

STRATEGY FOR A PEST-FREE BANKS PENINSULA

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DRAFT

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1. INTRODUCTION

Pest Free Banks Peninsula / Te Pātaka o Rākaihautū is a collaborative programme to protect and enhance biodiversity on the Peninsula through the widespread eradication of animal pests. Like most biodiversity initiatives, it has wider benefits: it supports Ngāi Tahu values, community development and sustainable agriculture and tourism.

It is a community led initiative, formalised through a Memorandum of Understanding signed by 14 foundation signatories in November 2018. With the Peninsula (including the Port Hills) bordering greater Christchurch, it provides the opportunity for both urban and rural residents to be involved in restoring this unique environment.

Making Banks Peninsula pest free is an ambitious and aspirational goal. This Strategy outlines what we seek to achieve, the reasons for it and our priorities for the next five years. It is a new and bold project, with risks and uncertainties that need to be addressed. The strategy will be updated and amended, when necessary, to achieve our vision.

2. CONTEXT

2.1 A diverse landscape

Banks Peninsula, along with Kaitōrete Spit, comprises a mosaic of pastoral and horticultural land, exotic plantation forests, urban areas, remnant patches of indigenous forest, basalt outcrops and coastal habitats on dunes and beaches, cliffs and rocky foreshores. There are areas of successional shrubland in areas previously cleared for farming, now regenerating towards indigenous-dominant vegetation. The Peninsula spans the wild bays in the south and east of the Peninsula to suburban Christchurch on its northern edge. This mosaic of habitats, with its volcanic topography and coastal backdrop, is a landscape rich in biodiversity.

2.2 Rich in Biodiversity

Banks Peninsula has many high value habitats and threatened species. It contains many endemic species (they are unique to Banks Peninsula and found nowhere else in the world).

Much of the original forest vegetation was removed by Māori and early European settlers but patches of original forest remain. This includes beech forest at Hinewai, podocarp forest in the Hay and Mount Herbert Scenic Reserves and Ahuriri QEII Reserve, kaikawaka/cedar forest at Armstrong Reserve, and Palm Gully Scenic Reserve with its southern-most nikau groves.

The rocky volcanic outcrops are naturally rare ecosystems and support high concentrations of threatened and endemic species of plants, lizards and invertebrates. Sea cliffs and rocky shorelines provide habitats for a wealth of bird and marine life, traditionally a major source of mahinga kai for tangata whenua. The sand dune landscape of Kaitōrete Spit is nationally significant and supports rare and threatened native flora and fauna.

The Peninsula is the southern limit for several warm-temperate plant species and the northern limit for a few southern species. Six plant species are endemic to the Peninsula and a further 41 species are classified as regionally endangered or threatened. About 60 invertebrate species are endemic to the

Peninsula. Three of the six reptile taxa present are classified as threatened. Twelve indigenous bird species were considered to be locally extinct, although one (tūī) has recently been reintroduced.

2.3 A human habitat

People live, work and visit Banks Peninsula. Most of the land on the Peninsula is privately owned and agriculture, tourism and the Port of Lyttelton are major economic activities. Four Ngāi Tahu Rūnanga are based on Te Pātaka o Rākaihautū (Banks Peninsula). There are urban areas and lifestyles blocks, especially on the Port Hills and areas closer to Christchurch. It is a recreational destination for many Christchurch residents and attracts visitors from around the world.

For over 100 years, people have undertaken conservation activities on the Peninsula. This has included weed and animal pest control, fencing, planting, covenanting of biodiversity, and the building of tracks and huts to enable access for both locals and visitors. The 2050 Ecological Vision for Banks Peninsula / Te Pātaka o Rākaihautū (including the Port Hills) developed by the Banks Peninsula Conservation Trust in consultation with the Peninsula community, was part of the impetus for Pest Free Banks Peninsula and reflects this local interest.

3. THE ANIMAL PEST THREAT

3.1 The impact on biodiversity

Introduced animal pests are the major threat to biodiversity on the Peninsula. The future survival of several of the remaining indigenous bird species will only be ensured by ongoing management of introduced predators such as rats, stoats, cats and possums. Smaller indigenous animals, such as lizards and invertebrates, are preyed on by rats, hedgehogs and mice. Native plants are vulnerable to browsing by larger animals such as goats, deer and pigs, as well as smaller mammals such as possums, rabbits and hares.

With a high degree of endemism, the loss of many of these species on Banks Peninsula would mean extinction. They are found nowhere else in the world.

3.2 Existing control programmes

Historically, animal pest control on the Peninsula was focused on agricultural pests, such as rabbits and hares for land management, or possums for the control of bovine tuberculosis. Today, the emphasis is primarily on biodiversity protection.

The full extent of existing control activities is hard to quantify as there are many parties involved. Projects range from agency led Peninsula-wide initiatives through to individual's trapping in their backyards. What is clear is that they are extensive and widely supported by the community who live and visit the Peninsula. Some examples include:

- The Community Initiated Programme (CIP) for possums, which was specifically requested by rural landowners and largely funded by rates on their properties, to protect biodiversity and reduce the future risk of bovine tuberculosis.
- A multi-party feral goat eradication project led by the Department of Conservation.
- The Wildside project on the south-east corner of the Peninsula. A landowner and community driven initiative covering approximately 7,000ha that has resulted in measurable biodiversity

gains, such as increased occupancy of burrows by nesting titi, increases in counts of spotted skink and white-flipper penguins, and enabled the translocation of rare plants to sites protected from browsing mammals.

- The Summit Road Society's Port Hills trapping programme which had an estimated 6000 hours of volunteer time spent on trapping on the Port Hills in 2018 and aims to have 4000 households participating in backyard trapping by 2022.
- The multi-party Port Hills biodiversity hub project, covering an area from Kennedy's Bush to the upper part of Whakaraupō / Lyttelton Harbour.
- Targeted programmes to protect areas of high value biodiversity, such as Kaitōrete Spit, Ōtamahua / Quail Island, and a planned predator exclusion initiative at Goat Point.
- The testing of new, innovative technologies, such the Cacophony Project.

While the possum and goat programmes cover most of the Peninsula, the trapping efforts for smaller mammals (such as mustelids, rodents, hedgehogs, and feral cats) are scattered across the Peninsula. It is estimated that these cover less than nine percent of the total area.

4. THE STRATEGIC ISSUES

The high biodiversity values, many of which are unique to the Peninsula, are threatened by browsing and predation by introduced animal pests. Removing these threats is the primary impetus for Pest Free Banks Peninsula.

Pest Free Banks Peninsula aligns with national and regional priorities and there is demonstrable local support for biodiversity pest control on the Peninsula. This interest has grown significantly following the Government's 2015 announcement of Predator Free 2050, especially among urban residents.

The human presence on the Peninsula creates challenges that do not exist for pest eradication in areas such as remote islands, wilderness areas or fenced sanctuaries. Pest control methods must be safe for this environment and fit with people's values and livelihoods.

The extent of private land ownership means landowner co-operation is critical, both for permission to carry out pest control operations and for rate-based funding support.

Innovation is essential to achieve the vision. Most existing programmes (with the exceptions of Quail Island and the feral goat project) are aiming at suppression of pests, not eradication. This highlights the challenge of eradication and what is required to achieve it. Eradication requires effective methods, careful planning and, above all, adaption and innovation. For smaller mammals, the pest-free vision is aspirational: eradication with current tools, techniques and knowledge is neither feasible nor affordable in this environment. Most eradication efforts elsewhere have relied on aerially distributed toxins which, for various reasons, is problematic on the Peninsula. Even on small remote islands, it was innovation and adaption, supported by good monitoring, that lead to success. Here, we need to repeat that process to develop new methods suitable to our context, drawing upon expertise both locally and from elsewhere.

Existing capacity is insufficient to achieve eradication, or even a significantly expanded suppression programme to protect existing biodiversity. Even with a significant and growing volunteer base, people and resources are needed for planning, equipment, training and coordination. Without these ingredients, volunteer projects are often ineffective, short-lived and subject to rapid re-invasion. In more remote and difficult terrain, professional contractors will be required, particularly where eradication is the goal.

Currently, monitoring and reporting is generally poor. The reasons for this relate primarily to funding, although complexity, available expertise, long timeframes and the range of organisations involved are compounding factors. The improvement of monitoring and reporting is a strategic issue for this project.

Experience from eradication programmes elsewhere has highlighted the risk of adverse trophic consequences. This can occur when higher-order predators, such as cats, stoats or possums, are removed, allowing large population increases for smaller predators, such as rats and mice. This can result in unexpected and negative biodiversity outcomes.

The removal of animal pest threats enables other activities relating to the vision. This includes translocation of locally extinct species and greater success with local actions such as restoration planting. Such initiatives are outside of the scope of Pest Free Banks Peninsula but are enabled by it.

5. OUR VISION – WHAT WE AIM TO ACHIEVE

Our vision is:

Our native plants, birds, animals and insects are flourishing on Banks Peninsula, free from the threats of introduced animal pests. The forests are thriving and filled with birdsong. Native lizards and invertebrates are prolific in the native scrublands and rocky outcrops. Seabirds nest safely in the coastal areas. Species that were previously locally extinct have now been re-introduced and are growing in numbers.

The abundance of native wildlife provides a sense of identity to the Peninsula. It is valued by the community and integrated with farming, tourism and recreational activity. It is known as a special place to live and attracts many local and international visitors. It is renowned as an exemplar of habitat restoration.

6. OUR MISSION – WHAT WE WILL DO

Our mission is to free Banks Peninsula / Te Pātaka o Rākaihautū from mammalian pests by 2050 through a community led, agency supported, pest control programme.

7. THE BENEFITS – WHY IT IS IMPORTANT

The eradication of mammalian pests from offshore islands and predator-fenced sanctuaries demonstrates what is possible when pests are removed. These areas have played a critical role in preventing the extinction of species and created safe zones into which vulnerable species can be reintroduced. They now have diverse and abundant native wildlife not normally seen by New Zealanders, reminiscent of our indigenous biodiversity when Europeans first arrived.

A pest-free Banks Peninsula will allow indigenous plants and animals to flourish here, free from browsing and predation. Remnant ecological communities will grow and flourish, supported by related restoration efforts, such as the reintroduction of locally extinct plants and animals.

For Ngāi Tahu, kaitiakitanga and mahinga kai are traditional practices. The restoration of native wildlife on Banks Peninsula / Te Pātaka o Rākaihautū (the food store house of Rākaihautū), sits alongside the restoration of Wairewa / Lake Forsyth and Te Waihora / Lake Ellesmere, originally called Te Kete Ika o Rākaihautū (the fish basket of Rākaihautū).

As a community led initiative, the journey and the destination of a pest-free Banks Peninsula are important. Participation connects people with people and it connects people with their environment. In good times, such initiatives provide a sense of shared purpose, belonging and achievement. In times of crisis, as we have experienced, the connections with others are even more critical: they provide a network through which people communicate and share, helping our emotional, mental and physical well-being.

Pest Free Banks Peninsula will provide economic benefits. Flourishing wildlife is good for tourism, as well as residents. For farming, it removes disease vectors and browsing pests. Funding from external grants contributes to local economic activity and employment.

8. OUR PRINCIPLES – THESE WILL GUIDE OUR DECISIONS

Outcome focused: Our choices will be guided by our vision, preserving biodiversity and the related benefits of supporting Ngai Tahu cultural values, building community connections and a strong economy.

Community led: The programme has been initiated by the community and will reflect their aspirations. Participation is encouraged.

Accountable: Residents and external funders are being asked to support and participate in this project. In return we will be open, honest and accountable for what we do and achieve.

Innovative: Our vision requires innovation: existing methods are not enough.

Evidence based decisions: Good information supports good decisions. We will actively support monitoring and research.

Sustainable: As a long-term project, the effort and funding must be sustainable. The programme must be realistic and underpinned with on-going support from local and national agencies and funders.

9. THE SCOPE – OUR BOUNDARIES

Geographically the programme covers the Banks Peninsula Ecological Region (including the Port Hills) and Kaitōrete Spit (shown in Figure 1). It includes public and private and urban and rural land.

Fifteen species of pest mammal will eventually be eradicated by 2050, although not all at once. These are possums, rodents (three species), mustelids (three species), hedgehogs, rabbits, hares, cats, goats, deer (two species) and pigs. Domestic and farm animals are excluded from the programme.

Pest Free Banks Peninsula is focused only on animal pests, not plants. We recognise that the control of plant pests is important to protect biodiversity, however, adding plant pests to our programme at this time would be detrimental. It would dilute our focus and resources and add significant complexity and risk. This position may be reconsidered in the future, once the animal pest programme is properly established.

10. STRATEGIC IMPERATIVES

The six strategic goals (below) reflect the breadth of work required to achieve the vision. While Goal 1 is the overarching one for on-ground implementation, it cannot be achieved in isolation. All six goals are essential for achieving our vision.

The immediate strategic imperative is to develop and cost operational plans for the proposed priority activities. This will enable the initial priorities to be confirmed and matched to available resources. This planning and budgeting phase is essential to inform decision making and ensure the programme for which we seek funding for is realistic, sustainable and includes all the components necessary for success. As well as the on-the-ground control operations, related activities include management and administration, community engagement, fund raising, monitoring and reporting.

10.1 On-ground priorities

Goal 1: To progressively eradicate mammalian pests from Banks Peninsula (including the Port Hills) and Kaitōrete Spit, while continuing to protect existing biodiversity.

The on-ground priorities reflect the need to balance:

- continuing biodiversity protection
- maintaining and growing community support and participation
- affordability and technical feasibility
- achievement of the long term goal of eradication.

Larger animals, such as goats, deer and pigs, can be eradicated from the Peninsula by taking a whole-of-Peninsula approach, utilising current tools and realistic budgets. Eradicating smaller animals is more difficult and costly. A staged approach will be used, starting on the Wildside and Kaitorete. These have high biodiversity values, strong landowner support and are relatively defensible against reinvasion. A buffer zone will be created to reduce the risk of reinvasion from adjacent areas. Once eradication has been achieved in the initial areas, the eradication area can be extended into the buffer zones and new buffer zones created. This buffer / eradicate / buffer / eradicate approach would continue to be rolled out in a collapsing domino manner, until it covers the entire Peninsula, including the Port Hills and Kaitōrete. This phased approach to the eradication of small animals is shown in Figures 1 to 4. It does not show the Peninsula-wide eradication programme for goats or the existing CIP programme for possums.

Based on these factors, the **proposed on-ground priorities for the first five years** are reflected in the following objectives:

Objective 1: Eradicate feral goats from the Peninsula by 2024

Browsing by feral goats, deer, and pigs is a significant threat to native plants and habitat and hinders restoration planting (particularly on the Port Hills). Feral goats are the immediate on-ground priority due to their numbers and community support. Further investigation will be done for deer, particularly on the Port Hills where they are hindering restoration planting following the 2017 fires.

Objective 2: Eradicate stoats, feral cats, possums from the Wildside by 2024.

Initially possums, feral cats and stoats will be targeted, as these are the most feasible for eradication with existing methods. This will cover over 20,000ha in the first five years, covering the Wildside and part of the Extended Wildside. Rats, mice and hedgehogs will be monitored, and targeted control of rats is planned in smaller areas of high biodiversity value to avoid adverse trophic consequences following the removal of larger predators.

Objective 3: Commence expansion of Wildside eradication programme by 2024.

This is the second phase of the eradication roll-out for these smaller pests. It is expected to commence but not be completed within the first five years of the programme.

Objective 4: At least 4000 households participate in backyard trapping on the Port Hills by 2024.

This is strategically important due to its proximity and participation opportunities for Christchurch residents, especially on Port Hills and Lyttelton Harbour. Ultimately, it will form part of the western boundary between the Peninsula and City and plains. Objectives 4 and 5 focus on suppressing pest numbers, rather than eradication, due to the high risk of re-invasion.

Objective 5: Possum, rat, feral cat, hedgehog and mustelid populations are reduced to very low levels in 1,000ha of the southern Port Hills biodiversity hub by 2024.

The Port Hills biodiversity hub consists of public and private land from Kennedys Bush to Governors Bay, Quail Island and Living Springs. The dual aims are to protect and enhance biodiversity and to support local participation opportunities close to Christchurch.

Objective 6: Eradicate possums, mustelids and feral cats from the western 7.5 kms of Kaitōrete Spit by 2024.

Kaitōrete Spit is a priority due to the outstanding biodiversity values and the on-going threat from browsing and predation. The initial eradication focus is on the western end of Kaitōrete. In addition to possums, mustelids and feral cats, there will be intensive focus on rats and hedgehogs in this area. There will be on-going pest suppression across other areas of Kaitōrete to protect habitats and species, with the long-term goal of eradication of all animal pests as methods and funding allow.

Objective 7: Possum numbers are kept below current levels in the existing CIP area.

Environment Canterbury's CIP (and earlier Animal Health Board operations) have kept possum numbers relatively low east of Gebbies Pass. This programme has widely distributed biodiversity and agricultural benefits and will keep possum numbers in check as the eradication programme is rolled out. Opportunities will be looked at to build-on and increase the benefits from this programme.

10.2 Engaging the community

Goal 2: To work effectively and collaboratively with landowners, partner organisations and volunteers to achieve the vision.

Effective community and stakeholder engagement are imperative for landowner cooperation, funding support and participation. This is an integral component to all operational activities and will be supported by a wider communications plan.

10.3 Research and monitoring

Goal 3: To base decisions on good information.

Good information supports success. It informs programme design, adaption and innovation. It reduces the risk of adverse outcomes (such as unforeseen trophic consequences) and enables accountability to funders, participants and the community. Research insights can come from the Peninsula or elsewhere. As a long-term project, we will seek to establish on-going partnerships with research institutions and information sharing with similar initiatives elsewhere in New Zealand.

Monitoring is critical but can be complex and expensive. Ideally, it covers control results (such as pest counts) and outcomes (the state of the flora and fauna), both before and after control operations. It requires systems and processes for data collection, analysis and reporting. It must use suitable and consistent methods to give valid and comparable data, both over time and between sites. The development of a monitoring plan is underway to resolve these questions and ensure monitoring is feasible, affordable and fit for purpose.

10.4 Innovation

Goal 4: To be innovative and adaptive

New tools and techniques are essential if large-scale eradications are to be achieved and maintained. This includes learning from within the programme, as well as working with innovators from other projects and businesses.

10.5 Capacity building

Goal 5: To build delivery and management capacity

Pest Free Banks Peninsula is a significant step up for pest control on the Peninsula. It is large and ambitious and while the collaborative, multi-party nature of the project gives it strength it also adds complexity. People and systems are needed to lead the project, plan and coordinate operational delivery, engage with landowners, monitor and report progress, secure funding and manage relationships with partners and stakeholders. The MOU partners have experience and technical expertise, but they do not have sufficient capacity available to do the work necessary for this project. To be effective and sustainable, there will need to be new staff employed. This will be determined, in part, by the scale and funding for the programme.

10.6 Funding

Goal 6: To grow consistent and stable funding

Substantial and sustained funding is required to achieve the pest-free vision. The exact amount is difficult to predict as success is expected to take decades and require new and innovative technology.

The funding approach is to secure base funding from the MOU partners, particularly Environment Canterbury, DOC and the Christchurch City Council, and leverage this with additional funding from Predator Free 2050 and other organizations. Volunteer labour and expenditure (such as the purchase of traps) will also contribute to the programme, especially in urban trapping areas. The level of activity will be adjusted to match available funding.

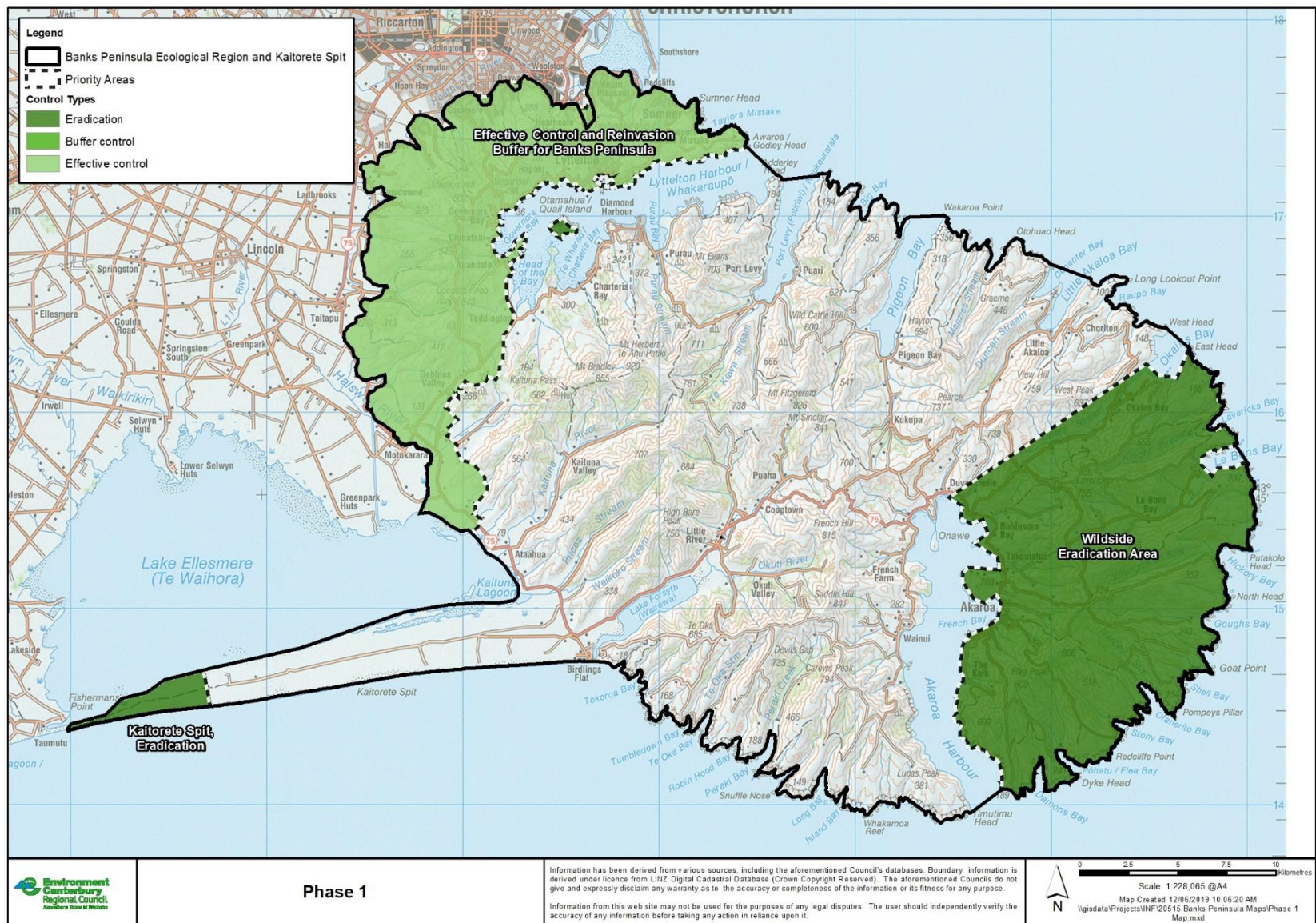


Figure 1: Phase 1 of Pest Free Banks Peninsula: eradication within the Wildside area and western 7.5km of Kaitorete. Effective control in the Port Hills.
Note: The goat eradication and possum suppression programmes are not shown in Figures 1 to 4.

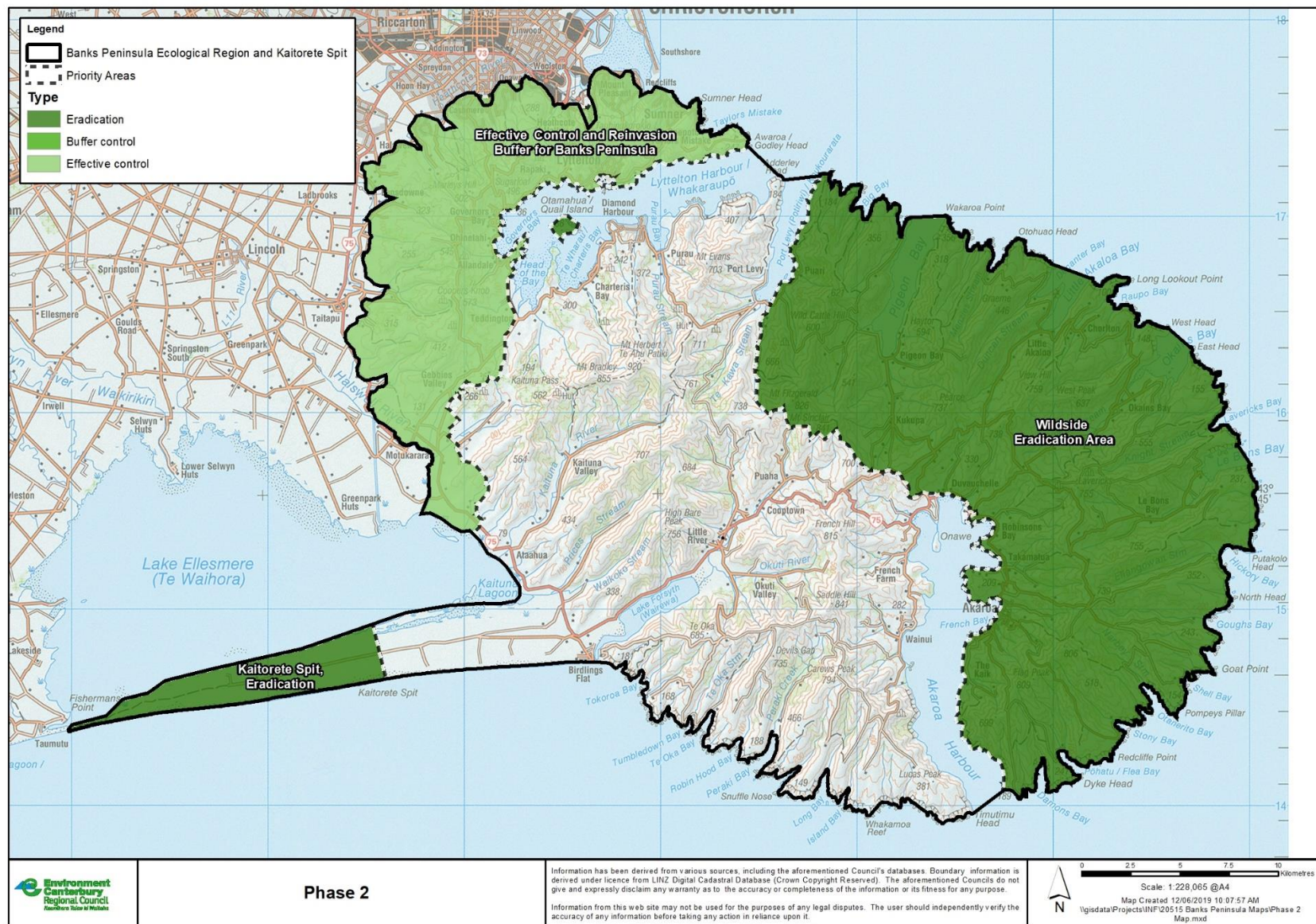


Figure 2: Phase 2: Wildside and Kaitorete Eradication Areas expanded.

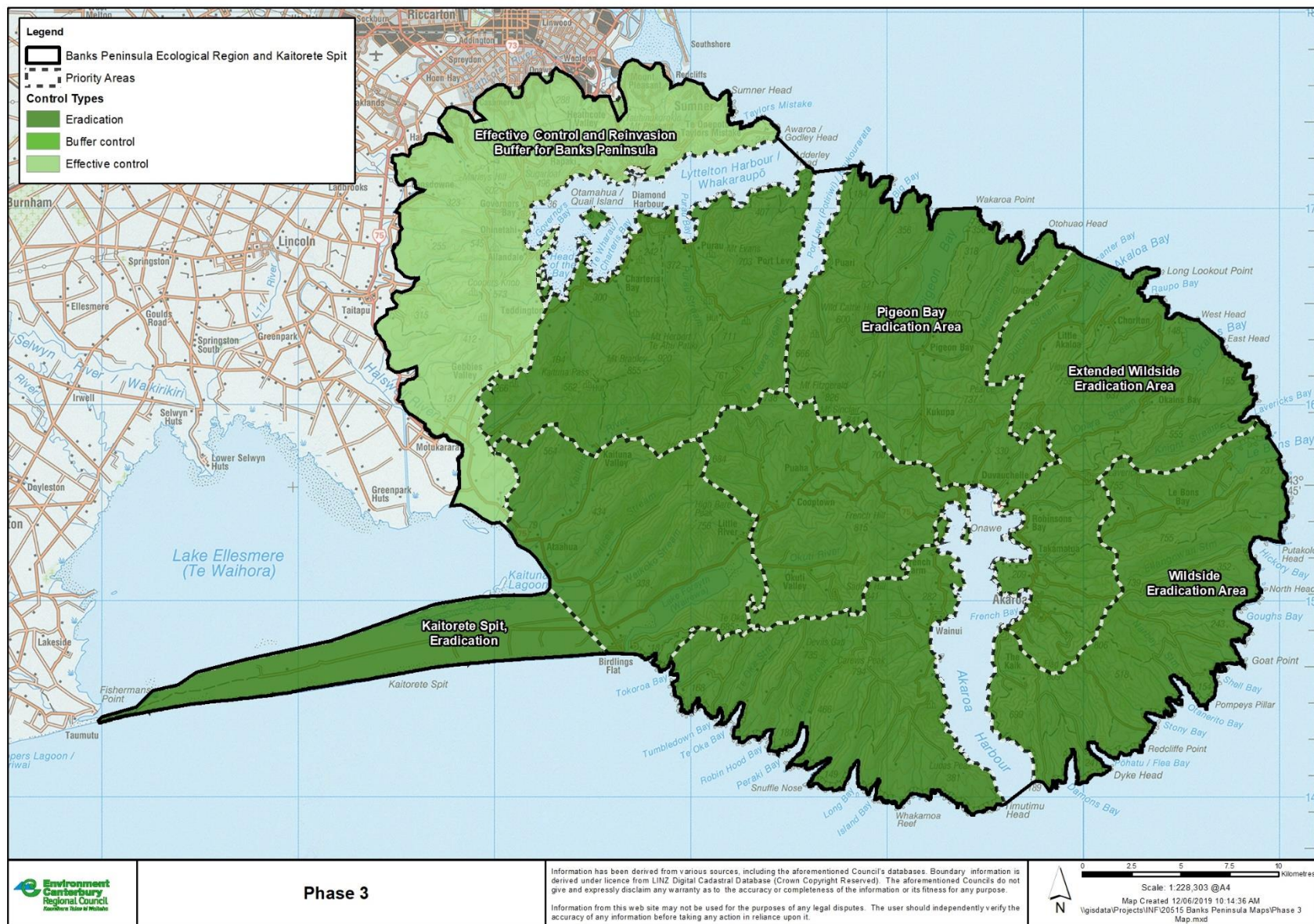


Figure 3: The eradication areas meets the control areas of Port Hills.

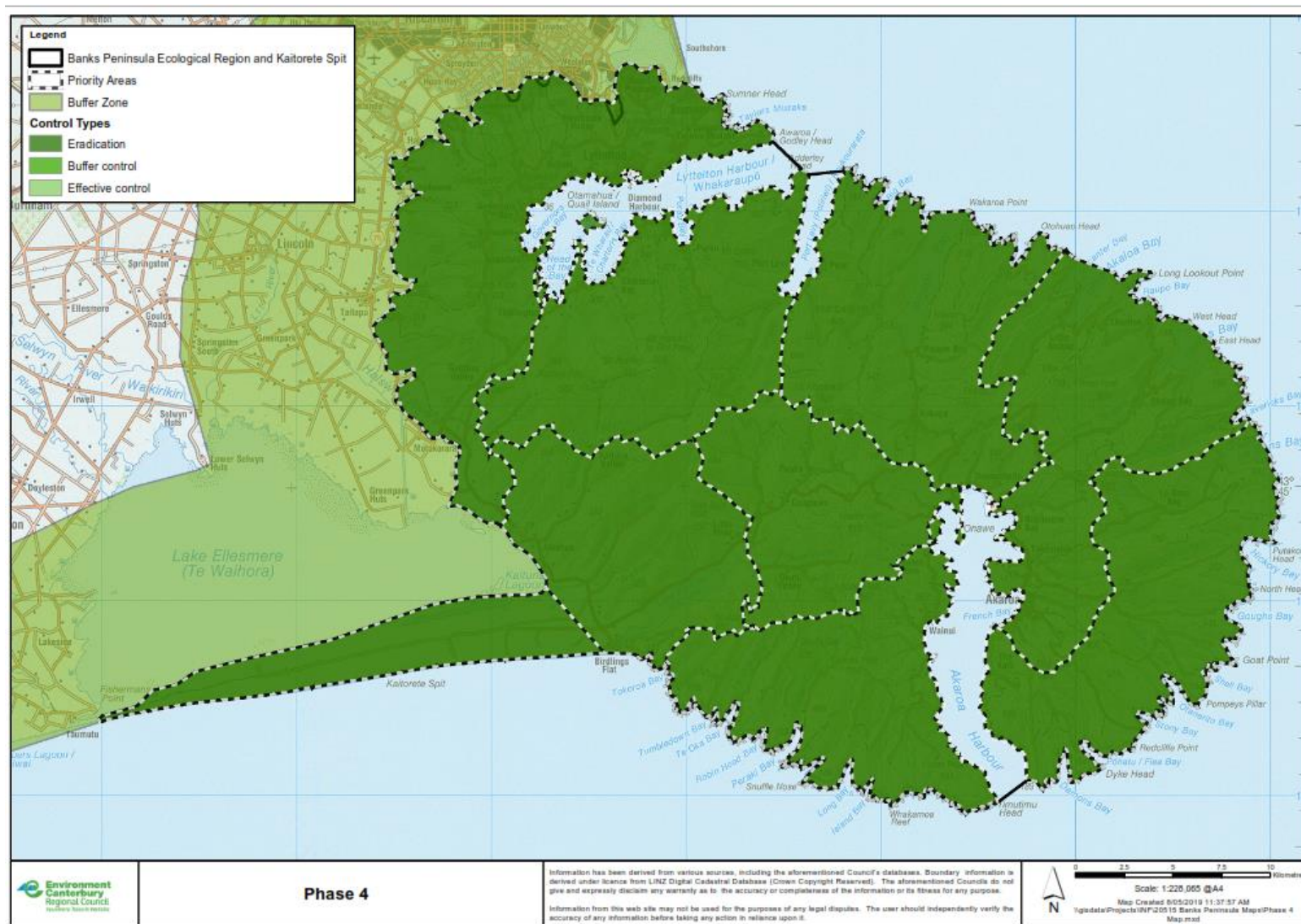


Figure 4: Aspirational vision for a Pest Free Banks Peninsula 2050 where eradication has been completed and a buffer established outside Peninsula.

11. CRITICAL RISKS

The following risks and primary mitigation measures have been identified as significant. They will be addressed in operational and tactical plans.

Risk	Mitigation
Costs of achieving pest free is too high / technically infeasible.	Adapt and adopt innovative methods to improve efficiency. Re-scope operational priorities if not affordable.
Achieving eradication may require aerial toxins, which may be unacceptable to landowners or other key stakeholders.	Attempt to achieve eradication without aerial toxins. Seek innovative alternatives.
Some individual landowners refuse to participate, resulting in pest reservoirs within the project boundary.	Early landowner engagement and using local leaders and influencers. Seek regulatory tools, if needed.
Adverse trophic consequences (such as increases in rodents after the removal of possums, stoats or cats).	Monitor and, if necessary, control non-target pest species.
Re-invasion of eradicated areas.	Monitor for re-invasion and deploy rapid response.
Insufficient funding.	Match the extent and timing of the programme to available funding. Seek additional funding as needed.
Control effort is spread too thinly.	Use monitoring data to assess effectiveness and slow down or concentrate effort if needed.
Opposition to the eradication of some pest species (such as feral cats, pigs and deer).	Focus on outcomes and demonstration of the benefits. Match roll-out with levels of acceptance. Use methods that do not target domestic cats.

12. PARTIES INVOLVED IN THE PROGRAMME

The following organisations are signatories to the Pest Free Banks Peninsula Partnership Memorandum of Understanding (MOU). It is an open partnership and others are expected to join over time.

Banks Peninsula Conservation Trust, Rod Donald Banks Peninsula Trust, Summit Road Society Incorporated, Department of Conservation, Environment Canterbury, Christchurch City Council, Ōnuku Rūnanga, Te Hāpu o Ngāti Wheke Rūnanga, Te Rūnanga o Koukourārata, Te Taumutu Rūnanga, Wairewa Rūnanga, Living Springs, Selwyn District Council, and the Cacophony Project.

A management structure is outlined in the MOU with a governance level Project Oversight Group supported by a Project Management Group. Further information will be provided in the Operational Plan.