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TO PROTECT WHAT WE TREASURE

# Biosecurity Strategy

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October 2019



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# Otago Regional Council Biosecurity Strategy



<b>Proactive Biosecurity Management</b> Addressing issues before they become significant	<b>Responsive and Flexible</b> Utilise the most efficient and effective methods for control	<b>Integrated and Collaborative Action</b> Working with all parties at all levels	<b>Landscape Scale and Site Scale</b> Target key areas for collaborative and coordinated control
Action 3.1.1 Managing pathways  Action 3.1.2 Excluding harmful organisms from Otago  Action 3.1.3 Eradicating pests from Otago  Action 3.1.4 Investing in research and development	Action 3.2.1 Administer the Pest Management Plan  Action 3.2.2 Be flexible in responding to other biosecurity issues  Action 3.2.3 An 'all of council' approach to biosecurity at Otago Regional Council  Action 3.2.4 Regularly report on biosecurity issues and successes	Action 3.3.1 National and sub-national initiatives with MPI and others  Action 3.3.2 Cooperation and partnerships with local authorities  Action 3.3.3 Support and work in partnership with Kai Tahu  Action 3.3.4 Support and empower Otago's people and communities	Action 3.4.1 Provide regional leadership and support for site-led programs  Action 3.4.2 Advocate and support the continued suppression of lagarosiphon  Action 3.4.3 Other site and landscape scale initiatives
<ul style="list-style-type: none"> <li>• Biosecurity technical working group</li> <li>• A marine pathway management plan</li> <li>• Landowner led possum control programme</li> <li>• Exclusion pest surveillance programme</li> </ul>	<ul style="list-style-type: none"> <li>• Update Otago Regional Council operating procedures</li> <li>• Guidance on harmful organisms</li> <li>• Transitional programmes in Pest Management Plan</li> <li>• Urban gorse and broom programme</li> <li>• Landowner led rabbit programme</li> </ul>	<ul style="list-style-type: none"> <li>• Support Enviroschools in biosecurity</li> <li>• Promote the eco fund</li> <li>• Volunteer facilitation programme</li> <li>• Shared data platform</li> <li>• National or multi-regional pest management responses</li> </ul>	<ul style="list-style-type: none"> <li>• Contributes to Predator Free Dunedin management plan and develop an Otago Regional Council plan of action</li> <li>• Support Dunedin City Council urban linkages plan</li> <li>• Support groups with site led initiatives</li> </ul>

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**PART ONE**  
**Introduction**

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Old Man's Beard

# 1 Introduction

## 1.1 Purpose and scope

This strategy sets out the Otago Regional Council's (ORC) biosecurity approach and prioritises a programme of action for effective biosecurity management across Otago.

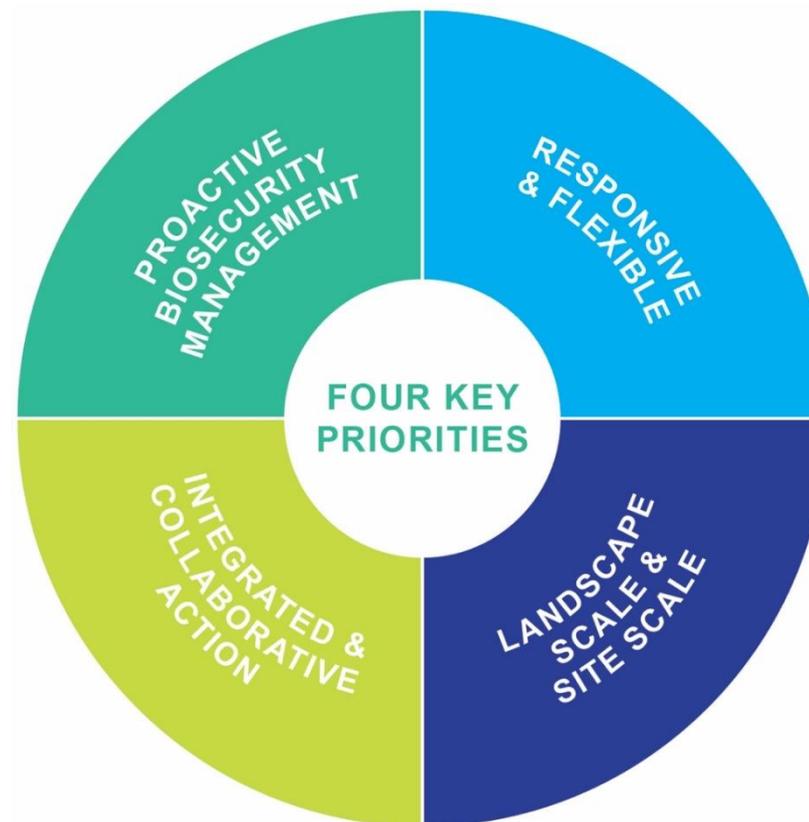
This strategy integrates ORC's statutory and non-statutory biosecurity functions, including the proposed Regional Pest Management Plan (Pest Management Plan) and all other biosecurity activities such as monitoring and surveillance, research, incursion responses and collaborative action.

The strategy will guide the delivery of ORC's biosecurity activities over the next 10 years. This includes different measures to protect our environment, economy and communities from the impact of harmful organisms

## 1.2 What we want to achieve

### To protect what we treasure from the impacts of harmful organisms

This is an ongoing, long-term goal for biosecurity in Otago. We have set four key priorities that shape how ORC will deliver biosecurity functions over the next 10 years. Each priority has a series of actions that inform how ORC will undertake biosecurity management. An implementation programme then sets out key projects and activities for the first five years of this strategy and requires an annual operation plan be prepared to measure progress.



### 1.3 Introduced species in our region

Otago covers 12% of New Zealand's land area and at about 32,000km<sup>2</sup>, is the second largest region in New Zealand. We have a high level of endemism, a wide range of geography and ecosystems, from alpine regions, glacial lakes, grasslands, forests, and a dramatic coastline.

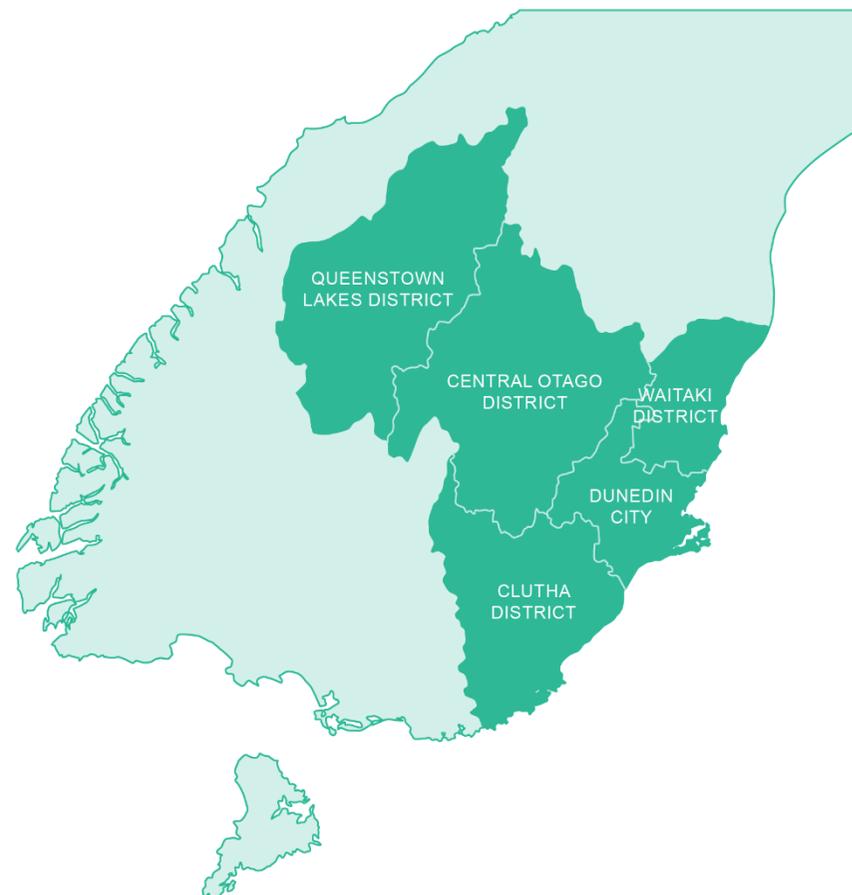
Agriculture is the basis of Otago's economic development and continues to be a major source of revenue, as does mining and education. Tourism is also a key contributor to the Otago economy and a significant employer in the region. Otago's landscapes and geography are a key attraction to those who visit the region.

Many of New Zealand's introduced species are now harmful organisms in Otago. Some of these were introduced for trades and industries, some by acclimatisation efforts, and others accidentally. Some have only recently arrived. Given our region's reliance on our agricultural and tourism sectors, and our abundant biodiversity, harmful organisms have a major impact on our region.

### 1.4 What the Biosecurity Strategy covers

#### Harmful organisms

A harmful organism is a plant, animal or other organism that is capable of causing harm to our environment, communities or economy. Not all harmful organisms can or should be managed in Otago's Pest Management Plan, and this strategy identifies how ORC will respond to all organisms that cause us harm. Harmful organisms may be 'pests', 'unwanted organisms' or 'organisms of interest'.



## Pests

The 51 pest plants and animals in Otago's Pest Management Plan are legally declared as pests under the Biosecurity Act 1993. This means ORC can set enforceable rules to manage them. The Plan is reviewed every 10 years in accordance with the Biosecurity Act.

## Organisms of interest

As described above, only some harmful organisms in Otago are designated as pests in Otago's Pest Management Plan, however many others present a biosecurity risk. We have compiled a list of organisms that are of interest to Otago and may be candidates for pest status in the future, depending on changes to their distribution or degree of impact, as well as the ability for us to successfully control these species.

## Unwanted organisms

An unwanted organism is an organism declared under the Biosecurity Act 1993 that cannot be sold, propagated, bred, multiplied, communicated, released, caused to be released or otherwise spread. A database of unwanted organisms is administered by the Ministry for Primary Industries. The National Pest Plant Accord and the National Pest Pet Biosecurity Accord are also national registers of organisms that can be managed using the same controls. Unwanted organisms may be controlled at a national, regional or local level.



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**PART TWO**  
**Why a Biosecurity**  
**Strategy?**

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## 2 Why a Biosecurity Strategy?

### 2.1 Biosecurity issues in Otago

This strategy sets out ORC's biosecurity priorities for the Otago region. This includes different measures to protect our environment, economy and communities from the impacts of harmful organisms. This requires a coordinated regional effort if we are to make a difference.

#### Indigenous biodiversity

Otago is one of the most biodiverse regions in New Zealand. From the albatross/toroa and yellow-eyed penguins/hoiho on the Otago Peninsula, to the endangered skinks/mokomoko of Central Otago and the cheeky kea of the Southern Alps. Not to mention the hundreds of indigenous lizards, birds, freshwater fish, plants, and marine species. Many species in Otago have a high level of endemism, and are found nowhere else on earth.

Our indigenous biodiversity contributes to our health, our economy, and our social and cultural wellbeing. However, what little remains is increasingly threatened by harmful organisms. Species such as rats and stoats predate on our native and often vulnerable or endangered ground-nesting and flightless birds. There are more than 400 weeds of conservation concern in New Zealand. In Otago, invasive plants like old man's beard smother and kill native vegetation if left uncontrolled and destroy vulnerable habitats. This biosecurity strategy seeks to manage the impacts of organisms that harm our environment and works in tandem with ORCs Biodiversity Strategy.

#### Mana Whenua values

Kāi Tahu are mana whenua of the Otago region. Kāi Tahu means the 'people of Tahu', linking them by name to their common ancestor Tahu Pōtiki. The Kāi Tahu tribal area extends from the sub-Antarctic islands in the south to Te Parinuiowhiti (White Cliffs, Blenheim) in the north and to Kahurangi Point on Te Tai o Poutini (the West Coast). Te Rūnanga o Ngāi Tahu (the iwi authority) comprises 18 papatipu rūnaka, of which four are in Otago. The four Otago rūnaka are Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Otakou, and Hokonui Rūnanga.

Harmful terrestrial and aquatic organisms can adversely affect the values of Kāi Tahu and rūnaka. Harmful aquatic species can affect mahika kai and Wai Māori. Kāi Tahu identify the maintenance and enhancement of associations with mahika kai as primary means to realise intergenerational knowledge transfer and thus strengthen cultural identity and wellbeing. Predator species and invasive plant species adversely affect biodiversity that is significant to Kāi Tahu and can impact wāhi tūpuna.

The Kāi Tahu Natural Resources Management Plan 2005 contains a number of issues, objectives and policies regarding the control of biosecurity threats. It also informs Kāi Tahu expectations regarding the nature of participation and consultation in natural resource management matters.

## Economy

Otago's regional GDP in 2015 was \$10.2 billion, comprising 4.2% of national GDP. Agriculture is a major source of revenue accounting for \$555 million (5.4%) of GDP (Statistics NZ). Agriculture includes animal farming and crop growing both of which are important for the Otago region. Dairy farming for example covers a total of 91,438 hectares in Otago and accounts for 5.7% of New Zealand's dairy production (New Zealand Dairy Statistics 2017-18, LIC). Tourism now provides more than a quarter of Otago's GDP, the highest proportion for any region (Partially Operative Otago Regional Policy Statement). Tourism and Agriculture are key contributors to the Otago economy and employment with the region's biodiversity, landscapes, natural resources and geography important for both of these industries.

Harmful organisms increasingly have a major impact on Otago's economy. This costs the country billions of dollars in lost revenue and control. For example, pastoral weeds are conservatively estimated to cost the New Zealand economy \$1.2 billion per annum in lost production and control costs. In Otago, production pests such as ragwort can affect stock, and pests such as nodding thistle and nassella tussock can impact production values. Other species such as possums can spread viruses and diseases such as bovine tuberculosis. Wallabies and rabbits are significant production pests, where ORC invests considerable resource to manage the impacts of spread.

### Case study: Rabbits

Rabbits were originally introduced to New Zealand by European settlers, but shortly spread out of control. They've remained one of the biggest pests in Otago ever since.

Rabbits impact pastoral production, particularly on extensive farming operations. Ten rabbits can eat as much grass as one sheep, and rabbit populations can explode quickly.

Controlling rabbits remains the responsibility of all landowners. Effective management of these pests requires all landowners, large and small, to keep rabbit numbers down on their property.



## Landscape, amenity and recreation

Harmful organisms can reduce the community's enjoyment of natural areas by impacting access and restricting travel. They can destroy wilderness areas, affect our waterways and reduce animal, plant and fish numbers. This can impact the values of our landscapes, adversely affecting visual amenity for Otago's residents and visitors, cultural landscapes and our sense of identity.

Tree species such as wilding conifers can completely transform vast landscapes. Gorse and broom can restrict access to rivers, making it difficult for people fishing and picnicking. Aquatic weeds such as lagarosiphon, didymo and lake snow can impact where we can swim and recreate.

### Case study: Wilding conifers

A national collaborative model has been established to prevent the spread of, and to progressively remove, wilding conifers from certain areas, through the National Wilding Conifer Control Programme which commenced in 2016.

In Otago, this effort has seen nearly 300,000 hectares cleared over 2016 – 2018 on the back of a partnership effort between ORC, government agencies, local councils, landowners and community groups like the Central Otago Wilding Conifer Control Group and the Wakatipu Wilding Conifer Control Group.

Photo reference: RH 01



## 2.2 Otago Regional Council's role in biosecurity

ORC provides regional leadership to manage biosecurity issues in Otago, working closely with mana whenua, communities, central and local government and other key agencies and groups. The legislation and policy instruments that underpin or authorise ORC's biosecurity-related programmes and activities are summarised below.

### The Biosecurity Act 1993

The Biosecurity Act 1993 (the Act) mandates regional councils to provide: "...leadership in activities that prevent, reduce, or eliminate adverse effects from harmful organisms that are present in New Zealand (pest management) in their region". This includes:

- (a) *promoting the alignment of pest management in the region;*
- (b) *facilitating the development and alignment of regional pest management plans and regional pathway management plans in the region;*
- (c) *promoting public support for pest management; and*
- (d) *facilitating communication and co-operation among those involved in pest management to enhance effectiveness, efficiency, and equity of programs (section 12B(2) of the Act).*

The Act is enabling and any regional council involvement in pest management activities is at the Council's discretion. ORC is involved in various national control programmes, including for wilding conifer control, didymo and lake snow.

However, the imposition of any rules or regulatory powers under the Act requires the preparation of a regional pest management plan, pathway management plan or small-scale management programme (pest plans).

The National Policy Direction is a regulation that sets out additional requirements for the development of pest plans. This includes requirements to ensure that they are cost effective (the benefits outweigh the costs), all pest plans align, how to set good neighbour rules and direction on how plans must be prepared.

### Proposed Otago Regional Pest Management Plan

The Pest Management Plan provides a regulatory framework for efficient and effective management or eradication of 51 animal and plant pest species to reduce the adverse effects of these pests and to maximise the effectiveness of pest management action by providing a regionally coordinated approach. These pests will be managed on a regional or site led basis.

Not all organisms that cause harm are managed by the Pest Management Plan. Some species may already be managed by a different agency or might be better suited to a different management approach, or the costs of managing the organism may outweigh the benefits of doing so.

### Pathway management plans and small-scale management programmes

Pathway management plans set rules to prevent harmful organisms from being transported into new or different areas. There are no regional pathway management plans in Otago. However, these may be developed in the future and could apply on a regional or multi-regional basis. ORC will investigate the potential for pathway plans, including for marine species.

Small-scale management programmes can be utilised for any unwanted organism. To undertake a small-scale programme, ORC must prepare a public notice, and can then immediately undertake direct control without needing to prepare or review a pest plan. Section 100V of the Act sets out these criteria. This includes being satisfied that without action the

organism could cause serious impacts, and that it can be effectively eradicated or controlled within three years.

### Other legislation, plans and strategies

The Local Government Act 2002 (LGA) sets out the statutory purpose of district and regional councils and the Long Term Plan (LTP) process provides a framework for the direction and priorities of each local authority. Through LTPs, councils secure funding for their activities in consultation with their communities. This includes funding for biosecurity activities.

Regional councils also have responsibilities under the Resource Management Act 1991 (RMA) for natural and physical resources. Adverse effects are managed through regional policy statements, regional and district plans, and resource consents. Regional policies and plans can manage activities so that they do not create or exacerbate biosecurity risks. ORC's Regional Policy Statement contains policies and methods to manage biosecurity effects.

### Otago Biodiversity Strategy

ORC has also recently adopted a regional Biodiversity Strategy which outlines actions and programmes that ORC will lead or participate in to achieve improved biodiversity outcomes. The control of harmful organisms makes a significant contribution to biodiversity outcomes. This will be recognised in the implementation of the Biosecurity Strategy and Biodiversity Strategy, by ensuring integrated outcomes are achieved across the two.

### 2.3 The role of other agencies

Other agencies and groups also have statutory roles and obligations and undertake action in relation to biosecurity. As part of this strategy, the ORC is seeking not to duplicate the work of other agencies and groups, but rather identify activities and programmes to work collaboratively, provide support and add value where appropriate.



**Central government:** managing risk offshore, developing international standards and rules, trade and bilateral agreements, monitoring emerging risks, setting import health standards.



**Ministry of Primary Industries:** Intercepting biosecurity risks at the border, verifying compliance with the rules. National readiness, surveillance response and management. Department of Conservation and Land Information New Zealand also carry out national and multiregional coordinated control.



**Otago Regional Council:** Eradication, containment and control of pests and diseases within and between regions. This involves participating in national and multiregional initiatives with government ministries/departments, organisations and regional councils.



**Individuals, groups, Territorial Authorities and organisations:** Protecting the places that we value. New actions are identified in this Strategy so that ORC further supports biosecurity initiatives at a local level.

## Ministry for Primary Industries

The Ministry for Primary Industries (MPI) is the Government department charged with leadership of New Zealand's biosecurity system. MPI has the lead role in administering the Biosecurity Act and undertaking pest and disease surveillance. MPI's responsibilities include preventing the introduction and spread of new species to New Zealand. Key MPI policies/plans include The National Policy Direction for Pest Management 2015 (National Policy Direction), the Biosecurity 2025 Direction Statement and the Pest Management National Plan of Action 2010. MPI lead national and sub-national responses to biosecurity incursions.

## The Department of Conservation

The Department of Conservation (DOC) is funded and empowered to manage pests and harmful organisms on public conservation land and is the principal central government agency involved in the conservation of biodiversity. DOC's role is broad and multifaceted, operating under the Conservation Act 1987, the National Parks Act 1980, the Wildlife Act 1953, the Wild Animal Control Act 1977, and the Reserves Act 1977.

DOC's statutory responsibilities include managing public conservation land, freshwater fisheries (including pest freshwater fish under the Freshwater Fisheries Regulations 1983), and the control of wild deer, chamois, thar, goats and pigs under the Wild Animal Control Act 1977. DOC is also required to control pests on land that they occupy or administer in accordance with any good neighbour rules in the Pest Management Plan.

## The New Zealand Transport Agency

The Transport Agency is a statutory entity and a Crown agent under Section 7 and Schedule 1 of the Crown Entities Act 2004 and therefore a Crown entity. As a Crown entity, the Transport Agency is subject to

provisions applicable to land occupiers for the purposes of obligations for pest control on road reserves or verges.

## Territorial Authorities

Otago is made up of five territorial authorities: Dunedin City Council, Clutha, Central Otago, Queenstown Lakes and Waitaki District Councils. Waitaki District straddles both the Otago and Canterbury regions.

Each territorial authority manages council reserves and undertakes direct management of harmful organisms impacting on reserves and other council administered land, within that territory. Territorial authorities are also road controlling authorities in their district. They are required to control pests on land that they occupy or administer in accordance with the Pest Management Plan rules.

## KiwiRail

KiwiRail is the Crown agent responsible for managing New Zealand's railway infrastructure. KiwiRail is required to control pests on land that they occupy or administer in accordance with the Pest Management Plan rules.

## Land Information New Zealand

Land Information New Zealand (LINZ) manages over 5,000 properties across New Zealand, totalling almost two million hectares and 8% of New Zealand's land area. These include high country pastoral leases, Crown forest licensed land, former railway properties and the beds of many lakes and rivers. LINZ is responsible for biosecurity on land under its management and works collaboratively with other parties in undertaking its pest control programmes. This includes controlling pests in accordance with any good neighbour rules set out in the Pest Management Plan.

## Predator Free 2050

Predator Free 2050, led nationally by the Predator Free New Zealand Trust, has a goal to rid New Zealand of the most damaging introduced predators that threaten our natural taonga, our economy and primary sector. Ridding New Zealand of possums, rats and stoats by 2050 is a nationwide goal, with new techniques and a co-ordinated effort across communities, iwi, and public and private sectors.

At a local level, predator control initiatives are underway across Otago. This varies from smaller scale projects to large landscape scale initiatives in different areas across the region.

Predator Free Dunedin is a collaboration of 20 stakeholders working together to implement predator free objectives across large landscape scale projects on Otago Peninsula, North Harbour/Mt Cargill and the Dunedin urban area. The Pest Management Plan and this strategy supports the delivery of these predator free objectives and seek to support smaller scale and other landscape scale projects too.

## Groups, industries and individuals

Everyone has responsibilities for pest management. At the individual level, people manage their land to keep it free of weeds and pests, particularly where this benefits them. Everyone is bound by the requirements in the Biosecurity Act for unwanted organisms and private land occupiers are required to control pests in accordance with the Pest Management Plan rules. There are many groups and non-governmental organisations in Otago that also play a key role in biosecurity management by undertaking voluntary management as part of biodiversity projects and site led initiatives.

At an industry level, industries such as OSPRI and Kiwifruit Vine Health, have prepared and are implementing national pest management plans under the Biosecurity Act. Other examples include the Plant Nurseries Association involvement in the National Pest Plant Accord, and Port Otago's involvement in marine pest surveillance and management.

### Case study: OSPRI

OSPRI is a partnership between the primary industry sector and the government. OSPRI's TBfree programme aims to eradicate bovine tuberculosis affecting stock.

A core component of this is the control of possums. Possums are very susceptible to TB and the disease can spread quickly in them. This makes controlling possum numbers, particularly in areas where TB is prevalent, a key component of OSPRI's work. Infected herds have reduced nationally from over 300 in 2003 to 54 in 2017.



Photo reference: 02

A close-up photograph of Darwin's Barberry (Berberis darwinii) showing clusters of small, round, green berries on a woody branch. The berries are in various stages of development, with some showing a slight reddish tint at the base. The background is a soft-focus green, suggesting a dense foliage.

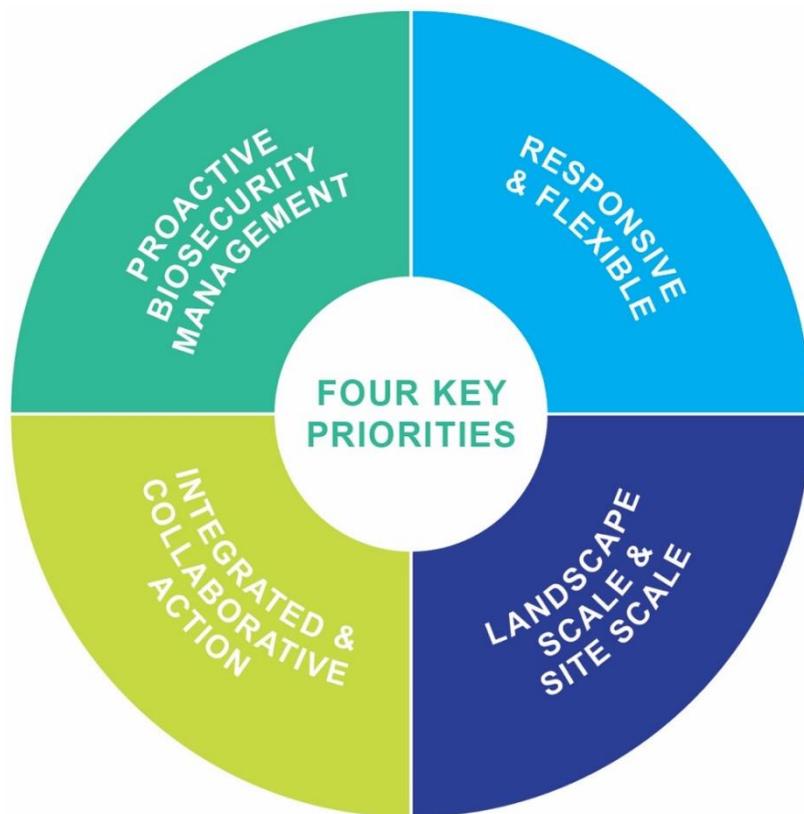
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**PART THREE**  
**Key regional  
priorities and actions**

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### 3 Key regional priorities and actions

To achieve our long-term goal for biosecurity in Otago, four key regional priorities have been identified. Each of the four key priorities have a series of actions that inform how ORC will undertake biosecurity management over the next 10 years.



#### 3.1 Proactive biosecurity management: Addressing issues before they become significant

ORC's first key priority is proactive biosecurity management. This means addressing biosecurity issues before they become significant. ORC has a number of management options, and the most appropriate response will depend on the nature of the organism, the potential risk, and the effectiveness of the options available to respond. These actions include:

##### Action 3.1.1 Managing pathways

- **Advocate for the preparation of national and sub-national pathway management plans** where rules are needed to prevent harmful organisms from being transported into new or different areas.
- **Actively advocate for a national marine pathway management plan** to minimise the risk of marine pests being spread throughout the coastal marine area within Otago and between regions.

##### Action 3.1.2 Excluding harmful organisms from Otago

- **Undertake research and surveillance for exclusion pests** in ORC's Pest Management Plan. Where neighbouring councils manage or exclude the same species, work collaboratively on research and surveillance where it is efficient and effective to do so.
- **Undertake risk assessments of other harmful organisms** that are not yet present in Otago but may have the potential to cause significant harm if they were established. As above, collaborate with neighbouring councils where they are also investigating the same species.
- **Utilise the rules and powers in the Pest Management Plan to eliminate incursions** where exclusion pests are discovered in Otago.
- **Utilise the Biosecurity Act to implement small-scale programmes** where an unwanted organism that was not previously present in Otago

is now present, and without direct action, the organism could cause serious impacts.

#### Case study: Marine pests in Otago

Otago Harbour is highly valued by the community and a vital transport hub for the region. This means it is also subject to high traffic, which can spread marine pests.

Recent surveys of the Harbour have not identified any 'new-to-New Zealand' pests. However, already established marine pests like clubbed tunicate and Japanese seaweed remain present.

ORC is advocating for a national marine pathway management plan to provide a coordinated and effective management approach to marine pest spread.

#### Action 3.1.3 Eradicating pests from Otago

- **Within the 10 year life of the Pest Management Plan, eradicate rooks and spiny broom** from Otago. Once eradicated, update their status in the Pest Management Plan to exclusion species and continue surveillance to prevent any new incursions.
- **Within the 10 year life** of the Pest Management Plan, eradicate possums from Otago Peninsula. Once eradicated, identify new areas for possum eradication.
- **Investigate the potential to eradicate Spartina and one or more of the species** listed in the Pest Management Plan as progressive containment species, once the species above are eradicated.

#### Action 3.1.4 Investing in research and development

- **Monitor the state of the environment**, including the impacts of harmful organisms on biodiversity and water quality.
- **Contribute to and facilitate regional, national and international research** on biological controls for harmful organisms.
- **Prioritise this research to target harmful organisms** that have the greatest threat to the Otago region, and where possible, work collaboratively with other organisations so that research is cost effective to ORC and can be of value to more people.
- **Advocate and educate people and communities on the best technologies available** and new innovations to manage harmful organisms where these provide more efficient, effective, and humane control techniques.

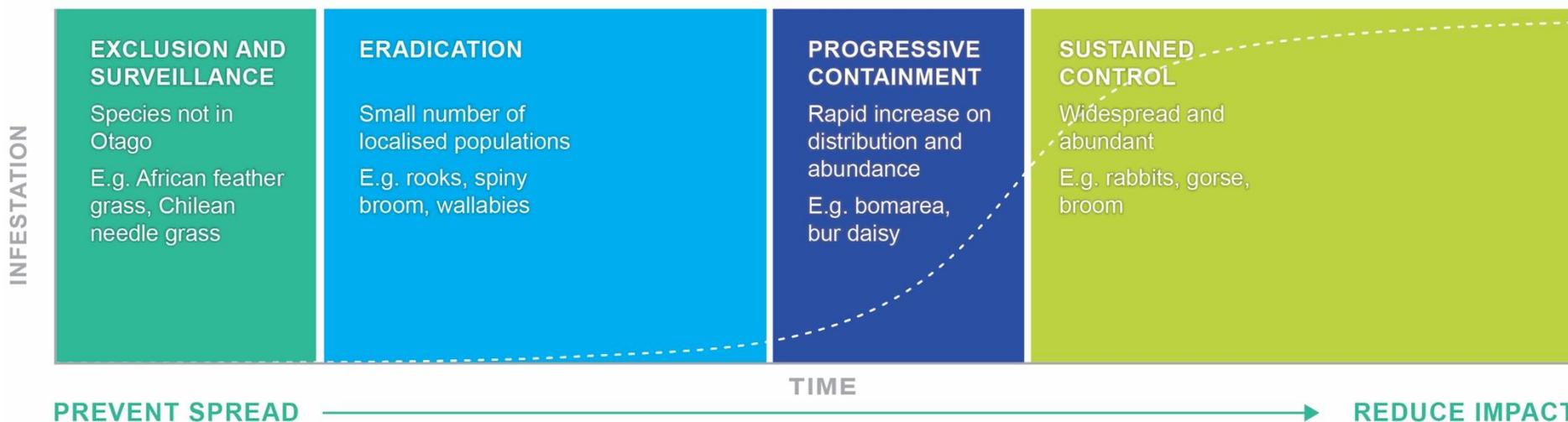
3.2 Responsive and flexible: Utilise the most efficient and effective methods to control harmful organisms

ORC's second key priority is to be responsive and flexible in delivering biosecurity outcomes. This means managing harmful organisms in the most efficient and effective way, and ensuring biosecurity outcomes are incorporated into all ORC's strategies, plans, and projects. It also means being adaptable to changing situations and taking a precautionary approach when little is known.

The pest infestation curve is used in New Zealand to help determine the most appropriate management option. The position of a species on the curve directly relates to the cost effectiveness of eradicating or controlling it. The lower the species is on the curve, the more cost effective it is to control. ORC uses this continuum to help decide how to best manage harmful organisms.

**Case Study: Eradicating rooks from Otago**

Rooks can damage cereals, new crops and pasture. Over the last few decades ORC has successfully reduced rook numbers from an estimated 150 birds in 2006 to less than 40 birds today. ORC aims to completely eradicate rooks from Otago within the next 10 years.



### Action 3.2.1 Administer the programmes in the Pest Management Plan

- **Undertake monitoring and surveillance of all pests** in the Pest Management Plan and administer the rules to achieve the Plan's objectives.
- **When administering the rules of the Pest Management Plan, work proactively with landowners and occupiers** to help them understand what rules apply to their land, what their responsibilities are, and give them advice and support on control options.
- **Utilise ORC's Exemption Powers under the Biosecurity Act**, where a flexible approach is required to effectively manage pests in the Pest Management Plan, and where landowners and occupiers meet the criteria set out in section 78 of the Act.

### Action 3.2.2 Be flexible in responding to biosecurity issues outside the Pest Management Plan

- **Support owners and occupiers by providing advice and information** on how to control harmful organisms that are not listed in the Pest Management Plan.
- **Provide additional guidance on the ORC website** about how to manage harmful organisms. This will include information on surveillance and identification, and control measures.
- **Develop internal guidelines for biosecurity staff** to inform the most efficient and effective response to biosecurity issues that arise.
- **Support incursion or management responses by other agencies**, including MPI, LINZ, DOC and other agencies where appropriate.

### Action 3.2.3 Apply an 'all of council' approach to biosecurity at Otago Regional Council

- **Ensure ORC's strategies and plans provide for improved biosecurity outcomes** in objectives, policies, rules and methods.
- **Consider and bolster where possible biosecurity outcomes** when undertaking and implementing ORC works and projects in other areas.
- **Strategically align ORC projects that provide biosecurity benefits** to apply an integrated and multi-level approach, particularly where these relate to site or landscape-scale projects and biodiversity outcomes.

### Action 3.2.4 Regularly report on biosecurity issues and successes

- **ORC will prepare an operational plan** in accordance with section 100B of the Biosecurity Act that sets out how ORC will administer the Pest Management Plan and biosecurity actions over the coming 12 months, and update and report on the plan outcomes on an annual basis.
- **Investigate new ways to share information on biosecurity issues and successes with communities.** This will include investigating how spatial information can be shared, such as monitoring and trapping programmes, and simple innovative ways to report on progress.

### 3.3 Integrated and collaborative action: Working with all parties at all levels

ORC's third key priority is to provide an integrated and collaborative approach in delivering biosecurity outcomes. This means actively advocating for, and participating in, biosecurity initiatives and projects at all levels; from national and sub-national projects, to regional and district partnerships, to supporting and empowering communities and individuals.

#### Case study: Lindis Pass Conservation Group

The Lindis Pass Conservation Group received \$4,713 of ORC funding to go towards tools, protective clothing and a chemical handler certificate to push back and contain invasive sweet brier in Lindis Pass Scenic Reserve. The Lindis Pass Conservation Group is made up of community volunteers who have a passion for the area. Their mission is to enhance and promote the natural conservation, landscape and recreational values of the Lindis Pass. The tools are essential to enable the volunteers to safely and efficiently carry out weed control through cutting and poisoning these clusters of dense, thorned shrubs.



#### Action 3.3.1 Actively advocate for and participate in national and sub-national initiatives with MPI and others

- **Actively advocate for national and sub-national management plans** to control unwanted organisms that require a multi-regional approach to most efficiently and effectively control the species.
- **Participate in other national and sub-national initiatives** to effectively control unwanted organisms that require a consistent and coordinated multi-regional approach.
- **Form collaborative partnerships with neighbouring regional councils** where councils have shared biosecurity goals; particularly where these relate to specific species, or site or landscape-scale projects.

#### Action 3.3.2 Work cooperatively and in partnership with territorial local authorities, DOC, LINZ and other key agencies on initiatives to control harmful organisms

- **Actively advocate for improved biosecurity outcomes in district plans** and strategies to reduce the impacts of harmful organisms within Otago's districts.
- **Work in partnership with territorial local authorities, DOC, LINZ and other key agencies** on biosecurity initiatives where this provides efficient, effective and collaborative outcomes and optimises control.

#### Action 3.3.3 Support and work in partnership with Kāi Tahu on initiatives to control harmful organisms impacting on cultural values

- **Engage with Kai Tāhu regularly on biosecurity issues** to identify where Kai Tāhu may have an interest in biosecurity initiatives and how they wish to be involved.

- **Partner with Kāi Tahu on biosecurity initiatives** to address issues that impact on values of significance to Kai Tāhu.

#### Action 3.3.4 Support and empower Otago's people and communities to control harmful organisms

- **Provide funding and support to people and communities involved in volunteer initiatives** that optimise the control of harmful organisms to provide improved biodiversity, landscape, amenity, cultural and social outcomes.
- **Showcase and celebrate significant case studies and achievements** where communities and groups have provided improved biodiversity, amenity, cultural and social outcomes.
- **Empower individuals and communities** to actively control harmful organisms on their land and in their area by providing education, information, facilitation, support and training.

#### Case study: Otago Peninsula Biodiversity Group

With the help of more than 60 regular volunteers, Otago Peninsula Biodiversity Group (OPBG) have removed more than 12,500 possums from the Otago Peninsula from 2008 to 2018. OPBG received \$27,000 from ORC in 2018 so they could trial a pest aversion fence on a farm as a future biosecurity tool for managing pest species reinvasions. The funding also went towards analysis of trends, environmental monitoring data for birds, vegetation, and rodents, a base-line survey of lizard species' relative abundance and distribution on the Peninsula, and also contributed to the ongoing inventory of invertebrate species on the Peninsula. OPBG has been working hard for over six years to reduce possum numbers for the benefit of native flora and fauna.

Photo reference: L-R: 03, 04



### 3.4 Landscape scale and site scale: Target key areas for collaborative and coordinated control

ORC’s final key priority is to provide for collaborative and coordinated biosecurity control in key areas to protect significant environmental, social and recreational values. This means working together with other government agencies, organisations, interested parties and volunteers to better protect our special places from harmful organisms. This also means providing regional leadership and support for these initiatives.

Landscape scale and site scale initiatives can be progressed in several different ways:

Site-led programmes in the Pest Management Plan	How to add new site-led programmes to the Plan	Other site and landscape scale initiatives
For existing larger scale initiatives.	For new and future larger scale initiatives.	For smaller scale initiatives.
ORC has committed to four large scale site-led programmes in the Pest Management Plan.	Appendix 2 sets out how new site-led programmes can be included in the Pest Management Plan.	Further actions also set out how other smaller site and landscape scale initiatives can be developed or supported.

#### Site-Led Programmes in the Pest Management Plan

ORC has committed to four site-led programmes in the Pest Management Plan. The three site-led programmes in Dunedin are interrelated projects

to reduce the impact of harmful organisms on indigenous biodiversity. The site-led programme for lagarosiphon seeks to continue ORC’s support for collaborative lagarosiphon management projects led by LINZ and with input from other key parties.

New site-led programmes in other areas in Otago may be included in the Pest Management Plan over time. The criteria in Appendix 2 sets out how ORC will consider any new site-led programmes.

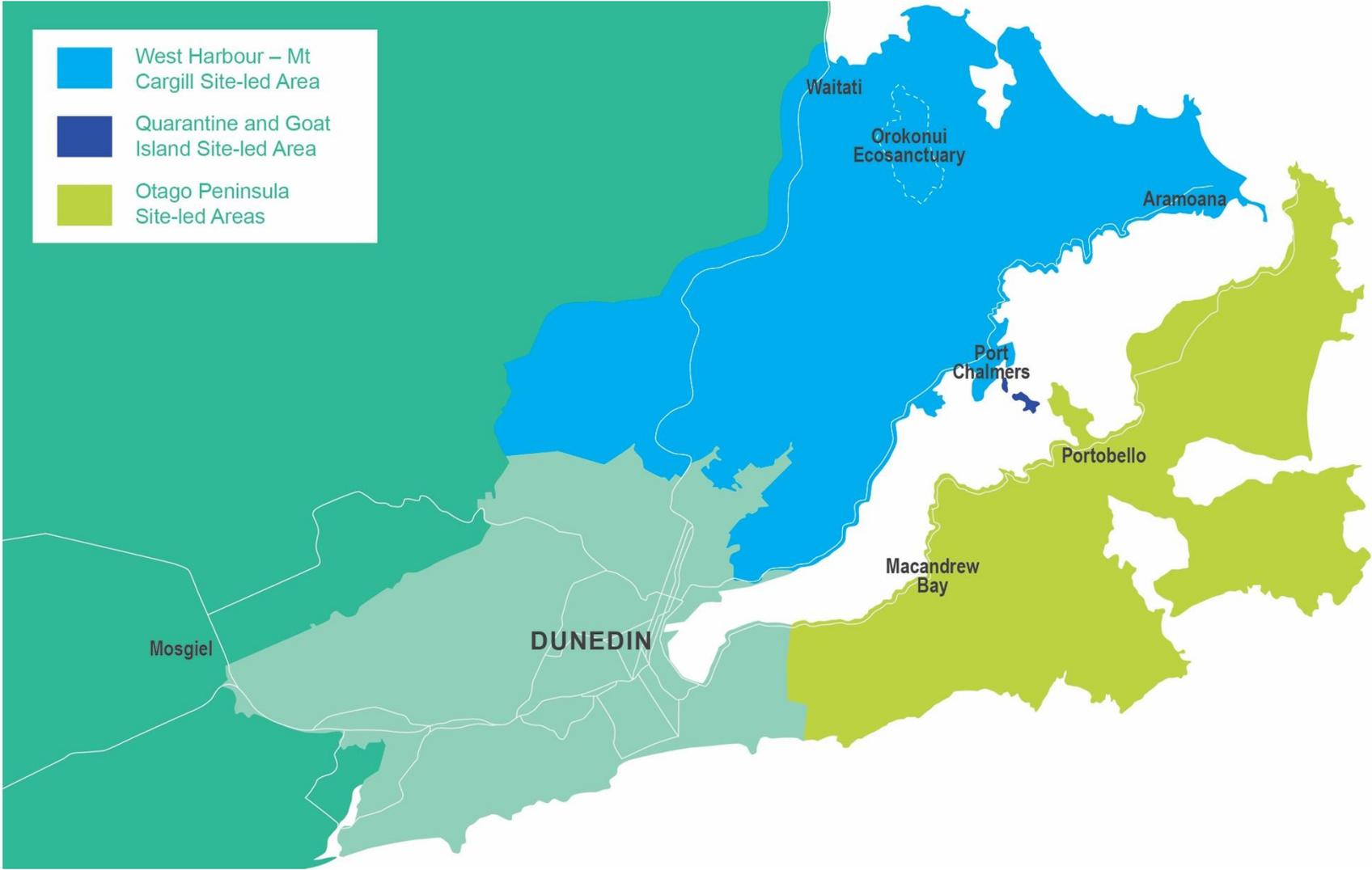
#### The Otago Peninsula

Not-for-profit groups have worked on the Peninsula for more than 10 years to protect indigenous biodiversity that call the Peninsula home. In collaboration with local and central government agencies, many residents are part of coordinated efforts to manage harmful predators and plants.

The Otago Peninsula site-led programme in the Pest Management Plan will support existing efforts to protect the important biodiversity values on the Peninsula. This includes ORC supporting the control of banana passionfruit, Chilean flame creeper, Darwin’s barberry, sycamore, gunnera, tradescantia, Bennett’s wallaby, feral cat, feral deer, feral goat, feral pig, hedgehogs and mustelids, and eradicating possums.

The Otago Peninsula is 9,000ha in area and stretches parallel to the Dunedin mainland. The Peninsula is steep and hilly, with tidal inlets, long sandy beaches, coastal cliffs and many small bays. Small towns are dotted along the western harbour edge. The Ōtākou Marae is located near Harington Point. The Peninsula’s biodiversity attracts many local, national and international visitors.

The Otago Peninsula, West Harbour – Mt Cargill and Quarantine and Goat Island site-led areas



Tairoa Head at the tip of the Peninsula hosts the only mainland colony of albatross in the world, the endangered northern royal albatross/toroa. The Peninsula is also home to one of the rarest penguins in the world, the endangered yellow-eyed penguin/hoiho. The rare New Zealand sea lion/whakahao has returned to the mainland after being hunted to local extinction by early sealers and has established its first mainland breeding area on the Peninsula's southern beaches. Elephant and fur seals/kekeno are also found there, along with the Otago shag and other endemic shore and seabirds.

The Peninsula's forest remnants are home to populations of some of our smallest birds, including rifleman, brown creeper and tomtit. The Peninsula is also home to five reptile species, including the at-risk jeweled gecko, along with the recently discovered inconspicuous skink and the locally rare and at-risk green skink. The Peninsula is also home to many native invertebrates.

### West Harbour – Mt Cargill

This site-led programme supports and builds on the significant momentum of the Orokonui Halo Project, a collaboration between the Landscape Connections Trust, OSPRI and Otago Natural History Trust. The Orokonui Halo Project is a response to predator pests threatening the Orokonui Ecosanctuary, surrounding indigenous biodiversity, and impacting on local farmers. As threatened bird species within the ecosanctuary flourish and slip over into the surrounding area, they are also put at risk by predator pests outside the sanctuary.

This site-led programme will support the coordinated efforts of the groups and volunteers involved to improve biodiversity and habitats in this area. This includes ORC supporting the management of banana passionfruit, Chilean flame creeper, Darwin's barberry, tradescantia, Bennett's wallaby, feral cat, feral deer, feral goat, feral pig, mustelids, and possums.

The West Harbour – Mt Cargill site-led area covers approximately 12,500ha on the western side of Otago Harbour. The 302ha Orokonui Ecosanctuary is at the core of the project area, and with intensive predator control, acts as the nucleus for the expansion of indigenous wildlife across the site-led area and wider city and hinterland. The site-led area is a mix of beaches and inlets, the harbour edge, small towns like Port Chalmers and Pūrākanui, lifestyle blocks and hobby farms, larger landholdings, forests and native bush.

The area is home to 11 naturally uncommon ecosystem types, including coastal turfs, ephemeral wetlands, volcanic boulder fields, lagoons and estuaries. The area is also home to the endangered yellow-eyed penguin/hoiho, the rare New Zealand sea lion/whakahao, and the New Zealand fur seal/kekeno. There are 11 threatened bird species, including the South Island kaka and the South Island robin, and nine at-risk bird species including the Southern blue penguin and the South Island fernbird. The at-risk jeweled gecko and green skink, and threatened freshwater species are also found here.

### Quarantine Island and Goat Island

Quarantine Island and Goat Island are located in the Otago Harbour. These islands provide stepping stones for bird species, but also for rat species and mustelids to move from one side of the harbour to the other by either swimming or on board small boats/kayaks. The Norway rat and the house mouse are present on Quarantine Island. The key community outcome for the island is to eradicate rats, and to ensure that the island remains free from other pest animals.

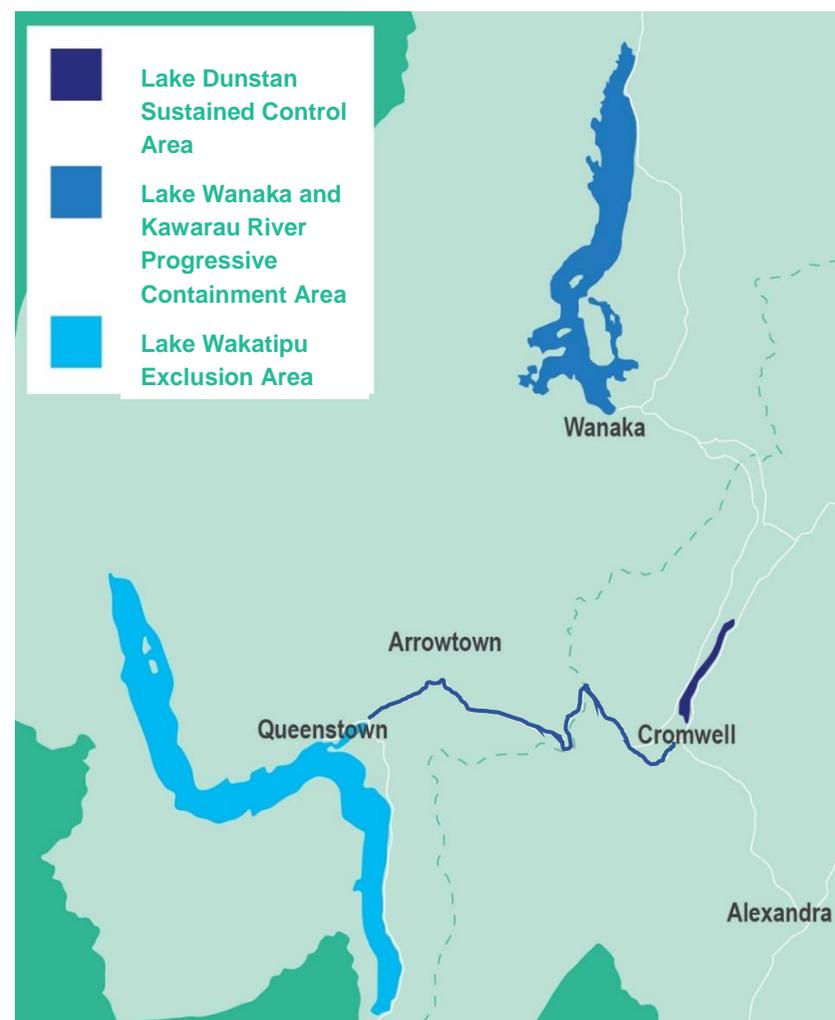
### Action 3.4.1 Provide regional leadership and support for the site-led programmes in the Pest Management Plan to protect indigenous biodiversity

- **Provide regional leadership and advocacy, and support community leaders** for the Otago Peninsula, West Harbour – Mt Cargill, and Quarantine Island and Goat Island site-led programmes.
- **Support the development of ‘whole of site’ management plans** for the Otago Peninsula, West Harbour – Mt Cargill, and Quarantine Island and Goat Island.
- Within each ‘whole of site’ management plan, **support the identification of smaller sites for specific objectives and activities** to protect the significant values of that place and encourage landowner participation in these initiatives.
- **Support the delivery of site-led objectives** by assisting and facilitating groups to undertake control works, undertaking monitoring of key species, leading some of these activities where needed, and undertaking control works where there are barriers to landowner participation.

### Site-led programmes in the Pest Management Plan to manage the spread of lagarosiphon

The site-led programme seeks to continue ORC’s support for collaborative lagarosiphon management projects led by LINZ and supported by other key parties. Lagarosiphon can be spread by currents and by boats and equipment. Its vigorous growth means that it can quickly shade out and outcompete native species, affecting ecosystems and the ability for people to swim, boat and use the water for recreation. It can also affect water supply intakes.

### The Lagarosiphon site-led areas



Lagarosiphon is present in Lakes Dunstan and Roxburgh and parts of Lake Wanaka. It is also present in the Clutha River/Mata-Au and the Kawarau River. Isolated, individual plants are regularly removed from Frankton Arm in Lake Wakatipu to prevent it spreading to the lake.

Most of Otago's lake beds and rivers are administered by LINZ in accordance with the Land Act 1948. The current areas of focus for the control of lagarosiphon are Lake Dunstan, Lake Wanaka and Lake Wakatipu. LINZ has developed 10 Year Lagarosiphon Management Plans for each of these lakes, in collaboration with key parties including ORC, and control works are undertaken in accordance with these management plans. The control works for these programmes are largely funded by LINZ, with some support from other parties and ORC.

The site-led programme for lagarosiphon in the Pest Management Plan requires that these control works continue so that it is controlled in Lake Dunstan to keep important recreation areas clear, its extent is reduced in Lake Wanaka and the Kawarau River over time, and it is kept out of Lake Wakatipu. ORC will continue to support these programmes and advocate to LINZ for long-term suppression of lagarosiphon in Otago and, over time, eradication in key areas.

#### **Action 3.4.2 Advocate and support the continued suppression of lagarosiphon in Otago's lakes and rivers**

- **Support LINZ in the development and review of 10 year Lagarosiphon Management Plans** for the control of lagarosiphon in Otago's lakes and rivers.
- **Continue to support and participate in Check, Clean and Dry campaigns** and advocate for campaign activities to be undertaken in additional areas to further prevent spread.

- **Continue to provide funding to lagarosiphon management** where this supports coordinated action, whilst recognising that LINZ is the key agency undertaking management.
- **Work collaboratively with LINZ on lagarosiphon surveillance** in Otago's lakes and rivers so that potential areas of spread are monitored, and control works are undertaken by LINZ as necessary.

#### **Action 3.4.3 Other site and landscape scale initiatives**

The site-led programmes proposed in the Pest Management Plan seek to support and further bolster existing initiatives where ORC can work in collaboration with key parties. This does not preclude the ability for ORC to support new site and landscape scale initiatives, whether these are long-term projects over large areas, or shorter-term and smaller-scale projects across a smaller area. Particularly where these projects will result in improved biodiversity outcomes.

- **Consider the inclusion of new site-led programmes in the Pest Management Plan** where these can support collaborative and sustained medium term (10 years+) action across a highly valued site or landscape.
- **Provide the ability to include new site-led programmes without a plan review** to the Pest Management Plan in accordance with the guidelines in Appendix 5.4.
- **Support, facilitate and participate in other non-regulatory landscape scale approaches** to manage harmful organisms.
- **Provide facilitation support to smaller, non-regulatory site-based approaches** at a community, group and individual level where appropriate.

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**PART FOUR**  
**Implementation**

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## 4 Implementation

### 4.1 Implementation of the Biosecurity Strategy actions

The actions contained in Section 3 of this strategy outline how ORC will deliver its regional leadership role, and guides ORC's biosecurity projects and activities. ORC commits to operating in accordance with these actions to mitigate the impacts of harmful organisms over the next 10 years.

In doing this, a number of priority projects and activities have been identified for action over the next five years. This does not negate ORC's responsibility to deliver all the actions within the strategy over time, but seeks to address current issues and opportunities that have been identified in the development of this strategy and the Pest Management Plan.

ORC will prepare an operational plan in accordance with section 100B of the Biosecurity Act within 3 months of the Regional Pest Management Plan becoming operative, that sets out how ORC will administer the Pest Management Plan and the other biosecurity activities outlined in the strategy over the coming 12 months. This will be updated and reported on annually.

This strategy will be reviewed and updated if required after the first five years and subsequently thereafter. New projects and activities may be identified and prioritised, and the outcomes of these reviews will also be used to inform the 10 year review of the Pest Management Plan.

### 4.2 Priority projects for the first five years of the strategy

In addition to the more general outcomes in this strategy that guide ORC's biosecurity activities, the following section identifies key projects and actions within the first five years of implementation to address important issues and opportunities that have been identified while developing the Pest Management Plan and this strategy.



## Proactive biosecurity management

Key project / action	ORC Partner / support	Timeframe
Establish and facilitate a biosecurity technical working group to meet twice a year to share ideas and innovations, identify synergies and collaborate on projects.	DOC, MPI, farming, industry, tourism and environmental organisations, Kāi Tahu <u>ki</u> Otago, New Zealand Transport Authority	Within 1 year
Develop a Possum Control programme focusing on OSPRI completed areas for long-term bovine tuberculosis eradication and biodiversity gains. A volunteer landowner programme is anticipated, starting with the Pest Management Plan site-led areas, informed by successful models in other regions.	OSPRI, landowners, other regional councils	Within 18 months
<p>Partner with other regional councils to actively advocate for a national marine pathway management plan to minimise the risk of marine pest spread. If a national plan is not instigated:</p> <ul style="list-style-type: none"> <li>• look to partner with adjacent councils to develop a sub-national plan;</li> <li>• or a regional pathway management Plan or a change to the Regional Pest Management Plan.</li> </ul> <p>ORC will undertake an initial scoping exercise to determine marine species threats in the Otago Harbour and the wider Otago area to determine what management approaches may be appropriate in the Pathway Management Plan.</p>	MPI, DOC, other regional councils, Te Rūnanga o Ngāi Tahu	Within 3 years
Establish a surveillance programme for exclusion pests in partnership with neighbouring regional councils where this is efficient and effective. The surveillance programme could also include organisms of interest where these require ORC surveillance.	Neighbouring regions	Within 2 years

## Responsive and flexible

Key project / action	ORC Partner / support	Timeframe
Prepare updated internal operating procedures for administering the Pest Management Plan for enforcing plan rules, working proactively with land occupiers, and utilising the exemption powers under the Biosecurity Act.		Within 12 months
Prepare new guidance material for the ORC website as a 'pest hub' on the identification, effects and control methods for pests and harmful organisms. Priority species for the first year includes the species in the Pest Management Plan, aquatic and marine weeds, horehound briar, giant hogweed, hawthorn, rowan, boxthorn, and hieracium.	Neighbouring regional councils where appropriate, DOC	Over the next 5 years

Implement a transition programme for land occupiers within the new gorse and broom free areas and for land containing contorta pine shelterbelts and planted conifers under 1ha to assist with proactive management prior to new rules being established.		Within 2 years
ORC will undertake work to compile a registry of shelterbelts across the Region that may act as seed sources and prepare maps to record spatially existing shelterbelt locations and at-risk areas. This would provide a baseline from which to set up a detailed surveillance programme and future reporting on the overall success of the programme.		
Develop guidance material on identifying other wilding trees within Otago in addition to wilding conifers, and produce guidance on control and replacement species.	DOC	Within 3 years
Develop and facilitate an urban gorse and broom programme throughout Otago.		Within 5 years
Develop a programme to facilitate the establishment of landowner-led rabbit control groups. This shall be modelled on best practice examples within Otago and other regions.	Other regional councils, DOC, Maniototo Pest Management Company	Within 1 year

### Integrated and collaborative action

Key project / action	ORC Partner / support	Timeframe
Support the enviro schools programme with key messages, information and tools relating to biosecurity issues in Otago.	District enviro school coordinators	Within 1 year
Promote the newly developed ECO Fund to individuals, groups and non-governmental organisations involved in voluntary initiatives.		Within 6 months
Develop and implement a volunteer facilitation programme to support community volunteer groups in undertaking biodiversity projects and biosecurity control.	DOC	Within 2 years
Develop a shared data platform for biodiversity and biosecurity activities that can be used by ORC staff, community groups and enviro schools to share and analyse information, issues, successes, surveillance and monitoring.	Other district and regional councils, groups, DOC, Kāi Tahu ki Otago	Within 3 years
Actively advocate for and co-lead the development of national or multi-regional pest management responses to address multi-regional impacts of particular species. e.g. wallabies.	Other regional councils, MPI, Te Rūnanga o Ngāi Tahu	Within 2 years

## Landscape scale and site scale

Key project / action	ORC Partner / support	Timeframe
Contribute to the development of the Predator Free Dunedin 2050 'whole of site' management plan(s).	Predator Free Dunedin 2050, Landscape Connections Trust, Otago Peninsula Biodiversity Trust	Within 6 months
<p>Following the establishment of the 'whole of site' management plan/s, establish a plan of action for ORC's role in the delivery of the plan outcomes. This shall set out ORC's role in:</p> <ul style="list-style-type: none"> <li>• undertaking control works;</li> <li>• monitoring of key species;</li> <li>• providing guidance on predator prey relationships and how these should be addressed when undertaking control works (e.g. mustelid / rabbit pest control relationship);</li> <li>• leading some of these activities where needed; and</li> <li>• directly undertaking control where there are barriers to landowner participation.</li> </ul>	Predator Free Dunedin 2050, Landscape Connections Trust, Otago Peninsula Biodiversity Trust	Within 12 months of the above action
Work in partnership with Dunedin City Council on its landscape scale urban linkages plan to support Predator Free Dunedin.	Dunedin City Council, Predator Free Dunedin 2050	Within 5 years
Develop guidance on how ORC can support groups with smaller site-led initiatives to manage harmful organisms.		Within 12 months

## Appendix 1: Harmful organisms in Otago

### Pests in the Pest Management Plan

Common name	Scientific name	Primary programme
<b>Plants</b>		
African feather grass*	<i>Cenchrus macrourus</i>	Exclusion
African love grass*	<i>Eragrostis curvula</i>	Progressive containment
Banana passionfruit	<i>Passiflora tripartita</i> var <i>mollissima</i> , <i>P. tripartita</i> var <i>azuayansis</i> , <i>P. tarminiana</i> *, <i>P. pinnatistipula</i> , <i>Passiflora x rosea</i> , <i>P. caerulea</i>	Site-led
Bomarea*	<i>Bomarea caldasii</i> B. <i>multiflora</i>	Progressive containment
Boneseed*	<i>Chrysanthemoides monilifera</i>	Progressive containment
Broom (common and montpellier)	<i>Cytisus scoparius</i> <i>Teline monspessulana</i>	Sustained control
Bur daisy	<i>Calotis lappulacea</i>	Progressive containment
Cape ivy	<i>Senecio angulatus</i>	Progressive containment
Chilean flame creeper	<i>Tropaeolum speciosum</i>	Site-led
Chilean needle grass*	<i>Nassella neesiana</i>	Exclusion
Contorta (lodgepole) pine*	<i>Pinus contorta</i>	Progressive containment

Corsican pine	<i>Pinus nigra</i>	Progressive containment
Darwin's barberry*	<i>Berberis darwinii</i>	Site-led
Egeria	<i>Egeria densa</i>	Exclusion
False tamarisk	<i>Myricaria germanica</i>	Exclusion
Gorse	<i>Ulex europeus</i>	Sustained control
Hornwort	<i>Ceratophyllum demersum</i>	Exclusion
Lagarosiphon*	<i>Lagarosiphon major</i>	Site-led
Larch (excl. sterile hybrids)	<i>Larix decidua</i>	Progressive containment
Moth plant*	<i>Araujia hortorum</i>	Exclusion
Mountain pine and dwarf mountain pine	<i>Pinus uncinata</i> <i>Pinus mugo</i>	Progressive containment
Nassella tussock*	<i>Nassella trichotoma</i>	Progressive containment
Nodding thistle	<i>Carduus nutans</i>	Sustained control
Old man's beard*	<i>Clematis vitalba</i>	Progressive containment
Perennial nettle	<i>Urtica dioica</i>	Progressive containment
Ragwort	<i>Senecio jacobaea</i>	Sustained control
Scots pine	<i>Pinus sylvestris</i>	Progressive containment
Spartina	<i>Spartina spp</i>	Progressive containment
Spiny broom	<i>Calicotome spinosa</i>	Eradication
Sycamore	<i>Acer pseudoplatanus</i>	Site-led
Gunnera	<i>Gunnera tinctoria</i>	Site-led

Tradescantia*	<i>Tradescantia fluminensis</i>	Site-led
White-edged nightshade*	<i>Solanum marginatum</i>	Progressive containment
Wilding conifers	See table 3 in the Pest Management Plan	Progressive containment
Wild Russell lupin	<i>Lupinus polyphyllus</i>	Sustained control
<b>Animals</b>		
Bennett's wallaby	<i>Macropus rufogriseus rufogriseus</i> ,	Eradication
Feral cat	<i>Felis catus</i>	Site-led
Feral deer	<i>Cervus elaphus</i> , <i>C. nippon</i> , <i>C. dama</i>	Site-led
Feral goat	<i>Capra aegagrus hircus</i>	Site-led
Feral pig	<i>Sus scrofa</i>	Site-led
Feral rabbit	<i>Oryctolagus cuniculus</i>	Sustained control
Hedgehog	<i>Erinaceus europaeus</i>	Site-led
Mustelids (ferret, stoat, weasel)	<i>Mustelo furo</i> , <i>M. ermine</i> , <i>M. nivalis</i>	Site-led
Possum	<i>Trichosurus vulpecula</i>	Site-led
Rat (Norway, ship and Kiore)	<i>Rattus norvegicus</i> , <i>R. rattus</i> , <i>R. exulans</i>	Site-led
Rook*	<i>Corvus frugilegus</i>	Eradication

\* unwanted organisms

## Organisms of interest in Otago

Common name	Scientific name
<b>Plants</b>	
Blackberry	<i>Rubus fruticosus</i>
Boxthorn	<i>Lycium ferocissimum</i>
Briar	<i>Rosa rubiginosa</i>
Buddleia	<i>Buddleja davidii</i>
Burdock	<i>Arctium minus</i>
Convolvulus	<i>Convolvulus arvensis</i>
Cotoneaster	<i>Cotoneaster</i> spp.
Cotton thistle	<i>Onopordum acanthium</i>
Giant hogweed	<i>Heracleum mantegazzianum</i>
Hawthorne	<i>Crataegus monogyna</i>
Hieracium (Hawkweed)	<i>Hieracium</i> spp.
Heath rush	<i>Juncus squarrosus</i>
Horehound	<i>Marrubium vulgare</i>
Japanese honeysuckle	<i>Lonicera japonica</i>
Japanese knotweed	<i>Fallopia japonica</i>
Lake snow	<i>Lindavia intermedia</i>
Periwinkle	<i>Vinca major</i>
Purple loosetrife	<i>Lythrum salicaria</i>

Reed sweetgrass	<i>Glyceria maxima</i>
Rowan	<i>Sorbus aucuparia</i>
Saltmarsh rush	<i>Juncus gerardii</i>
Spanish heath	<i>Erica lusitanica</i>
Thyme	<i>Thymus vulgaris</i>
Tree Lupin	<i>Lupinus arboreum</i>
Veldt grass	<i>Ehrharta erecta</i>
Wild ginger	<i>Hedychium gardnerianum</i>
Willow	<i>Salix</i> spp.
Yellow bristle grass	<i>Setaria pumila</i>

### Animals

Goose	
Canada	<i>Branta canadensis</i>
White/domestic	<i>Anser</i> spp.
Mouse	<i>Mus musculus</i>
Wasp	<i>Vespula</i> spp.

### Marine

Asian paddle crab	<i>Charybdis japonica</i>
Mediterranean fanworm	<i>Sabella spallanzanii</i>
Sea squirts	<i>Styela clava</i> , <i>Eudistoma elongatum</i> , <i>Pyura doppelgangera</i> and <i>Didemnum vexillum</i>

Sea couch	<i>Agropyron pungens</i>
Undaria	<i>Undaria pinnatifida</i>

### Freshwater

Goldfish	<i>Carassius auratus</i>
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### Unwanted organisms

For a full list of unwanted organisms in New Zealand please visit the Ministry for Primary Industry's website:

[www.mpi.govt.nz/protection-and-response/finding-and-reporting-pests-and-diseases/registers-and-lists/](http://www.mpi.govt.nz/protection-and-response/finding-and-reporting-pests-and-diseases/registers-and-lists/)

## Appendix 2: Guidance for the inclusion of site-led programmes in the Pest Management Plan

ORC may consider including an additional site-led programme or amend an existing site-led programme in the Pest Management Plan where this meets the requirements of the Biosecurity Act and results in positive benefits to the environment and people.

This appendix provides guidance for when a site-led programme may be included without the need to undertake a plan change to the Pest Management Plan:

- The area has significant value at a community, district, regional or national scale. For example:
  - Significant indigenous vegetation.
  - Significant habitats of indigenous fauna.
  - Outstanding natural character, features and landscapes.
- There is strong volunteer and/or community support for the programme, including from landowners who are willing to provide access to private property.
- The programme will result in environmental, social and/or cultural benefits.
- The programme meets the requirements of the Biosecurity Act 1993 and the National Policy Direction for Pest Management 2015.

- There is an agreement with the Otago Regional Council about:
  - How the site will be managed.
  - How the programme will be delivered.
  - The nature and level of support needed from ORC.
- The programme is resourced for its duration.



## Acknowledgement

ORC would like to sincerely thank the communities and stakeholders whose input has been invaluable in preparing the Biosecurity Strategy.

While the Biosecurity Strategy is a non-statutory document, ORC is committed to working collaboratively with stakeholders, groups, communities and individuals to implement the Strategy to achieve good biosecurity outcomes in Otago.

Photo source list

01: DOC

02: DOC

03: Otago Peninsula Biodiversity Group

04: Otago Peninsula Biodiversity Group