



Cabinet

Minute of Decision

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Accelerating Predator Free New Zealand

Portfolios **Primary Industries / Conservation**

On 11 July 2016, following reference from the Cabinet Economic Growth and Infrastructure Committee (EGI), Cabinet:

Proposed goal

- 1 **noted** that the business case attached to the submission under CAB-16-SUB-0335 proposes that the government commits to a collaborative approach to predator control to achieve a predator free New Zealand by 2050;
- 2 **agreed** that the government adopt the vision of achieving a predator free New Zealand by 2050, with the goal being defined as the eradication of possums, rats and stoats;
- 3 **agreed** that the government adopt the following four interim 2025 goals towards achieving a predator free New Zealand:
 - 3.1 by 2025, we will increase by one million hectares the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects;
 - 3.2 by 2025, we will have demonstrated that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences;
 - 3.3 by 2025, we will have eradicated all mammalian predators from New Zealand's island nature reserves;
 - 3.4 by 2025, we will have developed a break-through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland;

Governance

- 4 **agreed** that the Department of Conservation (DOC) be the lead agency, and the Minister of Conservation be the lead Minister, aligning work across government on the predator control strategy, to ensure the maximum effectiveness of predator control investment;
- 5 **noted** that officials have presented three options for a governance body to manage the investment required to achieve this strategy, including:
 - 5.1 establishing an investment programme overseen by an independent panel;

- 5.2 extending the mandate of an organisation such as OSPRI;
- 5.3 establishing an independent company;
- 6 **authorised** the Minister of Finance, the Minister for Primary Industries and the Minister of Conservation to establish Predator Free New Zealand Ltd as an independent Crown Company, or equivalent Crown Entity, with a target establishment date of 1 November 2016;
- 7 **agreed** that Predator Free New Zealand Ltd be established to perform the functions listed in paragraph 8 below;
- 8 **noted** that the functions of Predator Free New Zealand Ltd will be to:
- 8.1 provide advice to project consortia so that they develop high quality, technically feasible projects;
 - 8.2 foster investment in conservation projects;
 - 8.3 assess proposals against investment criteria to select the optimum schemes, and establish durable commercial structures;
 - 8.4 manage co-investments in accordance with the Crown's investment requirements;
 - 8.5 exit projects when conservation objectives have been achieved and there are long term arrangements to sustain the gains;
 - 8.6 raise funding at a rate of 2:1 with funds set aside for scientific research, and establish a subsidiary company to oversee investments in long-term predator science;
 - 8.7 work with the Biological Heritage Science Challenge to coordinate investment in long term predator science research;

Funding and investment criteria

9 **agreed** to the expectation that Predator Free New Zealand Ltd will anticipate at least a 2:1 financial contribution from other co-funders;

10 **noted** that the Crown's investment criteria will be:

- 10.1 the ability to eradicate or suppress predators at a landscape level to achieve specific and significant conservation objectives;
- 10.2 the ability to strengthen iwi – Crown relationships, and provide opportunities for iwi to exercise kaitiakitanga over their rohe;
- 10.3 the contribution to social and economic outcomes;
- 10.4 demonstration of strong collaboration across all the pertinent stakeholders;
- 10.5 evidence of sound conservation, operational, financial and evaluation plans;
- 10.6 contribution of financial resources from other parties on at least a 2:1 basis;
- 10.7 demonstration of durable arrangements to sustain the gains after the investment period;

10.8 opportunities to scale the predator free area to contribute to the target of a predator free New Zealand;

11 noted that the indicative average split of funding per annum for the strategy is:

Predator Free NZ Activity	Average pa funding
Galvanise co-investment in high value and regional size projects (Administered through PFNZ)	\$5.0m
Funding for break through science research coordinated with the Biological Heritage National Science Challenge (Administered through PFNZ)	\$1.0m
Foster and support smaller community-led projects to involve communities and build social support for predator control	\$0.3m
Fund improvement of current tools and strategic capability	\$0.7m
<i>Total average funding</i>	<i>\$7.0m</i>

12 noted that appropriation arrangements to reflect funding for the Predator Free New Zealand strategy and Predator Free New Zealand Ltd will be identified as part of the work to establish the company and the initial work programme is developed;

13 authorised the Minister of Finance, the Minister of Conservation and the Minister for Primary Industries to establish the necessary appropriations, including the profile of expense, within the \$28 million tagged contingency "Accelerating Predator Free New Zealand", established as part of Budget 16, with \$7 million in outyear baseline funding, to give effect to the proposals in paragraphs 2-11 above;

14 agreed that the expenses incurred under paragraph 11 above be a charge against the tagged operating contingency "Accelerating Predator Free New Zealand", established as part of Budget 2016;

Publicity and further reports

15 noted that the offices of the Minister of Conservation and the Minister for Primary Industries will coordinate a public announcement of the Predator Free New Zealand 2050 strategy and associated funding;

16 directed DOC to report back to EGI at two yearly intervals on progress on:

16.1 the collaborative strategy for a predator free New Zealand;

16.2 large scale predator eradication projects and the optimal application of current resources;

Martin Bell
for Secretary of the Cabinet

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Office of the Minister of Conservation
Office of the Minister for Primary Industries

Chair, Cabinet EGI Committee

Accelerating Predator Free New Zealand

Proposal

- 1 We propose that Cabinet:
 - agree to the goal of a predator free New Zealand by 2050;
 - release the Budget 2016 contingency funding of \$28 million over four years to accelerate a programme aimed at making New Zealand predator free by 2050; and
 - approve the establishment of 'Predator Free New Zealand Ltd' (PFNZ) as an independent company to manage government's co-investment in large scale predator control projects, and long term science research.

Executive Summary

- 2 This Cabinet paper lays out the strategy for a Predator Free New Zealand by 2050. This means total eradication of three key pests by that date - rats, mustelids such as stoats, and possums. Budget 2016 set aside contingency funding of \$28 million over four years for this purpose, subject to Cabinet approval of a subsequent business case [CAB-16-MIN-0189.06 refers].
- 3 The paper shows how funding will be used in the near term to lay the foundations of what is truly an ambitious goal. All information is drawn from the Predator Free New Zealand Business Case.
- 4 Our unique species and forests inspire and define us as a country. Ridding New Zealand of the predators that threaten these defining species is an inspiring, engaging and easily understood goal. With coordinated effort, collaborative investment from non-government sources and continued innovation, we can make significant progress to achieving this goal in the medium term, and lay the foundations for the achievement of the goal by 2050.
- 5 There are four key factors we can work with to achieve long term predator control at a landscape scale. These factors are seeing significant positive shifts in the actions, technology and participation that are possible in the realm of predator control. These possibilities make now an optimal time for a concerted focus on an ambitious goal. These factors are:
 - *Large scale projects becoming possible through new conservation players*
 - *Development of new predator control tools and techniques*
 - *Breakthrough science*
 - *Rise of community involvement in predator control*

- 6 The initial stage of Predator Free New Zealand will focus on activity over the next decade to strengthen and coordinate current efforts, utilising our key strengths to set the platform for long term success. Leveraging off the above factors, we will:
- Increase how much of NZ is covered by predator control, focussing on regional scale partnerships and community led initiatives
 - Improve the tools we have to do the job today
 - Use existing technologies to build areas of predator elimination as a base to build from
 - Invest in long term science breakthroughs.
- 7 To ensure the 2050 goal is not seen as so far into the future that it lacks credibility, we propose that four 2025 goals be adopted to give focus to the programme of work, and to aid communication to the public that real progress can be made in the short to medium term. These goals are:
1. That by 2025 we will increase by one million hectares the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects
 2. That by 2025 we will have demonstrated that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences
 3. That by 2025 we will have eradicated all mammalian predators from New Zealand's offshore islands
 4. That by 2025 we will have developed a break through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland.
- 8 An essential component to achieving the strategy will be the formation of 'Predator Free New Zealand Ltd' to govern project investment in regional predator control initiatives, and long term science research. This company would be governed by a board made up of government, private sector and philanthropic investors. Predator Free New Zealand (PFNZ) Ltd would bring entrepreneurial focus and investment discipline to the initiative. It would work with project consortia through a contestable process to identify high value projects, attract co-investors, and accelerate the number, size and success of large scale projects with predator control and conservation at their heart. PFNZ will also align with the Biological Heritage National Science Challenge to invest in scientific research aimed at creating breakthroughs that will enable the cost effective eradication of predators across New Zealand.
- 9 Predator Free New Zealand is consistent with the approach proposed in Biosecurity 2025. The key themes of Biosecurity 2025 include promoting broader participation and partnership approaches, and encouraging innovation and the use of new tools to deliver better outcomes for biosecurity.

Background

- 1 Budget 2016 set aside contingency funding of \$28 million over four years for the purpose of accelerating a programme to make New Zealand predator free, subject to Cabinet approval of a subsequent business case [CAB-16-MIN-0189.06 refers].
- 2 New Zealand is a world leader in conservation, especially in animal pest control. We have had major successes with predator elimination in offshore islands and with the recovery of certain species. Nevertheless the reality is that over the last few decades New Zealand has experienced a steady decline in the health of its forests and in the numbers and range of many of our native species. Introduced predators (rats, mustelids such as stoats, and possums) continue to be the biggest threat to our native wildlife and ecosystems.
- 3 We have helped some species recover from the brink of extinction, but there has been a steady decline in native species in areas where predator control is not happening. Real conservation gains have only been achieved on predator free islands, fenced sanctuaries, and in places with intense and sustained pest suppression.
- 4 Currently DOC has approximately one million hectares of New Zealand's 27 million hectare area under sustained predator control. OSPRI has 463,600 hectares of land controlled for possums using aerial application of 1080. In addition, OSPRI is undertaking ground-based possum control on almost 3 million hectares of land, half of which is in non-pasture, forested areas. The key objectives of OSPRI's new TB Plan are the biological eradication of TB from New Zealand by 2055, with TB freedom in livestock by 2026 and freedom in possums by 2040.
- 5 The Predator Free New Zealand strategy provides an opportunity to bring these predator control efforts into alignment in such a way as maximise the potential for future predator suppression and eventual eradication.
- 6 Control of invasive species is not just about native ecosystems. Effective control of possums has also been a central pillar of efforts to eliminate bovine TB that is carried by animal pests. The TBfree programme run by OSPRI is an essential programme for our agricultural industry. Agriculture and horticulture also benefit from control of flora pests, such as invasive weeds and wilding conifers.
- 7 Businesses, communities and philanthropists have shown increasing interest in contributing to conservation by committing to ambitious, large-scale conservation projects in recent years, for example:
 - In 2013 the Predator Free New Zealand Trust was established through a mixture of philanthropic funding and government Conservation funding. This Trust focuses on harnessing action from community groups such as private landowners, schools, interested individuals and voluntary organisations to control predators. There are hundreds of such groups working with DOC, the Predator Free New Zealand Trust, or working independently around the country. They are passionate and dedicated, but often isolated, with limited overall coordination.
 - Business sponsors and benefactors have in recent years committed many millions of dollars over several years to three ambitious large scale predator control projects: Cape to City in Hawkes Bay, Taranaki Mouna, and Project Janszoon in Abel Tasman National Park. These projects have backing and in-kind resourcing from iwi, DOC and regional councils.

- Zero Invasive Predators Ltd (ZIP) is a Public Private Partnership company funded by government (through DOC), primary sector businesses, and philanthropists. Most of their \$23 million of funding is non-government. ZIP is pioneering techniques to eradicate predators without the use of fences, which will be invaluable in expanding mainland predator control efforts.
- 8 The potential for a breakthrough science solution for predator control is now a realistic prospect. The amount of genome science being undertaken globally and producing results is growing at an exponential rate, with the costs declining and the potential applications expanding. The use of gene drive and other techniques could, for example, produce male possums whose offspring are either infertile females, or males who carry the same gene themselves. Such a breakthrough could lead to an eventual collapse of the possum population.
- 9 Our unique species and forests inspire and define us as a country. Ridding New Zealand of the predators that threaten these defining species is an inspiring, engaging and easily understood goal. With coordinated effort, collaborative investment and continued innovation, we can make significant progress to achieving this goal in the medium term, setting up the platform for achieving a predator free New Zealand by 2050.

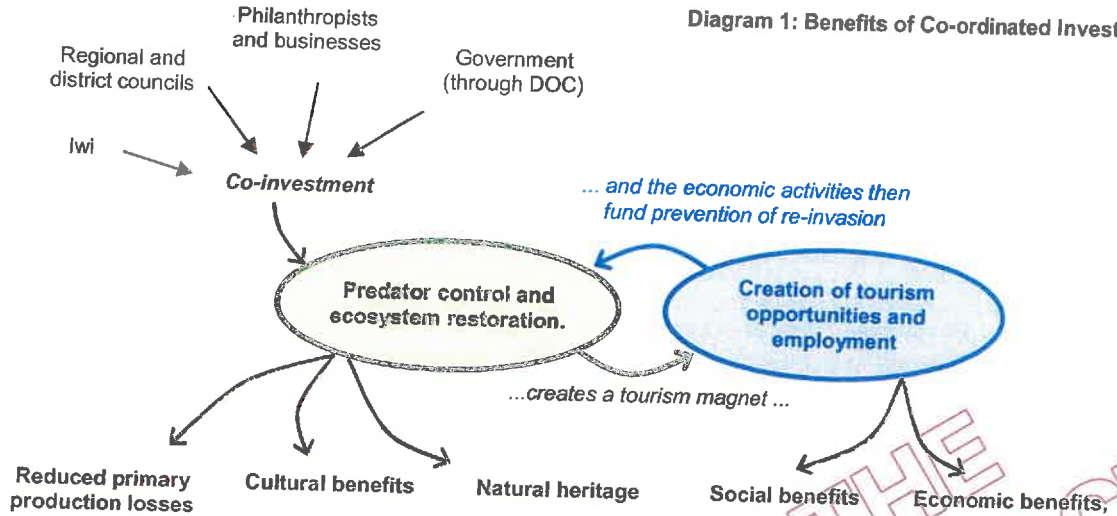
Predator Free New Zealand by 2050

- 10 This Cabinet paper lays out the vision and strategy for a Predator Free New Zealand by 2050. The paper also shows how the Budget 2016 funding set aside in contingency for this purpose will be used in the near term to lay the foundations of what is truly an ambitious goal. All information is drawn from the Predator Free New Zealand Business Case, which is provided to fulfil the condition of confirming the funding set aside for this purpose in Budget 2016.

A Predator Free New Zealand will have numerous benefits

- 11 By investing strategically and collaboratively we can help expand and protect some of our unique ecosystems while generating significant social and economic benefits. For example, a predator free New Zealand will create significant opportunities for tourism, reinforce New Zealand's trade and tourism brand, and support premium prices for quality primary sector exports. Such benefits will contribute to a healthier New Zealand Inc, creating opportunities that incentivise re-investment in restoration to create further opportunities. Diagram 1, below, illustrates how coordinating this investment and managing the opportunities it creates can create a self-perpetuating 'virtuous cycle'.

Diagram 1: Benefits of Co-ordinated Investment



Many current and potential investments from multiple sources could achieve greater co-benefits if strategically coordinated

12 Diagram 2, below, shows the \$94 million currently spent towards predator control each year across various government and non-government partners, and where the \$28 million over four years set aside in Budget 2016 will fit:

Diagram 2: Where the \$28 Million for Predator Free New Zealand Fits
A predator free New Zealand by 2050

The DOC bid for 'Battle for our Birds' (\$20.69m for 2016) funds the predator control required in the 2016 'mast year' with the seeding-fuelled explosion of predators.

This bid (\$28m over 4 years) funds

- a bold initiative to explore how government, iwi, communities and businesses can collaborate to eradicate predators at a pace & scale that none can achieve alone
- investment in science, tool development and capability
- development of a strategy to work toward the aspirational goal of a predator free New Zealand by 2050 and protect our nature.

The MPI bid (\$69.8m over 4 years) accelerates the elimination of bovine TB by OSPRI to minimise long term liabilities.

Approximately \$94 m pa is currently spent on predator control

DOC	Typically \$20m pa (and around \$20m extra in mast years)
Regional councils	Estimated at \$10m pa
OSPRI	\$24m pa from central government
	\$36m pa from farmers through meat and dairy levies
Community organisations businesses, philanthropists	Estimated at \$4m pa
Landowners	An additional \$52m pa in lost production (estimated – not included in total).

Predator Free New Zealand Funding will coordinate a wide range of investment from varied sources to create a greater result from potentially competing objectives

Key factors

- 13 There are four key factors that are undergoing significant positive developments that we can harness in a predator free strategy and make the goal of Predator Free New Zealand credible. These factors are:
- *Large scale projects becoming possible through new conservation players:* In recent years significant gains in conservation have come from the entry of new philanthropic players seeking out large scale projects which achieve measurable gains in conservation outcomes. These players take an investment approach to conservation and are bringing entrepreneurial drive and new ideas to conservation. This trend is being strengthened by post-settlement iwi and DOC's partnership strategy.
 - *Development of new predator control tools and techniques:* There is ongoing development of the range of tools and techniques: ZIP is a leading source of innovation but a range of players are working on new traps, the use of IT solutions with traps, new toxins and lures such as pheromones.
 - *Breakthrough science:* Rapid advance in genome science make breakthrough solutions a credible possibility.
 - *Rise of community involvement in predator control:* The level of enthusiasm at the community level has been a major social phenomenon in the last few years. Community groups are springing up across the country. Often communities aspire to the local version of the predator free New Zealand goal e.g. "Predator Free Picton".
- 14 These factors are the common strands that will be woven through the Predator Free Strategy to make New Zealand free of rats, mustelids and possums by 2050.

The Strategy to be Predator Free by 2050

- 15 We currently do not have the ability to eradicate all predators in New Zealand. Adopting the Predator Free 2050 goal means we need to lay out a credible pathway to 2050. Set out below is the outline of the strategy that will get us there. The focus is on credible near term actions that deliver real tangible gains for conservation, and continue to involve and inspire the public while laying the foundation of the science breakthroughs that can achieve the ultimate goal.
- 16 Going forward it will be important that there is a coherent strategy for predator control. This will ensure we get the maximum effectiveness for investment across the economy. We recommend that in the case of predator control DOC be the lead agency and the Minister of Conservation the lead Minister. DOC will develop a strategy that complements and influences all other predator management being undertaken in New Zealand.

In the short to medium term – efforts out to 2025

Strategy focus - Increase how much of New Zealand is covered by predator control

- 17 The first strand of the initial stage of Predator Free New Zealand will focus on activity over the next decade to strengthen and coordinate current efforts with a focus on increasing the area of New Zealand under effective predator control. We will:
- *Increase the areas of New Zealand where predators are suppressed*
 - Focus on significantly increasing the areas of New Zealand that is covered by effective predator suppression. Note suppression is the reduction of predators to very low levels that enable birds and forests to thrive but is not complete eradication. This ensures that we protect New Zealand's unique biodiversity

while longer solutions for predator eradication are developed. This will continue to enrol New Zealanders in the challenge as they see the real benefits of predator control occurring on the ground.

The primary levers to achieve this are:

- Seeking partnership opportunities for significant new regional scale initiatives
 - Boosting the work of local community and volunteer groups
 - Building the effectiveness and coordination of the major predator control players – DOC, OSPRI and regional councils. This will build on OSPRI's TB eradication work and new investments in the TB Plan and DOC's Battle for our Birds.
- *Improve the tools we have to do the job today*
 - Focus on the effectiveness of predator control through improving tools such as toxins, traps and lures. There are a number of opportunities in this regard such as aerial PAPP (a new stoat toxin) new lures such as pheromones, and continuing improvements in traps such as resetting traps
 - *Start building areas of eradication as a base to build from*
 - Focus on ZIP or other methods which may be developed to achieve eradication (as opposed to suppression) in areas of mainland New Zealand. This will provide a springboard to build larger and larger areas and excite the community over what is possible, particularly that the 2050 goal is a credible one.

In the long term – today through to 2050

Strategy focus – Invest in breakthrough long term science that can achieve complete eradication

- 18 In parallel with increasing the coverage of areas of suppression and achieving growing areas of eradication, investments in long term science, such as predator genome research is needed to find ways of achieving eradication.
- 19 We consider that new scientific thinking requires that we attract new players and new ways of working into the sector. As with predator control at a large scale, it is important to attract entrepreneurial new approaches and co-investment to achieve the scale of change we envisage. With the right talent, clear goals, and government support for independent thinking, the scientific progress needed to achieve predator eradication is achievable.

Giving shape to the Strategy by adopting interim goals

- 20 To ensure the 2050 goal is not seen as so far into the future that it lacks credibility we propose that four 2025 goals be adopted to give focus to the programme of work, and to aid communication to the public that real progress can be made in the short to medium term. The goals suggested flow from the strategy described above:
1. That by 2025 we will increase by one million hectares the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects
 2. That by 2025 we will have demonstrated that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences

3. That by 2025 we will have eradicated all mammalian predators from New Zealand's offshore islands
 4. That by 2025 we have developed a break through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland.
- 21 The first goal can be achieved by major new partnerships, better coordination and expansion of work by DOC, OSPRI and regional councils, and boosting local community work.
 - 22 The second goal will require the successful roll out of ZIP tools and techniques to a suitable site such as the top of the North Island, the top of Coromandel peninsula or other peninsulas such as Banks and Otago. ZIP is confident that the goal – while ambitious – is achievable.
 - 23 The third goal builds on New Zealand's track record with island eradication. For the purposes of this goal an off shore island is an island that is beyond the swimming range of a predator such as a stoat. Individual islands can have particular sets of predator challenges. For example for Auckland Island the challenge is feral cats, mice and pigs. In the case of islands the interim target is expressed in terms of mammalian predators more broadly than possums, rats and stoats.
 - 24 The fourth goal requires a concerted focus over time on support for new science breakthroughs. We consider that this support will need to encourage entrepreneurial investment and new thinking.

Alignment with the Biosecurity 2025 initiative

- 25 Biosecurity 2025 is a government initiative to clearly set out the strategic directions for the continued effectiveness and resilience of New Zealand's biosecurity system. It encompasses pre-border and border biosecurity, along with incursion response and long-term pest management objectives.
- 26 Predator Free New Zealand is the type of initiative which is anticipated by Biosecurity 2025. Biosecurity 2025 includes areas of focus, including the development of new and innovative pest control tools and the broad promotion and participation by communities, businesses, philanthropists and other groups. A draft Biosecurity 2025 proposal document is awaiting Cabinet signoff for public consultation.

Programme of work to implement the strategy

- 27 With the \$28 million funding set aside in contingency in Budget 2016, we propose that we undertake the following programme of work to deliver on these elements of the strategy:

Predator Free NZ Activity	Average pa funding ¹
Galvanise co-investment in high value and regional size projects – top down investment	\$5.0m
Define the science questions that need to be tackled to achieve the innovation needed for a predator free New Zealand, as well as coordinating funding with the Biological Heritage National Science Challenge to result in breakthrough science	\$1.0m

¹ These numbers reflect average outyear funds of \$7m a year for the initiative. Funding will be phased differently over the first four years of the programme to account for building capacity. The Predator Free NZ Business Case identifies planned funding in more detail.

Foster and support smaller community-led projects to involve communities and build social support for predator control – bottom up investment	\$0.3m
Fund improvement of current tools and strategic capability – continual improvement in science and technology	\$0.7m
<i>Total average funding</i>	<i>\$7.0m</i>

Implementing the work programme: Major regional Initiatives

- 28 We know that large projects with multiple partners can be scaled up and succeed. Project Taranaki Mounga is a good example of the type of initiative funding in this part of the programme would look to catalyse. The philanthropic NEXT foundation is the initiator of this project and is investing \$24 million over 10 years. DOC and all eight Taranaki iwi are also contributing. The TSB Trust has committed \$0.4 million per year, a second philanthropic donor has confirmed \$0.2 million per annum and a significant national business with Taranaki links is close to confirming a \$2 million investment. The project goal is the restoration of the health of the mountain. Predators and weeds will be managed; species that have become locally extinct will be reintroduced (robins will be reintroduced next year having last been on the mountain 30 years ago); and the mountain will again a prime area for kiwi.
- 29 These projects bring more than resources. New players entering the market such as the NEXT foundation bring with them new thinking and a strong investment culture where investments will only be made to achieve specific goals. Projects are tightly monitored and high performance is expected. Private players look for a similar commitment from other funders, and look to leverage their investment by only investing where others follow suit.
- 30 The indicative criteria for large scale projects to be accelerated or expanded will include:
- aim to eradicate or suppress predators at a landscape level to achieve specific and significant conservation and economic objectives
 - each project stands alone on its own merits, not dependent on further investment in order to achieve the specified PFNZ objectives
 - strengthen iwi – Crown relationships and provide opportunities for iwi to exercise kaitiakitanga over their rohe
 - demonstrate strong collaboration across major stakeholders
 - contribute to social and economic outcomes – for example, demonstrating beneficial opportunities for tourism, employment, agriculture, or community participation
 - supported by sound conservation, operational and financial plans
 - leverage at least \$2 for every \$1 invested by the fund
 - have clear reporting and independent evaluation
 - have durable, sustainable commercial arrangements to fund predator control after the investment period.
- 31 We propose that the significant investment in regional initiatives be managed by a new company to be formed with partner investors, to be called Predator Free New Zealand Ltd. More information and analysis of this proposal is covered in the section on *Governance of Investment*, below.

Implementing the work programme: Scientific Research

- 32 The long-term scientific research work will be coordinated with MBIÉ's Biological Heritage Science Challenge and OSPRI's pest research (which OSPRI funds at approximately \$2 million per year), and be consistent with the overall Predator Free New Zealand strategy. The Science Challenge 'New Zealand's Biological Heritage' aims, amongst other things, to increase the understanding of pest dynamics, pest control tools and the protection of native ecosystems and species.
- 33 Programme two in this Challenge seeks to reduce risks and threats. In particular, this programme has an element focused on improved tools and technology, and landscape scale pest control and surveillance/detection specifically targeting possums, rats, and stoats.
- 34 The funding available through the challenge is modest relative to the size of the task. To make real progress, we consider that targeted scientific research would require at least \$15 million funding over five years. There is significant potential to attract non-government funding to take on a challenge such as finding a science solution for eradication of an evasive species. Funders will be attracted to an entity with a mission-led role in life, transparency over where money would be spent and a clear sense of entrepreneurial focus on achieving a goal.
- 35 We recommend that Predator Free NZ Ltd be charged with attracting additional funding from non-government sources with a target of a total of \$15 million. Of this government could pledge \$5 million of the Predator Free funding envelope, with distribution being contingent on Predator Free NZ Ltd raising the additional \$10 million. More information and analysis of this proposal is covered in the section on *Governance of Investment*, below.
- 36 Predator Free NZ Ltd will have strong incentives to align its investment in science with the Biological Heritage National Science Challenge to ensure the effectiveness of funding in the predator area is maximised.

Implementing the work programme: Community participation

- 37 The community participation component of the Predator Free NZ programme aims to:
- take the predator free concept to the local community level by fostering local projects to augment the already significant *work done by community organisations*
 - encourage community acceptance of predator control goals and methods
 - promote the value of conservation to New Zealanders (which in turn will expand community involvement and business investment).

- 38 The \$0.3 million proposed for community participation would go to the Predator Free New

Implementing the work programme: Tool Development

- 39 A number of new toxins and devices are in advanced stages of development and would benefit from supplementary funding to bring them to market. DOC is aware of a number of candidate projects that are relatively high value and low risk. DOC will seek applications and award short-term contracts on a contestable basis, in line with the PFNZ Strategy.

Governance of investment – Predator Free New Zealand Ltd

- 40 The investment envisaged in large scale predator eradication will be considerable, and will come from a varied range of sources. An entity satisfactory to all partners will be required to ensure this large and long term investment will be coordinated, in line with the Predator Free NZ Strategy, and spent responsibly. Similarly, we recommend that to increase the funds available to scientific research, this entity also manage the \$5 million we propose for scientific research, with a goal to leverage twice as much additional partner funding.
- 41 The Predator Free New Zealand Business Case considers three options for such an entity to encourage co-investment in large scale projects:
- a) *establishing an investment programme overseen by an independent board*
 - b) *extending the mandate of an organisation like OSPRI to include governance and operational responsibilities for implementing the predator free initiative*
 - c) *establishing an independent company to oversee and run the predator free project – Predator Free NZ Ltd (preferred)*
- 42 This role requires people with entrepreneurial experience and the connections to attract investors with confidence. For this reason we are not proposing a government department such as DOC take this role.
- 43 Option (a) would entail an independent board governing the investment programme, and would be modelled on the successful Primary Growth Partnership (PGP) operated by MPI and the Tourism Growth Partnership (TGP) run by MBIE. The board would be run as a partnership with members from government and the private and philanthropic sectors, with funds to be administered either through a new Trust, or through existing funding mechanisms, in line with their decisions.
- 44 The Partnership Board would be appointed by the Minister of Conservation. Administrative support from DOC would minimise overheads. A partnership would bring entrepreneurial commonsense and investment discipline to the initiative. Establishing a Trust under this model would also provide assurance that the entity can administer funds independently (in line with the agreed investment criteria). This model has been well tested by MPI, so would contain a low level of risk in terms of functioning, but may not be seen as truly independent by potential partners.
- 45 Option (b) provides an opportunity to use existing administrative, pest control and contracting capability to support objectives beyond TB eradication. OSPRI has extensive regional networks and pest control expertise. However, this would be a significant extension to the role of OSPRI which currently operates the TBfree and National Animal Identification and Tracing (NAIT) schemes. While OSPRI has clear expertise in researching, developing and implementing pest management programmes, it is not as well placed to develop and attract philanthropic investment and drive innovative business investment models.
- 46 OSPRI could, however work alongside and support predator control projects through contracting of its pest control services and the contribution of its extensive knowledge and experience in possum control operations throughout New Zealand. OSPRI also has a strong pest control research base.

- 47 Option (c), establishing an independent company, is our preferred option. A company would provide a mission-oriented, simple focus and send a clear message to potential partners that government is looking for independent, entrepreneurial fresh thinking to crack an aspirational goal. Legal separation of management of the funds from government will be important for attracting third party funders.
- 48 Analysis in the business case suggests that this option is the most expensive administrative option of the three. The expense is justified however, due to the greater success we believe a company would have in attracting private sector investment and expertise that will help us succeed in our goal.

Criteria	Crown company	OSPRI	Panel
Likelihood that high value philanthropists and businesses will commit to large scale projects and 'breakthrough' research initiatives	✓✓ Potential partners have indicated a willingness to invest in such a model over any other.	- Not clear Current board of industry and MPI reps may not be well placed to promote philanthropic investment	- Likely, based on Primary Growth Partnership experience. Not preferred by some potential partners.
Ease of establishment	- About 6 months for full establishment; possibly \$400,000 establishment costs	✓ Is actively considering new business opportunities. Could facilitate establishing a new predator free sub-company	✓ About 3 months to tailor Primary Growth Partnership structures and processes. Possibly \$100,000 setup costs.
Later flexibility to respond to lessons from this highly innovative model	✓ Most changes could be effected through Ministerial Letter of Expectations.	- No obvious reason why OSPRI couldn't adapt its model based on lessons learnt	✓ Highly flexible
Clarity of roles, including residual risks	✓ Clear roles. Residual risks could exist if other co-funders withdraw from projects. Risks (and risk allocations) for 'breakthrough' research projects need to be scoped.	✓ Can be set up to provide the role clarity and risk management required.	✓ Clear roles. All risks are embedded within the projects which are at arm's length from government.
Ongoing management costs and overheads.	- Other Crown companies have significant overheads. There are opportunities to use shared services arrangements to minimise these.	✓ OSPRI has significant planning, research and operational capabilities. Marginal costs to build off existing activity could be modest.	✓✓ Resources and costs are highly scalable.

Source: Predator Free New Zealand Programme Business Case

- 49 The analysis shows that each of the options could potentially deliver the Predator Free strategy, and the decision depends on the emphasis put on the different considerations. Through working with existing conservation partners and discussion with possible new

fund,ers, DOC has received the message that private and philanthropic investors will fund proposals with a clear goal; which are professionally managed; and where there is a low risk of money being diverted into broader government goals. Potential investors are likely to see a company entity as one with a clear, simple legal structure which they can contract with and hold to account. These characteristics of the company proposal maximise the potential for new external funding to achieve the goal.

- 50 Keeping establishment costs and overheads low will be key to managing risks associated with costs under a company model. It is envisaged that initially the company would have a CEO, and one or two staff members focussed on business development and support. To keep costs to a minimum the company could, at least initially, be housed in DOC. Co-location and shared back office support (where appropriate) will enable a close working relationship with DOC which will be critical for success. DOC has a strong record with its Partnership group in working with business, and it is envisaged that this part of DOC would work closely with PFNZ Ltd.
- 51 Predator Free New Zealand Ltd would:
- provide direction as to where technical advice can be found to project consortia so that they develop high quality, technically feasible, financially sound projects
 - agree a strategy for the promotion of investment in predator control projects for conservation
 - assess proposals against investment criteria to select the optimum schemes and
 - ensure the establishment of durable commercial structures
 - ensure the management of co-investments in accordance with the Crown's investment requirements
 - agree to exit projects when conservation objectives have been achieved and long term arrangements have been established
 - establish durable commercial structures to result in financial sustainability
 - raise funding at a rate of 2:1 with funds set aside for scientific research, and establish a subsidiary company to oversee investments in long term predator science
 - work with the Biological Heritage Science Challenge to coordinate investment in long term predator science research.
- 52 Shareholding of Predator Free New Zealand Ltd would be 100% government owned. The Minister of Conservation and the Minister for Primary Industries will be shareholding Ministers. The board of the company could include a representative from OSPRI to aid coordination.

Management of funds for Scientific Research

- 53 Two options for the distribution of funds for scientific research have been considered:
- a) Administration through the Department of Conservation*
 - b) Leveraging government funding through PFNZ Ltd (preferred)*
- 54 Option a) would enable efficient internal alignment of scientific research within DOC as the lead agency coordinating government's efforts to support the strategy. Under this option officials from DOC would work with MBIE and the Biological Heritage Science Challenge to define the key science questions and manage the funding programme as a result. This option would be relatively unattractive to potential co-funders.

55 Option b) is recommended because Predator Free NZ Ltd brings the advantage of leveraging additional investment, as well as providing the opportunities for coordination with large scale projects and the Biological Heritage National Science Challenge that will be necessary for the strategy to succeed. PFNZ would be able to make independent decisions on what science to invest in, and would have the clarity of purpose and transparency to attract potential investors..

Strategic risks

- 56 While the first four years of the programme is feasible within current control methods and resources, the risk profile escalates in later years. The five most vital long term risks are:
- If predators are eradicated in an area but arrangements for long term management fail, ongoing maintenance could become a liability for DOC and regional councils. To manage this risk the PFNZP investment criteria require that projects demonstrate durable arrangements to sustain the gains after the investment period.
 - When OSPRI withdraws from regions once they are free of TB, predator populations will rebound. Modelling is required to predict pest populations and forecast likely pressures on DOC and regional council funding. The project work stream will coordinate with OSPRI to address issues.
 - Achievement of large scale eradication depends on the development of low cost efficacious methods 'fenceless perimeters' and the progressive roll-back of those perimeters. If we cannot develop such methods, the cost of defending and expanding predator free zones will be very expensive.
 - The predator free goal is dependent on breakthrough science. Continuous improvement of control tools has proven to be very successful, but research outcomes are inherently uncertain. For example, a New Zealand consortium worked for 13 years and spent over \$30m in search of possum biocontrol but this research did not meet its objectives and was ended. To manage this critical risk, the programme will aim to focus on the best science questions, coordinate with OSPRI research activity, and closely manage the science investment.
 - Any science breakthrough in predator control must be both effective in the field and broadly acceptable to the community. The community participation workstream aims to build a deep understanding of the benefits of predator control to New Zealand, and an acceptance of novel control methods. Some iwi may be sensitive to issues where genetic solutions are involved. Such proposals may attract adverse comment from some iwi and other community sectors concerned with scientific work related to genetics.
- 57 There is also a risk associated with not undertaking this initiative. In particular, the benefits brought to society and the economy from our native biodiversity and primary industries will be increasingly compromised, and bear increased control costs, without an acceleration in pest control outcomes.
- 58 In contrast, a staged implementation of the Predator Free New Zealand strategy will ensure that increased predator control is not carried out in isolation, but will be built on to encompass increasingly large areas which will reduce both the risks to New Zealand Inc from predators and reduce the future costs to the Crown.

Implementation

- 59 We propose to seek approval for the establishment of Predator Free New Zealand Ltd by 1 November 2016, with the first call for potential projects for co-funding in early 2017.

60 Our Offices will coordinate with the Department of Prime Minister and Cabinet on a public announcement of the Predator Free New Zealand 2050 strategy and associated funding.

Consultation

61 DPMC, Treasury, MPI, MBIE have been consulted in the preparation of this paper.

62 Officials have not consulted with Maori interests and regional councils about this specific proposal. The existing large scale predator projects all have strong buy-in from their respective iwi and regional councils. Iwi and councils will be fully involved in implementation planning of any major regional projects.

63 We have liaised with the Predator Free New Zealand Trust. The Trust has confirmed its commitment to this approach [REDACTED]

[REDACTED] of the Trust will relinquish the name Predator Free New Zealand [REDACTED] for the exclusive use of this project.

Financial Implications

64 The attached business case sets out the actions and resources to give effect to this package. The spread of costs over the initial years of the work programme have been prepared with a moderate degree of confidence with the best information currently available, and are therefore indicative. We seek Cabinet's agreement to delegate authority to joint Ministers to establish the necessary appropriations, including the profile of expense, within the \$28m tagged contingency "Accelerating Predator Free New Zealand" established as part of Budget 16.

Other matters

65 There are no human rights, gender or disability implications associated with this proposal. There are also no legislative or associated regulatory impact analysis required.

Recommendations

The Minister for Primary Industries and the Minister of Conservation recommend that the Committee:

- 1 **note** the content of this paper and associated business case
- 2 **agree** that Government adopt the vision of achieving a Predator Free New Zealand by 2050, with the goal being defined as the eradication of possums, rats and stoats
- 3 **agree** that Government adopt the following four interim 2025 goals towards achieving a Predator Free New Zealand:
 - 3.1 That by 2025 we will increase by one million hectares the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects
 - 3.2 That by 2025 we will have demonstrated that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences
 - 3.3 That by 2025 we will have eradicated all mammalian predators from New Zealand's offshore islands

- 3.4 That by 2025 we will have developed a break through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland.
- 4 **agree** that the Department of Conservation be the lead agency, and the Minister of Conservation be the lead Minister, aligning work across government on the predator control strategy, to ensure the maximum effectiveness of predator control investment
- 5 **note** that officials have presented three options for a governance body to manage the investment required to achieve this strategy, including:
- 5.1 *establishing an investment programme overseen by an independent panel;*
 - 5.2 *extending the mandate of an organisation such as OSPRI; and*
 - 5.3 *establishing an independent company*
- 6 **authorise** the Minister of Finance, the Minister for Primary Industries and the Minister of Conservation to establish Predator Free New Zealand Ltd as an independent Crown Company, or equivalent Crown Entity, with a target establishment date of 1 November 2016
- 7 **agree** that Predator Free New Zealand Ltd will be established to perform the functions listed in recommendation 8, below
- 8 **note** that the functions of Predator Free New Zealand Ltd will be to:
- 8.1 provide advice to project consortia so that they develop high quality, technically feasible projects
 - 8.2 foster investment in conservation projects
 - 8.3 assess proposals against investment criteria to select the optimum schemes, and establish durable commercial structures
 - 8.4 manage co-investments in accordance with the Crown's investment requirements
 - 8.5 exit projects when conservation objectives have been achieved and there are long term arrangements to sustain the gains
 - 8.6 raise funding at a rate of 2:1 with funds set aside for scientific research, and establish a subsidiary company to oversee investments in long term predator science
 - 8.7 work with the Biological Heritage Science Challenge to coordinate investment in long term predator science research
- 9 **agree** the expectation that Predator Free New Zealand Ltd will anticipate at least a 2:1 financial contribution from other co-funders
- 10 **note** that the Crown's investment criteria will be
- 10.1 the ability to eradicate or suppress predators at a landscape level to achieve specific and significant conservation objectives
 - 10.2 the ability to strengthen iwi – Crown relationships and provide opportunities for iwi to exercise kaitiakitanga over their rohe
 - 10.3 the contribution to social and economic outcomes

- 10.4 demonstration of strong collaboration across all the pertinent stakeholders
- 10.5 evidence of sound conservation, operational, financial and evaluation plans
- 10.6 contribution of financial resources from other parties on at least a 2:1 basis
- 10.7 demonstration of durable arrangements to sustain the gains after the investment period
- 10.8 opportunities to scale the predator free area to contribute to the target of a predator free New Zealand

11 **note** that the indicative average split of funding per annum for the strategy is:

Predator Free NZ Activity	Average pa funding
Galvanise co-investment in high value and regional size projects (Administered through PFNZ)	\$5.0m
Funding for break through science research coordinated with the Biological Heritage National Science Challenge (Administered through PFNZ)	\$1.0m
Foster and support smaller community-led projects to involve communities and build social support for predator control	\$0.3m
Fund improvement of current tools and strategic capability	\$0.7m
<i>Total average funding</i>	<i>\$7.0m</i>

12 **note** that appropriation arrangements to reflect funding for the Predator Free New Zealand strategy and Predator Free New Zealand Ltd will be identified as the work to establish the company and agree the initial work programme is developed

13 **authorise** the Minister of Finance, the Minister of Conservation and the Minister for Primary Industries to establish the necessary appropriations, including the profile of expense, within the \$28m tagged contingency "Accelerating Predator Free New Zealand", established as part of Budget 16, with \$7 million in outyear baseline funding, to give effect to recommendations 2-11 above

14 **agree** that the expenses incurred under recommendation 11 above be a charge against the tagged operating contingency "Accelerating Predator Free New Zealand", established as part of Budget 2016

15 **note** that the Offices of the Minister of Conservation and the Minister for Primary Industries will coordinate with the Department of Prime Minister and Cabinet on a public announcement of the Predator Free New Zealand 2050 strategy and associated funding

- 16 **direct** DOC to report back at two yearly intervals on progress on
 - 16.1 the collaborative strategy for a predator free New Zealand
 - 16.2 large scale predator eradication projects and the optimal application of current resources
 - 16.3 long term predator research and future investment requirements

Authorised for lodgement

Hon Maggie Barry ONZM
Minister of Conservation

Hon Nathan Guy
Minister for Primary Industries

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Aide Memoire

Date: 4/07/2016 DOC CM: 2826265 MSU reference 16-B-368

To: Minister of Conservation
From: Bruce Parkes, Deputy Director-General Science and Policy

Subject: Predator Free NZ: Talking Points for EGI

This Aide Memoire provides you with talking points for the discussion at EGI on Wednesday 6 July of the Cabinet paper Accelerating Predator Free New Zealand. It also provides alternative words we suggest you table to clarify one of the interim goals.

Talking Points

- Predator Free New Zealand is an exciting new proposal aimed at ridding New Zealand of rats, mustelids and possums by 2050. Budget 2016 set aside \$28 million in a tagged contingency for this initiative, and we asked the Department of Conservation to prepare a business case demonstrating how this goal will be worked on.
- The A3 presented with this paper identifies the key elements of the proposal, including the key factors that show the time is right to pursue this goal now, the key elements of the work programme, and the interim goals for the strategy. My NRS colleagues have helped to develop these goals into credible but ambitious targets in the near-term to show we are on the right track.

New wording for offshore island interim goal

- One of the interim goals is proposed around offshore islands, to connect Predator Free New Zealand to the highly visible eradication work DOC is known for. The EGI paper and accompanying A3 have been prepared with the wording: "*we will have achieved eradication of all mammalian predators from New Zealand's offshore islands.*"
- I would like to table a revised recommendation to clarify this goal. I propose that "*offshore islands*" be replaced with "*island nature reserves.*" This wording better identifies that we believe completing the eradication of predator mammals from the islands that are public conservation nature reserves is achievable in the following decade. The two big island nature reserves that this goal covers are Auckland Island (in the Subantarctic Islands) and Resolution Island (in Fiordland). Predator Free New Zealand will aim to eradicate predators from other islands, but this is a longer term goal.

A new company to leverage additional investment

- The key element of this proposal is establishing a new Crown Company, Predator Free New Zealand Ltd, to leverage significant additional funding from private sector and philanthropic partners, and to coordinate investment in large scale, regional predator control projects and scientific research. There has been some discussion among officials as to whether or not a company is needed to perform this function, but we are excited by the potential for doing things this way. The paper delegates authority to myself, the Minister of Finance and the Minister for Primary Industries to finalise these arrangements.

Working with OSPRI

- The interim goal of suppressing predators over an additional one million hectares of mainland New Zealand will double the total area of New Zealand in which predator control activities are undertaken. We will achieve this goal by undertaking activities in new areas, and working with OSPRI to expand the areas of multi predator control.
- We will develop the Predator Free strategy to ensure that the gains of OSPRI-controlled areas are maintained once they have achieved their TB elimination goal. Planning and preparing this work is key to achieving the coordination among partners

Working with iwi and local government

- Consultation has not yet been undertaken with local government and iwi. We will involve them as key partners early in the life of the strategy. There are no expectations on council or iwi action or resourcing as a result of adopting the predator free goal. Over the course of implementing the strategy, our conversations with councils and iwi will change regarding pest/predator projects.
- DOC is working with MPI to ensure that the Strategy and workplan are consistent with Biosecurity 2025. As that project develops future biosecurity requirements and expectations of the biosecurity system, PFNZ will develop its strategy alongside. Any system changes, or potential for competing outcomes resourcing, will be identified well in advance and planned for.

Contact for queries: Bruce Parkes, Deputy Director-General Science and Policy
 [REDACTED]

Alternative wording for Interim Goals recommendation provided overleaf – can be given to Secretary of EGI Committee Meeting

ENDS

Alternative wording for recommendation 3:

3 **agree** that Government adopt the following four interim 2025 goals towards achieving a Predator Free New Zealand:

- 3.1 That by 2025 we will increase by one million hectares the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects
- 3.2 That by 2025 we will have demonstrated that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences
- 3.3 That by 2025 we will have eradicated all mammalian predators from New Zealand's island nature reserves
- 3.4 That by 2025 we will have developed a break through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland

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Sent 8/7/16



Department of Conservation
Te Papa Atawhai

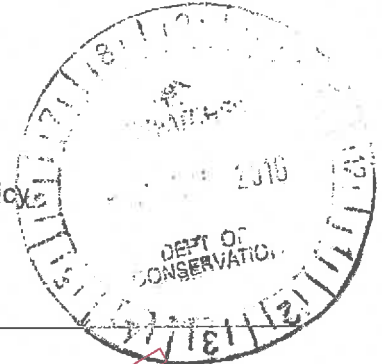
COMPLETED

16. B 388

Aide Memoire

Date: 8/07/2016

To: Minister of Conservation
From: Bruce Parkes, Deputy Director-General Science and Policy
Subject: Predator Free NZ: Talking Points for Cabinet



This Aide Memoire provides you with talking points for the discussion at Cabinet on Monday 11 July of the Cabinet paper Accelerating Predator Free New Zealand, as passed through EGI on 6 July.

Talking Points

- Predator Free New Zealand is an exciting new proposal aimed at ridding New Zealand of rats, mustelids and possums by 2050. Budget 2016 set aside \$28 million in a tagged contingency for this initiative, and we asked the Department of Conservation to prepare a business case demonstrating how this goal will be worked on.
- The A3 presented with the paper identifies the key elements of the proposal, including the key factors that show the time is right to pursue this goal now, the key elements of the work programme, and the interim goals for the strategy. My NRS colleagues have helped to develop these goals into credible but ambitious targets in the near-term to show we are on the right track.

New wording for offshore island interim goal

- One of the interim goals is proposed around island nature reserves, to connect Predator Free New Zealand to the highly visible eradication work DOC is known for.
- The EGI paper and accompanying A3 were originally prepared with different wording that referred to "New Zealand's offshore islands EGI agreed to clarify this goal by replacing "offshore islands" with "island nature reserves." This wording better identifies that we believe completing the eradication of predator mammals from the islands that are public conservation nature reserves is achievable in the following decade. The two big island nature reserves that this goal covers are Auckland Island (in the Subantarctic Islands) and Resolution Island (in Fiordland). Predator Free New Zealand will eventually aim to eradicate predators from other islands, but this is a longer term goal.

Form and Structure of Governance Entity

- The key element of this proposal is establishing a new Crown Company, Predator Free New Zealand Ltd, to leverage significant additional funding from private sector and philanthropic partners, and to coordinate investment in large scale, regional predator control projects and scientific research.
- There has been some discussion among officials as to whether or not a company is the best form of governance entity to perform this function, but we are excited by the potential for doing things this way.
- The paper delegates authority to myself, the Minister of Finance and the Minister for Primary Industries to finalise these arrangements. DOC, MPI and the Treasury will provide further analysis if required.

(If some of your colleagues wish to discuss this point further, the points below outline the criteria of consideration and the pros and cons of the options considered)

- Three options were considered for the governance entity:
 - an independent Crown company to oversee and run the predator free project – Predator Free NZ Ltd (proposed)
 - extending the mandate of an existing entity, OSPRI
 - establishing an investment programme overseen by an independent panel – a Predator Free New Zealand Partnership (analogous to the Primary Growth Partnership).
- Evaluation criteria were
 - the likelihood that high value philanthropists and businesses will commit to large scale projects and 'breakthrough' research initiatives
 - ease of establishment
 - later flexibility to respond to lessons from this highly innovative model
 - clarity of roles, including residual risks
 - ongoing management costs and overheads.

CROWN COMPANY	
<p>Pro</p> <ul style="list-style-type: none"> • Flexibility of a commercial company and the security of a government backed operation. • Independence and transparency will encourage long term high value partnerships. Philanthropists have indicated that this is prerequisite for their participation in long term partnerships. 	<p>Con</p> <ul style="list-style-type: none"> • Potential for high compliance costs and overheads. (The Walking Access Commission, while not a company, is an example of a more frugal operation, and costs around \$1.7m pa.)
OSPRI	
<p>Pro</p> <ul style="list-style-type: none"> • If operational capacity and mandate could be extended OSPRI provides an opportunity to use existing administrative, pest control and contracting capability to support objectives beyond TB eradication. • OSPRI has extensive regional networks and pest control expertise. 	<p>Con</p> <ul style="list-style-type: none"> • Would need to build on existing mandate and capacity.
INDEPENDENT PANEL	
<p>Pro</p> <ul style="list-style-type: none"> ◦ Independent panel that operates within the structures and processes of a government agency. • Appointed independent governance, and transparent reporting, reinforces independent decision-making. ◦ Support costs are lower and scalable. 	<p>Con</p> <ul style="list-style-type: none"> ◦ May not be as attractive to philanthropic investors

Working with OSPRI

- The interim goal of suppressing predators over an additional one million hectares of mainland New Zealand will double the total area of New Zealand in which predator control activities are undertaken. We will achieve this goal by undertaking activities in new areas, and working with OSPRI to expand the areas of multi predator control.
- We will develop the Predator Free strategy to ensure that the gains of OSPRI-controlled areas are maintained once they have achieved their TB elimination goal. Planning and preparing this work is key to achieving the coordination among partners

Working with iwi and local government

- Consultation has not yet been undertaken with local government and iwi. We will involve them as key partners early in the life of the strategy. There are no expectations on council or iwi action or resourcing as a result of adopting the predator free goal. Over the course of implementing the strategy, our conversations with councils and iwi will change regarding pest/predator projects.
- DOC is working with MPI to ensure that the Strategy and workplan are consistent with Biosecurity 2025. As that project develops future biosecurity requirements and expectations of the biosecurity system, PFNZ will develop its strategy alongside. Any system changes, or potential for competing outcomes resourcing, will be identified well in advance and planned for.

Contact for queries: Bruce Parkes, Deputy Director-General Science and Policy
[REDACTED]

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A predator free New Zealand 2050

\$28m over 4 years + \$7m in outyears

Success needs four factors to work together:

An aspirational goal: A NZ free of rats, stoats and possums

FACTOR	WORK PROGRAMME	HOW	OPTIONS	WAY
<p>1. Large-scale projects possible through new partners</p> <p>Project Janszoon <small>PROJECT TO ERADICATE THE RATA</small></p>	<p>Galvanise co-investment in high value and regional scale projects.</p> <p>\$5.0m per annum \$1 for every \$2</p> <p>More Project Taranaki Moutanga total \$24m over 10 years – largely non-government funding.</p>	<p>Establish an entity to encourage and facilitate co-investment in major regional initiatives. These initiatives will be high quality, technically feasible, and financially sustainable.</p>	<p>Partnership fund such as MBIE Tourism Partnership Fund</p> <ul style="list-style-type: none"> Extend the mandate of OSPPL Establish an independent company: Predator Free NZ Ltd. 	<ul style="list-style-type: none"> A mission-oriented, transparent, single-focus organisation Send the message to potential partners that government is looking for independent, entrepreneurial fresh thinking Separate from government to attract third party funders.
<p>2. Breakthrough science to achieve national eradication – likely solutions such as gene editing</p>	<p>Define and tackle the science questions to achieve the innovation needed.</p> <p>\$1.0m per annum of government funding But at least \$15m in total likely needed.</p>	<p>Entity to manage funds for scientific research and attract non-government funding. This will accelerate the breakthrough science needed such as using gene technology.</p> <p>Look to lever twice as much as the government funding.</p>	<ul style="list-style-type: none"> Invest funds via the Department of Conservation through Bioheritage Science Fund Administered through PFNZ Ltd 	<ul style="list-style-type: none"> Enable independent decisions on what science to invest in. Independent entity beat placed to lever additional investment \$10m.
<p>3. Harness enthusiasm at community level 'Predator Free Picton'</p>	<p>Take the Predator Free brand local.</p> <p>Foster and support smaller community-led projects to involve communities and build social support for predator control.</p> <p>\$0.3m per annum Match with private sector funding.</p>	<p>Build on existing initiatives to:</p> <ul style="list-style-type: none"> boost training for community groups support local predator free champions improve access to toxins and traps. 	<ul style="list-style-type: none"> Invest funds through DOC to Predator Free Picton 	<p>Communities want to get aboard but need help</p>
<p>4. Develop tools and technologies and support an overall strategy</p>	<p>Fund improvement of current tools and strategic capability – continual improvement in science and technology.</p> <p>\$0.7m per annum</p>	<p>This supplementary funding will complete the development of new toxins and devices and bring them to market. These are high value tools with low risk of non-delivery.</p> <p>DOC to take lead on Predator Free Strategy working with MPI.</p>	<ul style="list-style-type: none"> DOC will seek applications and award contracts on a contestable basis. 	<p>Brand alignment – get rid of invasive Aussie predators</p>

These numbers reflect average outyear funds of \$7m a year for the initiative. Funding will be phased differently over the first four years of the programme to account for building capacity. These options reflect the preferred option for each work programme

2025 Interim goals:

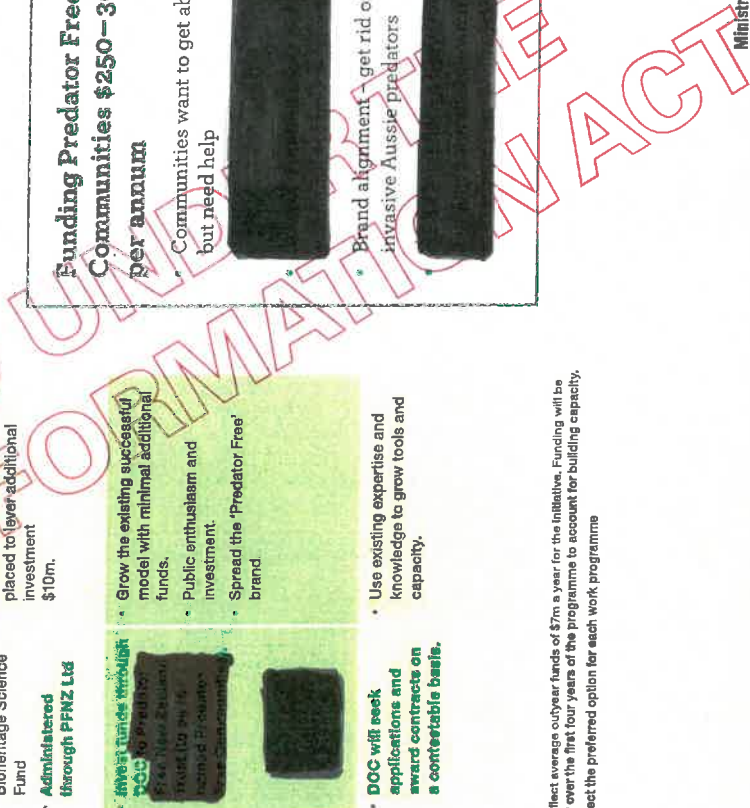
- We will increase by 1 million hectares the area of mainland NZ where predators are suppressed/eradicated, through PFNZ projects.
- We will have developed a breakthrough science solution capable of eradicating at least one small mammal predator from New Zealand.
- We will have demonstrated that predator eradication can be achieved in areas of at least 20,000 hectares without the use of fences.
- We will have achieved eradication of all mammalian predators from New Zealand's island nature reserves.

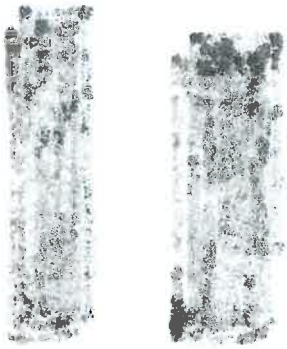
Breakthrough science needed to achieve eradication goal

- Needs focus and drive – eradication tool developed by 2025
- A war chest of at least \$15m
- Put up \$5m to attract \$10m new money
- A clear goal and a transparent structure will attract funding
- Best options
 - Predator Free NZ Ltd, or
 - PPP similar to ZIP Ltd (\$23m of mostly private funding)

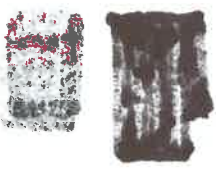
Funding Predator Free Communities \$250-300k per annum

- Communities want to get aboard but need help
- Brand alignment – get rid of invasive Aussie predators





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Programme business case
PREDATOR FREE NEW ZEALAND

30 June 2016

Purpose and scope of this document

This document has been prepared using the best information available. Its purpose is to establish a sound strategy for the programme, and to plan the approach, and estimate the times, resources and people to implement it.

It will be updated after Cabinet approval of the associated Cabinet Paper, and again when the Predator Free New Zealand Partnership Board is established.

Document control

Version		Author and approval	Date
0.1	Draft for consultation: Minister of Conservation, MPI, Treasury, DPMC, MBIE, OSPRI, Directors and managers within DOC.	Peter O'Connor (Author) Ann Thompson (Approved)	3 June 2016
0.2	Draft for consultation: MPI, Treasury, DPMC, MBIE, OSPRI, Directors and managers within DOC.	Ann Thompson (Author) Susan Timmins (Approved)	13 June 2016
1.0	For approval of Natural Resources Ministers	Peter O'Connor (Author) Ann Thompson (Endorsed) Bruce Parkes (Approved as SRO)	23 June 2016
1.1	For Cabinet approval	Peter O'Connor (Author) Ann Thompson (Endorsed) Bruce Parkes (Approved as SRO)	30 June 2016
1.2	Post Cabinet approval and after consultation with stakeholders and more detailed scheduling and budgeting.		__ August 2016
1.3	After discussions with the PFNZ Board once it has set policies and priorities.		__ December 2016
1.4	After <ul style="list-style-type: none"> ◦ finalisation of the first Predator Free Strategy ◦ assessment of response to ROI for co-funded projects ◦ assessment of response from prospective investors. 		__ June 2017

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Executive Summary

This business case proposes that Government commits to a collaborative approach to predator control to accelerate the eradication of predators, first from a number of expansive, high value areas, and then from increasingly large areas to achieve a predator free New Zealand by 2050. Government, business, iwi and community organisations would harness all their matauranga (knowledge), rawa (resources) and korou (energy) to deliver results at a pace and scale that isn't otherwise possible.

The business case recommends

- that a strategy is developed to show how predator control parties, with all New Zealanders' support could pursue a predator free New Zealand to deliver conservation, social, and economic benefits.
- investing in tool development and long term research to improve the efficacy, acceptability and efficiency of predator control.
- forming an independent 'Predator Free New Zealand' entity will bring a vigorous, entrepreneurial, and urgent approach to predator control conservation projects. It would work with project consortia to identify high value projects, attract co-investors, and accelerate the number, size and success of large scale predator control projects
- fostering community participation in predator control conservation and public acceptance of the predator free strategy.

This approach will build on the significant technical advances New Zealand has made in predator control over the last 60 years. It will work in a spirit of kaitiakitanga in partnership with iwi and will build on and accelerate the efforts of community organisations, farmers, regional councils, to control predators and protect our ngāi tipu (flora) and ngāi kīrehe (fauna).

Our native flora and fauna will flourish and people will again enjoy the dawn chorus.

The problem

Predators are the one of the greatest threats to our biodiversity

Introduced predators (rats, mustelids and possums) threaten our flora and fauna. Thus predator control underpins achievement of New Zealand's conservation outcomes. This business case proposes a collective, large scale, focussed attack on those predators.

Predators cost New Zealand around \$94 million pa

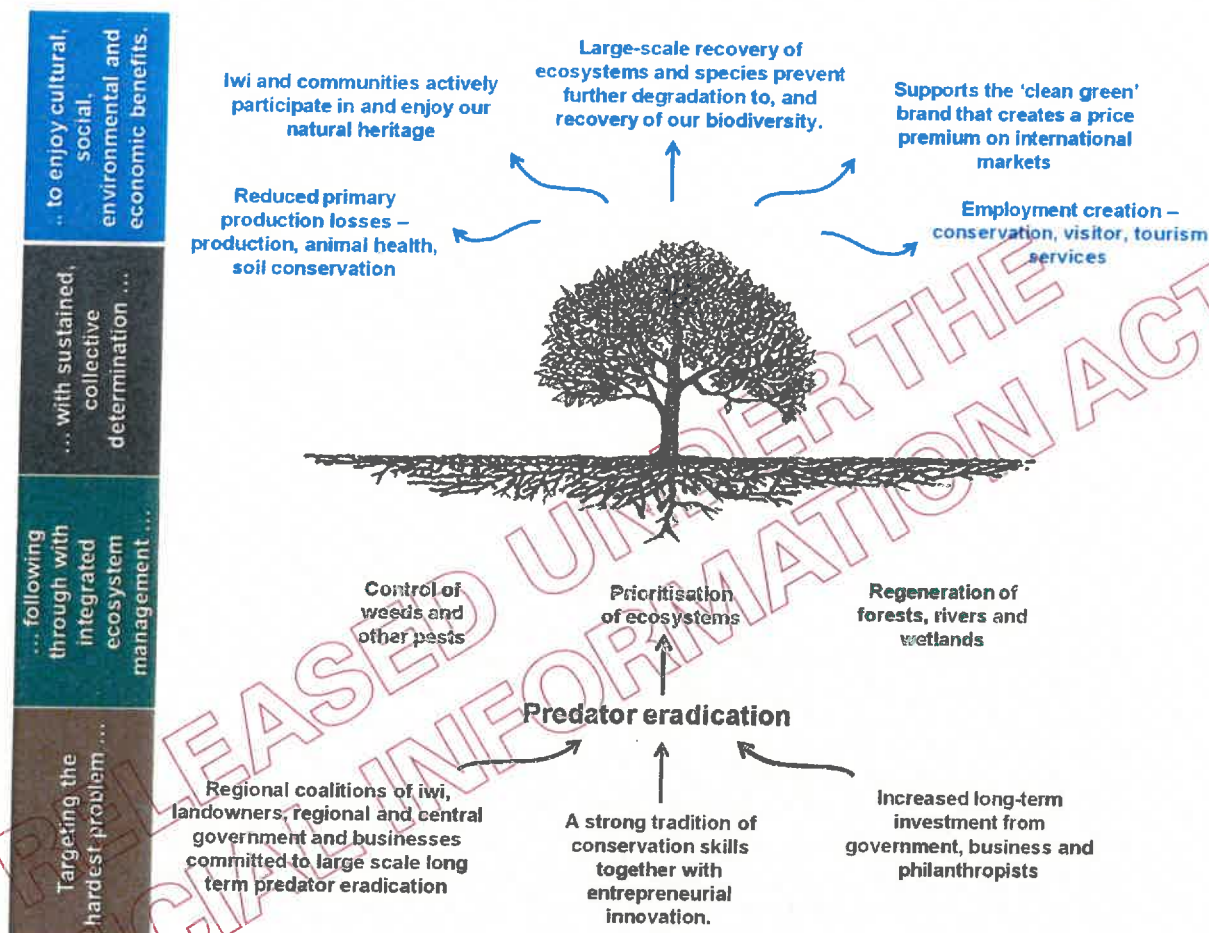
About \$69m is directly related to the primary production sector and \$25 million to conservation. There is of course an overlap. TBfree programmes often treat deep into forests, thus contributing significantly to conservation outcomes. Equally, suppression of predators on conservation land reduces the pest populations that might re-infest farmland.

If predator free can be achieved expeditiously, there will be reduced costs of predator control thereafter.

A predator free New Zealand offers huge environmental, social, and economic benefits

A thriving conservation estate free of predators will create significant opportunities for tourism, reinforce New Zealand's trade and tourism brand, and support premium prices for quality primary sector exports.

Exhibit 1: Outcomes and co-benefits



Cost benefit analysis of this business case

An independent assessment of this proposal was undertaken by Lincoln University's Agricultural Economics Unit¹. It assessed the potential impacts of this proposal, namely that by 2025 it would

- contribute towards the development of more efficient technologies to control and eradicate predators and the potential for more efficient predator control with the application of these technologies
- demonstrate the feasibility of eradication of predators from large areas (over 30,000 hectares) on the main islands
- achieve predator suppression over expansive areas (c 100,000 hectares)
- increase conservation outcomes from predator control generally.

It conservatively estimated a monetised cost-benefit ratio of between 3.38 under and 15.32 over a 30 year term. This estimate extrapolated 'stated choice' research it had conducted in

¹ Agricultural Economic Research Unit, 2015 DOC EDMS 2685100

2014 that showed that New Zealanders have a high willingness to pay for protecting and restoring the native flora and fauna.

A step change in predator control – and conservation outcomes

Most of New Zealand privately owned and used for primary production. Managing only public conservation land for biodiversity values is unlikely to provide New Zealand with significant long term biodiversity restoration success. To achieve significant advances in predator control we need to integrate large scale biodiversity projects with primary production pest control activities.

This strategy will result in coordinated action and increased understanding of the need for, and possibility of, a predator free New Zealand. The cross-agency and non-governmental nature of the movement will garner support across interest groups and social boundaries.

Together with the growing awareness of the potential of a predator free New Zealand, we have an opportunity to advance predator control on a scale not previously possible.

The opportunity

Growing awareness – increasing investment

In recent years businesses and philanthropists have shown increasing commitment to ambitious large scale conservation projects. In 2013 some significant benefactors joined with iwi, communities, regional councils, and science agencies and established the Predator Free New Zealand Trust. As well as advocating for increased predator control it informs and connects communities in pursuit of this goal.

Business sponsors and benefactors have recently committed to investing a total of around \$12 million (over several years) to ambitious large scale predator control projects: Abel Tasman National Park (Project Janszoon, initiated 2012), Hawkes Bay (Cape to City, 2013), Egmont National Park (Project Taranaki Mouna, 2015). Iwi, DOC and regional councils are making significant financial and in-kind commitments to these projects.

By working collaboratively we can leverage the \$28m of Crown investment to attract a total of \$70-80m to conservation work.

We can achieve better and faster results than any individual party can achieve alone.

We are starting from a position of strength

New Zealand is a leader in conservation, especially predator control. Predator suppression has been a central pillar of our efforts to eliminate bovine TB, carried by animal pests, and the conservation efforts of DOC and regional councils in order to protect native wildlife. Huge gains have only been achieved in places with intense and sustained suppression, on islands, and in fenced sanctuaries.

New Zealand teams have led successful predator eradication projects on, Breaksea Island (1988, 170 hectares), Kapiti Island, (1996, 1,970 hectares), Secretary and Resolution Islands (rodents only, 1998, 21,000 hectares), Campbell Island (rats only, 2006, 11,200 hectares), Rangitoto / Motutapu (2011, 3,820 hectares), Resolution Island (2014, 20,860 hectares), South Georgia (confirmation of eradication pending, 352,000 hectares). Capability has improved, and cost reduced, with each eradication.

Project Island Song, Bay of Islands (600 ha)



This project is a partnership between Ngati Kuta and Patukeha (Rawhiti hapu), the Guardians of the Bay of Islands and DOC. Animal pests were eradicated from Urupukapuka, Waewaetorea, Okahu, Motukiekie, Moturua and Motuarohia (Robertson) Islands and locally extinct native animals and plants reintroduced. Traps and dogs are used to detect any reinvasion of rats and mustelids – a risk given its proximity to the mainland.

New Zealand teams have demonstrated that we can eradicate predators from large islands and inland sanctuaries. They have also demonstrated that possums can be successfully suppressed over large areas for extended periods. Assuming continued technical improvements, it is reasonable to expect that we can eliminate pests from peninsulas and minimise reinvasion.

The question is open on whether these successes could be scaled up to deal with one or more species across the larger islands of New Zealand – D’Urville (16,782 hectares), Great Barrier (28,510 hectares), Chatham (90,650 hectares), Stewart (173,500 hectares), and the North (11.3 million hectares) and South Islands (15 million hectares).²

This programme aims to stretch our collective capability and test those limits.

Using our current tool set, large scale eradication is risky and expensive

Eliminating predators from islands or sanctuaries is expensive. Eradicating rats on Campbell Island cost \$220 per hectare. Ridding Rangitoto/ Motutapu Islands of rodents and mustelids was \$914 per hectare, not including earlier programmes to eliminate possums and wallabies³. And keeping them pest free is also costly. Tracking down and killing three stoats on Kapiti Island in 2010 cost \$600,000.⁴

Eradication on populated islands is likely to be more expensive: increased scale, management of people, avoidance of non-target kills, and preventing of re-invasion all increase the challenge.

By investing in new tools and research, this programme aims to improve efficacy, reduce costs and develop methods that will be applicable over large scales and acceptable in urban areas, or both. One workstream aims to foster community participation and buy-in. This will be essential for urban predator control, and will enhance positive attitudes to predator control and conservation.

² Parkes, J. Eradicating invasive species on big inhabited islands. Kararahe Kino, Issue 21, Landcare Research
³ Mowbray, S. Rangitoto & Motutapu possum and wallaby eradication. Proceedings of Predator Workshop 1997. Eds, Sim, J. and Saunders, A.
⁴ DOC Media release 12 November 2012

Rangitoto and Motutapu Islands, Hauraki Gulf (3,820 ha)

The Motutapu Restoration Trust was mobilised in 2009 and the islands were declared free of animal pests in 2011. Motutapu Island is being progressively replanted in native species and locally extinct bird species have been reintroduced. The Trust claims to be New Zealand's best volunteering destination. The project is under the aegis of Ngati Tai and is supported by Air New Zealand and other businesses. The cost of eradication of rodents was around \$3.5m, excluding the earlier costs of eradicating possums and wallabies. Stoat surveillance and elimination is an ongoing cost.



The strategy

A strategic opportunity: Melding conservation excellence and entrepreneurial investment

The new 'Predator Free New Zealand' entity will bring together the skills and resources of business, philanthropists, government, iwi and conservation groups to accelerate predator control. It will advocate for large scale predator control, help galvanise regional alliances, and broker business and philanthropic support. In short, it will add business funding and entrepreneurial pace to our strong tradition of conservation skills.

A predator eradication strategy

DOC will lead development of a collaborative long term strategy that maps a path to progress from large scale (30-50,000 hectares) predator suppression projects, to regional scale (c 1 million hectares suppression), to national predator eradication. The strategy will set a clear direction for

- prioritising areas
- facilitating collaboration and co-investment, co-ordinating predator control agencies
- building community participation and support
- implementing an investment approach to conservation management, with transparent costs, conservation gains and social and economic co-benefits
- optimising the national cost of predators and predator control (c \$94 million pa), not just this seed funding (\$28 million over 4 years)
- lifting investment in tool development, capability building and predator research
- evaluating and reporting on progress, and fostering system wide improvement (in collaboration with MPI as lead agency for biosecurity and long term pest management).

Cape to City, Hawkes Bay (26,000 ha)



Most of New Zealand's land is privately owned and used for primary production. Even if all DOC land (8.6 million hectares) was fully managed for biodiversity values, that wouldn't be enough to achieve a predator free New Zealand.

The 'Cape to City' project in Hawkes Bay is a 5 year, \$6 million collaboration between landowners, iwi, the Hawkes Bay Regional Council, the Cape Sanctuary, Landcare Research, DOC and numerous businesses and conservation groups.

Building on the successful suppression of possums across Hawkes Bay by the Regional Council and OSPRI, 'Cape to City' aims to achieve ultra-low levels of possums, mustelids and feral cats over a 26,000 hectares area, and suppress rats in selected habitats.

Novel features of this project include

- wireless trapping and monitoring technology
- assessing whether large-scale control of feral cats will reduce the incidence of toxoplasmosis in sheep and lift lambing ratios
- applying learnings to the Regional Pest Management Plan to improve the effectiveness and reduce the cost of animal pest control for farmers.

Driving co-investment in large-scale predator control

This business case supports the case for Government establishing a Predator Free New Zealand Limited (PFNZ) to encourage co-investment in large scale projects. It would be governed by an independent board, who would bring entrepreneurial nous and investment discipline. It would work with project consortia to identify high value projects, attract co-investors, and accelerate the number, size and success of large scale control projects.

This arrangement is modelled in part on the successful Primary Growth Partnership (PGP) operated by MPI and the Tourism Growth Partnership (TGP) run by MBIE, and on the co-investment model of Crown Irrigation Investments Ltd. Stakeholding Ministers would set goals and performance requirements through an annual letter of expectations; the Board would set strategic policy and develop strategic relationships; and a very small team would implement the policy and manage specific investments.

NZPF would

- set a strategy for promoting investment in predator control conservation projects
- with DOC, identify the best opportunities across New Zealand to achieve significant conservation outcomes and social and economic co-benefits through predator control activities
- promote potential projects and point project partners to technical advisors to help them develop high quality proposals that are technically feasible and financially sound

- assess proposals against investment criteria to select the optimum schemes and ensure the establishment of durable commercial structures
- ensure the management of co-investments in accordance with the Crown's investment requirements
- agree to exit projects when conservation objectives have been achieved and there are long term arrangements to maintain the gains (or it becomes clear that the benefits are not achievable).

2016

Mounga Taranaki, Taranaki, 34,000 ha



Large scale suppression of predators will enable reintroduction of native species and strengthen existing populations of rare birds, animals and plants on Mt Taranaki.

The project, worth \$24 million over 10 years, is a collaboration between eight iwi, the NEXT Foundation, DOC, business sponsors and the Taranaki community.

Accelerating large scale projects

Several potential large scale projects in addition to those described above, are at varying stages of development. Around four to six might be investment-ready over the next four years.

Based on DOC's experience with large scale predator schemes, project costs could range from \$10-50 million and take between four to ten years to reach a maintenance phase. The PFNZ contribution for a project might be \$1 million pa per project. Depending on the needs of each project, Government's input could be a financial, people and skills, or both.

Eligible projects would

- 1 aim to eradicate or suppress predators at a landscape level to achieve specific and significant conservation objectives
- 2 each project stands alone on its own merits, not dependent on further investment in order to achieve the specified PFNZ objectives

- 3 strengthen iwi-Crown relationships and provide opportunities for iwi to exercise kaitiakitanga over their rohe
- 4 demonstrate strong collaboration across all the major stakeholders
- 5 contribute to social and economic outcomes
- 6 be underpinned by sound conservation, operational and financial plans
- 7 leverage at least 2:1 financial contributions from non-government sources
- 8 have clear reporting measures and processes, and have independent evaluation
- 9 have durable commercial arrangements to fund predator control after the investment period.

Further preliminary criteria for desirable locations include:

- the overlay terrestrial, freshwater and marine priority sites
- proximity and accessibility to communities
- current momentum that further investment would accelerate
- opportunities to scale local projects into future regional scale predator free projects over the next ten years.

Community participation and support

The programme also aims to

- foster the significant work done by community organisations
- encourage community acceptance of predator control goals and methods
- promote the value of conservation to New Zealanders (which in turn will expand community involvement and business investment).

Community organisations have always been at the core of New Zealand's conservation work. For example, DOC currently supports the 8,000 hectare Friends of Flora trapping project near Kahurangi National Park. It has an established Trust with a sound record of achievement, works in a high value area, and aligns with OSPRI and DOC's aerial pest control work.

To focus community participation in areas that would have the greatest impact, technical advice and information will be made available to community groups to help them assess the merits of alternative projects, use the best methods, and sustain their enthusiasm.

The greatest emphasis would be placed on those local projects which have the potential to be built into a durable collaborative connected regional project

Tool development

A number of new toxins and devices are in advanced stages of development and would benefit from supplementary funding to bring them to market. Around \$0.5m pa of this bid will be allocated to tool development.

Landscape control of stoats is needed to protect a wide range of threatened species, including kiwi and kea. A promising poison is PAPP (para-aminopropiophenone) which was registered for stoat control in 2011, but only for use in bait stations. Aerial 1080 is an effective control method for stoats when rodents are at high densities because stoats die

from eating poisoned rats and mice. A new control method is needed to target stoats directly when there are few rodents present. \$1 million has been invested to date and around \$1.1 million is required for development of baits and regulatory approval.

Predator science

The activities described above will result in landscape scale areas where predators have been eradicated or are being suppressed.

But we can only achieve the goal of a predator free New Zealand by 2050 through significant investment in long term predator research. This bid therefore includes \$1 million pa for research aligned to the Biological Heritage National Science Challenge goals.

Roles and alignment

Cabinet approves establishment of PFNZ as a Crown Company Minister of Conservation sets operating parameters through the Letter of Expectations					
	Inform	Collaborate	Co-invest	Participate	Innovate
PFNZ		Building strategic funding-oriented relationships with iwi, communities, business interests – “we can achieve more together than we can individually”.	Focusing on a few very high value projects – building strong, durable partnerships with partners. Seeking co-investors who will add, and gain, durable value.	promoting community participation. Advocating for predator eradication. Building social licence.	Seeking feasible ‘breakthrough’ research projects. Seeking co-investors to invest in high risk projects that might not be funded through current channels.
the glue	DOC leads the development of a long term predator free strategy (with PFNZ, MPI as lead agency for the National Pest Management Plan of Action, and regional councils)				
	DOC evaluates and reports “system performance” – predator threats, and predator control performance.				
DOC	Collate information on activities, objectives and investments – DOC, OSPRI, regional councils, iwi, landowners.	Continue operational relationships with iwi, businesses.		Continue to provide operational support for community conservation groups.	Continue tool development

Targets

The initial appropriation is a first step. *By 2020 it aims to deliver*

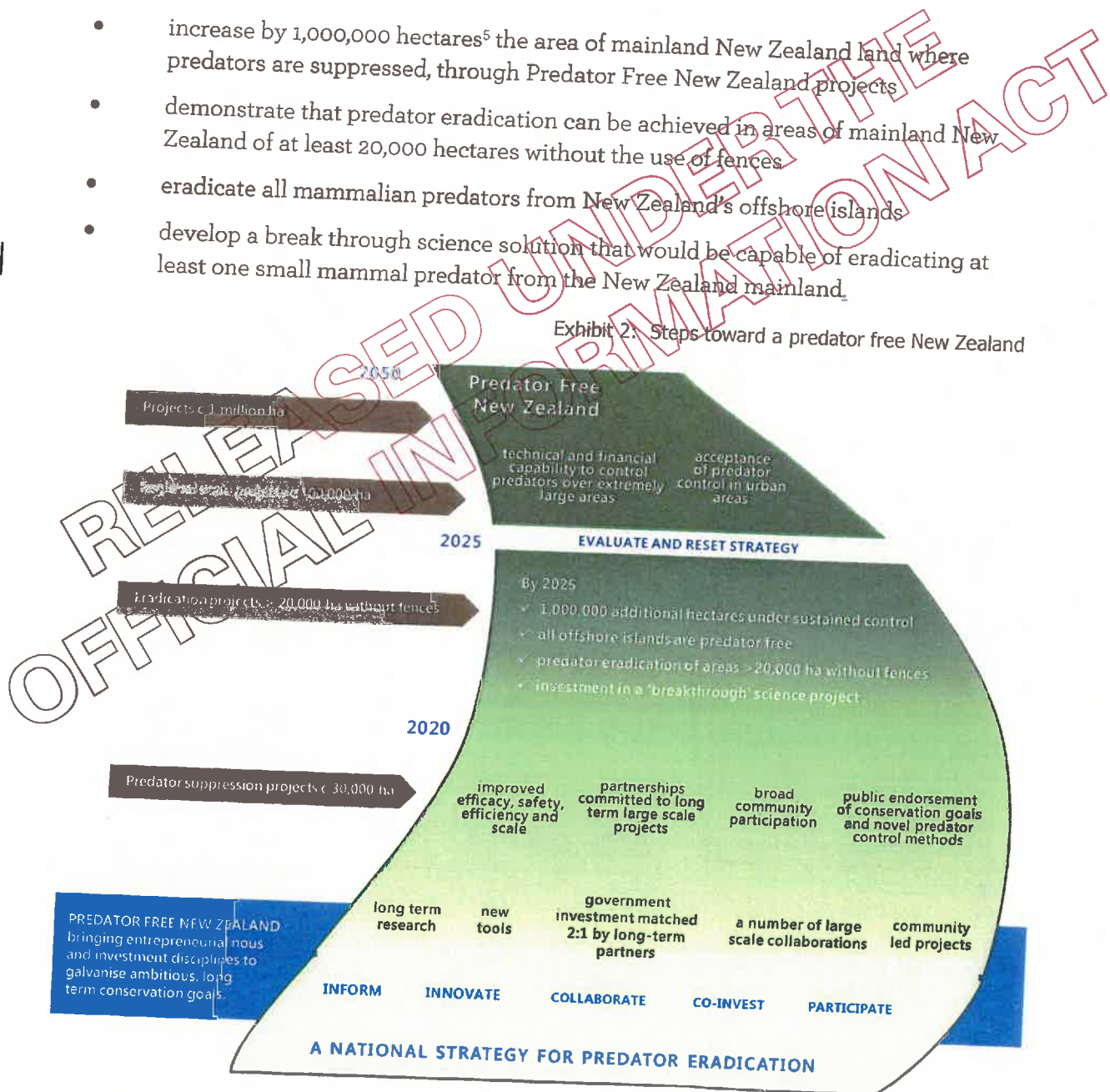
- *A collaborative predator control strategy:* We will produce a technically feasible, socially acceptable strategy to eradicate predators by 2050.
- *Predator control and conservation gains:* Another 175,000 hectares will be under sustained predator control (in addition to the current 1m hectares on the conservation estate and up to 7 million hectares under some form of OSPRI control or wildlife surveillance)
- *Exemplars of large scale predator control:* The five projects supported by PFNZ will be making substantial progress and will be sharing the lessons. PFNZ and DOC will be assessing how to tackle even larger scale operations (c 100,000 hectares)

- *Evidence of conservation outcomes, and project social and economic co-benefits:* From the large scale projects the PFNZ will have better information on the costs of large scale projects and emerging evidence of social and economic benefits.
- *Rich learning in collaboration and co-investment:* PFNZ will learn how to work collaboratively to achieve results that no one party could achieve individually. This, together with evidence on social and economic benefits, will help secure long term funding from co-investors.
- *Community support and participation:* We will foster community participation in local predator control activities and secure social licence for large scale control.

By 2025 the strategy aims to

- increase by 1,000,000 hectares⁵ the area of mainland New Zealand land where predators are suppressed, through Predator Free New Zealand projects
- demonstrate that predator eradication can be achieved in areas of mainland New Zealand of at least 20,000 hectares without the use of fences
- eradicate all mammalian predators from New Zealand's offshore islands
- develop a break through science solution that would be capable of eradicating at least one small mammal predator from the New Zealand mainland.

Exhibit 2: Steps toward a predator free New Zealand



⁵ This aspirational target was set by Natural Resources Ministers. The analysis in this business case indicates that, using current methods, a target of 500,000 ha is realistic. Achievement of the additional 500,000 depends on step changes in pest control technology and efficiency through the research and tool development workstreams.

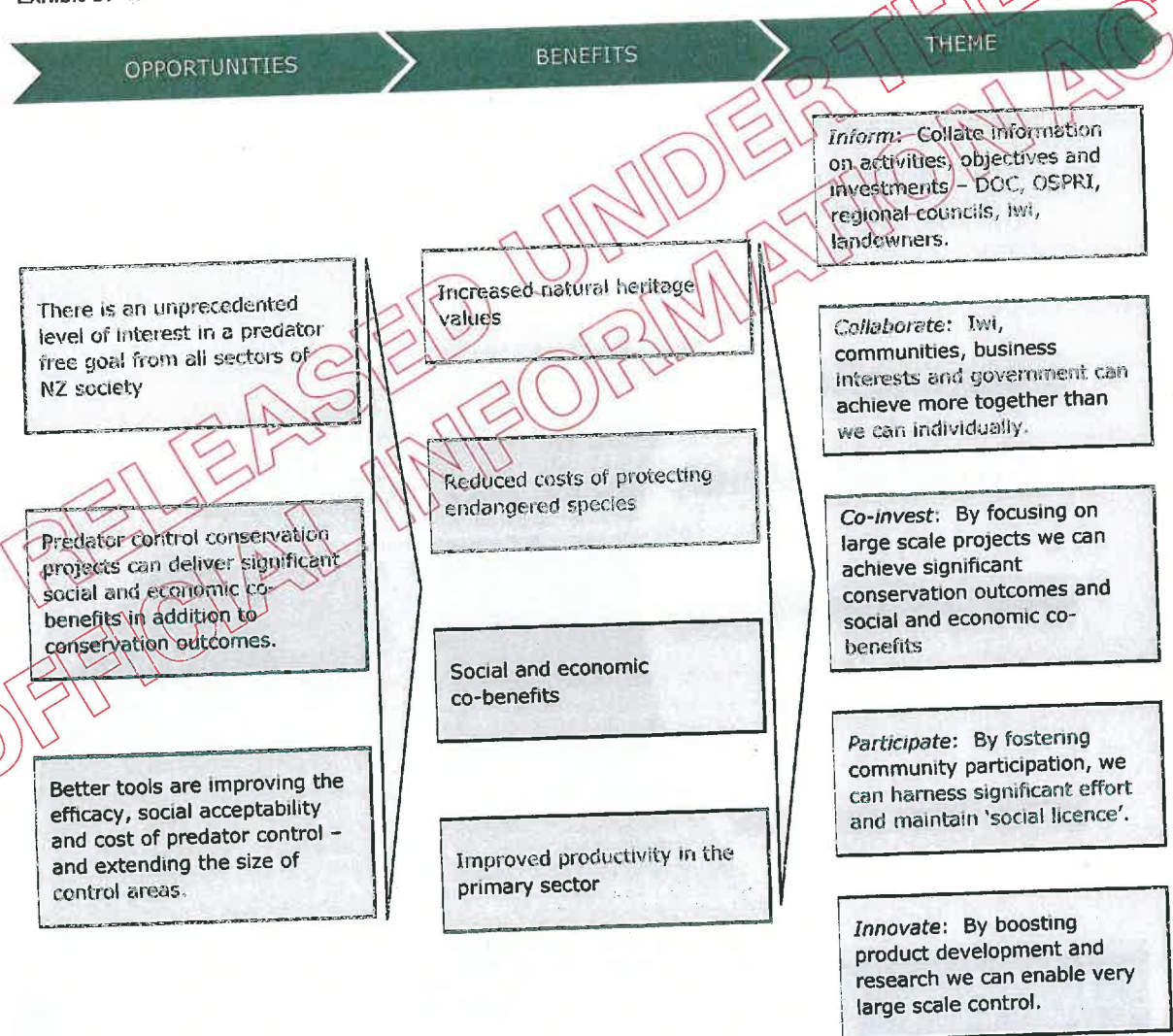
The Strategic Case

The Problem

Predators are the one of most significant causes of the decline of New Zealand's threatened species and the widespread loss of biodiversity. They also impact on agricultural production through the spread of disease, particularly bovine TB, and through grazing and destruction of pasture, crops and forestry.

Large scale predator suppression will restore our native bird populations and improve the health of our forests, improve agricultural production, create opportunities for tourism and reinforce New Zealand's trade and tourism brand.

Exhibit 3: investment logic⁶



⁶ The ILM model has been adapted for portfolio planning.

Strategic alignment

This business case contributes to the Government priority of 'building a more productive and competitive economy' by protecting New Zealand's reputation for sound environmental stewardship; protecting native species and ecosystems which underpin our tourism industry; protecting ecosystem services; reducing the negative impact of pests on primary production; reducing the spread of wildlife-borne spread of primary production; and developing predator control tools and techniques which can be exported.

It also supports Natural Resources targets in the *Business Growth Agenda* of developing 'landscape scale regeneration, biodiversity protection and predator control partnership programmes' and investigating 'options to speed up the goal of a predator free New Zealand'

DOC stretch goals

A predator free NZ can contribute directly to acceleration of the following (six of seven) DOC stretch goals:

- *50% of New Zealand's natural ecosystems are benefiting from pest management*
- *90% of New Zealanders' lives are enriched through connection to our nature*

A predator free New Zealand provides an opportunity to establish a national focus on nature with opportunities for participation – this is a significant opportunity to progress the Minister's initiative for *Healthy Nature Healthy People*.

- *50% of international holiday visitors come to New Zealand to connect with our natural places*

Storytelling of New Zealand's unique flora and fauna and how it has evolved is part of why international visitors come to New Zealand. The predator free New Zealand campaign is part of this story.

- *Whanau, hapu and iwi are able to practice their responsibilities as kaitiaki of natural and cultural resources on public conservation lands and waters*

A Predator Free New Zealand cannot be achieved without partnership with our Treaty Partner. Regional predator free project builds will directly provide the opportunity for iwi to be directly engaged with governance and operational delivery for a predator free New Zealand.

- *50 freshwater ecosystems are restored from mountains to the sea*

Predator control can directly influence catchment health and therefore water quality.

- *A nationwide network of marine protected areas is in place, representing New Zealand's marine ecosystems*

Predator control can directly influence catchment health and therefore quality of the adjoining marine environment.

DOC intermediate outcomes

Achieving increased predator control is a lynchpin in the DOC intermediate outcome '*the diversity of our natural heritage is maintained and restored*'.

MPI priorities

The predator free New Zealand initiative also contributes to several MPI priorities, including:

- protecting from biological risk by reducing the impact of predators on primary production, either directly or as disease vectors
- maximising export opportunities by enhancing our reputation for producing high quality products from sustainable systems
- enduring relationships by collaboration between public and private sectors, and rural and urban communities.

In addition, MPI is the lead agency for developing an integrated pest management toolbox and therefore have a key role in informing the development of new tools.

Biological Heritage Science Challenge

MBIE's National Science Challenge 'New Zealand's Biological Heritage' aims amongst other things to increase the understanding of pest dynamics, pest control tools and the protection of native ecosystems and species.

Programme two in this Challenge seeks to reduce risks and threats. In particular, the 'high-tech solutions to invasive mammal pests' focuses on improved tools and technology, and landscape scale pest control and surveillance/detection specifically targeting possums, rats, and stoats.

The stakeholder outcome is 'By 2050, invasive mammal pests are no longer a threat to the security of New Zealand's indigenous biota, valued non-native species and ecosystem services.'

Current state

At present 1m hectares of the DOC estate is under predator (rat, mustelid and possum) control and OSPRI has 6m hectares of vector risk area under some form of control or wildlife surveillance (noting that the amount of hectares varies from year to year).

DOC defines predator suppression as the *predator* population required to maintain specific conservation outcomes for an ecosystem. OSPRI defines it as the *possum* population sufficient to prevent transmission of TB between possums so that, over time, the possum population does not harbour TB.

In practice, these criteria result in very similar possum populations and conservation / TB outcomes, but the timing of predator control is crucial to achieving conservation outcomes.

(The strategy workstream will, among other things, aim to align operational and outcome measures).

Impact of TB Free NZ

OSPRI's mandate is to eliminate Bovine TB from New Zealand's cattle and deer. It is doing this through detection and slaughter of infected animals, and the control of the pests that transmit TB (principally possums). Its sole aim in pest control is to eliminate the reservoirs of TB in pest populations.⁷

Eradication of TB is achieved by reducing possum density to a very low level for five years or longer. This low density means that TB cannot be communicated within possum

populations and will subsequently disappear from both possums and other wildlife.⁸ TB has been under varied levels of management intensity in New Zealand since the 1950s. Significant investment has been made by both farmers and government since the resurgence of TB in the 1990s - approximately \$1.2 billion since 2000. Infected herds numbered 1,694 in June 1994, and in June 2015 were estimated to be down to just 46. This investment in animal disease control has had also co-benefits for our natural heritage.

In pursuit of eliminating TB some areas are under intensive management, some areas under light management, while some areas are scheduled for control in out-years. Currently OSPRI has 2.5 million hectares under intensive control to achieve TB eradication over the next ten years and 1.1 million hectares has been cleared of TB and will no longer require OSPRI pest control.

In the short term TB control creates opportunities to align the timing and location of TB and conservation operations. In the longer term it raises public expectations that DOC and regional council staff will assume responsibility for on-going predator control after OSPRI operations cease, which may not always be a priority. However, there may also be the opportunity for another party to maintain and increase those gains.

Dependencies and assumptions

The targets for the first four years are feasible within current technology and resources. Goals for later years are dependent on

- continued success in tool development, especially those that lead to effective low-cost non-fence predator barriers
- transformative advances in predator control achieved through breakthrough scientific research.
- social acceptance of current and new control tools.

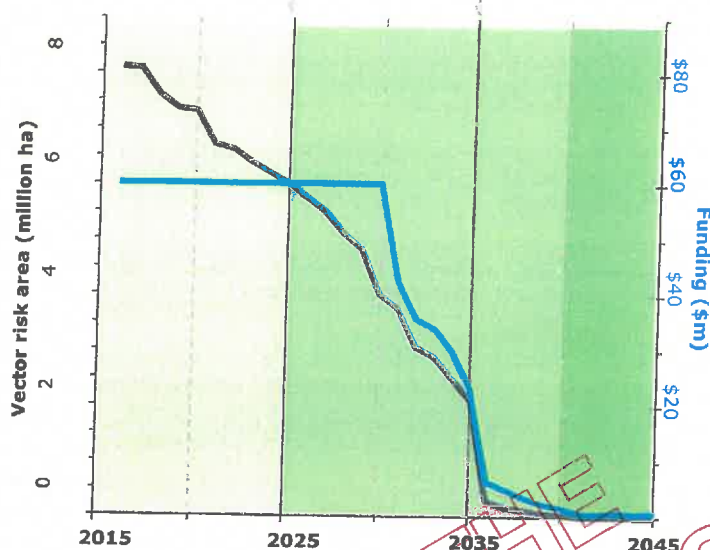


Exhibit 4: Projections of OSPRI vector control

⁷ OSPRI, National Bovine Tb Plan Review Consultation, 2015

⁸ OSPRI, Annual report, 2014/5

Critical success factors

- Engagement with, and commitment from, iwi, conservation organisations and regional councils.
- Success of long-term predator research *and* social acceptance of new control methods.
- Financial support from iwi, businesses, philanthropists and business sponsors. In addition to donations and investments they would have made to other conservation activities.
- Robust evaluation of projects and willingness to cut losses where it is unlikely that they will yield objectives within the expected time.

Strategic risks and issues

Risks are low at the beginning of the programme but escalate with the ambitious targets of later years.

The five vital risks and issues are

- If predators are eradicated in areas and arrangements for long term management fail, ongoing maintenance could become a liability for DOC and regional councils. To manage this risk the PENZ investment criteria require that projects demonstrate durable arrangements to sustain the gains after the investment period.
- When OSPRI withdraws from regions free of TB, predator populations will rebound. Modelling is required to predict pest populations and forecast likely pressures on DOC and regional council funding. The strategy workstream will address this issue.
- Achievement of large scale eradication depends on the development of methods that create 'fenceless perimeters' and the progressive roll-back of those perimeters. If we cannot develop low-cost effective methods, the cost of protecting and expanding predator free zones will be very expensive.
- The predator free goal is dependent on breakthrough science. Continuous improvement of control tools has proven to be very successful, and risks here are moderate. But research outcomes are inherently uncertain. For example, a New Zealand consortium worked for 13 years and spent over \$30 million in search of possum biocontrol before this research was aborted. To manage this critical risk, the programme will aim to focus on the best science questions and closely manage the science investment.
- As well as working in the field, any science breakthrough must be socially acceptable. The community participation workstream aims to build a deep understanding of the benefits of predator control to New Zealand, and an acceptance of novel control methods.

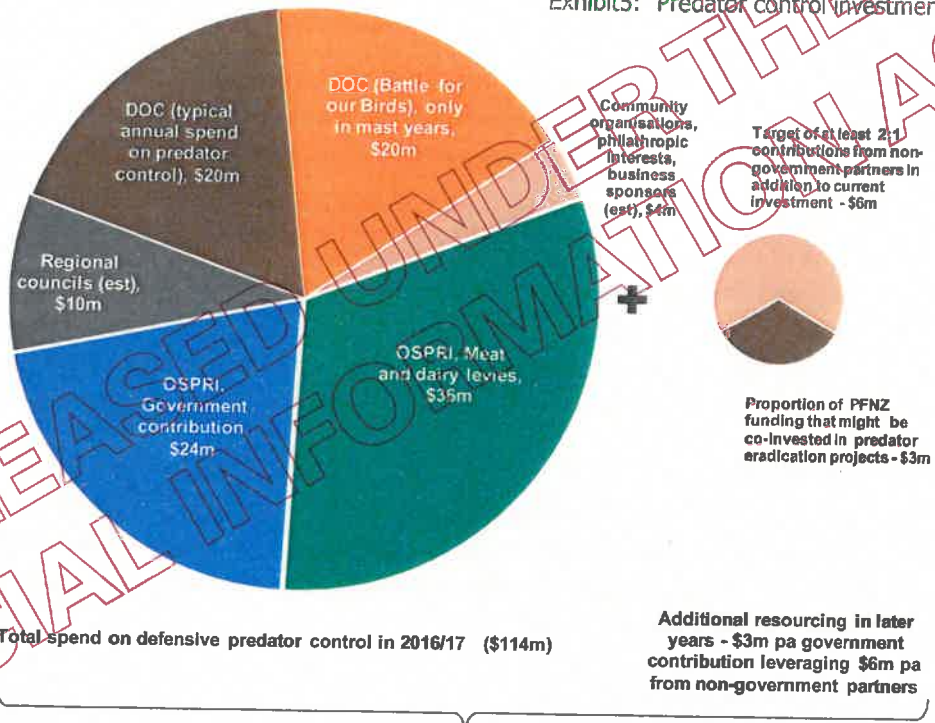
The Economic Case

The cost of predators

Predator control costs New Zealanders at least \$94 million pa, and lost production costs the primary sector an estimated \$52 million pa. Of the control costs, about 70% is directly related to the primary production and 30% to conservation. The biodiversity losses from unmanaged predators is an unknown but large cost.

There is of course an overlap. 'TB Free' programmes often treat deep into forests, thus contributing significantly to conservation outcomes. Equally, suppression of predators in the conservation estate reduces the pest populations that might invade farmland.

Exhibit5: Predator control investments



A larger pie (\$123m per annum) underpinned by a national strategy

Defensive costs – predator control

Party	Spend on predator control
DOC	Typically \$20m (and around \$20m extra in most years)
Regional councils	Estimated at \$10m pa
OSPRI	\$24m pa from central government \$36m pa from farmers through meat and dairy levies ⁹ .
Community organisations, businesses, philanthropists	Estimated at \$4m pa ¹⁰
Landowners	Unknown

⁹ Based on OSPRI draft Tb management plan, 2015

¹⁰ Estimated from a variety of sources

Productivity losses

Party	Lost income
Landowners	Estimated at \$52m ¹¹

Conservation, social and economic benefits

Direct quantifiable benefits

One of the benefits of this project is the greater enjoyment of natural heritage by New Zealanders. Stated-choice research¹² undertaken in 2014 for OSPRI by Lincoln University's Agricultural Economics Research Unit (AERU) identified that New Zealanders have a high willingness to pay for protecting and restoring the native flora and fauna.

The research found that respondents were willing to pay:

- \$2.01 for each 1% increase in protection of the forest canopies
- \$0.72 for each 1% increase in protection of native birds
- \$0.50 for each 1% increase in protection of within-forest plants
- \$0.35 for each 1% increase in protection of large native invertebrates

AERU extrapolated that research to estimate costs and benefits for this programme. If this programme spends \$50m over ten years to make 100,000 hectares predator free and suppress predators in surrounding areas, net present value of \$5 million control pa would be \$190 million if just 50% of New Zealanders value conservation outcomes to the levels stated by respondents in their earlier study. (These estimates assume similar costs and results as in OSPRI funded predator control operations, and an 8% discount rate.)

This proposal posits that \$2 can be leveraged for every \$1 of government expenditure. Some of this expenditure would happen without this programme. If only \$1 additional was attracted, the additional benefits would be \$230 million of (based on the same assumptions). If the incremental revenue is \$1.60 for every \$1 of government expenditure the benefits would be \$370 million.

Non quantifiable benefits

Two non-quantifiable benefits are the reduced cost of protecting endangered species and ecosystems, and the export of pest control technology.

Predator eradication could drastically reduce costs of conservation and ecosystem protection for regional councils and DOC. For example, the cost of managing one kiwi chick is typically around \$3,000 for the first year when the chick is most vulnerable to predation. This allows the tracking of nesting birds, the recovery and hatching of eggs, raising chicks and releasing them when the birds are large enough to fend off predators.

¹¹ Bertram G, 1999; The impact of introduced pests in the New Zealand economy in 'Pests and Weeds: A Blueprint for Action' Hackwell K and Bertram G (Eds) NZ Conservation Authority
Nimmo Bell, 2008. Economic Costs of Pests to New Zealand', MAF, MAF Biosecurity NZ Technical Paper no 2009/31

¹² Agricultural Economics Research Unit, Lincoln University, March 2016. (Stated-choice research attempts to overcome the propensity of people to say they want something when they do not face the opportunity cost of what they have to forgo in order to get it. Respondents in stated-choice surveys are required to make trade-offs that are realistic and so reveal their true willingness to pay.)

This contrasts with around \$34,000 for maintaining biosecurity for Kapiti Island and the whole kiwi population that reside there.

For the rarest species of kiwi, the rohe, the cost of mainland management is in the order of \$10,000 per chick for the year that it is nurtured.¹³

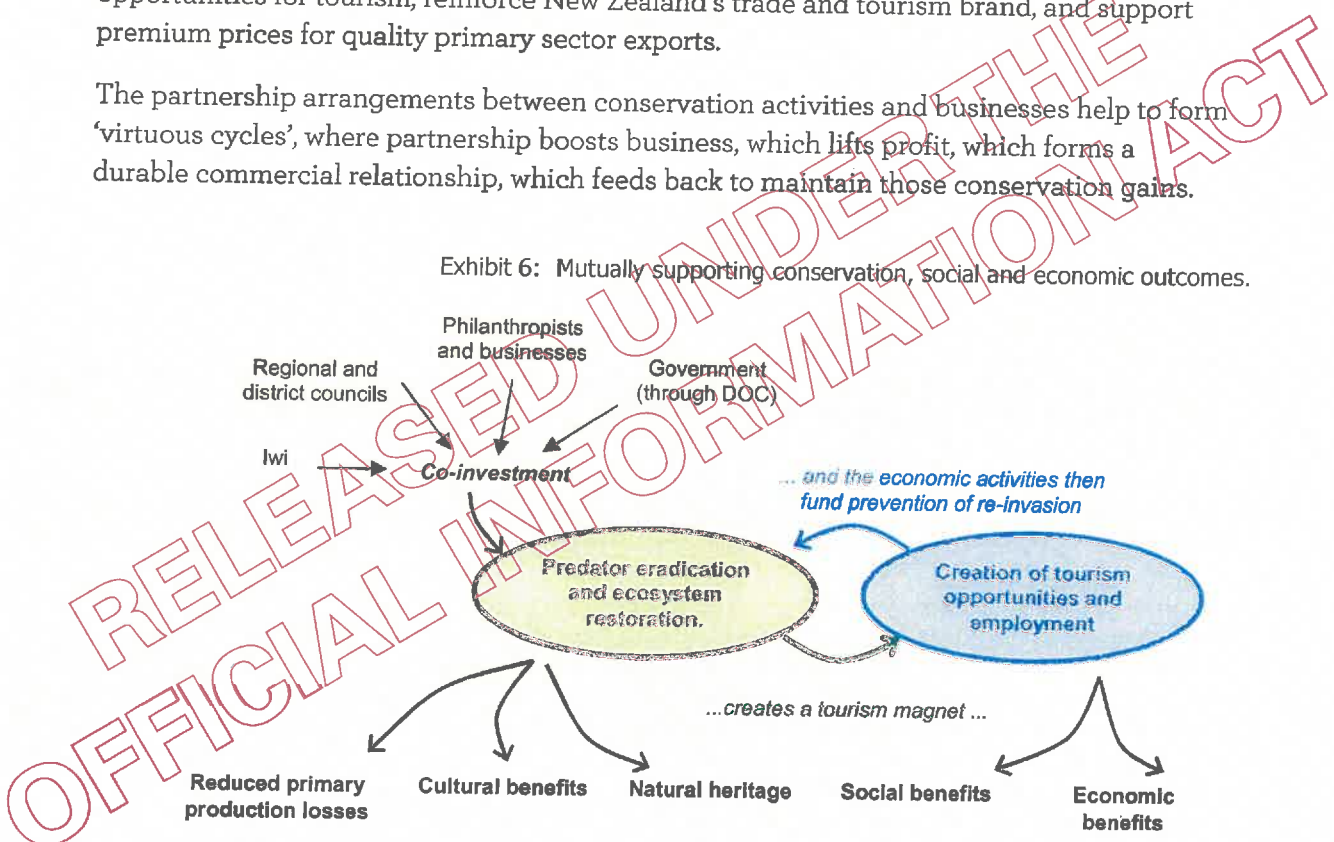
New Zealanders are recognised as leaders in island pest eradication and this might also lead to export opportunities. This expertise is sought internationally. There may be further opportunities from the tools, strategies and science arising from this programme.

National social and economic benefits

A thriving conservation estate and a predator free New Zealand will create significant opportunities for tourism, reinforce New Zealand’s trade and tourism brand, and support premium prices for quality primary sector exports.

The partnership arrangements between conservation activities and businesses help to form ‘virtuous cycles’, where partnership boosts business, which lifts profit, which forms a durable commercial relationship, which feeds back to maintain those conservation gains.

Exhibit 6: Mutually supporting conservation, social and economic outcomes.



¹³ Colbourne R, pers comm., 2016

Exhibit 7: AERU cost benefit analysis

Impacts from 10 year programme ¹⁴	Scenario		Assumptions and evidence	Certainty
	Low	High		
Estimated impact on key outcomes				
Area of New Zealand free of predators	230 000 ha by 2025	230,000 ha by 2025	This is compared to the counterfactual (current amount predator free islands) amounting to 130 000 ha.	Medium
Cost to government				
Programme costs	-\$43m	-\$43m	Assumes \$7m per year over 10 years adjusted for inflation at mid-point of Reserve Bank target, 2%.	High
Government benefits				
Reduced cost of predator control	\$6m	\$30m	The low scenario assumes 1% and high assumes 5% cost savings after 10 years. Both scenarios assume 50% of benefit accrues to central government.	Medium
Reduction in number of unemployed	\$11m	\$21m	The low scenario assumes 125 and high assumes 250 sustained reductions in unemployed after 10 years. Central government's share of benefit based on reduction in unemployment benefits payable at \$11,388 after tax per year (per CBAX Impact Database).	Low
Additional tax revenue	\$5m	\$9m		Low
NVP - Quantified Government Impact	\$21m	\$60m		Medium
Wider societal benefits				
Reduced cost of predator control	\$6m	\$30m	The low scenario assumes 1% and high assumes 5% savings after 10 years. Both assume 50% of benefit is for non-central government sector on basis of current share of expenditure by local government and private sector being approximately 50% of \$160m per year.	Medium
Reduction in number of unemployed	\$8	\$16m	The low scenario assumes 125 and high assumes 250 sustained reductions in number of unemployed after 10 years. Wider societal share of benefit based on 75% of the annualised post-tax minimum wage of \$26,937 (per CBAX Impact Database) less the benefit attributed to central government.	Low
Improved conservation values from expenditure from government expenditure	\$50	\$187	Based on AERU Stated-choice research. The low scenario assumes 15% of New Zealanders value flora and fauna outcomes. The high assumes 50%. Both assume only \$4m of \$5m predator control expenditure per year under the proposal is a net increase in predator control and \$1m per year would occur any rate.	Medium
Improved conservation values from leveraged community, private contributions	\$62m	\$374		Medium
Impacts of reduced predators on primary production	Moderate	Moderate	Reduced incidence of wildlife-borne disease, reduced damage to pasture, crops, forestry. Assumed to be moderate at this initial stage of predator-free NZ due to relatively low total area of production land and production land boundaries in initial areas.	Medium
NPV - Quantified Societal Impacts	\$126m	\$606m		Medium
	\$104m	\$623m		Medium

¹⁴ \$m present value over 30 years at 8% real discount rate for monetised impacts

The Leadership Case

What will national leadership look like

This business case is premised on view that New Zealanders – in iwi, communities, regions, government agencies and in businesses and on farms – can deliver results better and faster than if we work individually. To achieve those results, we need to know who will lead what aspect of the programme. Exhibit 9 takes each theme in this strategy, explores what aspects of leadership are required, lists the stakeholders, and defines who leads what.

Exhibit 9: Who leads what?

Theme	Who should lead which bits?
<p>Inform: Collate information on activities, objectives and investments – DOC, OSPRI, regional councils, iwi, landowners.</p>	<p>DOC will collaborate with MPI and other stakeholders to</p> <ul style="list-style-type: none"> • standardise operational and outcome measures • collate and analyse information and make it available across agencies and stakeholders • collaborate with MPI with matters relating to the National Pest Management Plan of Action.
<p>Collaborate: Iwi, communities, business interests and government can achieve more together than we can individually.</p>	<p>DOC will facilitate development of a shared strategy setting out how New Zealand will progress from the current state, to large scale, to regional scale, to national predator eradication. It will coordinate with the national pest management led by MPI and Tbfree strategy led by OSPRI.</p> <p>DOC will manage government investment in the strategy, including funding for community participation, tool development, research and the total quantum to be directed to large scale projects.</p> <p>DOC will evaluate and report progress.</p>
<p>Co-invest: By focusing on large scale projects we can achieve significant conservation outcomes and social and economic co-benefits</p>	<p>PFNZ will</p> <ul style="list-style-type: none"> • encourage non-government investment in predator control conservation • promote large scale predator eradication and foster high quality investment proposals • invest in the projects that are likely to give the best conservation gains, and contribute to social and economic benefits • exit projects when expected results are no longer likely.
<p>Participate: By fostering community participation, we can harness significant effort and maintain 'social licence'.</p>	<p>DOC will</p> <ul style="list-style-type: none"> • foster community involvement in predator control and conservation • encourage community acceptance of predator control goals and methods.
<p>Innovate: By boosting product development and research we can enable very large scale control.</p>	<p>DOC will</p> <ul style="list-style-type: none"> • collaborate with MBIE to identify the germane science questions, commission long term research, and periodically evaluate the prospect of success • commission research and product development. <p>PFNZ will</p> <ul style="list-style-type: none"> • work with partners (DOC, MBIE) to identify the most promising research approaches that might lead to 'breakthrough' solutions • seek other parties to contribute to high risk 'breakthrough' projects with those parties, commission 'breakthrough' research projects

**Cabinet approves establishment of PFNZ as a Crown Company
Minister of Conservation sets operating parameters through the Letter of Expectations**

	Inform	Collaborate	Co-invest	Participate	Innovate
PFNZ		Building strategic funding-oriented relationships with iwi, communities, business interests – “we can achieve more together than we can individually”.	Focusing on a few very high value projects – building strong, durable partnerships with partners. Seeking co-investors who will add, and gain, durable value.	With [REDACTED] promoting community participation. Advocating for predator eradication. Building social licence.	Seeking feasible ‘breakthrough’ research projects. Seeking co-investors to invest in high risk projects that might not be funded through current channels.

“the glue” DOC leads the development of a long term predator free strategy (with PFNZ, MPI as lead agency for the National Pest Management Plan of Action, and regional councils)
DOC evaluates and reports “system performance” – predator threats, and predator control performance.

DOC	Collate information on activities, objectives and investments – DOC, OSPRI, regional councils, iwi, landowners.	Continue operational relationships with iwi, businesses.	Communicate government policy. Continue to provide operational support for community conservation groups.	Continue tool development
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Governance options for Predator Free New Zealand

An investment model – a step change in conservation management

This strategy will apply government’s investment approach to conservation management. This is fundamentally different from historical approaches to service design, investment and operational delivery in public services.

At its heart, public investment is about understanding what makes the most difference to achieve conservation outcomes. [REDACTED] make do more of what works.

This approach is being piloted with social services, starting with vulnerable children. The goal is to support people in difficult circumstances to improve their lives and become more independent. Agencies are collaborating to put the needs of their most vulnerable customers at the centre of decisions on planning, programmes and resourcing by applying rigorous and evidence-based investment practices to social services.

This requires

- setting specific, clear goals
- identifying the priority client groups (or environmental outcomes) – both known problems and emerging problems if nothing is done
- understanding what interventions will make the biggest difference for these clients (or places)

- moving funding to the most effective service, or creating new services where they don't exist, irrespective of whether they are provided by government or non-government agencies.

Current funding paradigms	Government's investment model
Government establishes funds (such as DOC's Community Conservation Fund, or MPI's Primary Growth Partnership).	Government sets investment goals (eg, through a BPS Targets to agencies, or Letters of Expectations to Crown entities).
Agencies advise funding criteria and priorities and invite competitive applications.	Government (through entities or agencies) works with partners to identify shared priorities – current problems, emerging problems and opportunities. Government confirms the priorities that offer the greatest value for 'NZ Inc'.
The agency (or panel) undertakes independent due diligence, prioritises applications, and decides to fund or co-fund successful applications.	Entities or agencies seek long term partners and shared solutions to achieve the desired outcomes. The process for assessing options, agreeing co-funding, and entering contracts is transparent (but not necessarily competitive).
Government funding is provided with structured reporting processes and accountability requirements.	Elements of projects are open ended . Commercial disciplines are applied to planning, commissioning and evaluation. Risks and commitments are shared and require robust commercial management.
Evaluation includes project delivery (is it going to plan) and longer term outcomes (did it achieve expected targets).	
The project has a finite life and holds all residual risk.	

While not designed along investment lines, the Waikato River, Waiapu Catchment Restoration, and Rotorua Te Arawa Lakes Projects demonstrate aspects of this co-funded partnership model.

Governance implications

This new model requires a fundamentally different approach to governance

- strategic priorities identify the best value for 'NZ Inc' (whereas the PGP for example, seeks industry initiated proposals)
- there is engagement with stakeholders to identify potential shared solutions
- the best participants are identified – some could be selected competitively, while others (especially iwi, regional councils and landowners) would not be
- a long term strategy is negotiated and, after due diligence, long-term co-funding arrangements are finalised
- projects are large scale, long term – and funding commitments are, to a degree, open ended.

This demands a different approach from current funding models. It will be part promoter, part broker and part investor. It will promote the proposition of large scale predator eradication projects and encourage high quality proposals. It will also be a broker by encouraging new investors to commit to significant, long term conservation projects. It will also be a hardnosed investor by selecting the best projects, checking that they remain on target, and being willing to terminate funding if the promised outcomes will not eventuate.

The governance approach also needs to be attractive to long term, high value funding partners. If they are to contribute 2:1 or more funding, they will expect to sit around the table as partners, not funding applicants.

Volume

The funding sought by this business case could fund two or three large projects in the early years. However, experience indicates that projects take some time to assemble partners, agree on objectives, and plan and cost projects.

Assuming a 2:1 contribution from non-government investors, a project cost of \$10-30m, and a 5-15 year timeframe, there is likely to be sufficient funding for one new project every second year.

By year four, PFNZ might be able to fund three or four projects a year but by year five funding will only be available if the proportion of funding available from non-government sources grows significantly.

Based on DOC's experience with very large scale operations, and lessons from the early projects, it is reasonable to expect that

- it will take time before the first projects are investment ready
- four or five projects might be underway by 2020
- around 2022, there will be funding for about one significant project each year.

The Board's processes and costs therefore need to be simple, flexible and scalable.

Form and structure

Three options were considered

- establishment of an independent Crown company to oversee and run the predator free project - Predator Free NZ Ltd
- extending the mandate of an existing entity, OSPRI
- establishing an investment programme overseen by an independent panel - a Predator Free New Zealand Partnership (analogous to the Primary Growth Partnership).

Exhibit 10 summarises those alternative structures.

Evaluation criteria were

- the likelihood that high value philanthropists and businesses will commit to large scale projects and 'breakthrough' research initiatives
- ease of establishment
- later flexibility to respond to lessons from this highly innovative model
- clarity of roles, including residual risks
- ongoing management costs and overheads.

Exhibit 10: Comparators of the governance options

	Crown Entity	OSPRI	Independent Panel
Role	<p>The NZVIF was established to build a strong early stage investment market in New Zealand. Its investments are made either through privately managed venture capital funds, or alongside experienced angel investors.</p> <p>CII is a bridging investor for regional water infrastructure development. It makes targeted investments into schemes, alongside other partners, that would not otherwise be developed</p>	<p>OSPRI which operates the TBfree and National Animal Identification and Tracing (NAIT). Its mandate for TBfree comes from its role as a management agency under the Biosecurity Act.</p> <p>It is funded from industry levies, and government funding. OSPRI contracts for predator control. It is not a co-funder.</p> <p>While there are obvious similarities (killing possums) there is an important difference. Once TB is eradicated from a possum population, OSPRI has no ongoing purpose in predator control. Dual objectives – disease eradication and ongoing predator control – may delay cessation of operations in a region, and increase the cost and duration of its TB programme.</p>	<p>The PGP aims to</p> <ul style="list-style-type: none"> • boost productivity, value and profitability • deliver growth and sustainability, from producer to consumer • encourage more private investment in research and development.
Scale	<p>NZVIF operates</p> <ul style="list-style-type: none"> • a venture capital fund - \$260 million 'fund-of-fund' investing into privately-managed venture capital funds which invest into NZ-originated technology companies • a \$40m seed fund for tech start up companies alongside angel investors. <p>Across both funds since establishment, NZVIF has invested \$147 million as part of total investment of \$1.7 billion, producing an overall public/private fund leverage effect of 1:11</p> <p>CII has \$80 million for investment in irrigation and has supported one irrigation scheme to date.</p>	<p>OSPRI has the scale, reach and technical knowledge to support large scale predator eradication. While is not a conservation agency, it works very closely with DOC and regional councils and has a deep understanding of conservation objectives.</p>	<p>At April 2016, there were 19 PGP programmes underway, and two completed, representing an investment of around \$727 million in total committed by the Crown and industry over time.</p> <p>The minimum investment \$0.833m, being \$0.5m from industry and \$0.333 from the Crown.</p> <p>Examples</p> <ul style="list-style-type: none"> • 'Food Plus' (red meat) - \$29m over 7 years • Avocados - \$4.3m over 5 years • 'Merino - More than Wool' - \$16m over 7 years
Cost structure	<p>NZVIF annual administration costs ~\$2.7 m pa.</p> <p>CII annual administration costs ~\$2.5 m pa.</p>	<p>OSPRI collects funds, plans operations and contracts for services. Operating a co-investment model would require establishment of a panel which would have similar overheads as DOC.</p>	<p>Administrative costs for all 23 of MPI grants and programmes are \$6.4m. Assuming that 15-25% of the work relates to PGP, the average cost per application is \$50-85,000 pa.</p>

Crown company

A Crown company has the flexibility of a commercial company and the security of a government backed operation.

This independence and transparency of a Crown company will encourage long term high value partnerships. Philanthropists have indicated that this is prerequisite for their participation.

Current Crown companies have significant compliance costs and overheads. For example Crown Irrigation Investments costs around \$2.5m pa to administer up to \$400m co-investment in irrigation projects. Because it works with merchant banks to work up high risk projects, its cost structure is high. The Walking Access Commission, while not a company, is an example of a more frugal operation, and costs around \$1.7m pa.

OSPRI

Building on the mandate and operational capacity of an organisation such as OSPRI provides an opportunity to use existing administrative, pest control and contracting capability to support objectives beyond TB eradication. OSPRI has extensive regional networks and pest control expertise. This would be an extension to the role of OSPRI which currently operates the TBfree and National Animal Identification and Tracing (NAIT) schemes. Engaging OSPRI to lead this work was considered. Given the interest of OSPRI shareholders and stakeholders in biodiversity and broader conservation and environmental benefits in rural areas it is possible OSPRI could be more active in these areas in the future.

OSPRI's current pest control has excellent prescriptions and should a well-developed predator free prescription be rolled out across New Zealand, OSPRI would be a key provider.

A panel within DOC

The third option is that that of an independent panel that operates within the structures and processes of a government agency. Independent governance and transparent reporting reinforces independent decision-making. The PGP and YGP panels do bring commercial nous and entrepreneurial skills.

The PGP has invested \$724m (\$344 from government, \$380 from industry). This illustrates how this model can manage a wide range of initiatives and attract significant non-government co-funding.

Support costs are lower and scalable.

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Assessment

Criteria	Crown company	OSPRI	Panel
Likelihood that high value philanthropists and businesses will commit to large scale projects and 'breakthrough' research initiatives	✓✓ Potential partners have indicated that they will commit to this model.	✗ Unlikely	? Likely, based on PGP experience. Not preferred by potential partners and Ministers.
Ease of establishment	? About 6 months for full establishment; possibly \$400,000 establishment costs	✗ Highly difficult. Has significant change impacts for current OSPRI processes.	✓ About 3 months to tailor PGP structures and processes. Possibly \$100,000 setup costs.
Later flexibility to respond to lessons from this highly innovative model	✓ Most changes could be effected through Ministerial Letter of Expectations.	? Difficult. Potential disruption to OSPRI planning and operational processes.	✓ Highly flexible
Clarity of roles, including residual risks	✓ Clear roles. Residual risks could exist if other co-funders withdraw from projects. Risks (and risk allocations) for 'breakthrough' research projects need to be scoped.	✗ Could confuse the current role of OSPRI and the value proposition of TFree.	✓ Clear roles. All risks are embedded within the projects which are at arm's length from government.
Ongoing management costs and overheads.	? Other Crown companies have significant overheads. There are opportunities to use shared services arrangement to minimise these.	✓ OSPRI has significant planning, research and operational capabilities. Marginal costs could be modest.	✓✓ Resources and costs are highly scalable.
Summary	PREFERRED	NOT FEASIBLE	FEASIBLE, NOT PREFERRED

Membership

Stakeholder interests represented on the board will include iwi, local government, community and DOC. It will provide the mechanism to connect to additional strategic such as the NEXT Foundation and other high value national level philanthropists.

The board will be supported by a multi-agency technical advisory group.

Capability Case

This section explores investment processes surrounding large-scale projects and the capability and capacity of all the parties to tackle this colossal job. It corresponds to the commercial case in a standard business case.

Achievement of a predator free New Zealand requires

- consortium capability to initiate and lead large scale projects
- organisational and contractor capability and capacity to plan, deliver and monitor operations
- community capability to undertake community led activities effectively and safely, and participate in the scale projects.

Consortium capability

A successful consortium needs the judgement to select high value projects, the technical skill to plan effective and efficient operations, and the team commitment to last the distance.

Initial projects at Mouna Taranaki, Project Janszoon, Cape to City and Rangitoto - Motutapu demonstrate the depth of commitment and talent that is available.

The Predator Free New Zealand Partnership will support fledgling projects.

Organisational and contractor capability

While DOC, regional councils and science organisations are internationally renowned in predator control capability, their capacity is not endless. Projects such as the 'Battle for our Birds' are already stretching DOC's resources. Some capacity building will be needed.

OSPRI is now focussing on reservoirs of TB in forests where aerial operations will be used. There is likely to be sufficient aerial operators and ground control operators.

Training is available for planners, operational managers, and field operators.

Community capability

Tramping and conservation groups have long been energetic participants in predator control. DOC and regional councils run courses and assist with technical planning. Predator Free Communities will be funded through DOC to foster even more community action.

Financial Case

This business case seeks \$28 million over four years to foster volunteer contribution and leverage non-government investment to predator control, extend our current toolset, strengthen research and build a long term strategy.

This financial case does not attempt to define individual projects and investments. Project proposals will be assessed by Predator Free New Zealand Ltd in the case of large scale projects and DOC for research, tool development and strategy.

How much predator eradication might \$16m buy?

This business case anticipates that about \$16 million (over four years) will be invested in large scale predator eradication projects. This section takes a top down view and explores what that might buy.

Reference costs

Predator control costs vary widely, depending on pest populations, conservation / pest control targets, terrain, methods, the level of voluntary effort, constraints (e.g., human habitation, presence of non-target species).

Exhibit 11: Reference costs for predator control operations for a variety of target pests and goals, with the total cost to achieve the aim recorded

Project	Scope	Costs (\$ / ha)
Rangitoto/ Motutapu	Mustelids and rodents, islands.	\$914
Taranaki-Mounga	All predators and goats from the National Park. (Costs of species relocation, education activities deducted. Costs of predator suppression in 'conservation halo' unknown.)	\$570
Cape to City	Mix of coastal areas and farmland. Possums, mustelids and feral cats will be suppressed. Rats will be suppressed in priority areas.	\$231
Campbell Island	Rats only, Subantarctic island.	\$220
OSPRI	Total cost of suppressing possum populations to very low levels for sufficient time to eradicate TB from pest population. Rodents and mustelids not targeted.	\$180
Battle for the Birds	Suppression of predators in a mast year	\$35

None of these reference costs include the cost of perimeter management.

Cost assumptions

Exhibit 12 illustrates the treatment areas under scenarios for cost per hectare (\$200/hectare, \$600/hectare), non-government contribution (1:3, 1:2) and efficiency gains over the next four years (10% over four years, 25%).

Exhibit 12: Cost scenarios

What \$1 million might buy under various scenarios (excluding perimeter control)							
Low cost / ha (\$100)				High cost / ha (\$600)			
Aims for a high level of suppression of rats mustelids and possums using 3 aerial operations over a 10 year period. Note: excludes ongoing suppression costs.				Aims for high level suppression of all predators. Note: Excludes perimeter control costs, and costs of responding to periodic invasions.			
3:1 contribution from non-government parties		2:1 contribution from non-government parties		3:1 contribution from non-government parties		2:1 contribution from non-government parties	
25% efficiency gain	10% efficiency gain	25% efficiency gain	10% efficiency gain	25% efficiency gain	10% efficiency gain	25% efficiency gain	10% efficiency gain
33,750 ha	31,500 ha	22,500 ha	21,000 ha	5,625 ha	5,250 ha	3,750 ha	3,500 ha

Under these scenarios \$4 million per year might yield around 150,000 hectares (range 40-200,000 hectares) of predator suppressed land in four years, and 600,000 hectares (range 160-800,000) in ten.

Investment capability

Smaller projects like Rangitoto-Motutapu were completed in three years, although the time for planning and fundraising is unknown. Larger undertakings like Taranaki Mouna are expected to take ten years, and Project Janszoon has a 30 year horizon.

In the first year, the funding could allow PFNZ Ltd to invest in five or six projects but, depending on the duration of those projects, this would deplete funds for future investments. Alternatively PFNZ might invest in few small projects in the early years to allow larger projects in later years.

Regardless of the approach taken in the early years, modelling suggests that by year five \$5 million pa with 3:1 non government support would probably allow investment in one or two new projects each year.

Phasing of investments

Assuming that (i) a consortium takes about one year to form a partnership, agree conservation outcomes, plan predator control, confirm investors, and prepare a submission, and (ii) the spend profile is very low in the first year (for design, tendering, etc), high from years two to five (for intensive suppression) and then lower in years six to ten (for eradication) then it is likely that PFNZ investments are around \$1 million in year one and peak at \$5 million in year four.

This might be managed by

- seeking Treasury approval for carry or bring forward expenditure between years
- making a further bid for additional funding in out years
- increasing non-government contributions in out years
- finding savings from ~~Vote: Conservation~~
- reassessing the programme budget in 2018/19.

- It is assumed that one or two projects are selected in the first year, and one project each successive year.
- PFNZ Board members will meet more in the first year to agree their approach, and engage with potential projects. Board members will also liaise with potential co-funders. They will have a governance role. Communication and contract management will be through a small secretariat provided by DOC.
- The PFNZ will establish a small technical advisory group. In addition, projects will have independent technical and project assurance prior to investment and at agreed points during an investment.

Target: Co-funding the acceleration of large scale predator control						
Contributions	Investments (\$000)					Certainty
	2017	2018	2019	2020	Potential outyears	
Co-investment in large scale projects	\$-	\$800	\$2,100	\$3,600	\$4,000	Low
Support for prospective projects	\$300	\$300	\$300	\$300	\$200	Mid
Establishment of company; establishing deed, function and powers; appointment and induction of the PFNZ Board; induction, adaptation of policies and processes	\$620					High
Board fees, travel costs, board travel to sites, board communication with stakeholders and prospective projects.	\$160	\$120	\$80	\$80	\$80	Mid
Administration and compliance costs	\$500	\$400	\$400	\$400	\$400	Low
Brokering non-government support (Board members)	\$40	\$40	\$40	\$40	\$40	Mid
Investment assurance	\$140	\$90	\$60	\$60	\$60	Mid
Stakeholder management – iwi and regional council relationships communications, project liaison, contract management	\$140	\$140	\$140	\$140	\$140	High
Subtotal	\$2,100	\$1,930	\$3,160	\$4,660	\$4,960	

3 Fostering community participation

Parameters

- This work will be continue to be contracted through DOC's Community Fund. The Predator Free New Zealand Trust currently holds a contract for this work.

Target: Communities participation and public engagement						
Contributions	Investments					Certainty
	2017	2018	2019	2020	Potential outyears	
Community engagement	\$300	\$300	\$300	\$300	\$300	High
Relationship management, technical advice at national and local levels	\$225	\$225	\$225	\$225	\$225	High
Subtotal	\$525	\$525	\$525	\$525	\$525	

Programme management costs

This section identifies the costs required to build the strategy, support the PFNZ Ltd, invest in large scale projects, support community participation, develop commission tools and research.

1 *Setting the strategy*

Parameters and assumptions

- The strategy would address long-term questions (eg, impact of reduced spend by OSPRI, public responses to novel control methods, science strategy) as well as co-investment in large scale projects. It also needs to address diverse stakeholder perspectives and constraints. The strategy also needs to link with the National Pest Management Plan of Action (NPMPOA), TBfree Strategy and the Biological Heritage National Science Challenge.
- Significant engagement will be required with iwi, regional councils and community organisations.
- The strategy will seek to apply Government's investment approach to the natural resources sector. This requires increased greater policy, economic analysis and evaluation resources. It will however deliver investments with tangible conservation, social and economic benefits.
- This element includes monitoring and reporting of system-wide performance. (Project specific performance is included in 2 below)
- Initial information analysis, communication, policy development and consultation might take 18-24 months and require ongoing development.
- One DOC senior policy advisor costs \$140,000 (with organisational overheads, travel, consultation costs, etc)

Target: A national strategy for predator eradication

Contributions	Investments (\$000)					Certainty
	2017	2018	2019	2020	Potential outyears	
Development of initial strategy – information analysis, communication, policy development, consultation, integration with NPMPOA, etc.	\$255	\$210	\$140	\$140	\$140	High
Application of Government investment model to natural heritage	\$70	\$140	\$140	\$140	\$140	Low
Monitoring and reporting	\$140	\$70	\$70	\$70	\$70	High
Co-ordination across agencies	\$200	\$200	\$200	\$200	\$200	High
Subtotal	\$665	\$620	\$550	\$550	\$550	

2 *Accelerating large scale projects*

Parameters and assumptions

4 Improving control tools

Parameters

- DOC is aware of a number of candidate projects that are relatively high value and low risk.
- DOC will seek applications and award short-term contracts on a contestable basis.

Target: Improved predator control tools						
Contributions	Investments					Certainty
	2017	2018	2019	2020	Potential outyears	
Contracts	\$350	\$850	\$850	\$850	\$500	Mid
Stoat aerial toxin to market	\$205	\$215	\$425	\$310		Mid
DOC bid / contract management	\$90	\$90	\$90	\$90	\$90	Mid
Technical Advisory group for tool screening	\$90	\$90	\$90	\$90	\$90	High
DOC Increased technical capability	\$225	\$225	\$225	\$225	\$225	High
Subtotal	\$960	\$1,470	\$1,680	\$1,565	\$905	

5 Long term research

Parameters

- This work will be coordinated with MBIE's Biological Heritage Science Challenge.
- It is likely to take four to six months to define the science questions, seek and assess proposals, award contracts and commence the research work.

Target: Long term research						
Contributions	Investments					Certainty
	2017	2018	2019	2020	Potential outyears	
Preparatory work, peer review, bid management	\$140	\$50	\$50	\$50	\$50	High
Contracts	\$200	\$1,500	\$1,500	\$1,500	\$1,300	Mid
Relationship contract management	\$100	\$100	\$100	\$100	\$50	Mid
DOC contract management	\$175	\$175	\$175	\$175	\$135	Mid
Subtotal	\$615	\$1,825	\$1,825	\$1,825	\$1,535	

Indicative projections

	2017	2018	2019	2020	Potential outyears
Strategy	\$665	\$620	\$550	\$550	\$550

Large scale projects	\$2,100	\$1,930	\$3,160	\$4,660	\$4,960
Community participation	\$525	\$525	\$525	\$525	\$525
Tool development	\$960	\$1,470	\$1,680	\$1,565	\$905
Long term research	\$615	\$1,825	\$1,825	\$1,825	\$1,535
TOTAL	\$4,765	\$6,370	\$7,740	\$9,125	\$8,475

The split between departmental and non-departmental appropriation is

	2017	2018	2019	2020	Potential outyears
Non-departmental expenditure	\$ 320	\$ 1,360	\$ 2,620	\$ 4,120	\$ 4,420
Departments (contracted services)	\$ 1,555	\$ 2,865	\$ 3,075	\$ 2,960	\$ 2,100
Departments (support costs)	\$ 2,890	\$ 2,145	\$ 2,045	\$ 2,045	\$ 1,955
	\$ 4,765	\$ 6,370	\$ 7,740	\$ 9,125	\$ 8,475

Financial risk

The above financials have been prepared with moderate degree of confidence based on best information currently available. There are associated risks especially in the areas of large scale projects and research. Furthermore, financial risks for projects may be correlated. For example, climatic factors might result in mast years that increase predator numbers, a bad winter may increase costs or defer control operations, or predators breaching defences could require remedial costs. The costings assume continuous improvement in efficacy and cost, so these uncertainties would apply across all projects.

Projections for out years

The projected outyear spend is \$8,475 million pa. The gap between the contingent allocation (\$1,475 million) could be managed through

- lifting requirements for non-government contributions after 2020/21
- finding savings within Vote: Conservation, or
- reassessing the budget in 2018/19 and potentially scaling back programme activities
- seeking additional funding for outyears.

This constraint needs to be factored into research and large-scale contracts that extend past 2020.

Actions	Resp	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Refine PGP Policies to suit predator free goals	PL												
Assess potential demand, design registration of interest process, put in place resources for support to projects and assessment of proposals	PL												
Finalise criteria, priorities, processes	Board												
Initiate selection of priority projects	PL												
Liase with prospective projects	PL												
Consultation with stakeholders re priorities	PL												→
Assess potential projects	DP												→
Foster co-funding arrangements	Board												→
Due diligence, including conservation assessment, predator control feasibility, robustness of consortium members and funding, feasibility of project plan and budget, report to PFNZ Board	DT												→
Select successful project(s) and commence negotiations	Board												→
Sign contract, commence reporting	DDG Part												→
Monitor progress, conduct periodic reviews	DP												→
Stage gates to confirm progress, continue contract	Board												→
Community participation													
[REDACTED]	DP												
Agree technical advice requirements, nationally and locally	DP												
[REDACTED]	DP												
Link with DOC and other government communications	DC												
Relationship management	DP												→
Improved predator control tools													
Select 'in flight' projects for immediate funding	DT												
Enter contracts	DT												
Invite bids	DT												
Short-listing, due diligence	DT												
Selection and contract negotiation	DT												
Relationship management	DT												→
Long term research													
Align with Science Challenge, Biosecurity Strategy	DT												
Explore extensions to current research	DT												
Refine science questions	DT												
Peer review science questions	DT												
Invite bids	DT												
Short list	DT												→
Due diligence	DT												→

DT = Director, Threats; DC = Director Communications, PL = Programme lead (accountable to Director Partnerships); DDG P+S= DDG Policy and Science; MP = Manager Policy; MoC = Minister of Conservation; DDG Partnerships; DP = Director, Partnerships; Board = PFNZ Board;

Implementation Case

Engagement and communications

If the associated Cabinet recommendations are approved, the following communications activities are planned:

- Minister's announcement (timing to be advised)
- engagement with Iwi Leaders Conservation Group (as soon as practicable after Ministerial announcement)
- communications with regional councils and LGNZ (August)
- launch of the programme and announcement of PFNZ Board (November)

Implementation steps

Actions	Resp	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Programme setup													
Appoint programme lead to establish PFNZ, initiate strategy, coordinate workstreams, establish programme and portfolio management processes	DT												
Involve people and update plan, resourcing, timelines, responsibilities	PL												
Develop overall comms plan, comms messages, prepare collateral	DC												
Risk framework, programme assurance plan	PL												
Revise budget	PL												→
Develop a strategy for predator eradication													
Set scope for strategy, align with NRS, Biosecurity Strategy, Science Challenge	DDG P+S												
Develop detailed plan for strategy, investment approach, monitoring, reporting	MP												
Recruit team	MP												
Collate, analyse information	MP												
Communicate on purpose, content of strategy	MP												
Policy development	MP												
Formal consultation	MP												
Adoption of strategy	MP												→
Design monitoring, reporting framework	MP												
Establish reporting structures, data systems	MP												
Commence reporting	MP												→
Co-funding large scale projects													
Adapt MPI structures and processes for PGP, establish PFNZ secretariat	PL												
Appoint PFNZ Board	MoC												
Induct PFNZ Board	DDG Part												

Risk management and assurance

Risks and uncertainties will include

- strategic questions, such as alignment with forecast OSPRI operations and linkages with the National Pest Management Plan of Action
- responses from communities and interest groups for large scale projects, and the time they will need to prepare investment ready proposals
- financial contributions from sponsors, philanthropists, land owners and iwi
- technical questions, especially the feasibility of 'fenceless perimeters'
- the success of research
- operational uncertainties and the vicissitudes of climate and predator populations
- financial risks for the programme.

Assurance measures might include

- two yearly programme reviews and reports back to Cabinet (responsibility Director General of Conservation)
- monitoring the effectiveness of the programme (responsibility Manager Policy)
- a technical advisory group to advise on the programme generally and specific projects (responsibility Director Threats)
- peer review of tool development and science workstreams (responsibility Director Threats)
 - advice on science questions
 - peer review prior to ROI
 - peer review of bid assessment
 - periodic reviews of likely results of research projects
- due diligence of co-investment in large scale projects (responsibility PFNZ Board) including assessments of
 - conservation value
 - technical feasibility
 - consortium backing
 - commercial structures
 - operational reporting
- reports from and audits of projects receiving co-investment (responsibility PFNZ Board)
- assessing satisfaction of (and financial benefits for) sponsors (responsibility PFNZ Board).

A joint assurance plan (covering both DOC and PFNZ activities) will be presented to *both* the Director General and the PFNZ Board for endorsement.

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Aide-Memoire

Date: 31 May 2016 DOC CM: 2792223 MSU reference 16-B- 287

To: Minister of Science and Innovation
 Minister for Primary Industries
 Minister of Conservation

From: Bruce Parkes, Deputy Director-General, Science and Policy

Subject: Business Growth Agenda Natural Resources Sector: 31 May 2016

Update: Accelerating Predator Free New Zealand budget bid

-
- The Accelerating Predator Free New Zealand Cabinet paper will propose that Cabinet approve \$28 million over four years to accelerate a programme aimed at making New Zealand predator free by 2050.
 - We are proposing two targets be adopted by Government.
 - By 2025: 5 million hectares under sustained predator control and 500,000 hectares where eradication has been achieved
 - By 2050: national eradication of rats, possums and mustelids
 - We are proposing the programme has four stands of investment:
 - innovative large scale projects (including co-investment from other parties)
 - increased support for community-led projects (leveraging voluntary input)
 - tool development (building on current work to increase new tool availability)
 - long term predator science (to develop revolutionary technology)
 - There are two governance options under consideration:
 1. An independent company – Predator free NZ Ltd
 2. An Investment Programme overseen by an Independent panel – modelled on the MPI's Primary Growth Partnership and MBIE's Tourism Growth Partnership
 - The first option, involving a company structure, with the associated overheads, could result in an overly expensive drain on available funds.
 - Therefore, the second option is favoured by Treasury.
 - We recommend that the Predator free panel be up and running by 1 November 2016.
 - The business case and Cabinet paper are near completion and be sent to you on Friday 3 May.
 - These documents will be lodged on Thursday 9 May for consideration by the EGI on Wednesday 15 June.

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Summary of Accelerating Predator Free New Zealand budget bid

This programme aims to eradicate small animal predators (stoats, rodents and possums) from New Zealand by 2050.

In the short term, the bid aims to accelerate predator control, by adding momentum to the widespread activity of community groups, iwi, Councils, philanthropists and DOC. It will do this by supporting up-scaling of predator control, tool and science support.

Such projects bring leverage to the Government contribution and build on the growing popularity of the conservation and the pest control social theme. The main thrust of the bid is to create a contestable fund for major regional scale projects. It will also support the Biological Heritage Science Challenge, bring tools to market and support local scale community projects.

DOC is confident that by 2025, 5000ha eradications will be in place, 50,000ha areas will be planned and that science will be enabling predator eradication across NZ.

The bid is for \$7m per year ongoing, with a review at 10 years.

This bid currently appears as tagged contingency, and the Department of Conservation is currently preparing a joint Business Case and Cabinet paper in order to secure the funds.

Accelerating Predator Free budget bid: indicative break down by year

	2016/17	2017/18	2018/19	2019/20	TOTALS
Regionally contestable fund	5m	5m	5m	5m	20m
Bring tools to market	0.5m	0.5m	0.5m	0.5m	2m
Boost community projects	0.5m	0.5m	0.5m	0.5m	2m
Boost Biological Heritage Science challenge	1m	1m	1m	1m	4m
TOTAL					28m

Indicative Timeframe for delivery of Cabinet Paper and Business Case

Milestone	Comment	Due date
Framework delivered	Incl governance options, Placement of 4 workstreams	13 May 2016
Draft 1 delivered	Incl criteria for Major Regional Initiatives, assumptions re funds, co-funding principles	20 May 2016
Draft 2 delivered	Incl phasing of funds & work tranches	27 May 2016
BGA NRS meeting		31 May 2016
First full pre-final draft of business case delivered	Incl alignment of predator control initiatives across NZ	3 June 2016
Final Business case and cabinet paper completed		20 June 2016
EGI Cabinet meeting		6 July 2016
Full cabinet meeting		11 July 2016



Department of Conservation
Te Papa Atawhai

Date: 22 January 2016

DOC CM: 2691883

MSU reference 16-B- 0009

To: Minister of Conservation

From: Bruce Parkes, DD-G Science and Policy

Subject: Predator Free NZ – 3 Budget Bids

Accelerating Predator Free NZ Bid

This program aims to eradicate small animal predators (mustelids, rats and possums) from New Zealand by 2055. In the short term, the bid aims to accelerate predator control, by adding momentum to the widespread activity of community groups, iwi, Councils, philanthropists and DOC. It will do this by supporting upscaling of predator control, tool and science support. Such projects bring leverage to the Government contribution and build on the growing popularity of the conservation and pest control social theme. The main thrust of the bid is to create a contestable fund for regional scale projects. It will also support the Biological Heritage Science Challenge, bringing tools to market and local scale community projects. DOC is confident that by 2025, 5000ha eradications will be in place, 50,000ha areas will be being planned and that science will be supportive of eradication across NZ. A bid template and a cost benefit analysis have been submitted to Treasury and a full business case will be delivered to treasury by 30 January. The bid is for \$7m per year ongoing, with a review at 10 years.

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Distribution
Minister
Minister's Advisor
Minister's Office

Ministry for Primary Industries
Manatū Ahu Matua



28 January 2016

Document Number: B16-0040

Predator Free New Zealand by 2055

Purpose:

To provide background information for the meeting on 2 February 2016 of Ministers Joyce, Guy and Barry on the budget package for a proposed Accelerating Predator Free New Zealand programme.

Minister	Action Required:	Ministers' Deadline
Minister for Primary Industries Minister of Conservation	Note the contents of this brief.	Before the meeting on 2 February 2016
CC: Minister for Economic Development	Note the contents of this brief.	Before the meeting on 2 February 2016

MPI Officials Attending the Meeting

- John Ryan - Deputy Director-General Corporate Services, MPI
- Julie Collins - Director Biosecurity and Animal Welfare, MPI
- Bruce Parkes – Deputy Director-General Science and Policy, DOC
- Allan Ross – Director Transformation and Threats Unit, DOC
- Natasha Lewis – Director Natural Resources Sector Network

Contact for telephone discussion (if required)

	Name	Position	Work	After Hours
Responsible Manager	Allan Ross	Director Transformation and Threats Unit, DOC		
Principal Author	Chris Baddeley	Principal Analyst, MPI		

Recommendations

4. We recommend that you note the contents of this briefing.

Noted

Bruce Parkes
Deputy Director-General
Science and Policy
for Director-General
Department of Conservation

Hon Maggie Barry
Minister of Conservation

/ / 2016

John Ryan
Deputy Director-General
Corporate Services
for Director-General
Ministry for Primary Industries

Hon Nathan Guy
Minister for Primary Industries

/ / 2016

Background

Executive summary

5. Predator suppression is currently occurring on about 3 million hectares which is about 12% of New Zealand. This provides a strong platform for moving towards total eradication of predators such as possums, rats and mustelids. Predator suppression is defined as reducing predators to such low levels that wildlife and forests can prosper.
6. There is increasing collaboration between organisations and iwi working on predator free activity and new technology is making predator suppression cheaper and more effective. There is strong private sector interest and funding of predator suppression by the primary industries, rural landowners and philanthropists.
7. The proposed approach uses predator suppression as a stepping stone to total eradication of predators. New tools are required for total eradication of predators and predator suppression provides a testing ground for the development of these new tools. It can also demonstrate the outcomes that can be achieved.
8. We are close to demonstrating total eradication of predators without barrier fencing in a small area of the Marlborough Sounds and there are plans for attempting this on a bigger site.
9. The proposed goals are to have New Zealand free of predators and bovine TB by 2055, with substantial progress towards that goal being made by 2026.

What is the rationale for Predator Free New Zealand?

10. Introduced predators are the biggest threat to our wildlife and forests. Our unique wildlife and forests inspire and define us as a country. Ridding New Zealand of predators is an inspiring, engaging and easily understood goal.
11. We do not yet have the tools to achieve Predator Free New Zealand but there is plenty to suggest that with continued innovation this goal is achievable. Over the last 20 years advances have been made in island eradication, fenced mainland sanctuaries and large scale predator suppression.
12. Bovine TB is a major threat to our livestock industries and our trade reputation and we already have the tools to achieve total eradication of TB. Predator suppression for TB provides a platform for the wider Predator Free New Zealand.

How do we advance towards Predator Free NZ and eradicate TB?

13. Predator suppression provides a pathway or stepping stone to a Predator Free New Zealand. Predator suppression is currently the best way to protect our unique wildlife and forests and demonstrate the outcomes that can be achieved when predators are eliminated from our ecosystems. Predator suppression programmes also provide a rigorous testing ground for the new tools that will be needed for Predator Free New Zealand.
14. Suppression of possum numbers (the main TB vector) is sufficient to eradicate TB from wildlife as TB dies out in areas where very low possum densities are maintained for about ten years.
15. DOC, OSPRI, regional councils, iwi and community groups already undertake predator suppression on some 3 million hectares (about 12% of New Zealand's total area).
16. Predator suppression for TB provides a platform for the wider Predator Free New Zealand, which can leverage the gains from reduced predator numbers. TB-infected possums potentially remain present in around 9.5 million hectares of forest and pasture. TB must be eliminated from infected possums in these remaining areas to achieve on-going TB freedom in our livestock.
17. Predator Free New Zealand operations support the TB free goal by reducing or eradicating predator populations. This reduces the chance that any outbreak of TB in cattle and farmed deer will spread to wildlife in areas outside the current TB operational areas.

What would a Predator Free New Zealand goal look like?

18. We suggest the following medium and longer term goals.
 - By 2055 – New Zealand is predator and TB free i.e. rats, possums, mustelids (ferrets, stoats and weasels), and bovine TB are all eradicated.
 - By 2040 TB is eliminated from possums (with possible isolated infection remaining in feral pigs and deer).
 - By 2026:
 - Five million hectares is under sustained predator suppression (about 19% of New Zealand).
 - 100,000 hectares of mainland New Zealand is progressing towards predator eradication without the use of barrier fencing (about the size of Auckland city urban area). This is being delivered through regional and community led initiatives.
 - TB is eliminated from cattle and farmed deer
 - The tools and technologies needed for Predator Free New Zealand have been defined and their development is progressing.

- By 2020:
 - Four million hectares is under sustained predator suppression (about 15% of New Zealand).
 - Two to four major regional pest suppression and eradication initiatives are underway.
 - Several 5,000 hectare mainland eradication projects are being implemented without the use of barrier fencing.

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23. This programme aims to eradicate small mammal predators (mustelids, rats and possums) from New Zealand by 2055. In the short term, the bid aims to accelerate predator suppression and eradication, by adding momentum to the widespread activity of community groups, iwi, councils, philanthropists, DOC and OSPRI.

24. The main thrust of the bid is to create a contestable fund for regional scale projects. It will also support local scale community projects and the Biological Heritage Science Challenge to develop new tools and bring them to market.

25. The potential regional scale projects include building on and upscaling the following projects and proposals:

- Reconnecting Northland
- Maunga Taranaki (Taranaki Biodiversity halo)
- Cape to City (Hawkes Bay)
- North West Wildlink (Auckland parks to Hauraki Gulf)
- Pukaha to the Sea (connect up projects Pukaha, Kaka, Aorangi and Moana Wairarapa)
- Predator Free Wellington
- Nature Nelson (Waimea and reserves around Golden Bay)
- Predator Free Banks Peninsula
- Predator Free Otago Peninsula
- Real Journeys led sponsorship (Southland).

26. For the Heritage Science Challenge key areas of focus include the development of: new toxins and control tools; new surveillance and detection tools;

environmental monitoring and reporting tools; and social and economic research.

27. There is oversubscription of DOC's existing community and regional funding for predator free projects. Bids totally over \$60 million were received for \$8 million available in the last bidding round. DOC is expecting a similar level of over-subscription for the initial funding round of the Heritage Science Challenge.
28. We are expecting there to be continued strong competition for available funding for all aspects of the Accelerating Predator Free New Zealand project including the community and regional scale projects and the science heritage challenge. Tough decisions will be needed on which projects will get support.
29. DOC is confident that by 2026, 100,000 hectares of mainland New Zealand will be progressing towards predator freedom without the use of barrier fencing. The maximum size of areas under eradication operations will be increasing from 5,000 hectares (about half the size of Waiheke Island) to 50,000 hectares (half the size of Auckland city urban area) and science will be delivering the new tools needed for this.
30. A bid template and a cost benefit analysis have been submitted to Treasury and a full business case will be delivered by 30 January.
31. The proposed funding is:

Activity	2016/17 \$ million	2017/18 \$ million	2018/19 \$ million	2019/20 \$ million	4 year total \$ million
Major regional initiatives	5.0	5.0	5.0	5.0	20.0
Science challenge	1.0	1.0	1.0	1.0	4.0
New tools to market	0.5	0.5	0.5	0.5	2.0
Community funding	0.5	0.5	0.5	0.5	2.0
Total	7.0	7.0	7.0	7.0	28.0

32. The \$5 million per year of Crown funding for major regional initiatives is expected to attract \$10 million per year of private sector funding.

What are the other factors that support the Predator Free New Zealand initiative?

45. There are five benefit areas of predator free development that support achieving predator and TB free New Zealand

Mainland unfenced predator free areas

46. The main challenge is making mainland predator free areas feasible at an affordable cost. We are on the verge of achieving mainland unfenced predator free areas with work being led by Zero Invasive Predators Limited (ZIP). ZIP is a public/private sector partnership, with funding from DOC, industry and philanthropists. Future work will focus on reducing the cost of predator suppression without impacting its effectiveness.

47. ZIP is close to demonstrating that it can achieve mainland unfenced predator free areas at a 400 hectare demonstration site at Bottle Rock (a peninsula in the Marlborough Sounds). At this site predator elimination has been achieved and reinvasion is being prevented by a buffer zone of traps, toxins and deterrents.

48. ZIP is proposing a larger scale mainland unfenced predator free area of about 5,000 hectares (twice the size of Kapiti Island and half the size of Waiheke) to start in 2018.

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Better regional collaboration

49. There has been strong progress in achieving collaboration between the players involved in predator free activity. While DOC, OSPRI and regional councils will continue to make major contributions, the drive is now coming from the private sector, iwi, community, NGOs and philanthropists. Project Maunga in Taranaki is an excellent example of regional collaboration. DOC and MPI are confident that regional collaboration can operate effectively over the long-term. Regional collaboration is bringing significant non-government funding for predator suppression and eradication.

Better community engagement

50. There is a large and growing number of small scale community trapping groups coordinated by the Predator Free New Zealand Trust. The proposed funding would support new and existing groups and assist better planning and coordination of projects and improve volunteer training. By 2026 DOC considers that 0.5 million hectares could be managed under local scale initiatives.

New tools for suppression and eradication

51. New toxins, lures and traps are being developed. Companies like Good Nature (Traps) are now supplying pest suppression solutions globally. There are a range of new technologies close to coming to market.

A focus on long-term science

52. The Predator Free New Zealand goal will need new step-change pest suppression and eradication tools. Investing in innovation and commercialisation of products through the Biological Heritage Science Challenge is an essential part of the strategy for the Predator Free New Zealand goal. Opportunities include species specific toxins, tools that exploit predator vulnerabilities, and tools reducing the breeding potential of predators by manipulating offspring production towards high male ratios.

Accelerating Predator Free NZ- How?

Step Change technologies possible under the Science Challenge:

First up :

- Novel, species specific toxins
- Designer lures

Next steps:

- Exploiting natural weaknesses by reproductive control, biocontrol eg:

- Meiotic drive
- Trojan females
- Super lures
- Automated detection & reporting
- Drone specific identification and control of outliers
- Chemical manipulation of toxins to improve humaneness and species specificity



Northland an example regional scale project

- Ecologically very special region including kiwi habitat
- Community and philanthropists already organised as “Re-Connecting Northland”
- Beef, Dairy and honey outputs from agricultural landscape will benefit from less disease, less competitive grazing etc
- Suitable peninsulas for stepping up mainland eradication
- Northland economic development a Government priority



Accelerating Predator Free NZ- How?

Contestable fund for Major Regional Initiatives

- Targeting 2-4 regions over the next 3-4 years
- New projects or significantly expand existing work
- A regional programme would integrate the work of the private sector, philanthropists, iwi, community groups, local & central government
- Government funding \$1 matched by partners \$2
- Linked clearly into land productivity, regional development and tourism, health and environment Government priorities
- DOC/MPI jointly allocate funds
- Project governance could include philanthropists, iwi, primary sector, local government agencies
- Projects to have clear agreed goal and measurable outcomes
- Projects to have strong governance & project management

Accelerating Predator Free NZ- How?

Zero Invasive Pests (ZIP) leads work to upscale mainland eradication Impermeable non-fence barriers that minimise leakage of target pests, then quickly track & eradicate intruders.

Succeeded on 400 ha

Will step up to 4000-5000 ha areas in 2018

Expect 50,000 ha capability by 2025



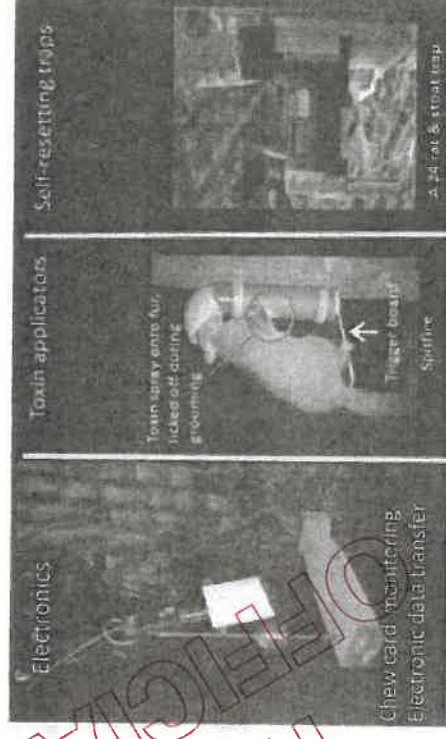
Toxin and trap improvements eg, PAPP. Stoat, cat control. Reduced risk to non targets. Humane & “human safe.” Registration to be sought for aerial application and development of PAPP for rats.

D+C. (Diphacinone + Cholecalciferol)

-A toxin mix for safe community use.

Spitfire spray-on device and toxins for it

Lures and baits for step change efficiency



Predator Free NZ by 2055

By 2055

- Eradicate small animal pests (mustelids, rats, possums)
- Eradicate TB

How? - In stages, building on current achievements

By 2018

- Species saved from beech mast plague over 800,000ha

By 2020

- 4 million ha under predator control (an extra 1m ha)
- 2-4 major regional initiatives running

- Several 5,000ha mainland, non-fenced eradication projects developed and underway

By 2025

- 5 million ha (20%NZ) under predator control
- 100,000 ha of mainland, non-fenced eradications underway, capability for 50,000ha areas

- Suite of tools developed or under development as a pathway to Predator Free NZ

By 2026

- TB eradicated from cattle and deer

From 2025

- Step change tools for control & eradication becoming available and deployed
- More certainty for investment decisions regarding NZ wide eradications.



Accelerating Predator Free NZ- How?

\$5m pa Contestable fund

- Seed & support regional scale initiatives
- Leverage Council, community, iwi, philanthropist's interest
- Proven formula- Cape to City, Janszoon, Mouna Taranaki

\$500k pa boost to bring developed tools to market

- PAPP aerially for stoats (field trials for registration)
- PAPP for rats (bait formulation stage)
- D+C toxin mix for ease of community use (registration stage)

\$500k pa boost to grow & coalesce community projects

- Leverage and community engagement, boost leadership role of PFNZ
- Allocated through Community Conservation Fund process

\$1m pa to Biological Heritage Science Challenge, Reducing Risks and Threats Program

- Transformational science & technologies
- New approaches for tools, toxins, surveillance & detection
- Long term sustainable approaches



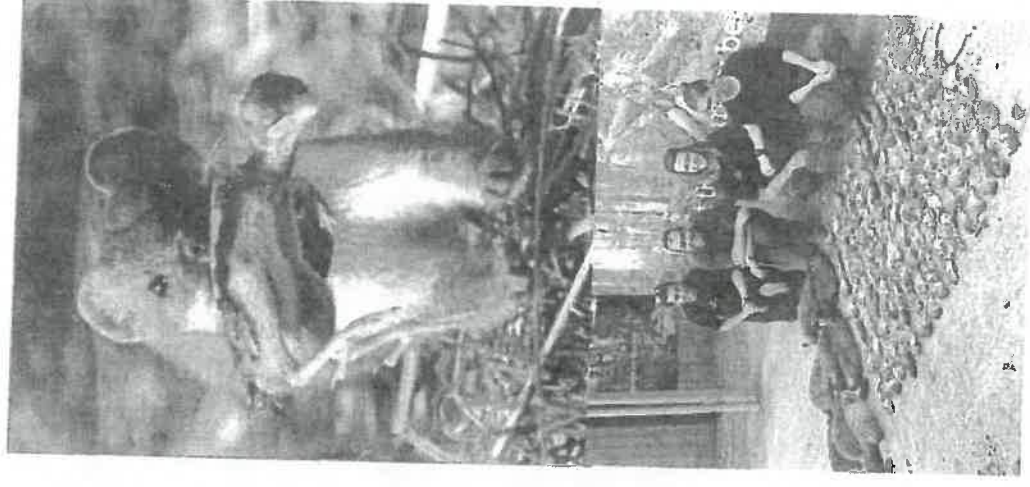
Why Control Predators ?

Pest/predators detract from the New Zealand economy

- Reduce agricultural productivity
- Transmit disease
- Cause species loss and extinction eg iconic kiwi
- Reduce ecosystem services
- Compromise marketing brand NZ

Pests are currently controlled to meet the above, but still risks/costs

- Residual pests cost billions of dollars annually in lost production
- Ongoing reputational risks for our products
- Failure to meet international obligation (i.e. Aichi targets for Biodiversity).
- Costs government \$80m annually (ongoing).



Rising to the challenge of Predator Free New Zealand

- Sir Paul Callaghan described Predator Free NZ as the country's "moon shot", our unique wildlife and forests inspire and define us as a country and predators are the main threat
- Community and philanthropist support is growing quickly
- NZ has global reputation for island eradication
- Technology allows effective predator control and local eradication
- Science and Technical development opening door to mainland eradication
- A global "green" niche for New Zealand and its products
- Resolves safety of kiwi and other popular NZ icons
- Progressive steps towards an aspirational goal



Department of Conservation
Te Papa Atawhai



Ministry for Primary Industries
Manatū Ahu Matua

PREDATOR FREE NEW ZEALAND

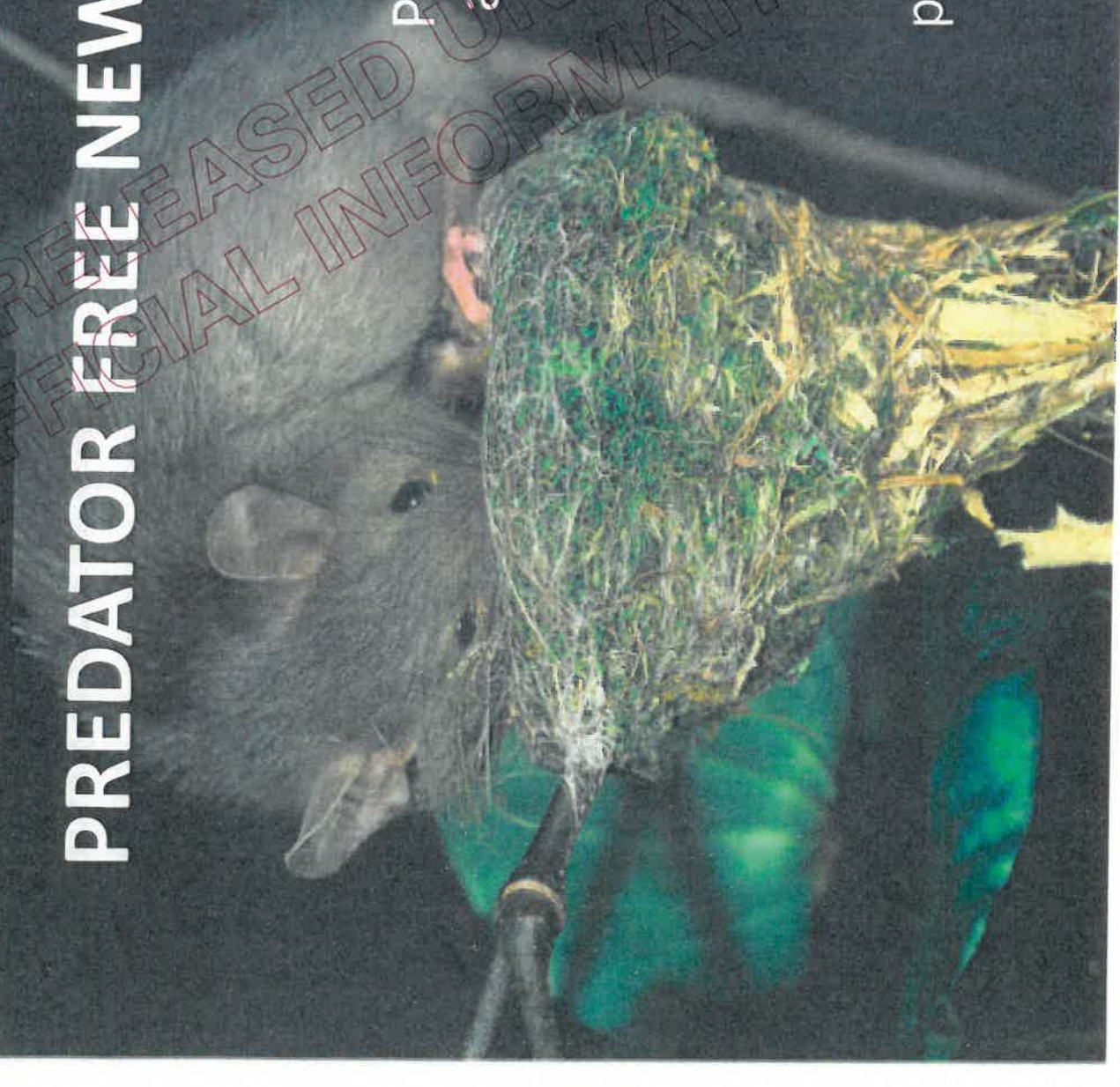
Opportunity:

Package existing diverse activities/new bids into engaging Government goal:

Definition:

Control impacts of NZ's major introduced predators & progressively eliminate them

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Why this is a good role for government

Multiple strands need to work together

1. **funding for control**
 - existing programs across several agencies.
2. **science system**
 - incl Biological Heritage Science Challenge
3. **innovation**
 - seed funding for technical advances by business and social processes
4. **community engagement**
 - Govt endorsement creates confidence
 - Technical support
 - Seed project funding



TBFree NZ

- Possum programme in 7 regions some for at least next 25 years
- Coordinate operations spatially and year
- Adjust timing and dosage to max rat/stoat effect
- Delivery for others on contract
- Share research contracting



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Science and technical support

Biological science challenge

Program 2: Reducing risks and threats

Project 2.3: Hi-Tech solutions to Invasive Mammal Pests

- new approaches, technologies
- long term, sustainable eg biocontrol/reproduction

CRI's core funding (Landcare Research) and Universities

- new toxins, improvements to take cost out
- better ecological understanding

ZIP (NEXT, DOC, Dairy, Morgan)

- local eradication, preventing reinvasion

Private sector Innovation

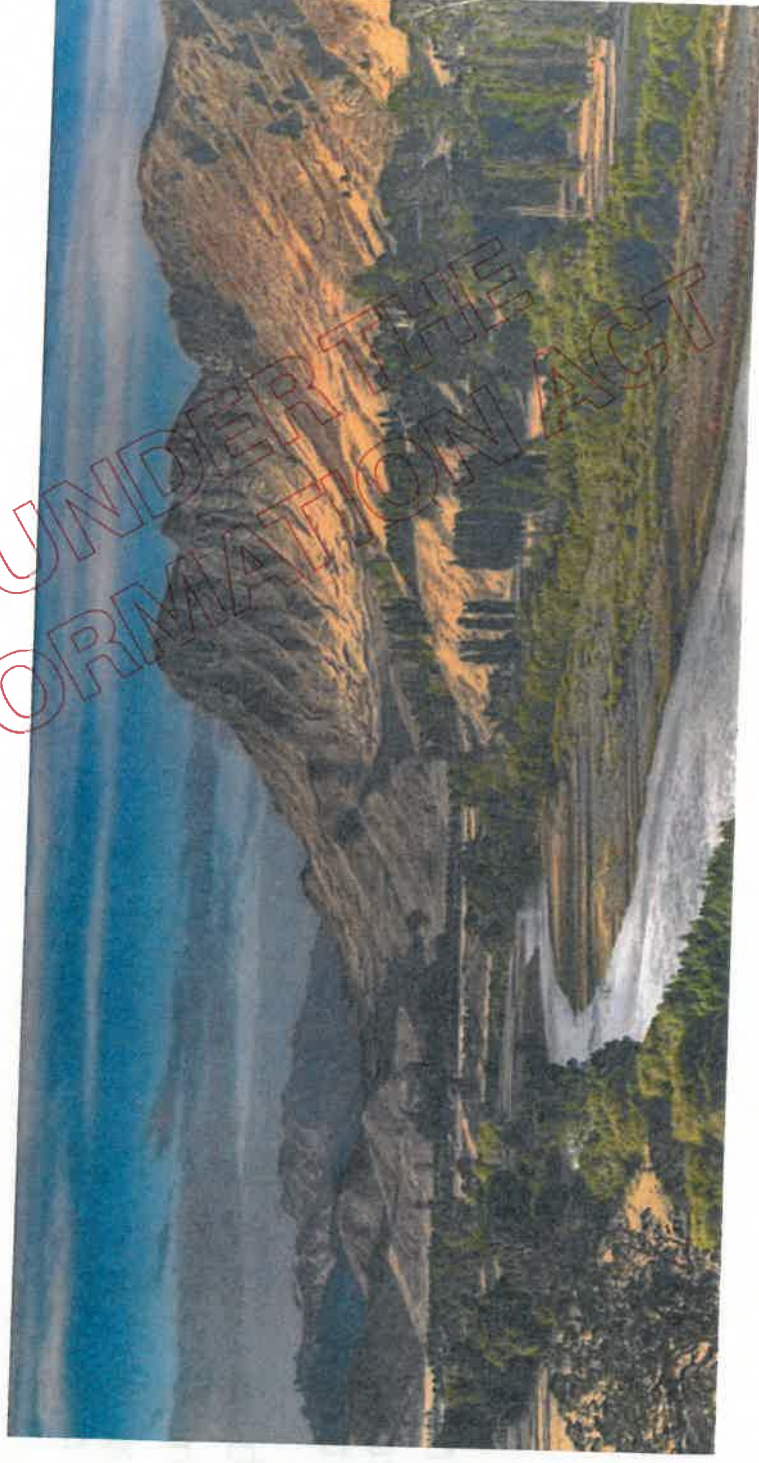
- productionising new toxins, tools
- eg Goodnature, Connovation





CAPE TO CITY

Five year, \$6m ecological restoration project
DOC, HBRC, Cape Sanctuary (Mr Robertson), Aotearoa Foundation
Transforming farmland predator pest management in NZ
Engaging urban and rural communities



Project Taranaki Mounga

Together we will protect & restore our mountains

1. Intensive pest & weed control >34,000 ha from mountains to sea
Eradicate goats, control rats, possums & predators to near-zero densities, use innovative tools to stop reinvasion (ZIP) and eradicate weeds.

2. Restore native species on a landscape scale

Reintroduce seabirds, kākā, kākārīki, kōkako, brown teal, takahē, robin ...

Strengthen existing threatened species especially whio, kiwi, bats, *Powelliphanta* snails, rare endemic plants.

3. Community engagement

Initiate the Healthy Nature, Healthy People project; establish the Mountain Classroom education programme; support a Halo project with partners and grow tourism opportunities (e.g. Pouakai Crossing).

4. Key project partners

DOC, the NEXT Foundation (**Tomorrow Accord**), Iwi of Taranaki, Taranaki Regional Council, TSB Community Trust, Taranaki Biodiversity Trust and other investors.





Reconnecting Northland

Connecting the land, the people, and their wellbeing



Collaboration between WWF, NZ Landcare Trust.
Funding: Tindall Foundation, Foundation North & HSBC
Water programme.

Other project examples:

- Janszoon - Able Tasman National Park – (Tomorrow Accord)
- Lake Taupo Protection Project
- Tui mine
- Nelson Nature

Key lessons:

- takes specific focus and time to build best mix
- early involvement of iwi and community
- governance and independence
- business disciplines sought by sponsors and philanthropists
- there are untapped other potential partners



Date:	25 November 2015	File ref:	Science and Policy Group	DOCCM	2641986
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Minister of Conservation

Subject:	PREDATOR FREE NEW ZEALAND
Action Sought:	Note
Deadline:	Noting before 2 December BGA meeting

Paper Type: (Cabinet, Statutory or Other)	Other	Dept's Priority: (Very High, High, Normal or Low)	Normal
Risk Assessment: (e.g. possible negative reactions/consequences)		Level of Risk: (High, Medium or Low)	Low

Contacts for telephone discussion (if required)

	Name	Position	Telephone
1	Mike Slater	DD-G Operations	
2	Allan Ross	Director, Transformation and Threats	
3	Bruce Parkes	DD-G, Science and Policy	

Executive Summary

1. Background

Predator Free New Zealand (PFNZ) is a grouping of movers and shakers who are looking to lift the profile of predator management and to seed or create some of the building blocks to facilitate more predator management. Board members are Fran Wilde, Devon McLean, Gary Langford, Richard Gordon, Charles Dougherty, Rob Fenwick, Gareth Morgan, Rob Morrison, Mike Slater, William McCook, (formerly CEO OSPRI). The Department, through the DOC Community Fund, granted PFNZ \$500k over 2 years from September 2014. The following is an extract from their 2014/17 Business Plan.

"Why PFNZ? To halt and reverse the decline of native species and to promote the economic benefits to NZ.

Ultimate target: No further loss of native species, populations start to increase; and rid NZ of harmful vectors of disease.

Niche (what we are best at): A communications led approach focused on mobilising communities around a compelling national cause to halt the decline of native species and promoting the economic benefits of a predator free New Zealand. The PFNZ Trust provides the synergistic "glue" between all the different agencies and communities already working toward reversing the decline and to inspire new entrants.

Three major prongs:

1. Win over the hearts and minds of New Zealanders.
2. New improved predator management tools, technologies and strategies.
3. More strategic and connected predator management."

Focus area 1: Analysis of benefits of predator free NZ.

This project proved difficult and has been overtaken by an OSPRI economic analysis. PFNZ has redirected this project to peer review the OSPRI report, rather than duplicate it.

Focus area 2: Engage with New Zealanders more effectively

Work is getting started on a series of animal pest control workshops; Taranaki held, Tauranga soon.

Focus Area 3: Benchmark attitudes to predator control.

Focus Area 4: Anticipate and resolve social acceptance issues and behaviour change barriers.

Focus area 5: Identify who is doing what, where and how they measure success (high definition map)

- mapping of agency work - done
- mapping of community management sites - done (good coverage of over 300 sites and (450k ha)
- mapping QEII covenant owner's activity (underway now).

Focus Area 6: Improve and expand predator management

2. Discussion

Whilst there have been some useful actions taken by the Board to date, there is now further work required to develop a long term action plan to more comprehensively implement PFNZ's Strategy. The Board is giving focus to what capability building might be needed,

where to invest to get ongoing impact and what priority should be given to ideas that will assist in integrating operations by all agencies and groups in the pest management area.

Recommended Action

It is recommended that you—

		Refer to paragraph	Minister's decision (yes / no)
(a)	<u>Note</u> this paper		
(b)	<u>Note</u> two attachments		

.....
 Mike Slater
 DD-G Operations
 for Director-General

..... / /
 Honourable Maggie Barry ONZM
 Minister of Conservation

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Attachments:

1. Annual Report Predator Free New Zealand Trust 30 June 2014
2. Strategy Predator Free New Zealand

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