

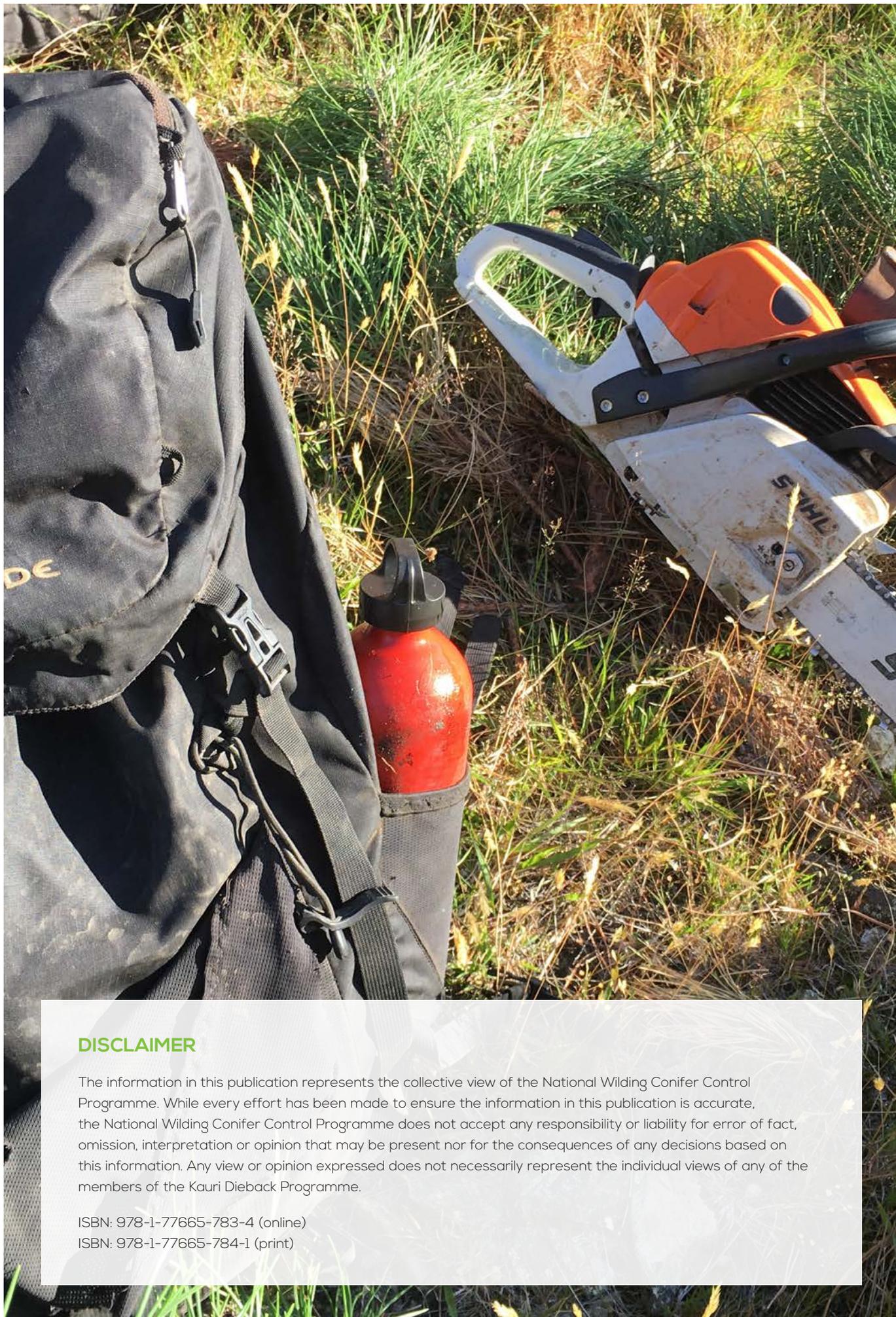


PREVENT THE SPREAD

National Wilding Conifer Control Programme



ANNUAL REPORT
2016/17



DISCLAIMER

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2016/17 HIGHLIGHTS

The National Wilding Conifer Control Programme has achieved some impressive progress in its first year – through a combination of partners’ and Programme contributions to control.

The Programme’s collaborative model has proved a sound one – with operational control at a regional level, and coordination and oversight occurring nationally.

In 2016/17, operations exceeded the first year target for the Programme. We have successfully checked wilding conifer spread over more than 1.2 million hectares of iconic landscapes, conservation areas, high-country farms, and important water catchments. As much of the area treated was at a relatively early stage of invasion, this work was very much a ‘stitch in time saves nine’. As a result of such success, operations have been accelerated, and Phase I targets may be achieved sooner than 2019.

To support our work, a new GIS information and mapping system has been developed, led by Land Information New Zealand. This allows infestations across New Zealand to be mapped, as well as our progress in controlling them.

Additionally, we’ve seen collaborative efforts to refine good practice in wilding control and management – starting with the Aerial Basal Bark Application method of control.

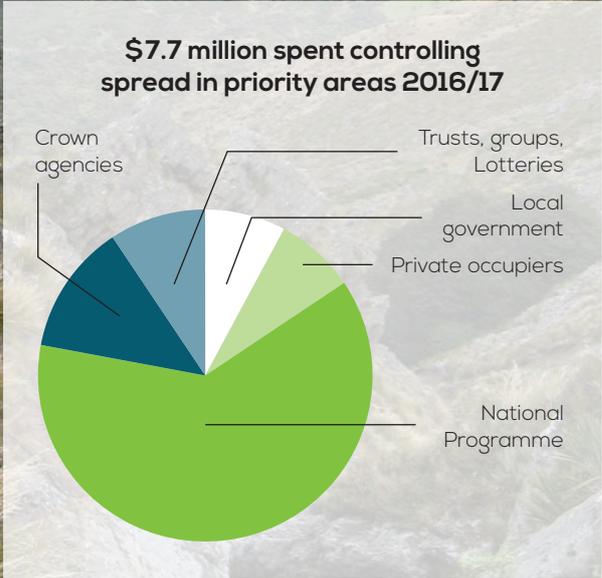
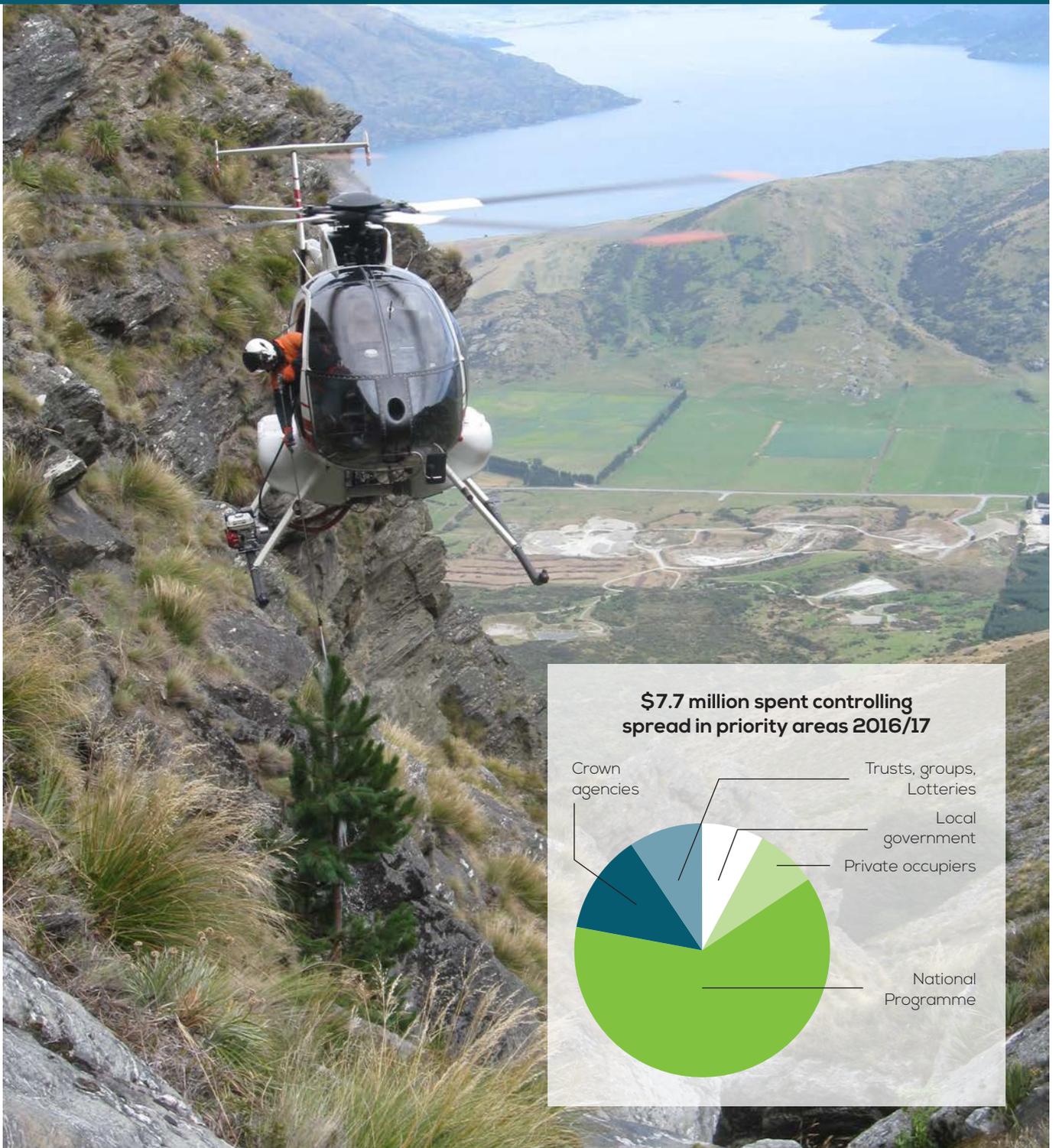


Roger Smith

Chair, National Wilding Conifer Control Programme



The Programme’s collaborative model has proved a sound one



The programme has already exceeded its first year target.

As a result, operations have been accelerated.

A PLANNED APPROACH (2015–2030)

Across New Zealand private land holders, community groups, and central and local government agencies have collectively been spending about \$11 million each year on wilding conifer control. Despite this, wilding conifers have been spreading by more than 5% each year. If left unchecked, it's been predicted that they would cover 20% of New Zealand by 2030.

In response, the NZ Wilding Conifer Management Strategy 2015-2030 was developed. The Strategy balances the good and the bad of conifers – minimising the negative impacts of wilding conifers, while keeping beneficial conifer plantings (“The right tree in the right place”). It aims to strategically and collaboratively prevent the spread of wilding conifers, and efficiently contain or eradicate established areas of these trees, by 2030.

This strategy is implemented through the National Wilding Conifer Control Programme, which brings extra funding, coordination, and collaboration to wilding conifer control across New Zealand.

The Programme is focused on containing and removing scattered wilding conifers to prevent further spread and to protect farmland, biodiversity, iconic landscapes and sensitive water catchments.

Phase I

Phase I of the Programme involves coordinated efforts to contain or eradicate wilding conifer infestations across priority areas. These efforts involve central and local government, private land holders and occupiers, and community groups working across the following areas:

- The North Island's central plateau
- Southern Alps' headwaters from Molesworth Station to the Mackenzie Basin
- The Wakatipu Basin
- Central Otago
- Northern Southland

Phase II

Phase II of the Programme will continue to support land occupiers, communities and organisations to prevent or remove wilding conifer infestations at an early stage by providing national coordination, improved information and good practice guidance. It will also involve follow up control of much of what was treated in phase I, removing seedlings that have germinated since then.

Priorities and management options for significant wilding conifer infestations yet to be addressed by the programme will also be assessed as part of the Phase II planning.

PROGRAMME GOVERNANCE AND MANAGEMENT

National Wilding Conifer Control Programme funding is allocated to Fund Holders, who in turn fund Management Units (geographical areas) in priority control areas.

The Management Units have one or more project managers, who oversee a contracting workforce for ground or aerial operations.

Who's included?

In management units where wilding control is being funded by the Programme, all landholders and landowners are eligible to be included.

EXAMPLE



KEY PROJECTS/ACHIEVEMENTS

MEASURE IT, MANAGE IT

A national system for sharing information on wilding spread and control has been developed by Land Information New Zealand, in conjunction with the Department of Conservation and IT company Eagle Technology.

The Wilding Conifer Information System allows wilding conifer infestations to be mapped by field workers, using GPS devices, and the information uploaded and shared. This includes information on the infestation's density and method of treatment.

Having such accurate, local information readily available will make for better planning of control work and more accurate forecasts of resourcing needs at regional and national levels.

Existing data will be uploaded and the system operationalised in 2017/18.



LEGISLATION AND REGULATION

The Programme has been involved in a range of policy and regulatory developments that help prevent wilding conifer establishment and spread, and allow their efficient control.

Conifer spread-risk is now part of the Afforestation Grants Scheme funding assessment. So new government afforestation grants should not support plantings that will cause future wilding conifer invasions.

The Programme has worked with key stakeholders, including Federated Farmers and forest owners, to develop guidance for regional councils on an approach that works for all parties. Regional councils' pest management plans will provide regulatory support to the Programme – requiring occupiers to keep their land clear of wilding conifers following any control carried out by the Programme.

The Emissions Trading Scheme (ETS) can, in some situations, dis-incentivise removing wilding conifer forests or significant seed sources. While much of this can be avoided through the existing Tree Weed Exemption process, the Programme is engaging in the current ETS review and looking at further refinements.

The National Environment Standard for Plantation Forestry will require those planting or replanting forests to assess their risk of spread using the Wilding Conifer Risk Calculator. If spread-risk is scored 'high' a district council consent will be required. The Programme will monitor the effectiveness of this new regulation, with the aim of ensuring that new plantings are indeed "the right tree in the right place".

SCIENCE TO SUPPORT CONTROL

An important part of the National Wilding Conifer Control Programme is the 'Winning against wildings' research programme, funded for five years through the Ministry of Business, Innovation and Employment. This provides integrated research to support the national Programme.

Another research strand is the 'Wilding conifer control and beyond' project that is co-funded by the New Zealand Wilding Conifer Management Group, through the Ministry for Primary Industries' Sustainable Farming Fund.



RESEARCH PROJECT

Predicting spread risk



PROJECT LEAD

Philip Hulme, Lincoln University
Bioprotection Centre

Which species are most spread-prone and what limits seedlings from establishing.

('Winning against wildings')



RESEARCH PROJECT

Invasion impacts



PROJECT LEAD

Duane Peltzer,
Landcare Research

Measure the impacts of major wilding conifer species, synthesise knowledge on invasive tree impacts and identify emerging research issues.

('Winning against wildings')



RESEARCH PROJECT

Ecosystem effects



PROJECT LEAD

Ian Dickie, University of
Canterbury

Ecosystem feedbacks and legacies from removing wilding conifers.

('Winning against wildings')



RESEARCH PROJECT

Detecting wildings



PROJECT LEAD

Michael Watt,
Scion

Case studies of wilding invasion stages, remote sensing systems for detection.

('Winning against wildings')



RESEARCH PROJECT

Wilding control



PROJECT LEAD

Carol Rolando,
Scion

Optimise uptake, retention and translocation of spray, study a novel helicopter spot application system to efficiently treat clumps of wilding conifers, scope biocontrol options for conifers.

('Winning against wildings')



RESEARCH PROJECT

Preventing spread



PROJECT LEAD

Brian Richardson,
Scion

Develop both short-to-medium- and long-term tools for preventing or significantly reducing spread of Douglas fir or other conifer species from planted forests.

('Winning against wildings')



RESEARCH PROJECT

Forecasting impacts



PROJECT LEAD

Norman Mason,
Landcare Research

Forecast current and future impacts of wildings. Collate fundamental data layers and integrate new data into spatially-explicit forecasting models.

('Winning against wildings')



RESEARCH PROJECT

Trade-offs in control –
projects and lead agency



PROJECT LEAD

Pike Brown,
Landcare Research

Optimise trade-offs. Understand risk-cost-benefits of management interventions and identify options that are both cost-effective and socially valued.

('Winning against wildings')



RESEARCH PROJECT

Site recovery



PROJECT LEAD

Thomas Paul and Carol Rolando,
Scion

Understand revegetation and recovery of sites that have been cleared of wilding conifers.

('Wilding conifer control and beyond')

KEY PROJECTS/ACHIEVEMENTS

CONTROL GOOD PRACTICE

What is 'good practice' in wilding conifer control – and how do we know it is?

Innovation at a local level has led to wilding conifer control practices varying slightly around the country. We want to assess the existing, effective practices and determine the very best of these. Then we want to help spread their uptake across all operators in the Programme.

We need to set in place a clear 'feedback loop' for continuous improvement, including ongoing channels for testing and review. This system is expected to help integrate science and field research findings, as well as ongoing community or operations innovation.

In 2016/17 we focussed on the most widely-used control method – Aerial Basal Bark Application (ABBA). We held a practitioner workshop which highlighted six themes for attention: Operational Planning, Operations themselves, Health & Safety, Herbicide Use, Data & Information, and Post-Control Monitoring.

In 2017/18 we'll develop good practice, incorporating upcoming science and field research.

A WORKFORCE IS NEEDED

To fulfil the ambitions of the strategy, a skilled and dedicated workforce is required, particularly in rural and remote areas. However there are challenges in developing and maintaining such a workforce.

Contracting companies operate best where they have a continuity of work assured from year to year – this helps them to retain ongoing capability and capacity in their workforce, and ensures that contractors and their workers are not 'lost' to other industries. At the same time, sourcing appropriately skilled ground control workers in sufficient numbers is not always easy – particularly given current reliance on transient labour in many cases. Contracting organisations can experience significant business costs in training new employees, only for many to move on at the end of the season.

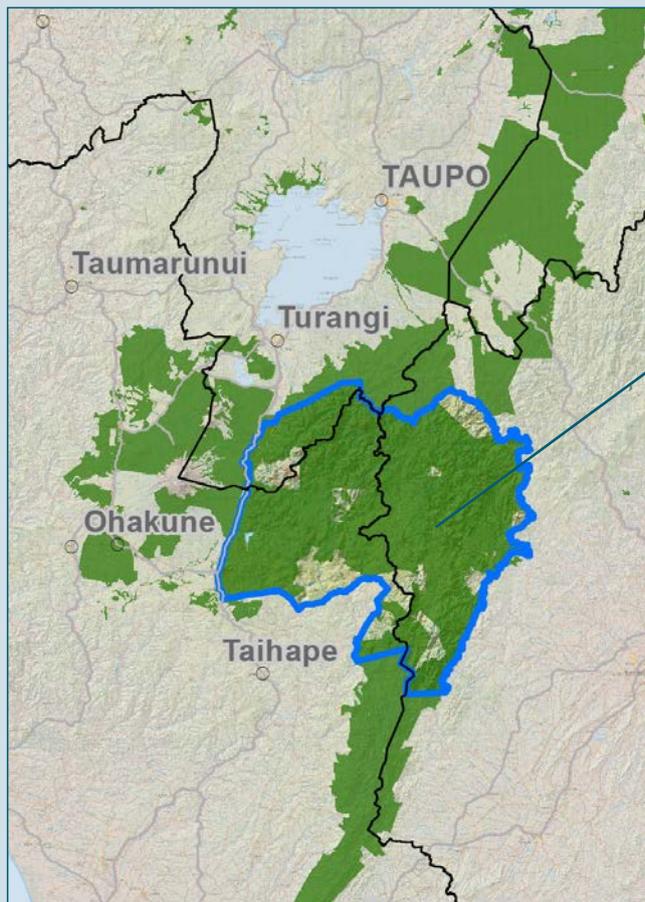
Professionalising the industry and ensuring that labour/skills demand and supply match, may require a range of interventions from both government and industry – including tailored qualifications, and raising awareness of these.



CENTRAL NORTH ISLAND REGION

HIGHLIGHTS

The Central North Island Regional Steering Group has representatives from three regional councils, the Department of Conservation and the New Zealand Defence Force. Given the majority of parties have been coordinating activities for a number of years, assimilating the National Programme structure into the way we work was relatively easy. The Group successfully and safely controlled over 92,000 hectares, through mainly helicopter operations. The Group met the reporting requirements of the Programme including adopting the collection of activity and infestation data.



KAIMANAWA

Objective: Eradication & Progressive Containment
Control - all Wildings: 92,835 ha
Expenditure: \$1,282,764

Legend

- Regional Council Boundary
- Management Unit Commenced 2016/17
- Management Unit Planned 2017/18
- Wilding Conifer Affected Areas

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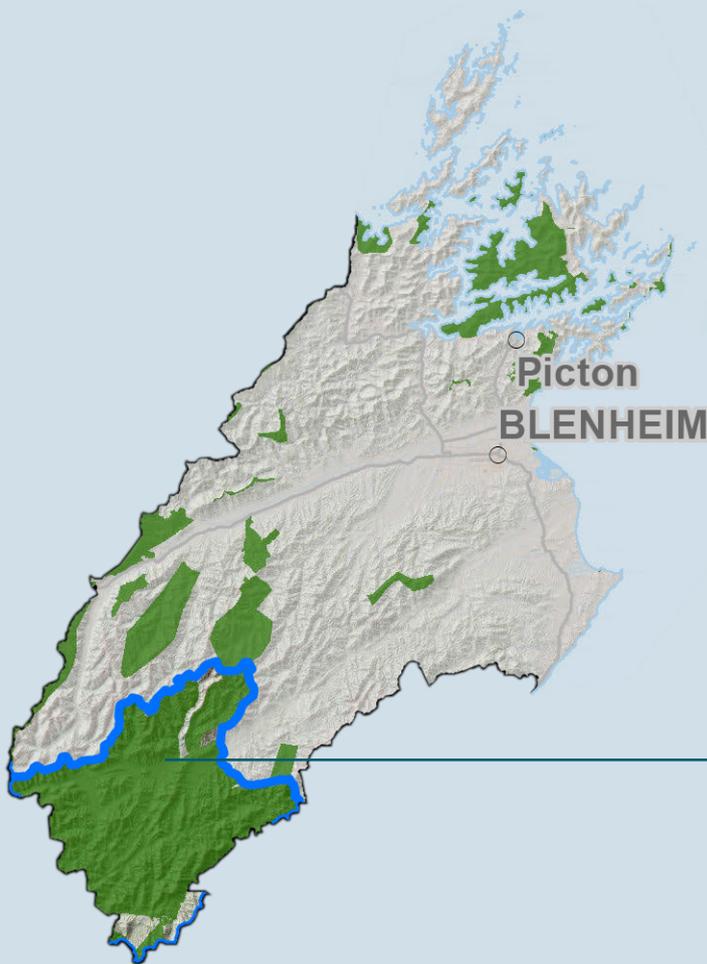


MARLBOROUGH REGION

HIGHLIGHTS

One of the key outcomes of the Programme in just the first year, has been a renewed belief by all the parties involved, that the wilding conifer issue on one of the country's most iconic landscapes, can be brought under control.

At years' end, this control work was carried out across 90,203 hectares or almost 40% of the management unit. Good progress has also been made to determine a suitable course of action to take in order to reach the long term vision of removing the Tarndale infestations.



MOLESWORTH

Objective: Progressive Containment

Control - scattered Wildings: 90,203 ha
Expenditure: \$468,369

Legend

- Regional Council Boundary
- Management Unit Commenced 2016/17
- Management Unit Planned 2017/18
- Wilding Conifer Affected Areas

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Data Acknowledgement
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A generational asset



Mid-Canterbury's Lake Camp and Lake Clearwater are a water enthusiast's wonderland. Part of the Ashburton Lakes network in the Hakatere Conservation Park area, the lakes offer swimming, boating, water skiing, sailing, kayaking, kite-surfing, fishing, wildlife watching and more.

As Ashburton District Council Forester Terry O'Neill says, "There's a real sense of community at the lakes, with people often returning year after year. It's not unusual to meet people whose families have been going there for generations."

For the last 15 years, Terry has worked with the community, the Department of Conservation (DOC) and environmental groups, such as Forest & Bird, to remove the conifers at Lake Camp.



Ashburton District Council Forester Terry O'Neill

"Over the years, people planted conifer trees in the area to provide shelter. The trees initially provided protection, but as they aged some posed a safety risk," Terry says.

Another issue with the conifers (mainly *Pinus contorta*) is that they began to self-seed and quickly established not only at Lake Camp, but also on DOC and adjacent farm land.

"Wilding conifers are a particular problem in places like Lake Camp where the landscape has been modified and exotic conifers find it easy to become established," Terry says.

"Working with the community, we developed a landscape management plan that includes removing conifers and replacing them with appropriate native trees and plants – the plan needed to be about more than just tree removal to allow camping and the continued use of the lakes and surrounding area for recreation," Terry says.

"Lakes Clearwater and Camp are special places. Our aim is to make them safer places that support greater biodiversity, so that people can continue to take their families there – for generations to come."

Removing the wilding conifers in the Lake Clearwater and Lake Camp area has eliminated a significant seed source for the entire Hakatere Management Unit.

Working back from the Basin's edge



For over 12 years, Department of Conservation Ranger Peter Willemse has worked to control wilding conifers from Public Conservation Land and neighbouring farms in the Mackenzie Basin.

"Initially, the wilding conifer threat was considered by many to be in the 'too hard basket', but from a water consumption, economic and biodiversity perspective, we knew it was something that we couldn't ignore," Peter says.

"Over the years, we developed several techniques, such as ground basal bark application and boom foliar spraying that are now successfully being used to control wilding conifers across the country."

Known for its glacial lakes and open grasslands, one of the advantages to removing wilding conifers from the area is its basin shape.

"Because it's a contained area, our aim is to fully control wilding conifers to zero population in Mackenzie Basin. Just like how you clean a bathtub from top to bottom, we've started at the top of the basin and are working our way down," he says.

That aim has received a big boost from the National Wilding Conifer Control Programme, because it supports wilding conifer control and removal on private land too.

"Most farmers in the area are aware of the problem and want to help. The financial assistance provided through the national programme has provided the support needed to remove wilding conifers on private land," Peter says.

"The fact is we can't win this war unless we all work together. It doesn't make any sense to be removing wilding conifers from public lands, if there's still seed sources on private lands."

So one of the next steps for the wider programme will be working with landowners to plan replacement of conifer shelter belts on farms that contain spread-prone species.



Department of Conservation Ranger Peter Willemse



Pukaki before clearance

Pukaki after clearance

CANTERBURY REGION

HIGHLIGHTS

Our \$4.1 million wilding conifer programme resulted in 1.1 million hectares searched for wilding conifers (24 percent of the Region), and these trees were controlled where found.

The area covered involved six management units, plus two others which straddled Canterbury's northern and southern boundaries with Marlborough and Otago respectively. We engaged eight helicopter companies, six ground control companies and two logging companies to implement the control work.

The strong relationship with the partner agencies of DoC, LINZ, MPI, NZDF and district councils with overwhelming support from landowners and Trusts was instrumental in our successful delivery of the programme this year.

HAKATERE

Objective: Eradication & Progressive Containment
Control - Dense Wildings: 6,000 ha
Control - Scattered Wildings: 247,828 ha
Expenditure: \$498,110

GODLEY

Objective: Eradication
Control - Scattered Wildings: 137,255 ha
Expenditure: \$411,446

PORTERS

Objective: Eradication & Progressive Containment
Control - Dense Wildings: 32,950 ha
Control - Scattered Wildings: 156,680 ha
Expenditure: \$452,378

OHAU

Planned for 2017/18

TAKAPO WEST

Planned for 2017/18

LEWIS

Objective: Eradication & Progressive Containment
Control - Dense Wildings: 28,000 ha
Control - Scattered Wildings: 269,550 ha
Expenditure: \$353,913

CRAGIEBURN

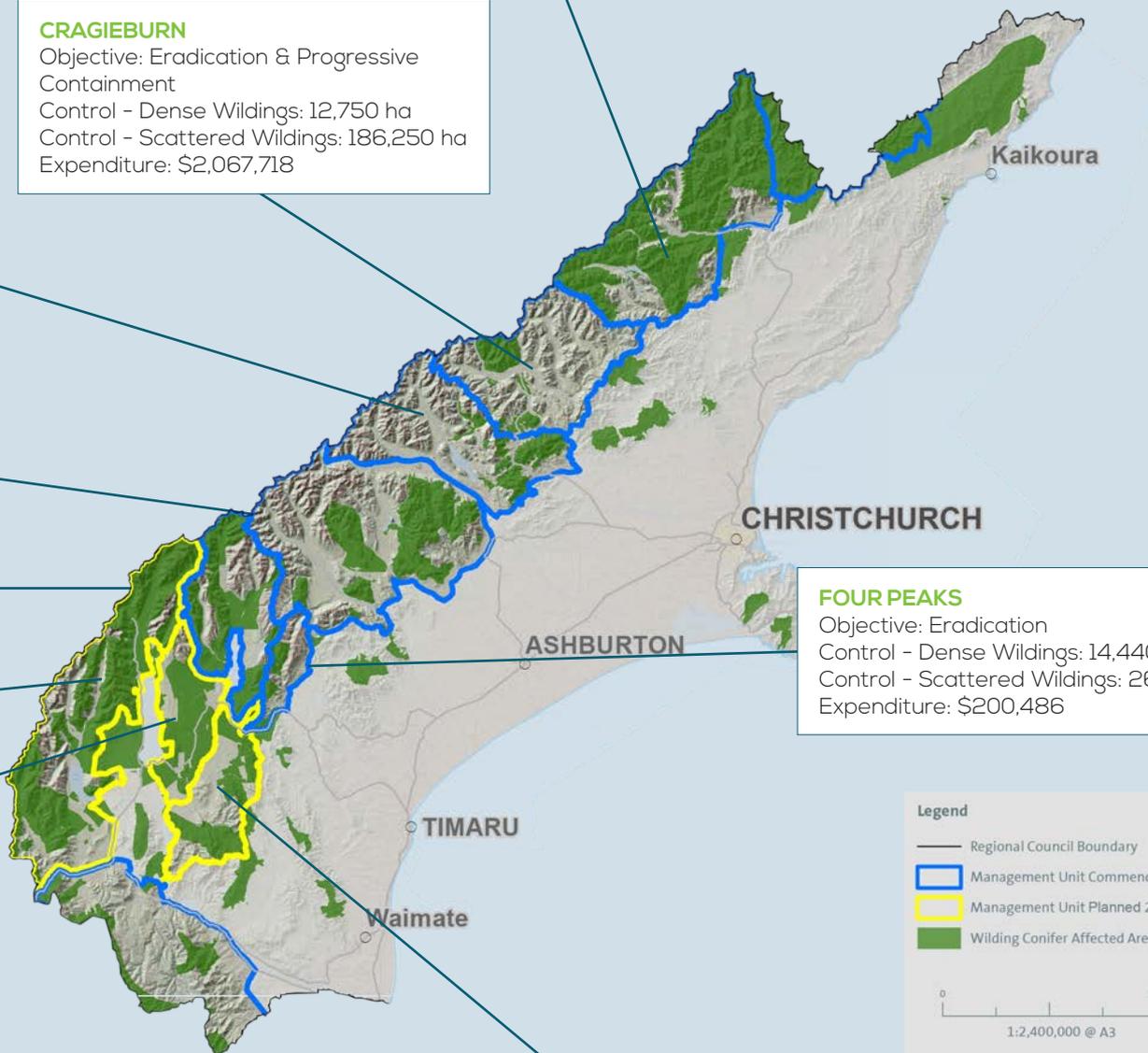
Objective: Eradication & Progressive Containment
Control - Dense Wildings: 12,750 ha
Control - Scattered Wildings: 186,250 ha
Expenditure: \$2,067,718

FOUR PEAKS

Objective: Eradication
Control - Dense Wildings: 14,440 ha
Control - Scattered Wildings: 26,700 ha
Expenditure: \$200,486

TAKAPO EAST

Planned for 2017/18



Legend

- Regional Council Boundary
- Management Unit Commenced 2016/17
- Management Unit Planned 2017/18
- Wilding Conifer Affected Areas



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Taking the long view in Queenstown



People travel from all over the world to see the stunning landscapes of the Lake Wakatipu area, but until recently these were under threat by an infestation of wilding conifers.

The Wakatipu Wilding Conifer Group (WCG) was established to remove and control wilding conifers from the Lake Wakatipu area. It includes farmers, landowners, recreational users, tourism operators, conservationists, and local business owners who are all committed to restoring the area's unique landscape.

"Wilding tree spread has no boundaries," says Briana Pringle, Manager of the WCG and a Senior Parks and Reserves Officer at Queenstown Lakes District Council.

"Before the WCG was established in 2009, individual farmers and others were working on their own lands, but to make an impact we recognised that we needed to join together. Since coordinating our efforts, we've had some big wins in the fight against wilding conifers. Those wins have depended on development of a strategy, funding, access to operational tools such as boom spraying, and volunteer support."

The WCG has an active volunteer programme, that includes "Adopt a Plot", so businesses, schools and community groups can hand clear their adopted plot of seedlings and then maintain the area to prevent conifer regrowth.

"We've initiated a Beech Seedling Project with the local Wakatipu Reforestation Trust to reintroduce beech seed to sprayed areas of wilding conifers," Briana says. "The project will help us understand if beech seed can establish under sprayed wilding trees. If successful, this community project will help bring back our native forests and provide a food source for native birds," she says.

The WCG expects this concerted eradication effort to bring conifer numbers back to where they can be managed by individual landowners and organisations.

"By eradicating wilding conifers, we are protecting our biological and cultural legacy. Once our five-year strategy has been implemented, we'll work with landowners to develop long-term management approaches so that we can maintain the Wakatipu's natural splendour," she says.



Wakatipu Wilding Conifer Group Manager Briana Pringle.

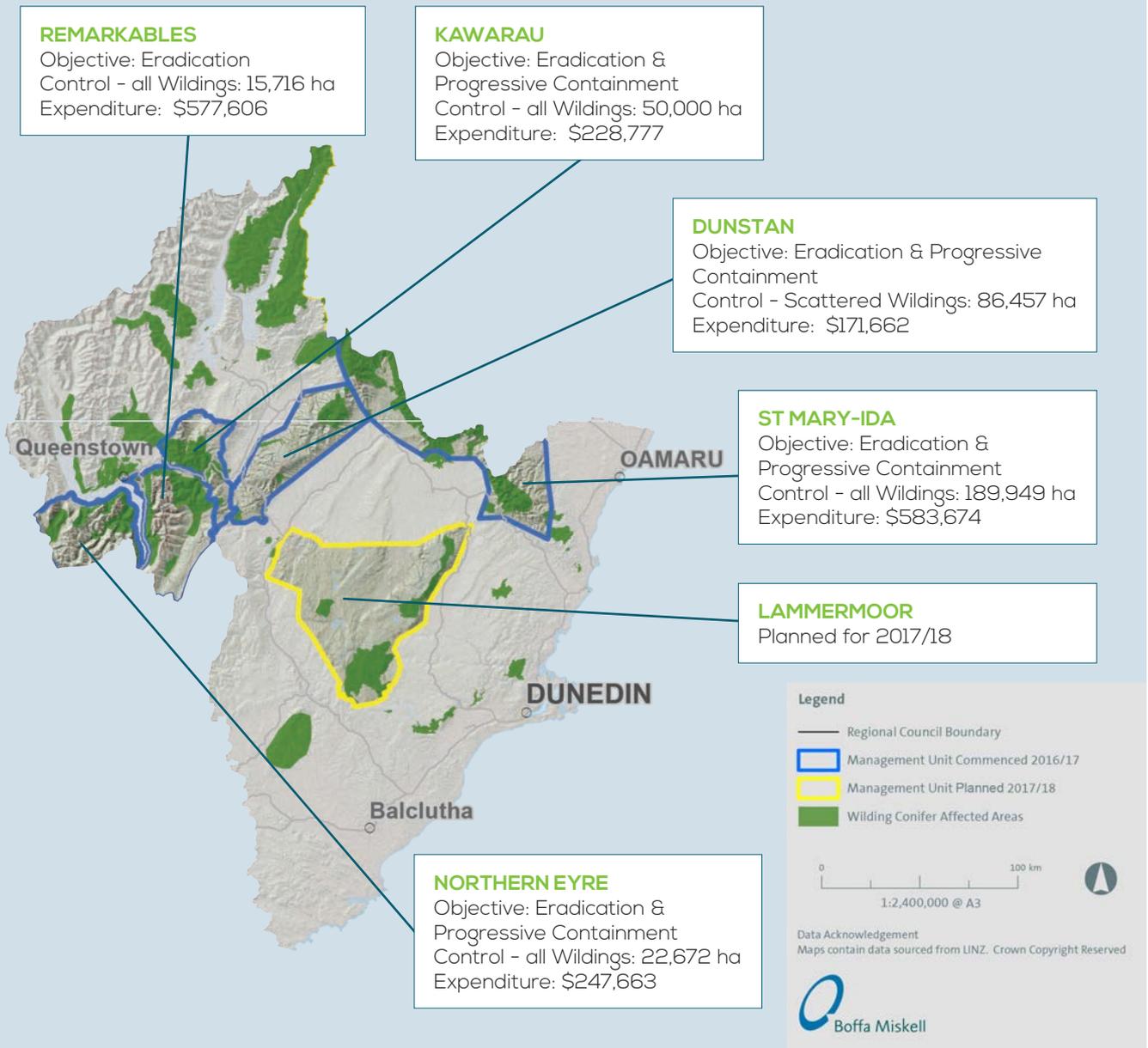
OTAGO REGION

HIGHLIGHTS

Up to 30 June 2017, a total of 276,406 hectares has been cleared of wilding conifers. These are now largely controlled in the north-west and north-eastern parts of the Central Otago district to a point where landowners can manage ongoing wilding control into the future.

Increased awareness amongst landowners and the public to the threat of wilding conifers has resulted in increased funding from Otago Regional Council, and hopefully will result in landowners taking timely action to control wildings on their properties.

Further south the Wakatipu Wilding Conifer Group has made a real difference to the spread in Muddy Creek, as well as controlling many seeding trees in the gully of McKinlay's Creek, and lancing large areas around Halfway Bay and up behind Cecil Peak Station.

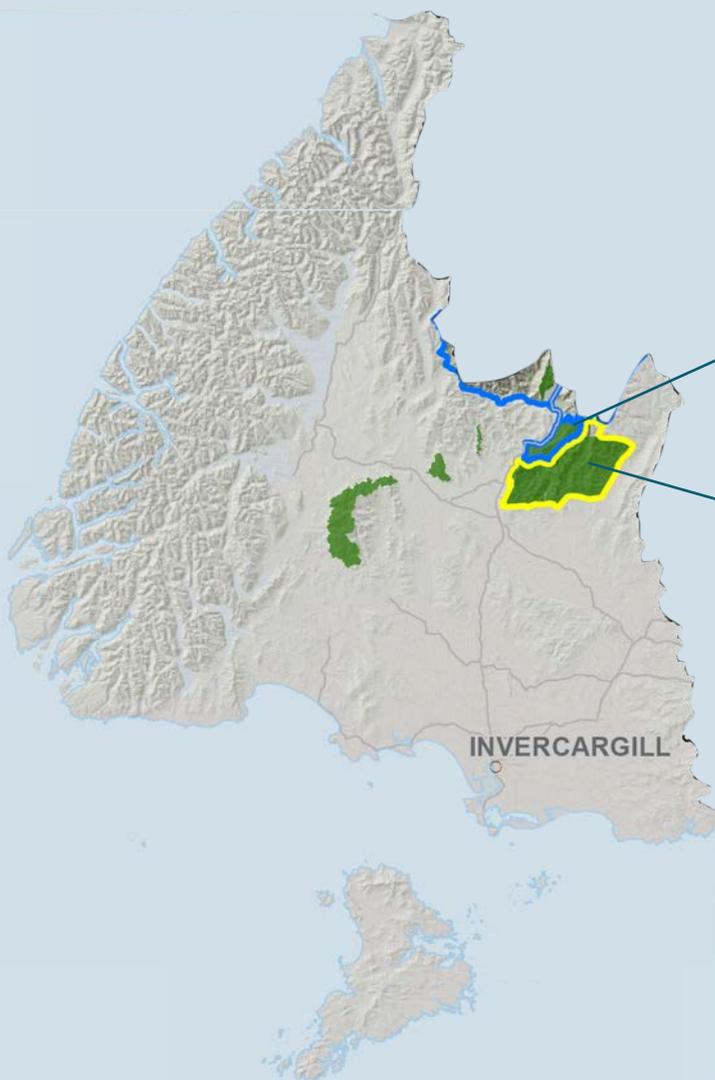


SOUTHLAND REGION

HIGHLIGHTS

The Mid Dome Wilding Trees Trust has undertaken ABBA and ground control work on the Five Rivers (Flagstaff) Management Unit which – when completed – will allow responsibility for any residual management on the 9000 hectares controlled to be handed back to respective land owners.

The Trust has also undertaken 102 hectares of boom spraying, which will significantly contribute to the reduction in high altitude seed sources which are responsible for spread across a large, vulnerable area of high country grassland downwind.



FIVE RIVERS (FLAGSTAFF)

Objective: Progressive Containment
Control - Scattered Wildings: 4,404 ha
Expenditure: \$150,000

MID DOME

Planned for 2017/18

Legend

- Regional Council Boundary
- Management Unit Commenced 2016/17
- Management Unit Planned 2017/18
- Wilding Conifer Affected Areas

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 Boffa Miskell

FINANCIAL REPORT 2016/17

PROGRAMME MANAGEMENT & RELATED ACTIVITIES

NATIONAL PROGRAMME

	ACTUALS (\$)
National Wilding Conifer Information System	174,000
Programme Management and Communications & Behaviour Change	111,000

CENTRAL NORTH ISLAND

KAIMANAWA

FUNDER	ACTUALS (\$)
National Programme	538,600
HBRC	29,735
WRC*	7,000
HRC	42,000
DOC	87,429
NZDF (92835ha)	578,000
Total	1,282,764

MARLBOROUGH

MOLESWORTH

FUNDER	ACTUALS (\$)
National Programme	253,431
DOC	177,184
Landcorp	20,000
Ecan	17,754
Total	468,369

CANTERBURY

AMURI - LEWIS

FUNDER	ACTUALS (\$)
National Programme	278,913
Ecan	20,000
DOC	35,000
Private Occupiers	20,000
Total	353,913

ARTHURS PASS - CRAGIEBURN

FUNDER	ACTUALS (\$)
National Programme	1,641,600
Ecan	28,618
DOC	70,000
Private Occupiers	327,500
Total	2,067,718

ARTHURS PASS - PORTERS

FUNDER	ACTUALS (\$)
National Programme	227,064
Ecan	113,314
DOC	57,000
Private Occupiers	55,000
Total	452,378

HAKATERE

FUNDER	ACTUALS (\$)
National Programme	311,800
Ecan	141,610
DOC	30,000
Private Occupiers	14,700
Total	498,110

MACKENZIE - FOUR PEAKS

FUNDER	ACTUALS (\$)
National Programme	72,259
Ecan	100,227
DOC	11,000
Private Occupiers	17,000
Total	200,486

MACKENZIE - GODLEY

FUNDER	ACTUALS (\$)
National Programme	239,714
Ecan	127,732
DOC	30,000
Private Occupiers	14,000
Total	411,446

FINANCIAL REPORT 2016/17

OTAGO

QUEENSTOWN - REMARKABLES	
FUNDER	ACTUALS (\$)
National Programme	360,122
WCG (QLDC/DOC/LINZ/Other)	217,484
Total	577,606

QUEENSTOWN - KAWARAU	
FUNDER	ACTUALS (\$)
National Programme	158,358
WCG (QLDC/DOC/LINZ/Other)	70,419
Total	228,777

CENTRAL OTAGO - DUNSTAN	
FUNDER	ACTUALS (\$)
National Programme	103,000
CODC	10,000
CL Trust	24,332
Private Occupiers	34,330
Total	171,662

KAKANUI-ST/MARY-IDA	
FUNDER	ACTUALS (\$)
National Programme	323,000
ORC	50,000
DOC	63,000
LINZ	15,000
CODC	10,000
Private Occupiers	93,930
Lotteries	18,744
Ecan	10,000
Total	\$583,674

QUEENSTOWN - NORTHERN EYRE	
FUNDER	ACTUALS (\$)
National Programme	173,364
WCG (QLDC/DOC/LINZ/Other)	74,299
Total	247,663

SOUTHLAND

NORTHERN SOUTHLAND - FIVE RIVERS (FLAGSTAFF)	
FUNDER	ACTUALS (\$)
National Programme	90,000
MidDome Wilding Trust	60,000
Total	150,000

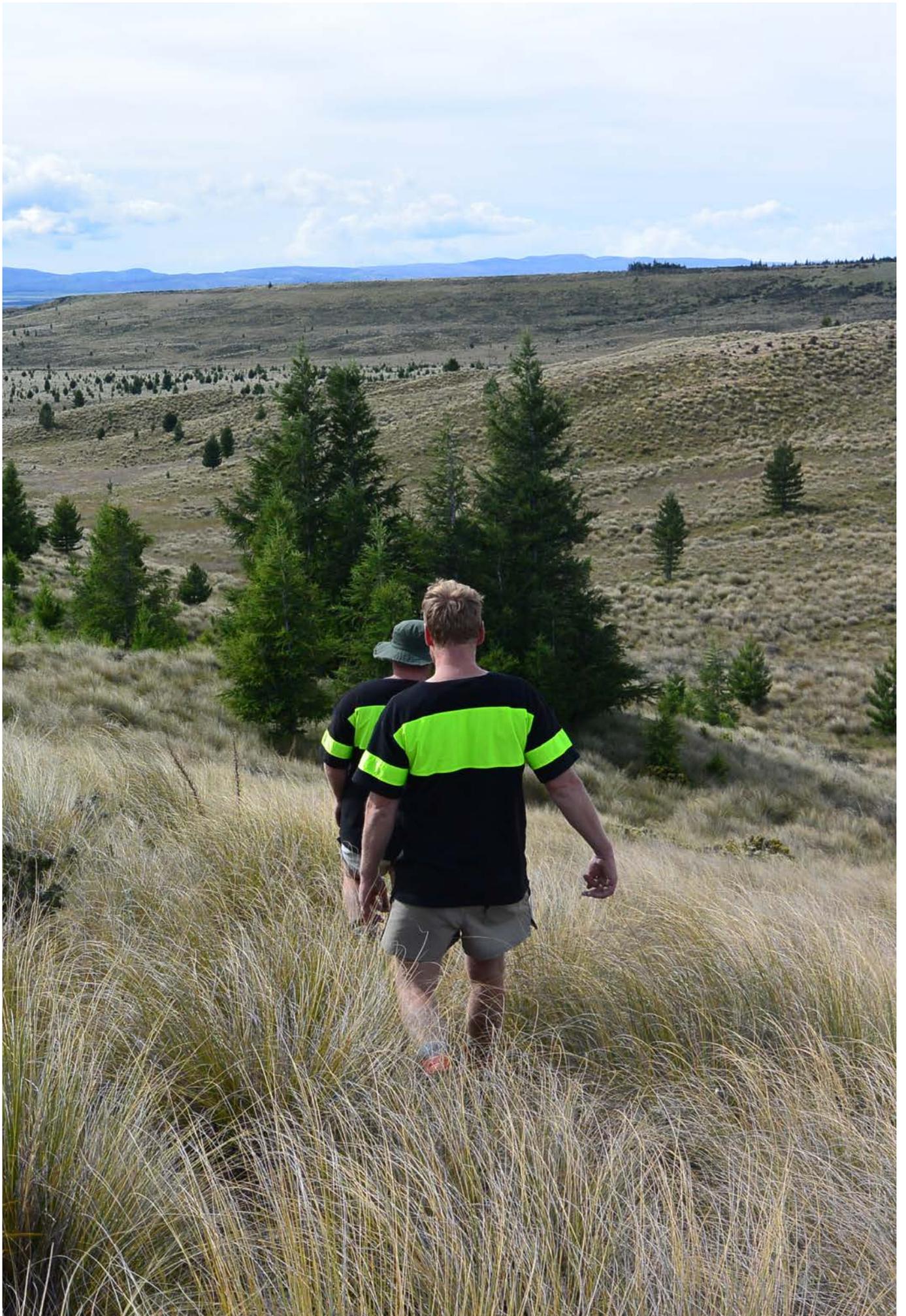
TOTAL PROGRAMME EXPENDITURE 2016/17

\$5,146,227

FINANCIAL VARIANCE

Some allocated control funding was not spent within this financial year. These funds were carried over to 2017/18 and used to complete work after June 30, 2017. The following table shows these carry-overs:

FUNDS CARRIED OVER TO 2017/18	
Marlborough-Molesworth	17,795
Amuri-Lewis	180,055
Mackenzie-Four Peaks	128,000
Queenstown-Remarkables	31,575
Queenstown-Northern Eyre	10,000
Total	367,605





**PREVENT
THE SPREAD**
National Wilding Conifer Control Programme

WWW.WILDINGCONIFERS.ORG.NZ