The flowers are only two to five millimetres in size, followed by cherry-like black fruit that grow in clusters like grapes. The fruits are found from November to January and are dispersed over long distances by birds. Cherry laurel forms dense stands in open and disturbed forests and shrubland, replacing native species. Few other species grow beneath the canopy of Cherry laurel, reducing the biodiversity and habitat for native wildlife. The berries, leaves and bark of Cherry laurel all contain glycosides, which can be toxic to humans if consumed in large quantities.

CHILEAN FIRE BUSH

(Embothrium coccineum)

Chilean fire bush is evergreen or semi-deciduous shrub or small tree growing to 10 metres or more. The leaves are elliptical or lanceolate in shape and alternate along stems. Bright orange-red or scarlet tubular flowers cover plants in spring. It grows best in cool areas with high rainfall. Chilean fire bush invades disturbed bush, shrubland and forest margins. It grows rapidly and readily forms suckers, allowing almost pure stands of Chilean fire bush to form. Few other species grow beneath a dense canopy of Chilean fire bush, reducing the diversity of plant species and habitat for wildlife.

EUROPEAN SPINDLEBERRY

(Euonymus europaeus)

European spindleberry is a much branched deciduous tree growing up to six metres tall. The leaves are in opposite pairs and turn red in autumn. Young twigs are squarish in cross section. It has small greenish-yellow flowers and deep pink four lobed capsules that open to expose an orange aril, which protects the seeds. Cultivated for its brightly coloured fruits, the seeds can be dispersed over long distances by birds. European spindleberry invades both disturbed and intact forest, shrubland, cliffs and dry sites. It can form dense stands, which prevent other species from growing reducing biodiversity and habitat for native wildlife.

GIANT HOGWEED

(Heraculum mantegazanium)

Giant hogweed is a perennial herb growing up to six metres tall. It has dark reddish-purple stems and spotted leaf stalks. The leaves can grow up to one and a half metres wide and numerous small white flowers are produced on an inflorescence, up to 75 centimetres in diameter. Giant hogweed is a garden escape plant that grows along stream banks, roadsides, railway lines and other bare sites. It forms a dense canopy out-competing other species. Giant hogweed produces a clear watery sap, which can cause severe burns when it comes into contact with skin.

GREEN DAPHNE

(Daphne laureola)

Green daphne is an evergreen shrub with very tough fibrous bark, growing to about one metre high. The flowers are pale green, followed by black fruit that is dispersed over long distances by birds. Green daphne is often found growing in shady places in and around plantations, old cemeteries, abandoned shrubberies and forest margins near settlements. Green daphne could become a significant part of the understorey in modified vegetation, excluding desirable species.

GREY WILLOW

(Salix cinerea)

Grey willow is a small tree growing up to seven metres high, although it often only grows to one to two metres high. The leaves are shiny on the upper surface and covered with soft grey hairs underneath. Grey willow is often found growing in swamps, riverbanks and wet areas behind coastal dunes. It replaces native species in wetlands and forms vast dense stands. Grey willow can also cause blockages, flooding and structural changes in waterways. It has been widely planted in many wet areas for soil reclamation and stabilisation purposes.

GUNNERA

(Gunnera tinctoria)

Gunnera is a "Risk Assessment" plant on mainland Southland and offshore islands. Gunnera is an "Eradication" plant on Stewart Island/ Rakiura (see page 26 for full details).

ICE PLANT

(Carpobrotus edulis)

Ice plant is a mat-forming perennial herb with stems growing to approximately six metres long. The leaves have obvious three sharp angles to them. Pale yellow flowers 8-10 cm in diameter form, which turn pink as they age. Ice plant is usually found in coastal areas, where it forms dense mats once established. Herbfields and other low-growing plant communities are particularly susceptible to invasion by Ice plant.

JAPANESE HONEYSUCKLE

(Lonicera japonica)

Japanese honeysuckle is an evergreen or semi-evergreen climber with a smothering growth habit. Its leaves occur in opposite pairs with tubular, sweetly scented white-yellow flowers. Japanese honeysuckle was originally introduced as an ornamental hedging plant and is found in many gardens in Southland. It invades disturbed forest and forest margins, shrubland, coastal areas and river margins. Japanese honeysuckle grows rapidly smothering shrub and small tree species. It blocks light, breaks branches and its presence can lead to other pest plant species invading an area.

PAMPAS GRASSES

Pampas grass & Purple pampas

(Cortaderia selloana, C.jubata)

Pampas grasses are tall, broad-leaved tussock grasses growing up to three and five metres high (including the flower heads). The leaves are bluish-green and grow up to two metres in length. The flower heads are erect, dense and fluffy. They are found from March to June. Pampas grasses have been widely used in shelterbelt planting in Southland. They have not yet spread from these plantings, but may do so. Experience has shown where Pampas grasses have spread, that it rapidly colonises disturbed sites and replace groundcover, shrub and fern species. Pampas grasses create a fire hazard, can harbour possums and rats, and can impede access for stock and recreational activities.

PERIWINKLE

(Vinca major)

Periwinkle is a prostrate, scrambling groundcover that can form extensive mats smothering the ground. It has large, bright blue-violet flowers with five petals. Periwinkle is a common garden escapee and will grow in native forest remnants, along roadsides, waste areas and most shaded places. It smothers and excludes native groundcover species and opens habitats up to invasion by other pest plant species.

SPANISH HEATH

(Erica lusitanica)

Spanish heath is a "Risk Assessment" plant on mainland Southland and offshore islands. Spanish heath is an "Eradication" plant on Stewart Island/Rakiura (see page 32 for full details).

TRADESCANTIA

(Tradescantia fluminensis)

Tradescantia is a trailing, fleshy stemmed but frost-tender perennial herb, which grows in shady, damp places, that tends to suppress all other groundcover. It can become a serious problem in native bush, where it grows as a dense groundcover, that prevents the regeneration of seedlings. Tradescantia reproduces by stem fragments, often through discarded garden rubbish. It can cause allergic dermatitis in dogs and other animals walking through mats of this plant.

TUTSAN

(Hypericum androsaemum)

Tutsan is a "Risk Assessment" plant on mainland Southland and offshore islands. Tutsan is an "Eradication" plant on Stewart Island/Rakiura (see page 34 for full details).

Background

The National Pest Plant Accord (the Accord) is a cooperative agreement between regional councils and government departments with biosecurity responsibilities (primarily the Ministry of Agriculture and Forestry and the Department of Conservation). All pest plants listed under the Accord have been declared unwanted organisms under the Biosecurity Act 1993. This prevents their sale, propagation or distribution across the country. Regional councils undertake surveillance and enforcement to prevent the commercial sale and/or distribution of these plants.

The Accord came into effect on 1 October 2001. Since this date, most regional councils have confirmed their commitment to the Accord by becoming signatories.

Changes to the Accord and impending review

Two fundamental changes have been made to the Accord since it was first established in 2001.

1. The first has been to **clearly separate technical advice (the risk analysis) from the management decision.** In practice this means that risk analysis advice is now given by an independent Technical Advisory Group (TAG), while risk management decisions (e.g., changes to the Accord list) are made by a separate decision-making body, the Steering Group (see further explanation below).

   Clearly separating the technical advice and decision making roles in this way strengthens the Accord as:

   - they are different roles that require different skill sets (i.e. technical experts do not necessarily make good decision makers and vice versa);
   - independent, objective technical advice increases transparency and clearly separates an organisation's objectives from good, science-based technical advice (an organisation's views can be transparently brought to the Steering Group table by organisation representatives); and
   - there is a solid basis in risk analysis theory, which supports separating out an assessment of the significance of any given risk, to an assessment of how to best manage that risk.

2. The second change has been to the decision-making arrangements, where **industry are now included as one of the decision makers.** The intended effect of this is to give industry more power in the process. Under the new arrangements industry has decision-making and consultation rights, as opposed to consultation rights only under the previous arrangement.

The Steering Group has requested that the Accord be reviewed to reflect these changes. One of the consequential changes proposed is to invite the Nursery and Garden Industry Association (NGIA) to be a party to the Accord.

Steering Group

The Accord is governed by a Steering Group, comprising representatives from Biosecurity New Zealand, the NGIA, regional councils and the Department of Conservation (DOC). The Steering Group is the decision-making body and has oversight for the Accord. Its responsibilities include (among other things):

- reviewing the effectiveness of the Accord;
- providing guidance to ensure that the Accord is implemented nationally;
- ensuring any issues that arise are resolved in a timely manner; and
- reviewing the list of Accord species from time to time.

The Accord is not a pest management strategy. It is a non-statutory agreement between member parties. The process followed to establish and review the Accord is very different and completely separate from processes to establish and review pest management strategies.

Details of the pest plants on the Accord list can be found by checking out the following link

http://www.biosecurity.govt.nz/pests-diseases/plants/accord.htm

For more information, visit our website at www.es.govt.nz or contact Environment Southland on 03 211 5115

12.0 Pest Animals

PEST ANIMALS have no respect for boundaries and will move around quite freely. The approach Environment Southland has taken with this Strategy is to try and minimise impacts of pest animals across property boundaries and within High Value Areas. For Suppression and Containment pest animals, Environment Southland will provide advice on control options and in some situations, the provision of traps for loan. In the case of Exclusion and Eradication pest animals, Environment Southland will undertake a service delivery role. Assisting research that is applicable to controlling pest animals in Southland and establishing monitoring to determine the extent of a problem and the risk posed to the Southland region will also be undertaken.

Forty one animals have been included in this Strategy. Most will be managed as either Exclusion, Containment or Suppression animals, however, Rooks are an Eradication animal.

There are several pieces of legislation that must be considered when dealing with pest animals: the Wild Animal Control Act 1977; Regulation 3 of the Wildlife (Farming of Unprotected Wildlife) Regulations 1985; and the Conservation Act 1987. The Biosecurity Act 1993, and therefore this Strategy, cannot change or derogate from other legislation. Environment Southland will have a number of staff warranted under the relevant legislation.

Exclusion animals are pest animals that are not yet known to have established in Southland, but which could cause serious adverse impacts on our environment if they do arrive here. The goal is to prevent these animals from entering and establishing in Southland. If an Exclusion animal is discovered here, the aim will be to eradicate it, if at all possible. Some additional pest animals have been classified as Exclusion animals for islands in the Southland region. This is to highlight the importance of preventing establishment on islands which are free of these pests

Pest Animal Finder - *your quick reference user guide*

Common Name (scientific names - Appendix 1)	Pest Classification	Area	Page
ANT Argentine, Darwin's	Exclusion	All of Southland	95
BENGAL CAT	Exclusion	All of Southland	96
CATTLE TICK	Exclusion	All of Southland	97
CHINCHILLA	Exclusion	All of Southland	98
DEER Sika, Samba, Rusa	Exclusion	All of Southland	99
FERAL CAT ***	Exclusion (Suppression)	Offshore & inland Is (Mainland Southland & Stewart Island Rakiura)	103 116
FERAL PIG	Exclusion (Suppression)	Stewart Island/ Rakiura, offshore & inland Is (Mainland Southland)	103 118
FISH Rudd, Tench, Orfe, Koi carp, Catfish, Gambusia	Exclusion	All of Southland	100
HEDGEHOG	Exclusion (Suppression)	Offshore & inland Is (Mainland Southland & Stewart Island/Rakiura)	103 119
HIMALAYAN THAR	Exclusion	All of Southland	101
MAGPIE ***	Exclusion (Suppression)	Stewart Island/ Rakiura & offshore Is (Mainland Southland)	103 120
MUSTELIDS *** Ferret, Stoat, Weasel	Exclusion (Suppression)	Stewart Island/ Rakiura, offshore & inland Is (Mainland Southland)	103 121
POSSUM ***	Exclusion (Suppression)	Offshore & inland Is (Mainland Southland & Stewart Island/Rakiura)	103 122
RABBIT	Exclusion (Suppression)	Stewart Island/ Rakiura, offshore & inland Is (Mainland Southland)	103 126
RODENT House mouse	Exclusion (Suppression)	Stewart Island/ Rakiura, offshore & inland Is (Mainland Southland)	103 127
RODENTS Norwegian rat, Ship rat, Kiore	Exclusion (Suppression)	Offshore & inland Is (Mainland Southland & Stewart Island/Rakiura)	103 127
WALLABY Bennett's, Dama, Parma, Swamp, Brushtail Rock	Exclusion	All of Southland	102

Note *Unless occupiers agree in writing with Environment Southland to carry out eradication work themselves, eradication will be undertaken by the Council by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

ANT - ARGENTINE AND DARWIN'S

(Linepithema humile and Doleromyrma darwiniana)

Description

The Argentine ant, native to Argentina and Brazil, is one of the world's most invasive and problematic ant species. Of the Argentine ant species, the worker ant is the most commonly seen. It is light to dark honey-brown, and 2-3 mm long (most other common household ants in New Zealand are black). Argentine ants are highly active in searching for food, their trails are often five or more ants wide, and travel up trees or buildings.

Darwin's ant is similar in appearance to the Argentine ant but workers are easily identified in the field as they give off a strong odour when crushed (little or no odour for Argentine ants).

Both of these ant species are found as far south as Christchurch. They are capable of reaching high densities, displacing native insects and becoming a domestic nuisance.

Pest Classification

Argentine ant and Darwin's ant are "Exclusion" animals throughout the Southland region.

Objectives

1. To prevent Argentine ant or Darwin's ant establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of these exotic ants.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any Argentine ant or Darwin's ant within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no Argentine ant or Darwin's ant is present on or within the vehicle prior to arrival at any site in the Southland region.
3. Every person who sees any Argentine ant or Darwin's ant, or suspects that any Argentine ant or Darwin's ant is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

BENGAL CAT

(Felis catus var. bengal)

Description

Bengal cats are a cross between a wild Asian leopard cat and a domestic moggy. They have a long and lean, substantial body size, with males weighing between 4-9 kg, and females about 4-5 kg. Bengal cats like water and are excellent climbers. They have the potential to hybridise with existing Feral cat populations. Because of their larger size these Feral hybrids may be capable of predating on native species too large for a normal Feral cat. For example, adult Kiwi and Weka would be at risk from a cat of this size.

Pest Classification

Bengal cat is an "Exclusion" animal throughout the Southland region.

Note *For outline of permit system see Appendix 7 on page 172*

Objectives

1. To prevent Bengal cat genes from entering the Feral cat population.
2. To prevent the Bengal cat establishing viable wild populations in the Southland region during the life of the Strategy.
3. To raise community awareness of the cultural and biodiversity impacts of Bengal cats.
4. To evaluate the risk of the Bengal cat to Southland.

Rules

1. No person shall sell, offer for sale, propagate or release any Bengal cat or their hybrids within the Southland region.
2. No person shall possess any Bengal cat or its hybrid on Stewart Island/Rakiura, or any other island.
3. All Bengal cats within Southland are required to be neutered.
4. A permit is required from Environment Southland to hold or transport any Bengal cat or its hybrid in the Southland region.
5. Permitted owners of any Bengal cat are required to identify their animal/s by way of an implanted microchip.
6. Every person who sees any Bengal cat, or suspects that any Bengal cat is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

CATTLE TICK
(Haemaphysalis longicornis)

Description
Ticks are blood feeding animals related to mites and spiders. In New Zealand ticks live in association with Tuatara, seabirds, and other birds. Only one species of tick occurs on livestock in New Zealand, the Cattle tick. Previously discovered and controlled in Northern Southland, Cattle ticks are a pest of sheep, cattle and deer, but will attach to and feed from all classes of livestock. Cattle ticks can cause anaemia and, in severe cases, death of stock.

Pest Classification
Cattle ticks are an "Exclusion" animal throughout the Southland region.

Objective
1. To prevent the Cattle tick establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the economic impacts of Cattle tick.

Rules
1. Owners of livestock (sheep, cattle and deer) being transported into or within Southland must ensure these stock are free from Cattle ticks.
2. Every person who sees any Cattle tick, or suspects that any Cattle tick is present in Southland, must immediately report the sighting or possible presence to Environment Southland.
3. The occupier of any place where Cattle ticks are found must destroy all cattle ticks on livestock and land at that place..
4. No person shall possess, sell, offer for sale, propagate, transport or release any Cattle ticks within the Southland region.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

CHINCHILLA
(Chinchilla laniger)

Description
A native of the Andes in South America, the Chinchilla is highly prized for its pelt. The Chinchilla is a member of the rodentia family, the same as Rats, Mice and Guinea pigs. It looks like a cross between a Squirrel and a Rabbit, and weighs about 600 g. Chinchilla have excellent jumping and climbing ability. They are nocturnal and do not like direct light. They eat grass, bark, fruit, roots and leaves. Chinchilla have the potential to impact on native vegetation if they were to establish in Southland

Pest Classification
Chinchilla is an "Exclusion" animal throughout the Southland region.

Note *For outline of permit system see Appendix 7 on page 172*

Objective
1. To prevent Chinchilla establishing viable wild populations in the Southland region during the life of the Strategy.
2. To raise community awareness of the potential biodiversity impacts of Chinchilla.
3. Evaluate the risk of Chinchilla to Southland.

Rules
1. No person shall possess or transport Chinchilla in the Southland region without a permit from Environment Southland.
2. All male Chinchilla within Southland are required to be neutered
3. No person shall sell, offer for sale, propagate or release any Chinchilla within the Southland region.
4. The person in charge of any vehicle used to transport persons or equipment to Stewart Island/Rakiura or any other island is responsible for ensuring no live Chinchilla is present on or within the vehicle prior to arrival.
5. Any person possessing a Chinchilla shall keep the Chinchilla in a securely fastened cage at all times from which the Chinchilla is unable to escape.
6. Every person who sees any Chinchilla, or suspects that any Chinchilla is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

DEER

Sika, Rusa, Sambar deer

(Cervus Nippon, C timorensis, C. unicolour)

Description

Sika, Rusa and Sambar deer are not found within the Southland region. It is illegal under the Wild Animal Control Act to transport these deer species without a permit, outside of their Feral range (even for farming purposes). This Strategy aims to reinforce this legal stance. Feral deer can change the composition of forests by browsing preferred understory plants and seedlings. They can also damage soil structure and increase erosion in fragile areas.

Pest Classification

Feral deer have "wild animal" status under the Wild Animal Control Act (1977). For the purposes of this section of the Strategy Sika, Rusa and Sambar deer also have "Exclusion" animal status throughout the Southland region.

Note *Fallow, Red, Wapiti and hybrids are "suppression" pest animals – see page 117.*

Objective

1. To prevent Sika, Rusa and Sambar deer establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Sika, Rusa and Sambar deer.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any Sika, Rusa or Sambar deer within the Southland region.
2. No person shall take or transport Sika, Rusa or Sambar deer into or within the Southland region.
3. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Sika, Rusa or Sambar deer are present on or within the vehicle prior to arrival in the Southland region.
4. Every person who sees any Sika, Sambar or Rusa, or suspects that any Sika, Sambar or Rusa are present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

FISH
Rudd, Tench, Orfe, Koi carp, Catfish and Gambusia

(Scardinius erythrophthalmus, Tinca tinca, Leuciscus idus, Cyprinus carpio, Ictalurus nebulosus, and Gambusia affinis)

Description

Rudd, Tench, Orfe and Koi carp are all members of a group commonly referred to as "coarse fish". Coarse fish are a group of fish with large scales. Catfish are a very distinct and easily recognisable fish. They may grow up to 3 kg in weight, with their most distinctive feature being the large head, with long whisker-like barbels around the mouth. Gambusia (sometimes known as Mosquitofish) are a small fish introduced to New Zealand to control Mosquito larvae, but ironically, they are not very good at it! None of these fish species is known to be present in Southland but are major pests in other regions of New Zealand. These fish species can reach very high numbers. They can severely reduce Trout and native fish populations through predation of young and eggs. Koi Carp and Catfish can also reduce water quality as their feeding habits stir up large amounts of mud and sediment.

Pest Classification

Rudd, Tench, Orfe, Koi carp, Catfish and Gambusia are "Exclusion" animals throughout the Southland region. Koi carp and Gambusia are also designated as "Unwanted Organisms".

Objectives

1. Prohibit from Southland the keeping in captivity of any pest fish species, and prevent the establishment of any wild populations within the Southland region.
2. To prevent pest fish establishing in the Southland region during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity, water quality and economic impacts of pest fish.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release Rudd, Tench, Orfe, Koi Carp, Catfish or Gambusia in the Southland region.
2. Every person who sees, or suspects the presence of, any of Rudd, Tench, Orfe, Koi Carp, Catfish or Gambusia in Southland must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

This rule does not in any way derogate from S.26zm of the Conservation Act 1987, the transfer or release of live aquatic life.

HIMALAYAN THAR

(Hemitragus jemlahicus)

Description

Himalayan thar are large goat-like animals, native to the central Himalayan ranges. In New Zealand the range of Himalayan thar covers most of the central Southern Alps, extending south to the Haast Pass area. However escapes or illegal releases have established several populations further south. Thar graze at high altitudes, eating vulnerable alpine shrubs, herbs and grasses. Snow tussocks, the Mount Cook Lilly and other alpine buttercups are just some of plants threatened by the browsing of Himalayan thar.

Pest Classification

Himalayan thar are an "Exclusion" animal throughout the Southland region.

Note *For outline of permit system see Appendix 7 on page 172*

Objectives

1. To prevent Himalayan thar establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Himalayan thar.

Rules

1. No person shall sell, offer for sale, propagate or release any Himalayan thar within the Southland region.
2. No person shall hold or transport any Himalayan thar in Southland unless the appropriate Department of Conservation permit is held.
3. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Himalayan thar are present on or within the vehicle prior to arrival in the Southland region.
4. Every person who sees any Himalayan thar, or suspects that any Himalayan thar is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

WALLABY
Bennett's, Dama, Parma, Brushtail Rock and Swamp

(Macropus rufogriseus rufogriseus , M. eugenii, M. parma, Petrogale penicillata, Wallibia bicolour)

Description

Wallabies are a member of the same group of animals as the larger Kangaroo. There are five species established in New Zealand with the largest of them, the Bennett's Wallaby, found in the Hunter Hills near Waimate. The other four species are found in the North Island or on Kauau Island. Wallabies are capable of reaching very high numbers. They compete with cattle and sheep for pasture and can cause significant damage to forestry plantations. Wallabies also browse palatable understory plants in native forests preventing regeneration.

Pest Classification

Wallabies are an "Exclusion" animal throughout the Southland region.

Note *For outline of permit system see Appendix 7 on page 172*

Objectives

1. To prevent Wallaby species from establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Wallaby.

Rules

1. No person shall sell, offer for sale, propagate or release any Wallaby within the Southland region.
2. No person shall hold or transport any Wallaby in Southland unless the appropriate Department of Conservation permit is held.
3. No person shall take or transport any Wallaby into or within the Southland region.
4. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Wallaby species is present on or within the vehicle prior to arrival in the Southland region.
5. Every person who sees any Wallaby, or suspects that any Wallaby is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

FERAL CAT
(Felis catus)
Feral cats are "Exclusion" animals on offshore & inland islands. Feral cats are "Suppression" animals on mainland Southland and Stewart Island/Rakiura (see page 116 for full details).

FERAL PIG
(Sus scrofa)
Feral pigs are "Exclusion" animals on Stewart, offshore & inland islands. Feral pigs are "Suppression" animals throughout mainland Southland (see page 118 for full details).

HEDGEHOG
(Erinaceous europaeus)
Hedgehogs are "Exclusion" animals on offshore & inland islands. Hedgehogs are "Suppression" animals on mainland Southland and Stewart Island/Rakiura (see page 119 for full details).

MAGPIE
(Gymnorhina sp)
Magpies are "Exclusion" animals on Stewart, offshore islands. Magpies are "Suppression" animals throughout mainland Southland (see page 120 for details).

MUSTELIDS
Ferret, Stoat, Weasel
(Mustela furo, M.erminea, M.nivalis)
Mustelids are "Exclusion" animals on Stewart, offshore & inland islands. Mustelids are "Suppression" animals throughout mainland Southland (see page 121 for full details).

POSSUM
(Trichosurus vulpecula)
Possums are "Exclusion" animals on offshore & inland islands. Possums are "Suppression" animals on mainland Southland and Stewart Island/Rakiura (see page 122 for full details).

RABBIT
(Oryctolagus cuniculus)
Rabbits are "Exclusion" animals on Stewart, offshore & inland islands. Rabbits are "Suppression" animals throughout mainland Southland (see page 126 for full details).

RODENT
House mouse
(Mus musculus)
Mice are "Exclusion" animals on Stewart, offshore & inland islands. Mice are "Suppression" animals throughout mainland Southland (see page 127 for full details).

RODENTS
Norwegian Rat, Ship Rat, Kiore
(Rattus norvegicus, R. rattus, R. exulans)
Rats are "Exclusion" animals on offshore & inland islands. Rats are "Suppression" animals on mainland Southland and Stewart Island/Rakiura (see page 127 for full details).

Eradication animals are those pest animals that are of limited distribution and density in the region, and have the potential to have serious negative impacts on Southland's environment. The goal is to eradicate these animals from the region.

Eradication is defined as "removing every live individual of the species, and permanently eliminating the possibility of any further reproduction or propagation within the region". Control of Eradication animals will be carried out by Environment Southland staff and their contractors, or with the agreement of other agencies. Occupiers will not incur any direct costs for the control of Eradication animals.

Pest Animal Finder - *your quick reference user guide*

ROOK
(Corvus frugilegus)

Description
Rooks were first recorded in Southland in 1994, with four birds and a nest. Environment Southland has been controlling rooks to prevent them from establishing in Southland. Rooks require professional control as they are cunning and learn very quickly about control methods. Rooks are an agricultural and horticultural pest. They can devastate emerging crops, damage pasture and puncture silage covers.

Pest Classification
Rooks are an "Eradication" animal throughout the Southland region.

Objective
1. To destroy all viable populations of Rooks within the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Rooks.

Rules
1. Every person who sees any Rook must immediately report the sighting to Environment Southland.
2. Other than under the instructions or supervision of an authorised person, no person shall at any time:
   - (a) poison, capture, trap, propagate or keep in captivity any Rook; or
   - (b) discharge any firearm at any Rook; or
   - (c) discharge any fire arm at or within 500 m of any rookery; or
   - (d) damage, disturb or interfere in any other way with any rookery, or
   - (e) possess, sell, offer for sale, propagate, transport or release any Rooks within the Southland region.

This rule shall not apply to activities of an authorised person in the exercising or performing a function, power or duty under this Strategy.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

Note *Unless occupiers agree in writing with Environment Southland to carry out eradication work themselves, eradication will be undertaken by the Council by exercising the administrative powers in Part VI of The Biosecurity Act 1993, if necessary.*

Containment animals are those pest animals that are established in Southland, but are of limited distribution in suitable habitat within the region. The goal is to prevent theses animals from spreading outside of the defined containment area. Containment pest animals are usually able to move easily across the landscape, so the use of natural barriers such as water bodies or large habitat gaps, is important in defining containment areas.

A Containment animal is present in the region at a distribution and density that means that eradication is not possible or cost effective.

Pest Animal Finder - *your quick reference user guide*

CHAMOIS

(Rupicapra rupicapra)

Description

Both male and female Chamois have short horns, which are slightly curled backwards. The white face with pronounced black stripes below the eyes is also distinctive. Chamois are usually considered to be an alpine species, but they will occupy forested areas to sea level. Chamois are a popular game animal with recreational hunters. Chamois have the potential to affect the regeneration of native plant species through intensive browsing.

Pest Classification

Chamois are a "Containment" animal throughout the Southland region.

Note: for outline of permit system see appendix 7 on page 172

Objectives

1. To prevent Chamois establishing outside their existing range within the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Chamois.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any Chamois within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Chamois is are present on or within the vehicle prior to arrival at a site outside the Containment Area (shown on the map) in Southland.
3. Land occupiers outside the Containment Area (shown on the map) shall destroy all Chamois on land they occupy (unless an appropriate Department of Conservation permit is held).
4. Every person who sees any Chamois, or suspects that any Chamois is present in Southland outside the Containment Area (shown on map), must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Figure 21 – Chamois Containment Area

FERAL GOAT
(Capra hircus)

Description
Feral goats are scattered throughout Southland. Feral goats are absent from Stewart Island/Rakiura, although there are sometimes pet animals present on the Island. Feral goats are extremely damaging to native vegetation. They prevent seedling regeneration and in partnership with Possums can cause complete forest collapse.

Pest Classification
Feral goats have "wild animal" status under the Wild Animal Control Act (1977). For the purposes of this section of the Strategy, Feral goats also have "Containment" animal status throughout the Southland region.

Note *For outline of permit system see Appendix 7 on page 172.*

Objectives
1. To prevent Feral goats establishing in areas that they do not presently exist, or where they are eradicated during the life of the Strategy.
2. To minimise the adverse affects of Feral goats by restricting where goats may be held adjacent to Parks and Reserves.
3. To minimise the impacts of Feral goats on biodiversity during the life of the Strategy.
4. To raise community awareness of the cultural, biodiversity and economic impacts of Feral goats.

Rules
1 Any person keeping a goat within the Southland region shall ensure that fences or tethers used to contain the goat are suitable for the purpose of preventing the escape of that goat.

2. Any person wishing to hold a goat outside the Containment Area must obtain a permit from Environment Southland.

   Note: Any goats kept in breach of permit conditions shall be considered feral and may be destroyed.

3. Land occupiers outside the Containment Area depicted on the map must destroy all goats on land they occupy, unless an Environment Southland permit is held.
4. No person shall transport any live goat to:
   (a) Stewart Island/Rakiura;
   (b) any offshore island;
   (c) any inland island;
   (d) any area enclosed by a pest proof fence;

   within the Southland region.
5. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring that no live Goat is present on or within the vehicle prior to arrival at any of the places listed in Rule 4.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

A3 Fold out map

FERAL WHITETAIL DEER
(Odocoileus virginianus)

Description
Feral whitetail deer are widespread on Stewart Island/Rakiura but are not found in mainland Southland. On Stewart Island/Rakiura Feral whitetail deer predominantly inhabit coastal forest and are a popular game animal for recreational hunters. Like other deer species, Feral whitetail deer can reduce the recruitment of native plants through selective browsing of seedlings.

Pest Classification
Feral whitetail deer are a "Containment" animal throughout the Southland region.

Objectives
1. To prevent Feral whitetail deer establishing a viable population in Southland, except Stewart Island/Rakiura, during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Feral whitetail deer.

Rules
1. No person shall release any Whitetail deer into the wild within the Southland region.
2. Every person who sees any Feral whitetail deer, or suspects that any Feral whitetail deer is present in Southland (except on Stewart Island/Rakiura), must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

Figure 23 – Whitetail deer Containment Area

Suppression animals are those pest animals that are widespread in suitable habitat throughout mainland Southland. The goal is to suppress the animal so that impacts on the community and the environment are minimised. The goal is also to exclude the animal from any islands, where it is not present.

Environment Southland will ensure occupiers act as good neighbours by enforcing pest density limits. It will also assist land occupiers to control Suppression animals by providing advice, information, and loan traps.

Pest Animal Finder - *your quick reference user guide*

Common Name (scientific names - Appendix 1)		Pest Classification	Area	Page
FERAL CAT	***	Suppression (Exclusion)	Mainland Southland & Stewart Island/Rakiura (Offshore & inland Is)	116 103
FERAL DEER Wapiti, Red, Fallow, Hybrids		Suppression	All of Southland	117
FERAL PIG		Suppression (Exclusion)	Mainland Southland (Stewart Island/Rakiura, offshore & inland Is)	118 103
HEDGEHOG		Suppression (Exclusion)	Mainland Southland & Stewart Island/Rakiura (Offshore & inland Is)	119 103
MAGPIE	***	Suppression (Exclusion)	Mainland Southland (Stewart Island/Rakiura & offshore Is)	120 103
MUSTELIDS Ferret, Stoat, Weasel	***	Suppression (Exclusion)	Mainland Southland (Stewart Island/Rakiura, offshore & inland Is)	121 103
POSSUM	***	Suppression (Exclusion)	Mainland Southland & Stewart Island/Rakiura (Offshore & inland Is)	122 103
RABBIT		Suppression (Exclusion)	Mainland Southland (Stewart Island/Rakiura, offshore & inland Is)	126 103
RODENTS Norwegian, Ship, Kiore		Suppression (Exclusion)	Mainland Southland & Stewart Island/Rakiura (Offshore & inland Is)	127 103
RODENT House mouse		Suppression (Exclusion)	Mainland Southland (Stewart Island/Rakiura, offshore & inland Is)	127 103
WASPS		Suppression	All of Southland	128

*** Traps available from ES to assist Land Occupier with Pest Control*

FERAL CAT
(Felis catus)

Description
Feral cats are widespread throughout Southland and Stewart Island/Rakiura. Feral cats in Southland can be found from coastal environments up to 1,000 metres above sea level in tussock and sub-alpine country. Feral cats predate on a wide range of native birds, reptiles and insects. On Stewart Island/Rakiura cats are the only introduced specialist predator, as a result they have a major impact on a range of native species including several rare bird populations.

Pest Classification
Feral cats are a "Suppression" animal on mainland Southland and Stewart Island/Rakiura. Feral cats are an "Exclusion" animal on offshore islands and inland islands.

Objectives
1. To minimise the adverse effects of Feral cats within the Southland region by reducing impacts in High Value Areas and raising awareness about domestic cat issues.
2. To prevent Feral cats establishing on islands where they do not presently exist during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Feral cats.

Rules
1. Within the Southland region no person shall:
   (a) release any cat (including domestic cats) into the wild; or
   (b) take an un-neutered cat to Stewart Island/Rakiura/Rakiura; or
   (c) possess an un-neutered cat on Stewart Island/Rakiura/Rakiura; or
   (d) possess a cat on Stewart Island/Rakiura/Rakiura which has not been permanently identified by way of an implanted micro-chip recorded with Environment Southland.
2. No person shall take any cat to any offshore or inland island (except Stewart Island/Rakiura) or into an area enclosed by a pest-proof fence in the Southland region.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

FERAL DEER
Red, Wapiti, Fallow and hybrids
(Cervus elaphus scoticus, C. elaphus nelsoni, Dama dama and hybrids)

Description
Feral deer (Red, Wapiti, Fallow and hybrids) are widespread throughout the Southland region. Hunting of Feral deer is a popular recreational activity within Southland. Feral deer can change the composition of forests by browsing preferred understory plants and seedlings. They can also damage soil structure and increase erosion in fragile areas.

Pest Classification
Feral deer have "wild animal" status under the Wild Animal Control Act (1977). For the purposes of this section of the Strategy Feral deer (Fallow, Red, Wapiti and hybrids) are "Suppression" animals throughout the Southland region.

Objective
1. To minimise the adverse affects of Red, Wapiti or Fallow Deer by reducing impacts within High Value Areas by supporting community initiatives during the life of the Strategy.
2. To prevent Red, Wapiti or Fallow Deer establishing in areas that they do not presently exist during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Red, Wapiti or Fallow Deer.

Rules
1. No person shall release into the wild any Red, Wapiti or Fallow Deer within the Southland region.
2. No person shall take or transport within the Southland region, a Red, Wapiti or Fallow Deer to any offshore or inland island or into an area enclosed by a pest proof fence, where that species does not already exist.
3. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Red, Wapiti or Fallow Deer are present on or within the vehicle prior to arrival at a Red, Wapiti or Fallow Deer free island.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

FERAL PIG
(Sus scrofa)

Description
Feral pigs are scattered throughout Southland. Feral pig distribution is assisted by people who continue to release pigs into the wild, despite this being an illegal activity. Feral pigs cause a number of impacts including rooting up pasture and eating forest seedlings, insects and scavenging nests. The scavenging habit of Feral pigs contributes to their tendency to carry Tb.

Pest Classification
Feral pigs have "wild animal" status under the Wild Animal Control Act (1977). For the purposes of this section of the Strategy Feral pigs are "Suppression" animals on mainland Southland. Feral pigs are "Exclusion" animals on Stewart Island/Rakiura, offshore islands and inland islands.

Objective
1. To prevent Feral pigs establishing on islands where they do not presently exist, or where Feral pig eradication has taken place during the life of the Strategy.
2. To minimise the adverse affects of Feral pigs by reducing impacts within HVAs by supporting community initiatives during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Feral pigs.

Rules
1. No person shall release into the wild any Pig within the Southland region.
2. No person shall take or transport by whatever means, any live Pig to Stewart Island/Rakiura, any offshore island, any inland island or any area enclosed by a pest proof fence within the Southland region.
3. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring that no live Feral pig is present on or within the vehicle prior to arrival at a Feral pig free site.
4. Any person keeping a Pig within the Southland region shall ensure that fences used to contain the Pig are suitable for the purpose of preventing the escape of that Pig.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

HEDGEHOG
(Erinaceous europaeus)

Description
Originally imported from Britain, Hedgehogs are nocturnal insectivores. Their back and sides are completely covered with spines and they roll into a prickly ball when disturbed, or when hibernating. Hedgehogs are widespread through lowland Southland, occupying a wide range of habitats. On Stewart Island/Rakiura, Hedgehogs are less widespread and are found mainly around Halfmoon Bay.

Hedgehogs eat mainly insects, however they eat a wide range of food if the opportunity presents itself. They are a potentially serious predator of native invertebrates, lizards, and ground nesting birds.

Pest Classification
Hedgehogs are a "Suppression" animal on mainland Southland and Stewart Island/Rakiura. Hedgehogs are an "Exclusion" animal on offshore and inland islands.

Objectives
1. To minimise the adverse effects of hedgehogs by reducing impacts within HVAs by supporting community initiatives during the life of the Strategy.
2. To raise community awareness of the cultural and biodiversity impacts of Hedgehogs.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Hedgehog on or to any offshore island, any inland island or area enclosed by a pest proof fence within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Hedgehog is present on or within the vehicle prior to arrival at a hedgehog free site.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

MAGPIE
(Gymnorhina sp)

Description
Magpies are a recent introduction to Southland (late 1970s) and are now widespread in the region. The occasional Magpie has been found on Stewart Island/Rakiura and quickly removed by locals. During the breeding season magpies can be aggressive in the defence of their territories. Magpie may chase native bird species away from localised areas, although their predation of native birds is actually low compared to introduced predators like Stoats, Rats and Cats.

Pest Classification
Magpies are a "Suppression" animal on mainland Southland. Magpies are an "Exclusion" animal on Stewart Island/Rakiura and offshore islands.

Objective
1. To minimise the adverse affects of Magpies on the community by providing advice and information on control methods.
2. To prevent Magpie establishing on Stewart Island/Rakiura and offshore islands in the Southland region during the life of the Strategy.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Magpie on or to Stewart Island/Rakiura or any other offshore Island within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment to Stewart Island/Rakiura or offshore islands is responsible for ensuring no Magpies are present on or within the vehicle prior to arrival.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

These rules shall not apply to activities of an authorised person in the exercising or performing of a function, power or duty under this Strategy.

MUSTELIDS
Ferret, Stoat, Weasel
(Mustela furo, M.erminea, M.nivalis)

Description
Mustelids (Weasels, Stoats and Ferrets) are widespread throughout Southland, but absent from Stewart Island/Rakiura, although there have been several reports of Stoats being seen on Stewart Island/Rakiura. Ferrets are controlled in some areas under the National Pest Management Strategy for Bovine Tb. Mustelids are all extremely effective predators and are able to take prey many times their own size. Mustelids are rarely seen but are devastating native bird populations, with Kiwi, Kaka and Blue duck being notable examples.

Pest Classification
Ferrets, Stoats and Weasels are listed in Schedule 5 of the Wildlife Act (1956) as "unprotected wildlife." Regulations 4-11 of the Wildlife (Farming of Unprotected Wildlife) Regulations 1985, the farming, breeding, selling, capturing and conveyancing of unprotected wildlife, including Mustelids, may be authorised by the Director General of Conservation. Any person/occupier holding a valid permit from the Director General of Conservation, is excluded from this section of the Strategy. Mustelids are a "Suppression" animal on mainland Southland and an "Exclusion" animal on Stewart Island/Rakiura, offshore islands and inland islands.

Note *There are rules regarding the keeping of pet Ferrets.*

Objectives
1. To minimise the adverse affects of Mustelids by reducing their impacts within High Value Areas by supporting initiatives by the community and other agencies during the life of the Strategy.
2. To prevent Mustelids establishing on Stewart Island/Rakiura, offshore islands and inland islands in Southland during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Mustelids.

Rules
1. Except as authorised by or under the Wildlife (Farming of Unprotected Wildlife) Regulations 1985, no person shall have in his or her care any sexually mature Mustelid which has not been neutered.
2. Any person keeping a Mustelid shall keep the Mustelid in a securely fastened cage from which the Mustelid is unable to escape at all times.
3 No person shall possess, transport to, or release any Mustelid on Stewart Island/Rakiura, any offshore island or any inland island.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

Note *Regulation 3, Wildlife (Farming of Unprotected Wildlife) Regulations 1985, prohibits the keeping in captivity, conveying to, or liberation of any unprotected wildlife (Ferrets, Polecats, Stoats, Weasels) on Stewart Island/Rakiura and any other island within the territorial sea of New Zealand, except the North and South Islands; Regulation 25, the regulations also prohibit, without a licence, the keeping of more than three specimens of unprotected wildlife; Regulations 2 and 4, Ferrets have been designated as unwanted organisms under the Biosecurity Act 1993.*

POSSUM
(Trichosurus vulpecula)

Description
Possums are widespread throughout Southland and Stewart Island/Rakiura, but are absent from many offshore Islands. Possums are a major threat to both native and exotic forest. Their intensive browsing can cause the death of even large trees. Possums have also been found to feed on native bird eggs and chicks. In addition, Possums are a vector for Bovine Tb.

Pest Classification
Possums have "wild animal" status under the Wild Animal Control Act (1977). For the purposes of this section of the Strategy Possums also have "Suppression" animal status on mainland Southland and Stewart Island/Rakiura. Possums are an "Exclusion" animal status on offshore and inland islands.

Objective
1. To minimise the adverse affects of Possums by supporting community initiatives during the life of the Strategy.
2. To reduce Possum impacts in HVAs across the region.
3. To maintain the low Possum numbers achieved in large areas of Southland covered by the National Pest Management Strategy for Bovine Tb.
4. To reduce cross boundary effects of Possums throughout the region.
5. To prevent Possums from establishing in areas where they do not presently exist, or re-establishing in areas where they are eradicated during the life of the Strategy.
6. To raise community awareness of the cultural, biodiversity and economic impacts of possums.

Rules
1 Land occupiers within the 5% Residual Trap Catch (RTC) area, depicted on the map, shall control Possums on land they occupy, at their own expense, to at or below 5% RTC*.

2. Land occupiers in the 10% RTC area, depicted on the map, shall control Possums on land they occupy, at their own expense, to at or below 10% RTC*.

Note *Reference to Possum Trap Catch protocol in Appendix 4 page 169*

**Alternatively, Possum density may be assessed using a scientifically comparable Possum abundance index that is acceptable to Environment Southland, or by assessment by an experienced and authorised Environment Southland representative.*

3. No person shall keep in captivity, sell, offer for sale, propagate, transport or release any Possums within the Southland region including offshore and inland islands.
4. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring that no live Possum is present on or within the vehicle prior to arrival at a Possum free site.

5. Environment Southland may, by way of written notice to occupiers, and public notice, prohibit the use of Vertabrate Toxic Agents (VTAs) covered under Agricultural Compounds and Veterinary Medicines Act 1997, within certain areas for periods specified, where it is of the view that Possums within the specified area have developed toxic aversion or neophobic tendencies. No person shall use VTA in any place when use of VTAs have been prohibited by Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

A3 Fold out map

RABBIT
(Oryctolagus cuniculus)

Description
Rabbits are distributed to different degrees throughout the region but are absent from Stewart Island/Rakiura and offshore islands. Rabbits are often found in and around lifestyle blocks, rural townships and urban areas. Rabbits cause economic and environmental impacts in areas where favourable conditions allow them to reach high numbers. In high numbers rabbits can compete with stock for food, or damage young trees and crops. They can also increase potential for erosion through burrowing.

Pest Classification
Rabbits are a "Suppression" animal on mainland Southland. Rabbits are an "Exclusion" animal on Stewart Island/Rakiura, offshore, and inland islands.

Objectives
1. To minimise the adverse affects of Rabbit on biodiversity and economic values in Southland during the life of the Strategy.
2. To prevent Rabbits establishing on Stewart Island/Rakiura, offshore islands, or inland islands in Southland during the life of the Strategy.
3. To prevent the re-infestation of Rabbits where rabbit eradication has taken place during the life of the Strategy.
4. To raise community awareness of the cultural, biodiversity and economic impacts of Rabbits.

Rules
1. Occupiers within the Southland region, shall control Rabbits on land they occupy, at their own expense, at or below Level 3 of the Modified McLean Scale.

Note *Table of Modified McLean Scale in Appendix 5 page 170*

2. No person shall possess, sell, offer for sale, propagate, transport or release any Rabbit on or to Stewart Island/Rakiura, any offshore island, any inland island, or area enclosed by a pest proof fence.
3. No person shall release any rabbit into the wild within the Southland region.
4. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring that no live Rabbit is present on or within the vehicle prior to arrival at a rabbit-free site.
5. Any person keeping a rabbit shall keep the rabbit in a securely fastened cage from which the rabbit is unable to escape.
6. Environment Southland may, by way of written notice to occupiers, and public notice, prohibit the use of 1080 poison within specified areas for periods specified, where it is of the view that Rabbits within the specified area have developed toxic aversion or neophobic tendencies.
7. Environment Southland may, by way of written notice to occupiers and public notice, prohibit shooting within specified areas for periods specified.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

RODENTS
Norwegian rat, Ship rat, Kiore, House mouse

(Rattus norvegicus, R. rattus, R. exulans, Mus musculus)

Description

The Kiore were introduced to New Zealand by early Polynesian settlers. In Southland they are restricted to Fiordland, Stewart Island/Rakiura and some offshore islands. Norwegian rats are the largest of the three rat species. They are found mainly in wet habitats and in association with human activity. Ship rats are found in most habitats, and are now the most abundant and widespread rat in Southland. The House mouse is common throughout mainland Southland but may be absent from Stewart Island/Rakiura.

Rodents can reach high numbers in forest and reduce forest health through predating on flowers, fruit, seed and seedlings. Rodents also prey on native, insects, lizards, birds and their eggs, often causing a population decline or even extinction.

Pest Classification

Norwegian rat, Ship rat, Kiore, and House mouse are “Suppression” animals on mainland Southland. Norwegian rat, Ship rat, Kiore and House mouse are “Exclusion” animals on offshore and inland islands. House mouse is an “Exclusion” animal on Stewart Island/Rakiura. Norwegian rat, Ship rat, and Kiore are “Suppression” animals on Stewart Island/Rakiura.

Objectives

1. To minimise the adverse affects of rodents by reducing impacts within HVAs by supporting community initiatives during the life of the Strategy.
2. To prevent Rodents establishing on islands that they do not presently exist during the life of the Strategy.
3. To prevent the re-infestation of Rodents where eradication has taken place during the life of the Strategy.
4. To raise community awareness of the cultural, biodiversity and economic impacts of Rodents.

Rules

1. No person may release any Rodent into the wild within the Southland region.
2. No person may take or transport within the Southland region, any Rodent to any offshore Island, any inland island or area enclosed by a pest proof fence, where that Rodent species does not already exist.
3. No person may take or transport any House mouse to Stewart Island/Rakiura.
4. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Rodent species are present on or within the vehicle prior to arrival at a rodent free site.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

WASPS
(Vespula spp.)

Description
Two species of Wasp are present in Southland. Scattered throughout Southland, wasps favour areas such as Eucalyptus forest or beech forest where a scale insect secretes honeydew. Wasps compete with native birds that rely on this honeydew as a source of food. Wasps can also become a public or domestic nuisance.

Pest Classification
Wasps are "Suppression" animals throughout the Southland region.

Objectives
1. To minimise the adverse effects of Wasps in the Southland region by providing advice and information on control methods.
2. To minimise the adverse affects of Wasps by reducing impacts within High Value Areas by supporting community initiatives during the life of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Wasps.

17.0 Marine Pests

Environment Southland has designated nine marine organisms as pests in the Strategy. These organisms are considered to pose significant risk to economic, environmental, social and cultural values in the Southland coastal marine area. Their designation as pests allows for the marine biosecurity provisions in the Coastal Plan for Southland to operate with greater certainty. Environment Southland may consider collaborative programmes to manage marine pests which are resourced by Biosecurity New Zealand, other Crown Agencies and stakeholders.

Eight of the marine pests have been classified as Exclusion pests, as they are not known to occur in Southland. They could cause serious adverse impacts on our marine environment, if they do arrive here.

Undaria is the only proposed marine pest that is already known to be in Southland. It is only known to occur in Paterson Inlet/Whaka a Te Wera on Stewart Island/Rakiura, and in Bluff Harbour. This presents an opportunity to prevent or slow its further spread around Southland's coastline. For this reason, it is proposed to classify Undaria as a "Containment" pest in the Strategy.

Marine Pest Finder - *your quick reference user guide*

ASIAN CLAM
(Potamocorbula amurensis)

Description
Not currently known to be present in New Zealand, the Asian clam is a shellfish with a distinctive uneven overbite. It is found in estuaries and brackish waters. It is 2-3 cm across and the shell is a dirty white, yellow or tan colour.

It can live in fresh and salt water, and consumes large amounts of plankton, which is the major food source for marine food chains. As a result, the Asian clam can substantially change any marine community and cause the collapse of fish stocks. It is native to Japan, Korea and China, though it has now invaded parts of the west coast of the United States.

Pest Classification
Asian clam is an “Exclusion” animal throughout the Southland region.

Objectives
1. To prevent the Asian clam establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Asian clam.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Asian clams into or within the Southland region.
2. The person in charge of any vehicle is responsible for ensuring no live Asian clam are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Asian clam, or suspects that any Asian clam is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

CAULERPA SEAWEED
(Caulerpa taxifolia)

Description
Not currently known to be present in New Zealand, Caulerpa seaweed is bright green, with feathery, fern-like fronds that extend upward from a main creeping stem. The aquarium strain of Caulerpa is an extremely invasive seaweed. This seaweed has the ability to form a dense carpet on almost any surface, including rock, sand, and mud. It is capable of very rapid growth; up to one centimetre per day. Caulerpa contains toxins that are distasteful to species that might feed on it and even a small, broken-off fragment can form a new plant. Caulerpa seaweed displaces native vegetation and threatens food availability for fish populations.

Pest Classification
Caulerpa seaweed is an "Exclusion" plant throughout the Southland region.

Objectives
1. To prevent Caulerpa establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Caulerpa.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Caulerpa seaweed into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Caulerpa are present on or within the vehicle prior to arrival in the Southland Region.
3. Every person who sees any Caulerpa, or suspects that any Caulerpa is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

CHINESE MITTEN CRAB

Eriochier sinensis

Description

Not currently known to be present in New Zealand, the Chinese mitten crab is light brown with a body width up to 8 cm. Adults have dense patches of hairs on the claws (from which the species gets its name). The crab has a round body shape and a distinctive notch between the eyes. In adults, the legs are twice the length of its body width.

The Chinese mitten crab is a highly invasive species, which can cause major ecological and economic damage. Juvenile crabs form dense colonies and create burrows in the inter-tidal portions of streams. This process undermines the integrity of stream banks, greatly increasing erosion. It can also carry a lung fluke that infects humans.

Pest Classification

Chinese mitten crab is an "Exclusion" animal throughout the Southland region.

Objectives

1. To prevent the Chinese mitten crab establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Chinese mitten crab.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any Chinese mitten crab into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Chinese mitten crab are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Chinese mitten crab, or suspects that any Chinese mitten crab is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

EUROPEAN SHORE CRAB

Carcinus maenas

Description

Not currently known to be present in New Zealand, the European shore crab is medium-sized, with a body width up to about 9 cm. It has five distinctive spines on either side of the eyes on the front end of the body. The upper body is mottled dark-brown to dark-green, with small yellow patches. The underside varies in colour from green to orange or red.

The European shore crab (also known as the European green crab) has a broad diet and wide environmental tolerance. This makes it a potentially significant threat to coastal seabed communities. There is concern, that juvenile crabs, or crab larvae, could be transported to New Zealand in ballast water.

Pest Classification

European shore crab is an "Exclusion" animal throughout the Southland region.

Objectives

1. To prevent the European shore crab establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of European shore crab.

Rules

1. No person shall possess, sell, offer for sale, propagate, transport or release any European shore crab into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live European shore crab are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any European shore crab, or suspects that any European shore crab is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

MEDITERRANEAN FANWORM
Sabella spallanzanii

Description
Not currently known to be present in New Zealand, the Mediterranean fanworm (a large tube worm) prefers sheltered, shallow subtidal areas (1-30 metres deep). It attaches to hard substrates such as shells, jetty pylons, wrecks and rocks, but can also be found in sand. It secretes a tough, flexible tube up to 40 cm long. Tentacles at the top form a spiralled fan, up to 15 cm across. Fans vary in colour, from a dull white, to brightly banded with stripes of orange, purple and white.

These fast-growing worms can form vast, dense meadows and are likely to compete with native suspension feeders for food and interfere with their recruitment.

Pest Classification
Mediterranean fanworm is an "Exclusion" animal throughout the Southland region.

Objectives
1. To prevent the Mediterranean fanworm establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Mediterranean fanworm.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Mediterranean fanworm into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Mediterranean fanworm are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Mediterranean fanworm, or suspects that any Mediterranean fanworm is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

NORTHERN PACIFIC SEASTAR
(Asterias amurensis)

Description
Not currently known to be present in New Zealand, Northern pacific seastar can reach 10 cm in diameter and have distinctive upturned tips to their five arms. They consume both farmed and wild shellfish along with a wide variety of other marine animals. The Northern pacific seastar can reach very high numbers, reproducing and feeding until all available food is consumed. Northern pacific seastars could reach New Zealand in ships' ballast tanks, in ships' water intakes, or among other marine fouling on the outside of ship or yacht hulls.

Pest Classification
Northern pacific seastar is an "Exclusion" animal throughout the Southland region.

Objectives
1. To prevent the Northern pacific seastar establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Northern pacific seastar.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Northern pacific seastar into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Northern pacific seastar are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Northern pacific seastar, or suspects that any Northern pacific seastar is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

SEA SQUIRT
(Styela clava)

Description
In October 2005 ***Styela clava*** or clubbed tunicate, was discovered in Auckland's Viaduct Basin, and in Lyttelton Harbour. It was found soon after on the hull of a vessel that had sailed from Auckland to Picton, and in the Hauraki Gulf and Northland.

This sea squirt has a long, club-shaped body on a tough stalk. Its surface is tough, leathery, rumpled, and nobbly. They can be brownish-white, yellowish-brown, or reddish-brown. Each individual has its own stalk and adheres separately to a substrate. It multiplies rapidly in suitable sites, spawning every 24 hours in water temperatures above 15°C. It competes with other filter feeders for food and space. As a result it disrupts native ecosystems and aquaculture.

Pest Classification
Sea squirt is an "Exclusion" animal throughout the Southland region.

Objectives
1. To prevent the Sea squirt establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Sea squirt.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Sea squirt into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Sea squirt are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Sea squirt, or suspects that any Sea squirt is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

SEA SQUIRT
(Didemnum vexillum)

Description
Although this sea squirt is not currently known to be present in Southland, it is present in several areas around New Zealand. *Didemnum vexillum* is a colonial filter feeding animal with a sponge-like appearance. It is yellow-orange in colour and its surface has darkish leaf-like veins with pores. This sea squirt readily occupies hard surfaces including ship hulls, wharf structures and floats, pilings, moorings and ropes, rock outcrops, and gravel seabed.

Didemnum's smothering capabilities choke off bottom-dwellers such as shellfish, and may cover grounds needed by fish to lay eggs. This poses a threat to native marine ecosystems and the marine farming industry.

Pest Classification
Sea squirt is an "Exclusion" animal throughout the Southland region.

Objectives
1. To prevent the Sea squirt establishing in the Southland region during the life of the Strategy.
2. To raise community awareness of the cultural, biodiversity and economic impacts of Sea squirt.

Rules
1. No person shall possess, sell, offer for sale, propagate, transport or release any Sea squirt into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Sea squirt are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees any Sea squirt, or suspects that any Sea squirt is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules, without reasonable excuse, is an offence under Section 154(r) of the Act.

UNDARIA
(Undaria pinnatifida)

Description
Undaria is a golden brown seaweed with a central midrib, divided frond and a fleshy, frilly reproductive structure at the base of the seaweed. These characteristics help differentiate Undaria from native seaweed species. Undaria was accidentally introduced into New Zealand in the early 1980s, and has now spread to many parts of the coastline, including Southland. It is known to occur in Paterson Inlet, Stewart Island/Rakiura and in Bluff harbour, but is not known to have established in Fiordland or elsewhere around the coastline.

Undaria is an annual seaweed that first appears in early spring. It can grow at rates of one cm per day and is capable of reproducing when 50 days old. During the growth stage, Undaria releases its spores into the marine environment, and then dies off in the late summer. The spores can attach to boat hulls and develop into an invisible seed-like stage. Undaria survives over the autumn and winter in this seed-like stage, and then starts growing again in early spring.

Pest Classification
Undaria is a "Containment" plant throughout the Southland region. The aim is to prevent Undaria establishing in Fiordland and along other parts of Southland's coastline and to support any programmes to reduce the distribution and density where Undaria has established in the region.

Objectives
1. To prevent the human spread of Undaria within the Southland region.
2. To support programmes aimed at reducing the distribution and density of Undaria where it has established in the region during the term of the Strategy.
3. To raise community awareness of the cultural, biodiversity and economic impacts of Undaria.

Rules
1. No person may possess, sell or offer for sale, propagate, transport or release any Undaria into or within the Southland region.
2. The person in charge of any vehicle used to transport persons or equipment is responsible for ensuring no live Undaria are present on or within the vehicle prior to arrival in the Southland region.
3. Every person who sees Undaria, or suspects that Undaria is present in Southland, must immediately report the sighting or possible presence to Environment Southland.

A breach of these rules without reasonable excuse is an offence under Section 154(r) of the Act.

18.0 Part VI Powers

Environment Southland will use the statutory powers from Part VI of the Act as shown in Table 1 together with any other powers from the Act and powers given to the Regional Council by regulations made under Part IX of the Act for the purposes of implementing this Strategy.

The Principal Officer (Chief Executive) of Environment Southland may appoint authorised persons for the purpose of exercising functions, powers and duties under the Act. Set out in Table 1 are the sections of the Act under which the Principal Officer will confer one or more powers upon authorised persons, and those sections under which powers will be sought from other parties for authorised persons.

Environment Southland has the power to enforce restrictions on the sale, propagation and distribution of pests in accordance with Section 52 and Section 53 of the Act. Authorised persons also have the power to request information from occupiers of land under Section 43 of the Act.

The Strategy includes possums, deer, pigs and goats that are all classified as wild animals under the Wild Animal Control Act 1977. The Department of Conservation is the administering agency of this Act. The intention of the Strategy is to reduce or minimise cross-boundary effects of pests to other land occupiers. These effects may be environmental, cultural, or economic.

The Wild Animal Control Act 1977 requires the management of wild animals causing damage to land, native flora/fauna, any animals, crops or to any chattel (Section 16, Wild Animal Control Act, 1977). This section includes the cross boundary issues that arise from time to time. Currently, only Department of Conservation has the powers to manage these incidents, some of which may be appropriate for Environment Southland to manage under a regional pest management strategy. A regional pest management strategy cannot derogate from other legislation. To enable Environment Southland to function under Section 16 of the Wild Animals Control Act 1977, warranted staff under Section 59(c) of the Conservation Act 1987 are required. The definition of “warranted officer” in the Wild Animal Control Act 1977, provides that it has the same meaning as “warranted officer” in the Conservation Act. Staff warranted under the Conservation Act 1987 would have the ability to deal with any compliance incident. However, Environment Southland would only use these powers as a last resort to manage cross boundary issues between private landowners, following complaint.

Section 122 of the Biosecurity Act 1993 (Power to give directions) enables an inspector or authorised person to direct the occupier of any place, or the owner or person in charge of any organism to destroy pests, to take steps to prevent the spread of any pest or unwanted organism. However, Environment Southland would only use these powers after all other practical solutions had been tried. Any actions taken will be consistent with Environment Southland’s “The Regional Pest Management Strategy Compliance Procedure” document.

TABLE 1 – *List of Relevant Powers Conferred by Biosecurity Act 1993*

Administrative Power	*References in the Biosecurity Act (1993)*	*Level of Delegation*
Theappointment of authorised and accredited persons. Instructions to authorised persons. Delegation to authorised persons	Section 103(3) & (7) Section 104 Section 105	Principal Officer of Environment Southland
Power to require assistance Power of inspection, Warrant to inspect & Duties on entry Entry in respect of offences Power to record information General Powers Use of dogs and devices Power to seize evidence Power to seize abandoned goods Power to intercept baggage etc Power to examine organisms Power to apply article or substance to place. Power to give directions Power to administer vaccinations Declaration of restricted area	Section 106 Section 109, 110 & 112 Section 111 Section 113 Section 114 Section 115 Section 118 Section 119 Section 120 Section 121 Section 121A Section 122 Section 123 Section 130	Authorised person
Power to act on default	Section 128	Management Agency
Liens Section 129 Declaration of controlled area	Section 131	
Aerial application of substance Options for cost recovery Failure to Pay	Section 114A Section 135 Section 136	Principal Officer of Environment Southland
Offences	Section 154	Prosecutions Sub-Committee, Environment Southland

19.1 Policy for Enforcement

The Biosecurity Amendment Act 1997 (an amendment to the Biosecurity Act 1993) introduced a new regime seeking increased compliance with the Strategy rules. The Amendment sought to ensure that non-compliance with the rules specifically meant that the non-compliance was a breach of the rule and was therefore an offence under the Biosecurity Act 1993. Such offences may result in Court action and a fine being imposed on the offender. Other persons may be liable to criminal sanctions.

In the event of a land occupier or other persons failing to comply with any rule prescribed in Part Two of this Strategy or with any provisions of the Biosecurity Act 1993, the following actions will be taken:

(i) an authorised person will advise the land occupier or other person of their non-compliance and direct they take remedial action and initiate the regulatory procedures set out in Section 19 of this Strategy; or

(ii) the Prosecution Sub Committee of Environment Southland will advise the land occupier or other person that they have committed an offence against the Act and initiate Court proceedings.

19.2 Issue of Legal Direction

If an occupier of land or any other person fails to comply with any rule prescribed in Part 2 of this Strategy, an authorised person may issue a legal direction requiring the land occupier to undertake specified works or measures. The legal direction will include the following matters:

(i) a description of the land on which works or measures are to be undertaken;

(ii) the pest for which the works or measures are required;

(iii) the works or measures to be undertaken to comply with any Strategy rule;

(iv) the time within which the works or measures are to be undertaken;

(v) actions that may be undertaken by Environment Southland if the land occupier fails to comply with any part of the legal direction;

(vi) the name of the authorised person issuing the legal direction; and

(vii) the contact address, telephone or fax number of the issuer.

19.3 Extension or Variation of Legal Direction

Where, upon the representation of an occupier of land issued with a legal direction, an authorised person is satisfied that:

(i) appropriate steps have been taken to comply with the legal direction; and/or

(ii) the land occupier has been prevented by reasonable cause from completing the necessary works or measures;

the authorised person may extend the time specified for a further period, or vary the requirements of the legal direction, as considered appropriate.

19.4 Cancellation of Legal Direction

When an authorised person is satisfied that:

(i) works or measures have been undertaken in accordance with the legal direction; or

(ii) for some other reason it is no longer appropriate to enforce the legal direction;

the authorised person will cancel that legal direction in writing.

19.5 Failure to Comply

Where a legal direction has been given to an occupier of land under Section 122 of the Act, and the land occupier has not complied with the requirements of the legal direction within the time specified, then Environment Southland may enter on to the land specified in the legal direction and carry out, or cause to be carried out, the works or measures specified in the legal direction, or such works or measures (including prosecution action) as are reasonably necessary or appropriate for the purpose of giving effect to the requirements of the legal direction.

19.6 Recovery of Costs Incurred

In accordance with Section 128(3) of the Act, Environment Southland will at it's discretion recover actual and reasonable costs where Environment Southland has entered on to the land specified in the legal direction and ascertained that the legal direction has not been complied with.

Environment Southland may recover further costs and expenses reasonably incurred by it in carrying out the works and measures as a debt due from the land occupier to whom the legal direction was given. The procedure for recovering costs is contained in the current Environment Southland Long-term Council Community Plan (LTCCP) or Annual Plan

19.7 Offences

Any person who contravenes Section 154 of the Biosecurity Act 1993, including but not limited to, breaching a rule in this Strategy or without reasonable excuse failing to comply with a legal direction or failing to comply with Section 52 of the Act, commits an offence against the Act. For the purpose of clarity, the existence of rules in this Strategy in no way limits the application of any provision of the Act.

Environment Southland will, in appropriate cases, bring a prosecution against any person who commits an offence against the Act. Penalties for breaching a rule without reasonable excuse are:

(i) in the case of an individual person, a fine not exceeding $5,000, and

(ii) in the case of a corporation, a fine not exceeding $15,000.

Other penalties for breaching provisions in the Act including Section 52 and 53 (Prohibition on sale, distribution and propagation) are (on conviction on indictment) –

(a) in the case of an individual person, to imprisonment for a term not exceeding five years, a fine not exceeding $100,000, or both;

(b) in the case of a corporation, to a fine not exceeding $200,000.

19.8 Exemption Power of Environment Southland

Any occupier or other person may, upon representation to Environment Southland, seek an exemption from any provision of a Strategy rule prescribed in Part Two of this Strategy.

(1) Environment Southland may, if it considers it appropriate, exempt any person from any specified requirement in any rule included in a regional pest management Strategy in accordance with this Act.

(2) Before granting an exemption under this section, Environment Southland must be satisfied in the circumstances of each case that:

(a) The requirement has been substantially complied with and that further compliance is unnecessary; or

(b) The action taken or provision made in respect of the matter to which the requirement relates is as effective or more effective than actual compliance with the requirement; or

(c) The prescribed requirements are clearly unreasonable or inappropriate in the particular case; or

(d) Events have occurred that makes the prescribed requirements unnecessary or inappropriate in the particular case, -

and that the granting of the exemption will not significantly prejudice the attainment of the objectives of the Strategy.

(3) Environment Southland may, upon such conditions as it thinks fit, exempt all persons or any specified class of persons, persons in any specified place, or persons responsible for specified goods or things, from any requirement in any rule included in a regional pest management Strategy made under this Act if the regional council is satisfied that events have occurred that make the prescribed requirements unnecessary or inappropriate.

(4) The number and nature of exemptions granted under this section must be recorded by Environment Southland in a register; and the register must be available for public inspection during the normal office hours of the regional council.

(5) Nothing in this section applies in any case where any rule specifically provides that no exemptions are to be granted."

Such application shall be accompanied by any fee set by Environment Southland from time to time; and shall specify:

(i) the legal description of the property for which an exemption is sought;

(ii) the reasons for the exemption;

(iii) an assessment of the effects of the exemption.

In assessing any such application the Chief Executive of Environment Southland shall have regard to whether it is reasonable or practicable to enforce the provisions of the Strategy for which an exemption has been sought.

19.9 Compensation

No compensation shall be payable by Environment Southland for any claims brought for alleged injury, financial losses, damages or any other matter as a result of the implementation of this Strategy.

20.0 Funding

The rationale developed to fund the Strategy must be aligned and consistent with Environment Southland's Funding Policy as required under Sub-part 3 of Part 6 of the Local Government Act 2002.

20.1 Funding Sources and Rationale

This Strategy will be funded principally by targeted rates on all rateable land in the region, based on land value (Section 16, Local Government (Rating) Act 2002). This is considered to be the most appropriate method of charging ratepayers for services provided by the Strategy. The rating is covered in the Funding Impact Statement, contained in Environment Southland's relevant Annual Plan or Long-term Council Community Plan (LTCCP).

Actual funding levels for the Strategy, including a breakdown of work programmes, are set each year through the Annual Plan process. The LTCCP outlines indicative funding levels for up to 10 years ahead. Ratepayers may freely access this information and are able to make submissions on funding or operational issues through both the Annual Plan and LTCCP processes.

20.2 Rating

Separate targeted rates on all rateable land in the region based on equalised land value is still considered the fairest method of targeting both beneficiaries and exacerbators in future.

Most of the benefits provided by the Strategy tend to be public goods rather than private goods. The Strategy involves activities like distributing information and advice, increasing knowledge of pest effects, research into pest control methods, biological control, etc. A large number of people can use these services at little or no extra cost and the beneficiaries are very difficult to identify and charge as users. The dominant public good aspects of the Strategy benefits favour use of a targeted rate to charge for these services.

Those who occupy land also provide habitat for pests and are by definition exacerbators. They may also be beneficiaries under the Strategy. Rural land comprises 99.5% of the area of the region and thus provides habitat for the greatest range and number of pests. Pest control carried out on rural land tends to directly benefit the occupiers especially in economic terms. On this basis it is reasonable to charge the greater share of the costs to rural occupiers. However, those who live in urban areas also receive considerable non-economic benefits for example from the protection of high biodiversity, social or cultural values from pest impacts. They too should pay a reasonable share of the Strategy costs. Given the complexity of this situation, it is very difficult to precisely and equitably direct charges to individuals or specific sectors.

The current Local Government (Rating) Act 2002 provides the authority to set and assess rates to cover the costs of biosecurity management activities conducted by the Council. The specific authority is under the terms of Sections 13-18.

Sections 16-18 allow for a uniform or a differential rate over the whole district or part thereof, assessed on categories and matters including either the capital value, land value or land area on every rateable property in the region or part thereof.

Given the dominant exacerbator and beneficiary roles of the rural occupier, it is appropriate to charge them a greater share of the costs compared to the urban occupier. A land value rating system provides the more equitable rating base of the options available to Council. It is a limited form of capital value rating excluding all structural assets and takes into account the scope and locality of property. In the Southland region it allocates approximately 79% of the rates to rural occupiers and 21% to urban occupiers. Any changes to the Council's Funding Policy, for example how biosecurity rates are collected, would require a review of the Strategy (Section 88 of the Act.)

20.3 Reserves

The Council has accumulated cash reserves. There may be occasions when it is appropriate for cash reserves to be utilised for pest management work. Where the reserves are used, the Council may consider whether it is appropriate to reinstate the reserves through general or targeted rates, or through other revenue sources available to the Council.
The Council proposes to make a grant of $300,000 to the Mid Dome Wilding Trees Charitable Trust from reserves to promote the control of Wilding pines at Mid Dome. In subsequent years, the Council may also make annual payments of $50,000 to the Trust. The annual payments may be funded from targeted rates. Rates may also be used to recover the $300,000 grant.

20.4 Crown Contributions

The Crown is a significant landowner and is responsible for administering 53% of the area of the Southland region. Section 87 of the Biosecurity Act 1993 exempts the Crown and Crown agencies from being legally bound by the funding provisions or the rules in a regional pest management strategy. In Southland, the principal Crown Agencies include the Department of Conservation, and Land Information New Zealand and ONTRACK (New Zealand Railways Corporation). These agencies may, however, seek funding from the Crown under an Order in Council or agree to make voluntary contributions toward regional pest management strategies. Environment Southland will seek binding commitments from Crown agencies to fund Strategy obligations, preferably by securing funding from the Crown under an Order in Council.

Environment Southland has historically negotiated with Crown agencies on behalf of private land owners who are impacted by cross boundary pests from adjacent Crown land. Environment Southland has undertaken to continue this practice as and where necessary. It will also actively seek a greater contribution from the Crown for Strategy compliance in Southland and will collaborate on this issue with other regional councils and sector groups on a national basis.

ACT means the Biosecurity Act 1993.

APPLY in relation to a controlled herbicide or pesticide means to drop from an aircraft, to lay as a bait, or to spray, dust, sprinkle, wipe, place or pour on the ground or on any vegetation.

APPROPRIATE means as determined to be appropriate by the Regional Council or its Officers acting under delegated authority.

AUTHORISED PERSON+ means a person for the time being appointed as an authorised person under section 103 of the Act.

BENEFICIARY means the receiver of benefits accruing from the implementation of a pest management measure or the Strategy.

BIODIVERSITY means the variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

BIOLOGICAL CONTROL means the introduction or establishment of living organisms, which will prey on, or adversely affect a pest.

CONTAINMENT PEST means a pest that is abundant in suitable habitats in a region , or part of a region, where the long term goal is to prevent species spreading to new areas or neighbouring properties.

CONTROLLED AREA+ means an area for the time being declared under subsection (2) of Section 131 of the Act to be an area that is controlled for the purposes of that section.

COSTS AND BENEFITS+ means costs and benefits of any kind whether monetary or non-monetary.

COVENANT means legal agreement.

CROWN LAND means land vested in Her Majesty and administered by a Minister for the time being charged with the administration of the Department of State that has control of the land; and includes all land for the time being forming part of any National Park, any reserve within the meaning of the Reserves Act 1977, and all unoccupied lands of the Crown.

DESTROY means pull, break down, demolish, make useless, kill, cause to cease to exist.

DISTRICT COUNCIL means a district council constituted under the Local Government Act 2002.

DOMESTIC ANIMAL means any animal that is not a feral animal.

ECOSYSTEM means dynamic complex of plant, animal and micro-organism communities and their non-living environment, interacting as a functional unit.

EFFECT unless the context otherwise requires, the term “effect” includes:

(a) any positive or adverse effect; and

(b) any temporary or permanent effect; and

(c) any past, present or future effect; and

(d) any cumulative effect which arises over time or in combination with other effects;

Regardless of the scale, intensity, duration or frequency of the effect, and also includes:

(e) any potential effects of high probability; and

(f) any potential effect of low probability which has a high potential impact.

[1] *All terms marked with a + are defined in the Biosecurity Act 1993, or an * are as defined in the Resource Management Act 1991*

ENFORCE means to compel, observance with the law

ENVIRONMENT+ includes:

(a) ecosystems and their constituent parts, including people and communities; and

(b) all natural and physical resources; and

(c) amenity values; and

(d) the social, economic, aesthetic, and cultural conditions which affect the matters states in paragraphs (a) to (c) of this definition or which are affected by those matters.

ENVIRONMENT SOUTHLAND means the Southland Regional Council.

ERADICATE means to root out, destroy completely, get rid of entirely.

EXACERBATOR means a person, who by their actions or inaction, contribute to the creation, continuance, or exacerbation of a particular pest management problem.

EXTERNALITY IMPACTS means adverse and unintended effects imposed upon others.

FAIRWAY means an area of riverbed maintained free of vegetative growth that would impede the passage of floodwaters.

FARMED ANIMAL means any animal that is not a feral animal.

FARMLAND means land used or intended to be used solely or principally for agricultural or horticultural or pastoral purposes or the keeping of bees or poultry or other livestock; and "farming" and "farming purposes" have corresponding meanings.

FERAL ANIMAL means an animal:

(a) living in a wild state; and

(b) not being kept:-

(i) or handled as a domestic animal; or
(ii) within an effective fence or enclosure for farming purposes; or
(iii) in captivity under any authorisation issued under any enactment in accordance with the conditions of that authorisation

HABITAT means the place or type of site where an organism or population normally occurs.

HANDLING in relation to a hazardous substance, means any process of making, packing, mixing, crushing, preparing, spraying, or otherwise handling the hazardous substance in such a way as to contaminate the air in the place where the handling is done.

HEALTH means in relation to human health, a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity.

HEDGE/LIVE FENCE means a row of plants, usually cut evenly and grown close together to form a continuous boundary or barrier.

HIGH VALUE AREA means an area that has been identified with community input as being of high social or cultural or economic or environmental value, with a strong emphasis on indigenous biodiversity.

INDIGENOUS means native to New Zealand.

INSPECTOR+ means a person who is appointed an inspector under section 103 of the Act.

LAKE* means body of freshwater which is entirely or nearly surrounded by land.

LAND* includes land covered by water and the air space above land.

LIVESTOCK means cattle, sheep, horses, swine, goats, deer, poultry, bees, fish, and other animals kept for commercial or domestic purposes.

LOCAL AUTHORITY*+ means regional council or territorial authority.

MANAGEMENT AGENCY means the Department, authority, or body corporate specified in a pest management strategy as the agency given the task of implementing the Strategy.

MINISTER+ means Minister of the Crown; and –

(a) in relation to a national pest management strategy, means the Minister who recommended the making of the order under Section 68 making the Strategy; and

(b) in relation to a proposal for a national pest management strategy, that has been notified, means the Minister who notified the proposal.

MONITOR means to observe the occurrence or non-occurrence of a pest.

NATURAL AND PHYSICAL RESOURCES means

(a) organisms of all kinds; and

(b) the air, water, and soil in or on which any organism lives or may live; and

(c) landscape and land form; and

(d) geological features; and

(e) structures of all kinds; and

(f) systems of interacting living organisms and their environment.

OCCUPIER+ means:

(a) in relation to any place physically occupied by any person, means that person; and

(b) in relation to any other place, means the owner of the place; and

(c) in relation to any place, includes any agent, employee, or other person acting or apparently acting in the general management or control of the place.

ORGANISM+

(a) does not include a human being or a genetic structure derived from a human being;

(b) includes a micro-organism;

(c) subject to paragraph (a) of this definition, includes a genetic structure that is capable of replicating itself (whether that structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity);

(d) includes an entity (other than a human being) declared by the Governor General by Order in Council to be an organism for the purposes of the Act;

(e) includes a reproductive cell or developmental stage of an organism,

(f) includes any particle that is a prion.

PLANT means any plant, tree, shrub, herb, flower, nursery stock, culture, vegetable, or other vegetation; and also includes any fruit, seed, spore and portion or product of any plant; and also includes all aquatic plants;

PERSON+ includes the Crown, a corporation sole, and a body of persons (whether corporate or unincorporated).

PEST+ means an organism specified as a pest in a pest management strategy.

PEST AGENT+ in relation to any pest, means any organism capable of –

(a) helping the pest replicate, spread, or survive; or

(b) interfering with the management of the pest.

PEST MANAGEMENT STRATEGY AND STRATEGY+ mean a Strategy, made under Part V of the Act, for the management or eradication of a particular pest or pests.

PLACE+ means any building, conveyance, craft, land or structure, and the bed and waters of the sea and any canal, lake, pond, river or stream.

PRESCRIBED+ means prescribed by regulations made under the Act.

PRINCIPAL OFFICER+ means the principal administrative officer of a regional council; and -

(a) in relation to a regional council, means the principal officer of that council; and

(b) in relation to a region, means the principal officer of the region's regional council; and

(c) includes an acting principal officer.

PUBLIC NOTICE means:

(a) a notice published in a newspaper circulating generally in the district to which the subject-matter of the notice relates; or

(b) where there is no newspaper circulating generally in any district, a notice published on placards affixed to public places in the district to which the subject-matter of the notice relates:

– and **'published'** and **'publicly notified'** have corresponding meanings. A public notice setting forth the object, purport, or general effect of a document shall in any case be sufficient notice of that document.

REGION* means the Southland region

REGIONAL COUNCIL* means Environment Southland, the brand name of the Southland Regional Council.

REGIONAL PLAN* means an operative plan (including a regional coastal plan) approved by a regional council or the Minister of Conservation under the First Schedule to the Resource Management Act and includes all operative changes to such a plan (whether arising from a review or otherwise).

REGIONAL POLICY STATEMENT* means an operative Regional Policy Statement approved by a regional council under the First Schedule of the Resource Management Act and includes all operative changes to such a policy statement (whether arising from a review or otherwise).

REGULATIONS+ means regulations made under the Act.

RESTRICTED PLACE+ means any premises that an inspector or an authorised person has declared to be a restricted place under section 130 of the Act.

RIPARIAN LAND means land situated along the bank of a river or other body of water.

RIVER* means a continually or intermittently flowing body of freshwater, and includes a stream and modified watercourse, but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation and farm drainage canal).

ROAD Includes all bridges, culverts, and fords forming part of any road.

SMALL-SCALE MANAGEMENT PROGRAMME means a small-scale management programme declared under Section 100 of the Act.

STRATEGY RULE means a rule included in a pest management strategy in accordance with Section 69B or Section 80B of the Act.

TANGATA WHENUA* in relation to a particular area, means the Iwi or hapu, that holds mana whenua over that area.

TERRITORIAL AUTHORITY means a city council or a district council.

UNWANTED ORGANISM+ means any organism that a chief technical officer believes is capable or potentially capable of causing unwanted harm to any natural resources and physical resources or human health.

VEHICLE is any means of conveyance for transporting people, goods etc., by land, water or air.

VERTEBRATE TOXIC AGENT is an agricultural compound used to manage or eradicate vertebrate pests

WATER*

(a) Means water in all its physical forms whether flowing or not and whether over or under ground.

(b) Includes freshwater, coastal water and geothermal water.

(c) Does not include water in any form while in any pipe, tank or cistern.

WATER BODY* means freshwater or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.

WATERCOURSE means a continually or intermittently flowing body of fresh water; and includes a stream and farm drainage canals.

WETLAND* includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.

WILD ANIMAL means (Wild Animal Control Act 1977)

(i) any deer (including wapiti or moose);

(ii) any chamois, thar, wallaby or possum;

(iii) any goat that is not held behind effective fences or otherwise constrained; and identified

(iv) any pig that is living in a wild state and is not being herded or handled as a domestic animal or kept within an effective fence or enclosure for farming purposes;

(v) any member of any species or class of land mammals that the Governor General may from time to time, by Order in Council, declare to be wild animals for the purposes of this Act; and

(vi) includes the whole or part of the carcass of any such animal.

ZONE means a specified area within a region (e.g. wards, ridings).

ACKNOWLEDGEMENTS

PICTURES

African club moss - Botanical Society of America Online Image Collection. ***Aluminium plant*** C. Howell (source: NZPCN)[1]. Argentine Ant – Joyce Gross. ***Banana passionfruit, Barberry, Blackberry, Boxthorn, Broom, Californian thistle, Chilean flame creeper, Common ivy, Contorta pine, Cotoneaster, Elderberry, European spindleberry, Feral cat, Ferret, German ivy, Gorse, Grey willow, Hawthorn, Hemlock, Himalayan honeysuckle, Holly, Japanese honeysuckle, Nassella tussock, Nodding thistle, Old mans beard, Pampas grass, Periwinkle, Ragwort, Rook, Scotch thistle, Spanish heath, Tutsan, Tradescantia, Wild turnip, Magpie,*** Regional Councils of New Zealand. ***Bengal cat*** - (CH Aluren Anaconda) Bengals by Aluren website. ***Bittersweet*** J. Smith-Dodsworth (source: NZPCN). ***Bomarea sp., Green daphne***, ***Collomia cavanillesii,*** - Peter Johnson (Landcare Research Maanaki Whenua). ***Buddleja, Cape honey flower*** C. Lewis. ***Chamois*** - Marius Bernard. ***Cherry laurel*** © Paul Hackney / www.habitas.org.uk/flora. ***Chilean fire bush*** N. Singers (source: NZPCN). ***Chinese mitten crab*** (Aquatonics Ltd, www.aquatonics.com). ***Egeria, Potato wart, Purple loosestrife*** (source: BNZ[1]). ***Crack willow***, ***Giant hogweed*** T. James (AgResearch). ***European Shore Crab -*** Michael Marmach (Copyright: Museum Victoria). ***Fallow deer, Mountain pine, Spartina***, (source: DOC)[2]. ***Feral cat*** Phred Dobbins (DOC). ***Himalayan thar*** – (DOC). ***Hornwort*** - R. Wells (NIWA)[3]. ***Ice plant*** J. Barkla (source: NZPCN). ***Koi carp*** (cover) – (Environment Waikato). ***Lagarosiphon*** - John Clayton. (NIWA) Nelson, New Zealand. Mediterranean fanworm (***Mosquito fish*** - Clint McCullough; Environmental Research Institute of the supervising scientist, Jabiru, Australia. ***Northern pacific seastar*** – Jan Haaga (Alaska Fishery Science Centre). ***Possum*** – Phil Lyver, University of Otago. ***Reed sweet gras***s - Ana-Lena Anderberg. Swedish Museum of Natural History. ***Sea Squirt*** (USGS)[5]. ***Siberian lyme grass*** L. Sheldon-Sayer (DOC), ***Sika deer*** - Neil Philpott, NZ Outdoor Magazine (Feb 2001). ***Stonecrop*** A. Hay (DOC), ***Sycamore*** - ©1999 Samuel Roberts Noble Foundation; Russel Stevens/ Chuck Coffey.

MAPS

Data Source:

2006 Digital Boundaries NZMG metadata.pdf from Statistics New Zealand
Topographical & Cadastral Information sourced from LINZ. Digital license No. TD093614/92. Copyright Reserved

Greyscale Image sourced from GeographX.

Gore and Mataura town boundaries (roading network) from Gore District Council.

Te Anau, Athol, Waikaia, Manapouri, Mossburn, Lumsden, Balfour, Edendale, Riversdale, Wyndham, Tuatapere, Ohai, Nightcaps, Otautau, Riverton, Wallacetown, Oban town boundaries from Southland District Council Rating Districts.

Invercargill, Bluff and Otatara from Invercargill City Council.

Disclaimer

The Southland Regional Council cannot guarantee that the information shown is 100% accurate and should not be reused in any manner without proper consultation to its owner.

1 New Zealand Plant Conservation Network.
2 Biosecurity New Zealand.
3 Department of Conservation.
4 National Institute of Water and Atmospheric Research Ltd.
5 United States Geological Survey

Tables of Common and Scientific Names for Plant, Animal and Marine Pests

TABLE 2 – *Pest Plants within the Strategy listed in alphabetic order - common name (hybrids and cultivars not listed in this list are excluded from the Sections 52 and 53 of the Act)*

Common Name	*Scientific Name*
AFRICAN CLUB MOSS	Selaginella kraussiana
ALUMINIUM PLANT	Galeobdolon luteum
ANGELICA	Angelica pachycarpa
BANANA PASSIONFRUIT	Passiflora tripartite var. mollissima, P.mixta
BITTERSWEET	Solanum dulcamara
BLACKBERRY	Rubus fruiticosus aggi
BOMAREA	Bomarea caldasii, B. multiflora
BOXTHORN	Lycium ferocissimum
BROOM	Cytisus scoparius
BUDDLEJA	Buddleja davidii
CALIFORNIAN THISTLE	Cirsium arvense
CAPE HONEY FLOWER	Melianthus major
CHERRY LAUREL	Prunus laurocerasus
CHILEAN FIRE BUSH	Embothyrium coccineum
CHILEAN FLAME CREEPER	Tropaeolum speciosum
COLLOMIA	Collomia cavanillesii
COMMON BARBERRY	Berberis glaucocarpa
COMMON IVY	Hedera helix subsp. helix
CONTORTA PINE	Pinus contorta
COTONEASTER	Cotoneaster franchetii, C. glaucophyllus, C simonsii
CRACK WILLOW	Salix fragilis
ELDERBERRY	Sambucus nigra
EUROPEAN SPINDLEBERRY	Euonymus europaeus
DARWIN'S BARBERRY	Berberis darwinii
GERMAN IVY	Senecio mikanioides
GIANT HOGWEED	Heraculum mantegazzanium
GORSE	Ulex europeaus
GREEN DAPHNE	Daphne laureola

Common Name	*Scientific Name*
GREY WILLOW	Salix cinerea
GUNNERA	Gunnera tinctoria
HAWKWEEDS	Hieracium spp.
HAWTHORN	Crataegus monogyna
HEMLOCK	Conium maculatum
HIMALAYAN HONEYSUCKLE	Leycesteria formosa
HOLLY	Ilex aquifolium
HORNWORT	Ceratophyllum demersum
ICE PLANT	Carpobrotus edulis
JAPANESE HONEYSUCKLE	Lonicera japonica
LAGAROSIPHON	Lagarosiphon major
MONTBRETIA	Crocosmia x crocosmiiflora
MOUNTAIN PINE	Pinus mugo
NASSELLA TUSSOCK	Nassella trichotoma
NODDING THISTLE	Carduus nutans
OLD MAN'S BEARD	Clematis vitalba
PAMPAS GRASS	Cortaderia selloana
PERIWINKLE	Vinca major
POTATO WART	Synchytrium endobioticum
PURPLE LOOSESTRIFE	Lythrum salicaria
PURPLE PAMPAS	Cortaderia jubata
RAGWORT	Senecio jacobaea
REED SWEET GRASS	Glyceria maxima
SCOTCH THISTLE	Cirsium vulgare
SIBERIAN LYME GRASS	Leymus racemosus
SPANISH HEATH	Erica lusitanica
SPARTINA	Spartina anglica
SMILAX	Asparagus asparagoides
STONECROP	Sedum acre
SWEET BRIER	Rosa rubiginosa
SYCAMORE	Acer pseudoplatanus
TRADESCANTIA	Tradescantia fluminensis
TUTSAN	Hypericum androsaemum
WILD TURNIP	Brassica rapa subsp.sylvestris

TABLE 3 – *Pest plants within the Strategy listed in alphabetic order - scientific name (hybrids and cultivars not listed in this list are excluded from the Sections 52 and 53 of the Act)*

Scientific Name	*Common Name*
ACER PSEUDOPLATANUS	Sycamore
ANGELICA PACHYCARPA	Angelica
ASPARAGUS ASPARAGOIDES	Smilax
BERBERIS DARWINII,	Darwin's barberry
BERBERIS.GLAUCOCARPA	Common barberry
BOMAREA CALDASII, B.MULTIFLORA	Bomarea
BRASSICA RAPA SUBSP.SYLVESTRIS	Wild turnip
BUDDLEJA DAVIDII	Buddleja
CARDUUS NUTANS	Nodding thistle
CARPOBROTUS EDULIS	Ice plant
CERATOPHYLLUM DEMERSUM	Hornwort
CIRSIUM ARVENSE	Californian thistle
CIRSIUM VULGARE	Scotch thistle
CLEMATIS VITALBA	Old man's beard
COLLOMIA CAVANILLESII	Collomia
CONIUM MACULATUM	Hemlock
CORTADERIA JUBATA	Purple pampas
CORTADERIA SELLOANA	Pampas grass
COTONEASTER franchetii, C. glaucophyllus, C simonsii	Cotoneaster
CRATAEGUS MONOGYNA	Hawthorn
CROCOSMIA X CROCOSMIIFLORA	Montbretia
CYTISUS SCOPARIUS	Broom
DAPHNE LAUREOLA	Green daphne
GALEOBDOLON LUTEUM	Aluminium plant
ERICA LUSITANICA	Spanish heath
EUONYMUS EUROPAEUS	European spindleberry
EMBOTHYRIUM COCCINEUM	Chilean fire bush
GLYCERIA MAXIMA	Reed sweet grass
GUNNERA TINCTORIA	Gunnera

Scientific Name	*Common Name*
HEDERA HELIX SUBSP. HELIX	Common ivy
HERACULUM MANTEGAZZANIUM	Giant hogweed
HIERACIUM SPP.	Hawkweeds
HYPERICUM ANDROSAEMUM	Tutsan
ILEX AQUIFOLIUM	Holly
LAGAROSIPHON MAJOR	Lagarosiphon
LEYCESTERIA FORMOSA	Himalayan honeysuckle
LEYMUS RACEMOSUS	Siberian lyme grass
LONICERA JAPONICA	Japanese honeysuckle
LYCIUM FEROCISSIMUM	Boxthorn
LYTHRUM SALICARIA	Purple loosestrife
MELIANTHUS MAJOR	Cape honey flower
NASSELLA TRICHOTOMA	Nassella tussock
PASSIFLORA TRIPARTITE VAR. MOLLISSIMA, P.MIXTA	Banana passionfruit
PINUS CONTORTA	Contorta pine
PINUS MUGO	Mountain pine
PRUNUS LAUROCERASUS	Cherry laurel
ROSA RUBIGINOSA	Sweet brier
RUBUS FRUITICOSUS AGGI	Blackberry
SALIX CINEREA	Grey willow
SALIX FRAGILIS	Crack willow
SAMBUCUS NIGRA	Elderberry
SEDUM ACRE	Stonecrop
SELAGINELLA KRAUSSIANA	African club moss
SENECIO JACOBAEA	Ragwort
SENECIO MIKANIOIDES	German ivy
SOLANUM DULCAMARA	Bittersweet
SPARTINA ANGLICA	Spartina
SYNCHYTRIUM ENDOBIOTICUM	Potato wart
TRADESCANTIA FLUMINENSIS	Tradescantia
TROPAEOLUM SPECIOSUM	Chilean flame creeper
ULEX EUROPEAUS	Gorse
VINCA MAJOR	Periwinkle

TABLE 4 – *Pest animals within the Strategy listed in alphabetic order - common name*

Common Name	*Scientific Name*
ANT (Argentine)	Linepithema humile
ANT (Darwin's)	Doleromyrma darwiniana
BENGAL CAT	Felis catus var Bengal
BENNETT'S WALLABY	Macropus rufogriseus rufogriseus
BRUSHTAILED ROCK WALLABY	Petrogale penicillata
CATFISH	Ictalurus nebulosus
CATTLE TICK	Haemaphysalis longicornis
CHINCHILLA	Chinchilla laniger
DAMA WALLABY	Macropus eugenii
FERAL CAT	Felis catus
FERAL CHAMOIS	Rupicapra rupicapra
FERAL FALLOW DEER	Dama dama
FERAL GOAT	Capra hircus
HIMALAYAN THAR	Hemitragus jemlahicus
FERAL PIG	Sus scrofa
FERAL RED DEER AND HYBRIDS	Cervus elaphus and hybrids
FERAL WAPITI DEER AND HYBRIDS	Cervus elaphus nelsoni and hybrids
FERAL WHITETAIL DEER	Odocoileus virginianus
FERRETS	Mustela furo
HEDGEHOG	Erinaceous europaeus
HOUSE MOUSE	Mus musculus
KIORE RAT	Rattus exulans
KOI CARP	Cyprinus carpio
MAGPIES	Gymnorhina sp
GAMBUSIA	Gambusia affinis
NORWEGIAN RAT	Rattus norvegicus
ORFE	Leuciscus idus
PARMA WALLABY	Macropus parma
POSSUMS	Trichosurus vulpecula
RABBIT	Oryctolagus cuniculus
ROOK	Corvus frugilegus
RUDD	Scardinius erythrophthalmus
RUSA DEER	Cervus timorensis

Common Name	*Scientific Name*
SAMBA DEER	Cervus unicolor
SHIP RAT	Rattus rattus
SIKA DEER	Cervus nippon
STOATS	Mustela erminea
SWAMP WALLABY	Wallibia bicolour
TENCH	Tinca tinca
WASPS	Vespula spp
WEASEL	Mustela nivalis

TABLE 5 – *Pest animals contained within the Strategy listed in alphabetic order - scientific name*

Scientific Name	*Common Name*
CAPRA HIRCUS	Feral Goat
CERVUS ELAPHUS AND HYBRIDS	Feral Red Deer and hybrids
CERVUS ELAPHUS NELSONI AND HYBRIDS	Feral Wapiti Deer and hybrids
CERVUS NIPPON	Sika Deer
CERVUS TIMORENSIS	Rusa Deer
CERVUS UNICOLOR	Samba Deer
CHINCHILLA LANIGER	Chinchilla
CORVUS FRUGILEGUS	Rook
CYPRINUS CARPIO,	Koi Carp
DAMA DAMA	Feral Fallow Deer
DOLEROMYRMA DARWINIANA	Ant (Darwin's)
ERINACEOUS EUROPAEUS	Hedgehog
FELIS CATUS	Feral Cat
FELIS CATUS VAR BENGAL	Bengal Cat
GAMBUSIA AFFINIS	Gambusia
GYMNORHINA SP	Magpie
HAEMAPHYSALIS LONGICORNIS	Cattle Tick
HEMITRAGUS JEMLAHICUS	Himalayan Thar
ICTALURUS NEBULOSUS	Catfish
LEUCISCUS IDUS	Orfe

Scientific Name	*Common Name*
LINEPITHEMA HUMILE,	Ant (Argentine)
MACROPUS PARMA	Parma Wallaby
MACROPUS EUGENII	Dama Wallaby
MACROPUS RUFOGRISEUS RUFOGRISEUS	Bennett's Wallaby
MUS MUSCULUS	House Mouse
MUSTELA ERMINEA	Stoat
MUSTELA FURO, ,	Ferret
MUSTELA NIVALIS	Weasel
ODOCOILEUS VIRGINIANUS	Feral Whitetail Deer
ORYCTOLAGUS CUNICULUS	Rabbit
PETROGALE PENICILLATA	Brushtailed Rock Wallaby
RATTUS EXULANS	Kiore Rat
RATTUS NORVEGICUS, ,	Norwegian Rat
RATTUS RATTUS	Ship Rat
RUPICAPRA RUPICAPRA	Feral Chamois
SCARDINIUS ERYTHROPHTHALMUS,	Rudd
SUS SCROFA	Feral Pig
TINCA TINCA	Tench
TRICHOSURUS VULPECULA	Possum
VESPULA SPP	Wasps
WALLIBIA BICOLOUR	Swamp Wallaby

TABLE 6 – *Marine pests contained within the Strategy listed in alphabetic order - common name*

Common Name	*Scientific Name*
ASIAN CLAM	Potamocorbula amurensis
CAULERPA SEAWEED	Caulerpa taxifolia
CHINESE MITTEN CRAB	Eriochier sinensis
EUROPEAN SHORE CRAB	Carcinus maenas
MEDITERRANEAN FANWORM	Sabella spallanzanii
NORTHERN PACIFIC SEASTAR	Asterias amurensis
SEA SQUIRT	Didemnum vexillum
SEA SQUIRT	Styela clava
UNDARIA	Undaria pinnatifida

APPENDIX 2 - Potential Pests and Issues

This is a table of pest plants, pest animals and related issues that were suggested during submissions in the development of this Strategy. A Potential Pests Section has no rules or objectives. They are not designated as pest under this Strategy. However, they will be considered in the next review of the Strategy.

Potential Pest Plants

Common Name	*Scientific Name*
BONESEED	Chrysanthemoides monilifera
CHILEAN GUAVA/CRANBERRY	Ugni molinae
COMMON REED	Phragmites australis
CORSICAN PINE	Pinus nigra
CURLY PONDWEED	Potamogeton crispus
CUT-LEAVED BLACKBERRY	Rubus laciniatus
DIDYMO	Didymosphenia geminata
HEATHER	Calluna vulgaris
HEATH RUSH	Juncus squarrosus
HORSETAILS	Equisetum arvense, E. hymale
HYDRILLA	Hydrilla verticillata
INDIAN KNOTWEED	Polygonum polystachyum
MAYTEN TREE	Maytenus boaria
MONTPELLIER BROOM	Teline monspessulana
ROWAN	Sorbus aucuparia
RUSSELL LUPIN	Lupinus polyphyllus
SCOTS PINE	Pinus sylvestris
SERVICEBERRY	Amelanchier sp.
SILVER BIRCH	Betula pendula
STINGING (PERENNIAL) NETTLE	Urtica dioica

Potential Pest Animals

Common Name	*Scientific Name*
CLOVER ROOT WEEVIL	Sitona lepidus
FERAL PIGEONS	Columba livia
HARES	Lepus europaeus
VARROA BEE MITE	Varroa destructor

Potential Pest Issues

Issue
UPPER CATCHMENTS - pest plants to be made exclusion or eradication in suitable areas
GRAVEL – develop rules with regard to issues of pests in gravel extraction or machinery

APPENDIX 3 - Gorse and Broom Urban Suppression Area Maps

The following seven pages of maps illustrate the urban areas affected by the suppression of Broom (see page 71) and Gorse (see page 75). All land occupiers within the blue line are required to remove all gorse and broom from their land. If a land occupier is unsure about whether they are required to comply with the rule because they are on the boundary, they should ring Environment Southland and seek clarification. Those people outside the blue line are required to keep their boundaries clear of broom and gorse by 10 metres, where that boundary is clear of, or being cleared of, these plants.

Data Sources: ES GIS 2001. Topographical and Cadastral Information sourced from LINZ. Digital Licence No. TD 093614/92. COPYRIGHT RESERVED.

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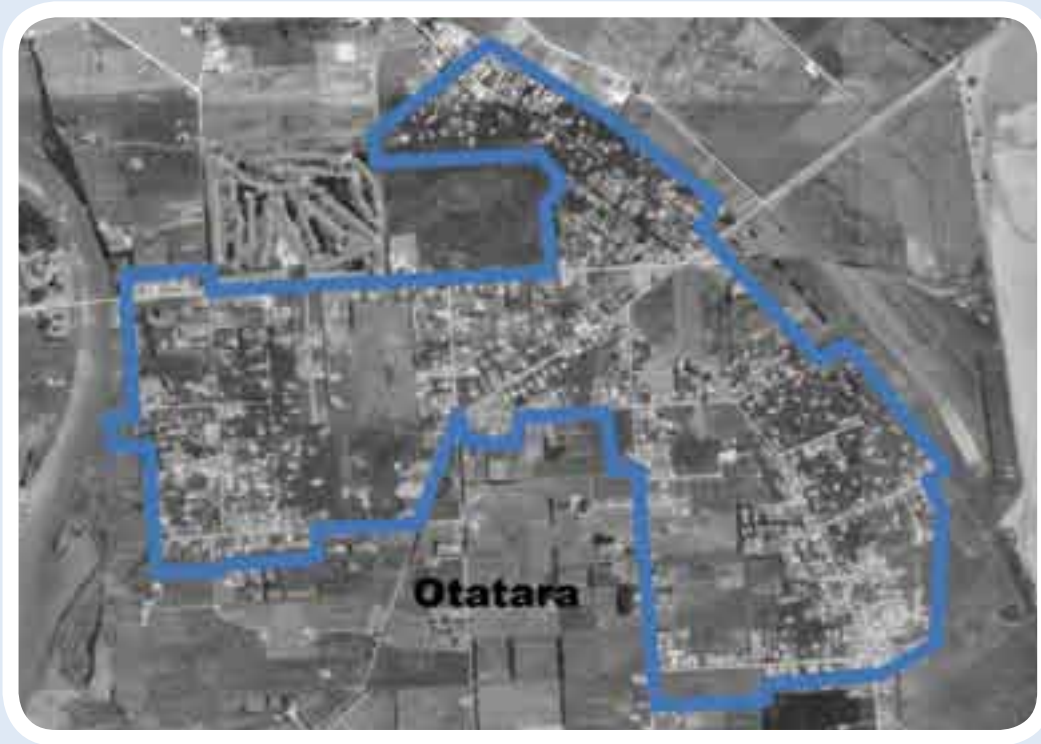
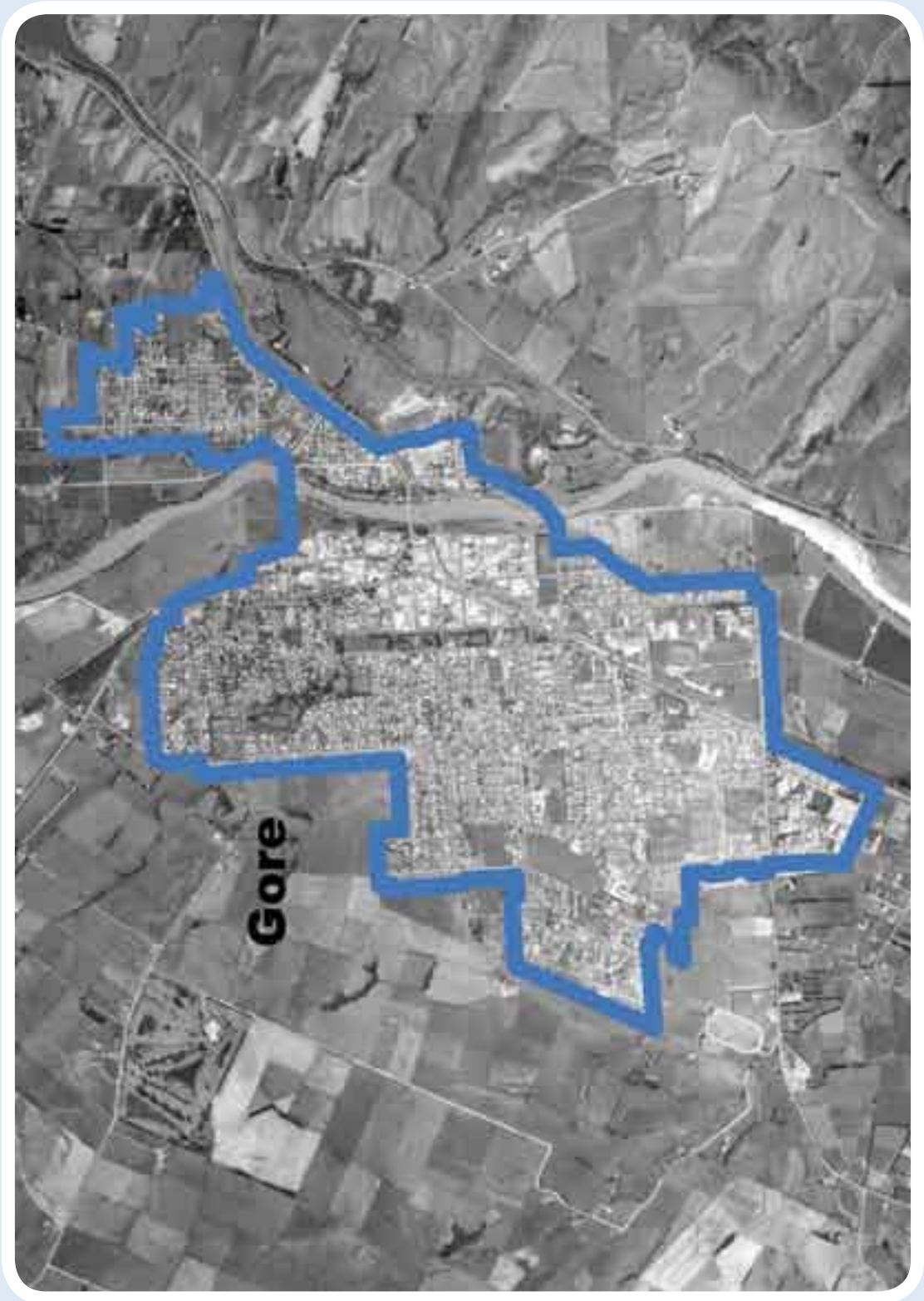
Invercargill


Otatara


Gore


Mataura


Wyndham


Edendale


EGERTON
ROAD
Winton
CHANNEL RD
WELSH RD
SUBSTATION ROAD
WINTON
PRICE RD
GERRARD
50
49
48
47

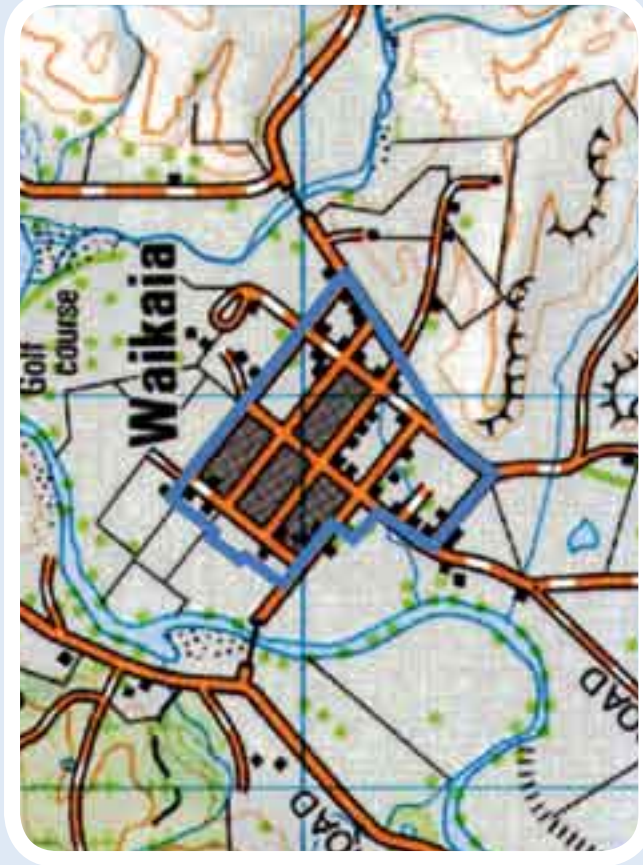

Bluff

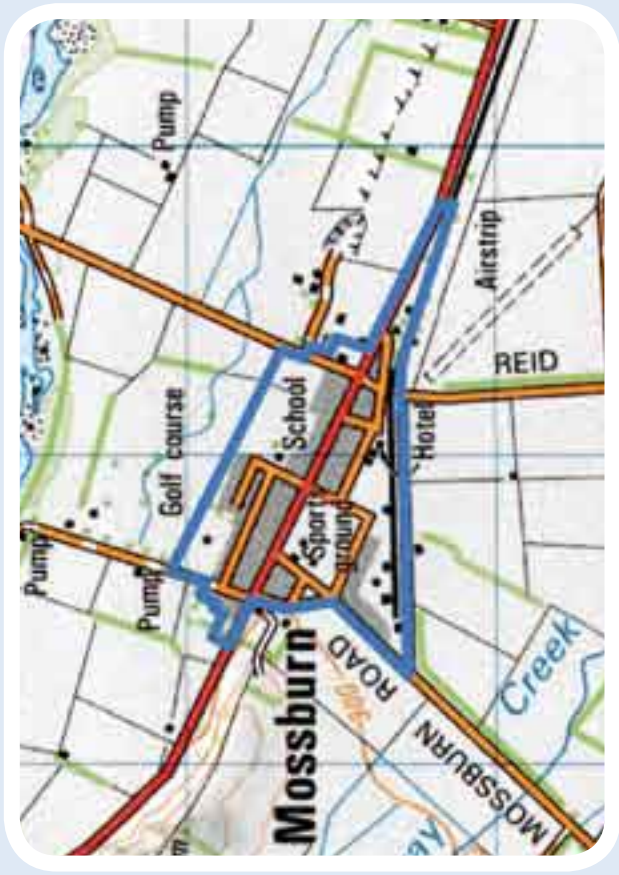

Wallacetown


Balfour
KRUGER
Cemetery
Sports ground
School
94


Sports ground
Riversdale


Athol
Refuse tip
Glenquoich
Hall
506


Waikaia
Golf course

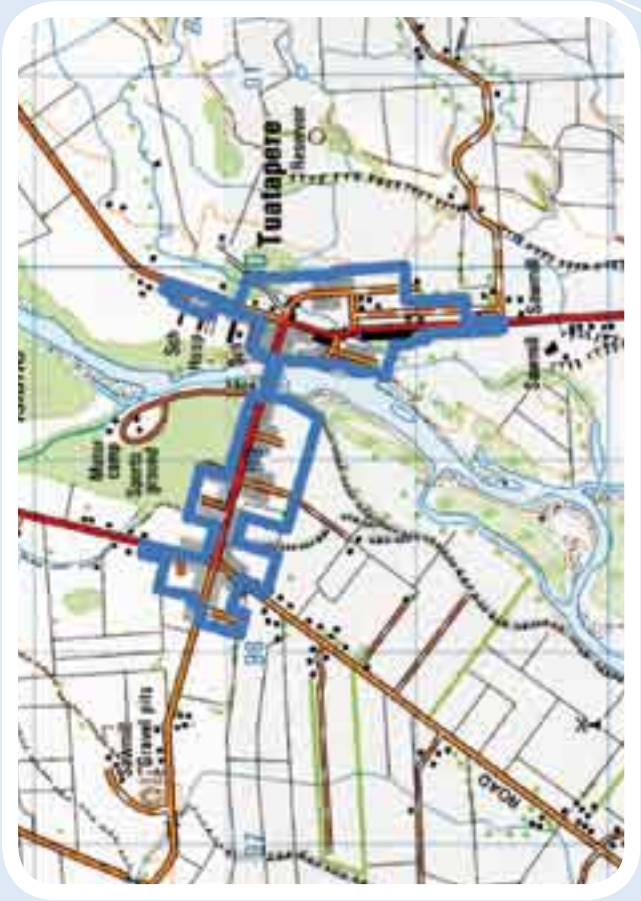

Pump
Airstrip
REID
School
Golf course
Hotel
Sport ground
Pump
Pump
ROAD
MOSSBURN
Creek
Mossburn


Camping ground
Te Anau


Water tank
Sub stn
Baths
Lumsden
Post office
Camping ground
Sports ground


Refuse tip
Camping ground
Hall & library
Fraser
Beach
Fraters
Jetties
Manapouri


Golf course
Ohai
Sch
BLUE
Sub stn


Tuatapere


Sch
Sch
Training track
Wairio
Nightcaps
NIGHTCAP


Otautau

APPENDIX 4 - Reference to Residual Trap Catch for Possums

National Possum Control Agencies, 2005. ***Protocol For Possum Population Monitoring using the Trap Catch Method***. National Possum Control Agencies ISBN 0-9583736-0-4

For latest version, refer to www.npca.org.nz

APPENDIX 5 - Modified McLean Scale for measuring rabbit density

Modified McLean Scale

Level	*Description*
1	No sign. No rabbits seen.
2	Very infrequent sign present. Unlikely to see rabbits.
3	Sign infrequent with heaps more than 10 m apart. Odd rabbits may be seen
4	Sign frequent with heaps more than 5 m apart but less than 10 m apart. Groups of rabbits may be seen.
5	Sign very frequent with heaps less than 5 m apart in pockets. Rabbits spreading.
6	Sign very frequent with heaps less than 5 m apart over the whole area.
7	Sign very frequent with 2-3 heaps often less than 5 m apart over the whole area. Rabbits may be seen in large numbers over the whole area.
8	Sign very frequent with 3 or more heaps often less than 5 m apart over the whole area. Rabbits likely to be seen in large numbers over the whole area.
9	Infestation almost at peak.
10	Maximum level, rabbits must spread out over a wide area or starve.

Source: ***Rabbit Managers Fact Pack 1992*** published by Ministry of Agriculture and Forestry in conjunction with regional councils.

Pest Dispersal through Contaminated Gravel, Machinery and Equipment

Background

The role of pest species dispersing through contaminated gravel, machinery and equipment is a concern. Environment Southland requires consent holders for land use activities, including gravel extraction, to take all reasonable precautions to minimize the spread of pests. The standard conditions for these consents require a consent holder to:

- remove any vegetation caught on the machinery;
- where necessary, clear vegetation from the site before gravel is extracted;
- avoid working in areas where aquatic weeds such as ***Lagarosiphon major*** are known to be present; and
- to avoid the spread of ***Didymosphenia geminata*** or any pest plant, do not use machinery in the berm or bed of the river that has been used in any area where the pest plant(s) are known to be present in the previous 20 working days, unless it has been thoroughly cleansed.

Code of Practice to Help Prevent Pest Dispersal

Currently, there is no Code of Practice to help prevent pest species dispersing through contaminated gravel, machinery and equipment. Over the term of the Strategy, Environment Southland will work in conjunction with gravel extractors and machinery operators to develop such a Code of Practice. The Code of Practice will include information on how to identify pest species and the measures required to prevent them being transported to other areas. Environment Southland will also initiate public awareness campaigns over the term of the Strategy to increase the awareness of the Southland community about the risk of pest species dispersing through contaminated gravel, machinery and equipment.

APPENDIX 7 - Permits - brief system outline

Permits are required to keep and/or farm some of the pests in this Strategy. Depending on the law that applies to a pest a permit must be sought from either Environment Southland or the Department of Conservation.

Where it is stated in the Strategy rules that a permit applies to a species you must apply to the organisation specified in the rules for that species.

Some animal species listed as pests in this Strategy are subject to rules under the Biosecurity Act 1993. A permit is required from Environment Southland to keep:

- GOATS - outside the goat containment area in Southland.
- BENGAL CATS - in the Southland region.
- CHINCHILLA - in the Southland region.

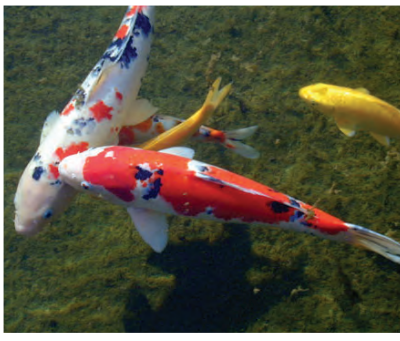
The permit system is designed to ensure that the person keeping any of these animals understand the rules in the Strategy and will take all reasonable steps to prevent the establishment of a feral population.

The permit system may place conditions on the keeping of the above animals where appropriate. For goats it is a condition for them to be ear tagged to enable them to be identified as domestic rather than feral animals (for specific details contact Environment Southland).

Several other animal species listed as pests in this Strategy are also subject to rules under the Wild Animal Control Act 1977. As a result, a permit is required from the Department of Conservation to keep:

- HIMALAYAN THAR
- WALLABY
- CHAMOIS
- MUSTELIDS
- POSSUMS



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