Notice is given that an ordinary meeting of the Regional Pest Management Joint Committee will be held on:

Date:	**Tuesday 22 August 2023**
Time:	**1.30 pm**
Meeting Room:	**Tasman Council Chamber**
Venue:	**189 Queen Street, Richmond**
Zoom conference link:	https://us02web.zoom.us/j/85622593569?
Meeting ID:	856 2259 3569
Meeting Passcode:	553904

Regional Pest Management Joint Committee

AGENDA

MEMBERSHIP	**Tasman District Council**	**Nelson City Council**
Chairperson	Cr C Butler	
Deputy Chairperson		Cr R Sanson
Members	Deputy Mayor S Bryant	Cr M Benge
	Cr M Kininmonth	Cr A Stallard

Quorum 3 members – (a member from each Council must be present)

Contact Telephone: 03 543 8512

Email: robyn.scherer@tasman.govt.nz

Website: www.tasman.govt.nz

Note: The reports contained within this agenda are for consideration and should not be construed as Council policy unless and until adopted.

AGENDA

1 OPENING, WELCOME, KARAKIA TIMATANGA

2 APOLOGIES AND LEAVE OF ABSENCE

Recommendation
That apologies be accepted.

3 PUBLIC FORUM

Registration is required to speak at public forum. You can register here

4 DECLARATIONS OF INTEREST

5 LATE ITEMS

6 CONFIRMATION OF MINUTES

That the minutes of the Regional Pest Management Joint Committee meeting held on Friday, 24 March 2023, be confirmed as a true and correct record of the meeting.

7 PRESENTATIONS

Nil

8 REPORTS

9 CONFIDENTIAL SESSION

Nil

10 KARAKIA WHAKAMUTUNGA (CLOSING)

8 REPORTS

8.1 TASMAN-NELSON REGIONAL PEST MANAGEMENT PLAN 2019-2029

Report To:	Regional Pest Management Joint Committee
Meeting Date:	22 August 2023
Report Author:	Paul Sheldon, Special Projects Analyst - Biosecurity; Rob Smith, Environmental Information Manager
Report Authorisers:	Guinevere Coleman, Team Leader Biosecurity & Biodiversity
Report Number:	RRPMC23-08-1

1. Purpose of Report

1.1 To set out for discussion, and for initial approval, the pests and programmes proposed for inclusion in the Tasman-Nelson Regional Pest Management Plan (RPMP) partial review process.

1.2 To summarise proposed rules and their rationales, alternative options and recommendations, with supporting National Policy Direction (NPD)/Costs and Benefits Analysis (CBA) comments in summary form to assist with interim decision making.

2. Report Summary

2.1 This report includes two attachments.

2.2 **Attachment 1** contains the background to this limited review of the Tasman-Nelson Regional Pest Management Plan 2019-2029, along with a detailed analysis of the characteristics of each pest species being considered, the options for management, and the preferred option.

2.3 **Attachment 2** specifically addresses the requirements of the National Policy Direction for Pest Management 2015 which must be met before a pest programme can be included in a Regional Pest Management Plan under the provisions of the Biosecurity Act 1993.

2.4 A summary of these assessments is contained in the table below.

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
Blue passion flower	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely outweigh cost of control. Preferred option passes all NPD requirements.	**Eradication:** Low risk that this option will not achieve intended outcome (zero density).	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity value of (e.g.) The Grampians. **(Progressive containment). Yes.** Low but carries a risk that relying on occupier control will not stop spread.

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
Boneseed (Port Hills)	Low	Environmental benefits probably outweigh cost of control but advised to undertake a quantitative analysis to test revised assumptions. Preferred option passes other NPD requirements.	**Sustained Control in Port Hills:** Low risk that this option will not achieve intended outcome (reduce spread). There is a high risk that specialist control of the coastal cliffs would push costs beyond benefits and a moderate risk that closure of the road causes inconvenience.	**(Do nothing – status quo in Port Hills). Yes.** Modest risk that infestations will damage the biodiversity values of the Port Hills. Also put the boneseed (rest of Nelson and Tasman) eradication objective at risk, with high likelihood of perpetual invasion of high value coastal habitat. **(Eradication in Port Hills). No.** High likelihood that costs outweigh benefits.
Moth plant	Low	Narrative cost and benefit analysis only. Narrative cost and benefit analysis only. Environmental benefits highly likely outweigh cost of control. Preferred option passes all NPD requirements.	**Eradication:** Low risk that this option will not achieve intended outcome (zero density)	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity value of (e.g.) The Grampians. **(Progressive containment). Yes.** Low but carries a risk that relying on occupier control will not stop spread.
Pampas	Medium	Benefits probably outweigh cost of control. A medium level of analysis can be a quantified analysis using the cost of control borne by occupiers (to be determined) balanced with assumed $$ environmental benefit (to be determined). AgPest calculator to be used to derive net present value as a measure of cost effectiveness. Preferred option passes other NPD requirements.	**Sustained Control in specified areas:** Low risk that this option will not achieve intended outcome (reduce spread). There are modest risks of non-compliance though benign neglect, difficulty undertaking regular inspections, and/or adversity to the proposed rules.	**(Do nothing). Yes.** Modest risk that increasing infestations will damage the biodiversity values of specified areas. Moderate concern of invasion in areas clear of the pest. **(Eradication). No.** High likelihood that costs outweigh benefits.
Sabella	Medium	Benefits highly likely to outweigh cost of control. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. It may prove difficult to estimate the dollar benefits to the marine farming industry without being overly presumptive. Assumptions of costs may require extrapolation from incomplete data. Preferred option passes other NPD requirements.	**Eradication - new rule:** Lower risk that this option will not achieve intended outcome in contrast to status quo.	**(Eradication - status quo)**. **Yes**. Modest risk that this option will not achieve intended outcome (sustained level of zero density)
Vietnamese parsley	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely to outweigh	**Sustained Control:** Low risk that this option will not achieve intended outcome (reduce	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity and infrastructural value of affected streams.

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
		cost of control. Preferred option passes all NPD requirements.	spread). There is a moderate risk of non-compliance until the community become aware that this is a pest. The efficacy of herbicidal control to reduce extent is still being tested. While the need for resource consent for herbicidal control adds a layer of complexity, it is not envisaged that it increases the risk to reducing spread.	**(Eradication). No.** The intermediate outcome (to control to zero density) is not considered feasible due to the extent of the infestation. There is a high risk that this objective would not be met. **(Progressive containment). Possibly not.** The intermediate outcome (reduce the size of infestation) is only feasible if herbicides are effective. There is a moderate risk that this objective could not be met.
Water	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely to outweigh cost of control. Preferred option passes all NPD requirements.	**Sustained Control:** Low risk that this option will not achieve intended outcome (reduce spread). There is a moderate risk of non-compliance until the community become aware that this is a pest. The efficacy of herbicidal control to reduce extent is still being tested. While the need for resource consent for herbicidal control adds a layer of complexity, it is not envisaged that it increases the risk to reducing spread.	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity and infrastructural value of affected streams. **(Eradication). No.** The intermediate outcome (to control to zero density) is not considered feasible due to the extent of the infestation. There is a high risk that this objective would not be met. **(Progressive containment). Possibly not.** The intermediate outcome (reduce the size of infestation) is only feasible if herbicides are effective. There is a moderate risk that this objective could not be met.
Pest/wilding conifers	Medium	Environmental benefits probably outweigh cost of control. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. The cost of control borne by occupiers (to be determined) balanced with assumed $$ environmental benefit (to be determined). Cost estimates may be highly	**Progressive Containment (pest pines):** Low risk that this option will not achieve intended outcome (contain and reduce infestations). **Site-led:** Low risk that this option will not achieve intended outcome (reduction of the incidence of wildings of these	**(Do nothing):** High risk that wildings of these species will re-occur in the places where they have been removed, resulting in a loss in the investment and reduction in environmental values. **(Do nothing):** High risk that wildings of these species will spread at specific sites impacting on environmental values.

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
		presumptive. Environmental benefit based on well-recognised forest and scrub valuation data. AgPest calculator to be used to derive net present value as a measure of cost effectiveness. Preferred options pass other NPD requirements.	species in specific places).	
Feral/stray cats	Medium	Environmental benefits probably outweigh cost of having rules but advised to undertake a quantified analysis. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. However, the calculation of value proposition is highly presumptive / lacks empirical data. The preferred options pass other NPD requirements.	**Site-led with pest-agent rule:** Low risk that the approach will not achieve intended outcome (reduction of the effects of a pest in specific places), but moderate to high risk of public adversity to rules.	**(Do nothing):** High risk that feral and stray cat numbers will increase, causing incalculable losses of indigenous fauna and other costs associated with spread of disease (toxoplasmosis) and social nuisance.
Koi carp	Not required	Not required	**Change species name:** No risk – maintains consistency.	**(Do nothing):** Slight risk of legal challenge to any Notices of Direction.

3. Recommendation

That the Regional Pest Management Joint Committee:

1. **receives the Tasman-Nelson Regional Pest Management Plan 2019-2029 ; and**
2. **approves the proposed amendments to the Tasman – Nelson Regional Pest Management Plan 2019 – 2029 in Attachment 1 to the agenda report; and**
3. **recommends to Tasman District Council and Nelson City Council that they approve public notification of these proposed amendments for consultation by way of a limited review of the Tasman–Nelson Regional Pest Management Plan 2019-2029.**

4. Background and Discussion

4.1 Please see **Attachments 1 and 2** for the detailed discussion.

5. Options

5.1 **Attachment 1** contains a detailed discussion of a range of options regarding each pest species and programme review being considered. A summary of these options is also contained in Section 2 above.

Considerations for Decision Making	
1.	**Fit with Purpose of Local Government** Regional Pest Management is a responsibility of Regional Councils and Unitary Authorities under the Provisions of the Biosecurity Act 1993.
2.	**Consistency with Community Outcomes and Council Policy/Legal requirements** The review items being considered would amend and update the existing Regional Pest Management Plan Tasman-Nelson 2019-2029. The Pests being considered are those specified in the Terms of Reference for the Regional Pest Management Joint Committee. The changes are consistent with the Tasman Biodiversity Strategy.
3.	**Strategy and Risks** This report presents staff recommendations on Regional Pest Management Plan review options to the Regional Pest Management Joint Committee. These recommendations are made having regard to the characteristics of the pest species and programmes being considered and the legal requirements of the Biosecurity Act 1993 which requires that pest provisions are worthwhile, achievable, and the costs and benefits are quantified and equitably distributed. If the Joint Committee supports these recommendations and refers them to Tasman District and Nelson City Council for approval and public notification, then a full hearing submission and decision process will follow during which public support or opposition will be assessed.
4.	**Financial impact/Budgetary implications** The limited review recommendations presented in this report are refinements to the existing Tasman – Nelson Regional Pest Management Plan 2019-2029. They can be managed within existing budget allocations for this programme. While some additional pest species are recommended, other recommended changes will simplify the current Plan delivery.
5.	**Degree of significance and level of engagement** Overall, this matter is of medium significance because of the inclusion of recommended provisions related to feral cats and control of wilding conifers which may be contentious. Therefore, the following engagement/feedback/consultation will occur in the form of both targeted

	stakeholder consultation along with full public notification with its associated submission and decision process and rights of appeal.
6.	**Climate Impact** The recommendations of this report will be neutral in terms of climate impacts. Provisions related to wilding conifers could be seen as impacting on a carbon sink however these provisions are targeted towards removal of sparse seedlings and do not impact on the provisions of the Emissions Trading scheme or the National Environmental Standard for Plantation Forestry.
7.	**Inclusion of Māori in the decision-making process** Initial engagement with Iwi practitioners has been undertaken during preparation of this report. Targeted engagement with Iwi will occur during the preparation of the actual review proposal if agreed to.
8.	The Joint Committee has the responsibility for considering and recommending. The Joint Committee has the power to make a recommendation to the Councils on this matter.

6. Conclusion and Next Steps

6.1 The Joint Committee must provide recommendations to the two councils.

7. Attachments

1.⇩	Briefing Report RPMP Joint Committee 22 August 2023	10
2.⇩	NPD Analyses including Narrative CBA for RPMP Limited Review August 22nd Meeting	59

Attachment 1

Regional Pest Management Plan Partial Review – 2023/24

Report to:	Regional Pest Management Joint Committee
Meeting date:	August 22nd, 2023
Report authors:	Paul Sheldon, Tasman District Council Richard Frizzell, Nelson City Council

1 Purpose and outcome

The purpose of this report is to:

- Set out for discussion, and for initial approval, the pests and programmes proposed for inclusion in the Tasman-Nelson Regional Pest Management Plan (RPMP) partial review process.

- Summarise proposed rules and their rationales, alternative options and recommendations, with supporting National Policy Direction (NPD)/Costs and Benefits Analysis (CBA) comments in summary form to assist with interim decision making.

The outcome sought from the meeting is that drafting instructions are provided so that staff from both councils can move forward and draft the Limited Review Proposal in a form suitable for wider stakeholder consultation.

2 Background

Prior meeting

The first meeting of the Regional Pest Management Joint Committee (the Joint Committee) was on 24 March 2023. Terms of Reference were discussed and adopted, covering: membership, quorum, procedures and powers to decide/recommend. The review was to be limited to consider eight organisms, some of which are already named pests in the region and others which would be new inclusions.

The key roles for the Joint Committee are to:

- Discuss and agree on proposals prior to consultation (this paper);
- Publicly notify the Limited Review Proposal (with agreement from both councils);
- Hear / deliberate on public submissions made on the Limited Review Proposal; and
- Make recommendations to Tasman District Council (TDC) and Nelson City Council (NCC) to adopt any changes to the existing Tasman-Nelson RPMP 2019-2029.

Subsequent to this meeting the Joint Committee resolved to seek the views of both councils regarding the identification of additional site led control areas for feral and stray cats within the Terms of Reference for the partial review. Outcomes to date are:

- ✓ **Nelson City Council** held a workshop on 2 June 2023 with very strong endorsement supporting a comprehensive package of bylaw (e.g. mandatory microchipping and desexing) and provisions in the RPMP (e.g. stepping up feral cat management), coupled with education and incentive programmes (for both approaches). The need to align any work with TDC and develop joint initiatives was also stressed.

  Amending the Joint Committee's Terms of Reference to include consideration of cat provisions in the RPMP review was to be discussed at a NCC meeting on 10 August 2023. Progressing a cat control bylaw was put on hold subject to knowing the outcome of a decision from Government (expected in October 2023) following the Environment Select Committee deliberations on a nation-wide petition calling for the compulsory microchipping and desexing of cats in New Zealand[1].

- ✓ **Tasman District Council** at its Environment and Regulatory Committee meeting on 15 June 2023 agreed that more should be done around feral cat management but stopped short of discussing or reconsidering a possible cat bylaw (a prior microchipping bylaw proposal was floated in 2021, but dropped in favour of an education only approach).

  TDC at its full council meeting on 20 July 2023 resolved, subject to agreement by Nelson City Council, to amend the Terms of Reference for the Joint Committee to include consideration of feral cats in the limited review of the Tasman Nelson Regional Pest Management Plan 2019 – 2029, by the addition of a fourth bullet point under 3. Areas of Responsibility, matters the review will be limited to considering, as follows:

  - *Identification of additional site led control areas for feral cat management including the use of Biosecurity Act Pest Agent provisions.*

<u>Provisional timetable</u>

The Joint Committee previously discussed and agreed a provisional timeframe for the review process at the March 2023 meeting. Following consideration of this report the actions below will be the key next steps. Notification dates are contingent on both councils endorsement of timeframes.

1.	JC sign off draft revisions for each council's approval	Sep 12
2.	Each council meet to consider JC recommendations	Sep 21 (TDC), Sep 14 (NCC)
	[as above - alternate dates]	Oct 26 (TDC), Oct 19 (NCC)
3.	Public notification of limited review	Nov – Dec 2023*
4.	Further consultation with likely submitters	TBA
5.	Hearing and deliberations on staff recommendations	Feb/March and May 2024
6.	Amend Plan and prepare sec 75 report	June 2024
7.	Councils decisions, notify, appeal	July/August 2024

[1] The Environment Select Committee (on 4 August 2023) recommended the Government put in place national cat management legislation to remedy the inconsistent approaches currently. Refer also footnote 3.

What this report covers

There are nine pests, or groups of pests, proposed to be included in the proposal for public consultation, which if approved will be included in an amended Tasman-Nelson RPMP 2019-2029. Table 1 following lists the proposed pests and summarises their main reasons for consideration. Section 4 provides detailed information on each of the nine organisms or groups of organisms listed in the order below.

Table 1: Alphabetical listing of proposed pest additions to RPMP

Proposed pest	Key reasons for proposed change
Blue passion flower	Emerging pest in the region.
Boneseed (Nelson Port Hills only)	Refinement to programme (requiring occupiers to control) which will make existing eradication programme more robust.
Feral and stray cats	Rising threats to biodiversity at named high value sites.
Koi carp	Minor name change only (under section 100(G(4)) of the Biosecurity Act 1993.
Moth plant	Emerging pest in the region.
Pampas (purple and common)	Refinement of approach and limited reintroduction of pampas policy and rules into the RPMP - at two Golden Bay sites only.
Sabella	Align with Marlborough District Council (MDC), including new occupier/owner obligations.
Water celery and Vietnamese parsley	Emerging pests in the region (considered together as the proposed programme is the same).
Pest / wilding conifers	Maintaining the gains of prior investment in current operational areas and introducing two new rules to keep vulnerable land that is clear of wildings clear and for exacerbators of wilding spread from plantation forests to have specific control obligations where spread is occurring onto neighbouring land.

3 Satisfying National Policy Direction requirements, including Cost Benefit Analyses

Relationship of the RPMP with the National Policy Direction

The National Policy Direction (NPD) for Pest Management became operative in August 2015. Its purpose is to ensure that activities under Part 5 of the Biosecurity Act 1993 (e.g. making pest management plans) provide for the best use of available resources, which are in New Zealand's best interests, and that approaches align with each other to achieve good pest management outcomes.

The key NPD requirements to consider when developing or reviewing an RPMP are summarised, following:

1 Objectives are set;
2 Programmes are described;
3 **Costs and Benefits are analysed**;
4 Funding rationale is noted; and
5 Good Neighbour Rules are described.

Since this process is a partial RPMP review, the proposals contained in this report reflect points 1, 2, 4 and 5 above, by virtue of these matters already described in the current RPMP. By proposing new pests and/or changes to existing policies the requirement to assess the benefits and costs of each approach needs further consideration. This section summarises the benefit/cost analyses carried out prior, to support the new proposals.

Determining the level of costs and benefits analysis to be applied

Section 6(1) of the NPD specifies four criteria to consider when determining the level of cost and benefits analysis. The following assessment criteria were derived from NPD wording:

Assessment criteria to consider for each pest:

1 Uncertainty of the impact of the pest and the effectiveness of the methods of control:

- **High uncertainty** – Little known about its impacts and the effectiveness of control measures.
- **Medium uncertainty** – Some information available on its impacts and on the effectiveness of control measures.
- **Low uncertainty** – Plenty of information exists on its impacts and effectiveness of control measures.

2 Significance of the pest or the proposed measures

- **High** – High total costs **or** strongly opposed community views **or** significant community interest.

- **Medium** – Moderate total costs **or** some opposed community views **or** moderate community interest.
- **Low** – Low total costs **or** limited community interest.

3 Relationship between costs and benefits

- **High** – costs are likely to be similar to the benefits.
- **Medium** – costs are likely to be less than the benefits.
- **Low** – costs are likely to be much lower than the benefits.

4 Level and quality of available data

- **High** – High quality data on distribution and well-established costs and impacts.
- **Medium** – Limited information on distribution and on costs and impacts.
- **Low** – Little information available on distribution and costs and impacts.

The level of Cost Benefit Analysis that is required to be undertaken is determined by the combination of ratings for these different categories where:

- A **High** level of CBA is needed when three of the four criteria listed above (Criteria 1-4) are assessed as high.
- A **Low** level of CBA can be undertaken when none of the first three criteria (Criteria 1-3) are ranked high and no more than two are ranked as medium.
- A **Medium** level of CBA is required for all other combinations.

A summary of the results of the application of the NPD Section 6(1) criteria is tabled in Appendix 1. A full copy of this report is circulated with this report.

4 Proposed inclusions and amendments to the RPMP

4.1 Introduction

This section details, in a generic format, the proposals for each organism listed in Table 1. Following an outline of their current/proposed status and rationale for inclusion, each sub-section notes the proposed management regime (including draft occupier control rules). Alternate options (usually 1-2 others) are then discussed and relevant comments conclude each proposal.

The proposals for feral/stray cats and pest/wilding conifers are more complex. Consequently, more background information is provided on these two proposals in Appendices 2 and 4, respectively. Recommendations with regard to each pest proposal are listed altogether in section 6.

4.2 Blue passion flower

Species: Blue passion flower (*Passiflora caerulea*)
Current status: Not a named pest in current RPMP. **Proposed status:** Eradication programme proposed for whole region. **Rationale for inclusion**: There is a need to act promptly while there's still a chance to eradicate this plant. It already occurs in the Grampians (refer Figure 1) where mature vines were found during 2023 and a very active seedbank in the infested areas. Nelson City sites will require reasonably significant resources set aside.
Summary of approaches/rules: Text/tables • Blue passion flower to be added to Table 1, Needs to be listed as an Unwanted Organism (UO) and occupier control responsibility but with assistance from TDC/NCC. • Species, description and status to be added to Table 3 – *Eradication pests in the whole Tasman-Nelson region*. • Add *Specific Rule for blue passion flower for the whole Tasman-Nelson region (2 parts to rule).* *Specific Rule for Blue Passion Flower in the Tasman-Nelson region*[2] Over the duration of this Plan, occupiers within the Tasman-Nelson region must: a. Report sightings of blue passion flower on their land to Tasman District Council within five working days of their sighting.

[2] Similar to current knotweed eradication rule.

b. Destroy any blue passion flower on their property, on an annual basis, on the direction of an authorised person.

A breach of this rule is an offence under Section 154N(19) of the Act.

Explanation of the Rule

The purpose of this rule is to facilitate the eradication of blue passion flower from the region. Blue passion flower has a limited distribution in the Tasman-Nelson region and this rule is intended to ensure prompt removal of plants when discovered, leading to its eradication. TDC/NCC may assist occupiers depending on locations and densities of infestations, as determined through the annual RPMP Operational Plan.

Maps

No location specific map required.

Alternate options:

1. Do nothing – would exacerbate further natural and human assisted spread. There is still a chance to eradicate this pest. Small-scale control has been underway since 2021 through public goodwill, but relying on this approach ultimately is unsustainable.
2. Progressive containment or sustained control – are not appropriate strategies, as neither approach will stop blue passion flower from spreading further. The councils should not rely on occupier control alone to control this plant.

Comments/observations:

Blue passion flower has been in the region 20-25 years prior, in a lag phase, from which it now seems to be expanding its range. Estimated current extent is mainly in Nelson urban areas, as garden escapees. There are current sites in Tasman too (individual properties and in Hope).

Figure 1: Worst blue passion flower (BPF) infestations located within urban properties (red circled area), north of Nelson Hospital – at centre/right. BPF is already escaping into the Grampians Reserve and the hills behind (arrowed). Photo BBSL.

4.3 Boneseed (Nelson - Port Hills)

Species: Boneseed (*Chrysanthemoides monilifera* subsp. *monilifera*)

Current status: Eradication in the whole region - except the Port Hills exclusion area.

Proposed status: Sustained Control programme proposed for Port Hills area only, and maintain current Eradication rule over whole region.

Rationale for inclusion: Extensive survey of the Port Hills indicates the need for active control within the area. Includes suburbs of: Beachville, Stepneyville, Washington Valley, Toi Toi, Moana, Britannia Heights, Bishopdale and Nelson South. Eradication is unlikely to be achievable in these areas but stepped up control here will help maintain the integrity of eradication programmes outside the Port Hills (e.g Rabbit Island area where boneseed seems likely to be 'washed' off the hills into the sea which then float across to infest neighbouring coastal areas). The Port Hills remains a source of reinvasion into land that is clear of or being cleared of boneseed. This type of problem is suited to a Sustained Control-style programme.

Summary of approaches/rules:

Text/Tables

- Boneseed (within Port Hills) added to Table 1 (yes to UO, occupier control).
- Species, description and status to be added to Table 7 – Sustained Control pests in part Tasman-Nelson region.
- Add specific rule for boneseed in the Port Hills.
- Remove boneseed from Organisms of Interest (OOI) list in Appendix 2.

Maps

- Map 1 remains correct but title needs editing.
- Edit map 1.1 title to reflect a new boneseed Sustained Control area and add a new map legend to distinguish between Eradication and Sustained Control areas.

Specific Rule for Boneseed in the Port Hills area

Over the duration of this Plan, occupiers in the Port Hills area of Nelson, as shown on Map 1.1, must destroy any boneseed on their land, on an annual basis, prior to the completion of flowering, unless there is a negotiated agreement in place between the Management Agency and occupier as an alternative way to achieve this rule.

A breach of this rule is an offence under Section 154N(19) of the Act.

Explanation of the Rule

The purpose of this rule is to reduce boneseed impacts on biodiversity and social/amenity values and limit opportunity to spread to other properties in the Nelson City area.

Alternate options:

1. Do nothing – would result in increasing concern from agencies / occupiers and create further impacts on biodiversity / social values in neighbouring areas where eradication is the goal.

2. Eradication – not feasible in this area as infestation extent is beyond this outcome. Also, additional NCC staff / contractor resources would be required to undertake direct control work (unlikely to be funded/supported).

Comments/observations:

Landowners are to be responsible for control, with contractors potentially involved if funding is available. Some steep and difficult areas to reach on private land could be subject to exemption provisions.

Other very difficult to access, publicly owned sites (e.g. Rocks Road cliffs) will need a targeted control programme to be undertaken (e.g. further consultation with NZTA / Waka Kotahi to consider). With a 20-year seed life this will require a long-term extensive programme to be developed.

The benefits of control in the Port Hills to the eradication areas outside the Port Hills needs to be factored into the CBA for this programme. On its own, the original CBA indicates that control is not favourable but in considering wider environmental benefits then the CBA tests are satisfied.

4.4 Feral/stray cats

Species: Feral / stray cats (*Felis catus*)
Current status: Feral cats only in the Waimea Estuary site led programme. **Proposed status**: Further site-led programmes targeting feral and stray cats: • Nelson City – named high value publicly owned sites. • Abel Tasman National Park (ATNP) private enclaves – add feral/stray cats to existing site-led programme. • St Arnaud site-led programme – include pest agent rule limiting presence of companion cats in the village area. **Rationale for inclusion**: • Both councils wish to do more around feral cat control at key sites and further promote responsible cat ownership. • Cats contribute to negative impacts on indigenous biodiversity (e.g. direct predation on native birds, reptiles and insects, freshwater fish and invertebrates across the region, or indirectly through nest or colony desertions). • The proposal concerns feral and stray cats at several named high-value sites. The ability to distinguish companion cats from feral and stray cats will rely over time on bylaws or national cat regulations[3] (around compulsory microchipping and desexing of companion cats) being implemented to support RPMP provisions (and vice versa). **Appendix 2 expands on the issues, matters and policy directions raised above and following.**
Summary of approaches/rules: New approaches for (i) Nelson City – 31 high value sites, (ii) current ATNP site-led programme and (iii) current St Arnaud Village site-led programme. Rules are below: <u>*Specific rule for feral and stray cats in the Nelson City site led programmes*</u> Over the duration of this Plan, and with regard to high value sites within Nelson City (as shown on *a new* Map xyz – *refer Appendix 2 of this report*): a) Any person who suspects the presence of any feral or stray cat in any named high value site must report its presence and location to Nelson City Council biosecurity staff. b) No person shall feed or shelter any feral or stray cat in any named high value site.

[3] Refer to petition of Erica Rowlands:(selectcommittees.parliament.nz). The Environment Committee has considered the petition of Erica Rowlands—*Mandate the registration and desexing of pet cats and kittens*. It recommends by majority to the government that legislation is developed to implement a nationwide cat management framework based on the principle that cats should be registered, desexed, and microchipped with appropriate exemptions.

Explanation of the rules
Rule a. is to assist NCC in detecting the presence of feral or stray cats for the purposes of biodiversity protection and wildlife management.

Rule b. is to discourage people supporting cat colonies on public land with recognised high biodiversity values.

Specific pest agent rule for the St Arnaud village site-led programme
Over the duration of this Plan, and with regard to the St Arnaud site-led programme (as shown on Map xyz):

a. Sightings of feral cats observed within the mapped area shall be reported to Tasman District Council within 48 hours of their sighting.

b. No person shall keep, hold or harbour any companion (owned) cat within the mapped area unless it is desexed and its identity is microchipped and registered on the New Zealand Companion Animal Register.

c. No person shall release into the wild (e.g. Nelson Lakes National Park and environs) any companion (owned) cat from or living within the mapped area.

Explanation of the rule
The reason for this pest agent rule is to support existing St Arnaud community work to protect wildlife and biodiversity values, by restricting the presence of companion cats living in the St Arnaud area and potentially breeding with feral cats. It also assists with reducing the likelihood of companion cats being released into the wild around St Arnaud and causing long term impacts.

Additional rule for Abel Tasman National Park private enclaves
Following existing rules a. and b. and in relation to the ATNP site-led programme areas – Awaroa, Torrent Bay and Marahau, as shown in *existing* maps 17.1, 17.2 and 17.3:

a. From 1 July 2024, then for the duration of this Plan, any person who suspects the presence of any feral or stray cat within the ATNPSP must report its presence and location to Tasman District Council within 48 hours of their sighting.

Explanation of the rule
Note: the current rule explanation is generic to cover the intent of the inclusion of feral/stray cats but needs to be edited to read ‘named pest plants and pest animals’ in two places.

Alternate options:

1. Do nothing additional to what's already included in RPMP – this won't address the growing call from environmental groups and iwi for both councils to step up their leadership to address declining biodiversity values.

2. Rely solely on bylaw development by both councils to better manage all cats, however bylaws cannot be used to manage pest situations and the RPMP deals with pests only and should not entertain pet management (other than via pest agent rules).

3. Rely solely on national cat legislation developed. However, any national cat legislation would likely be years away.

Comments/observations:

The Joint Committee acknowledges that discussions on cat management in general will provide conflicting opinions from Tasman-Nelson residents. Refer to Appendix 2 for further detail.

4.5 Koi carp

Species: Koi carp (*Cyprinus rubrofuscus*) or European koi carp

Current status: Koi are a named Exclusion Pest in the RPMP, with DOC having a lead responsibility for their management. Also listed nationally as an Unwanted Organism.

Proposed status: No change to status or management regime proposed. Koi were formerly designated as *Cyprinus carpio.* Koi carp are now referred to as *Cyprinus rubrofuscus* and also as European koi carp.

Rationale for inclusion: A recent taxonomic name change of *C. carpio* to *C. rubrofuscus* reflects a recent review of the taxonomic classification of the majority of koi found in New Zealand.

Summary of approaches/rules:

Change Latin name and add new common name in current RPMP – Tables 1 and 2.

Alternate options:

N/A – there are no alternate options. The name changes do not carry any new rights or impose obligations on any person and is without significant effect.

Comments/observations:

Insignificant change - undertaken under Biosecurity Act 1993 provisions - section 100G(4), minor changes to plans.

4.6 Moth plant

Species: Moth plant *(Araujia hortorum).* Also known as *Araujia sericifera.*
Current status: Not a named pest in current RPMP. **Proposed status**: Eradication pest proposed for whole region. **Rationale for inclusion**: Staff currently respond to a small number of urban sites based mostly on public information supplied. At some point TDC/NCC will need Biosecurity Act powers to access properties. Not being listed as a pest will not allow for these powers if occupiers refuse access. Moth plant is highly invasive and many other councils list it in their RPMPs. The size of known infestations are still relatively small and contained which makes eradication highly feasible. There is a chance to 'nip this plant in the bud' before it gets established and prevent another old man's beard scenario.
Summary of approaches/rules: Text/Tables • Moth plant to be added to Table 1. Not listed as a UO and TDC would have control responsibility. • Species, description and status to be added to Table 3 – *Eradication pests in the whole Tasman-Nelson region*. • No need to include new specific rule as it would be covered by default rule that exists (as per the following). The rule for reporting moth plant sightings would be edited but covered by the existing blanket rule (following), which would include moth plant along with 13 other species, (*but excludes the five pests/pest groupings noted below*). *Specific Rule for 14 Eradication Pests in the Tasman-Nelson Region (excluding wild kiwifruit, knotweed, spartina, sabella, and pest fish)* Over the duration of this Plan, occupiers within the Tasman-Nelson region must report sightings of the named Eradication Pests on their land to Tasman District Council within five working days of their sighting. A breach of this rule is an offence under Section 154N(19) of the Act. *Explanation of the Rule* The purpose of this rule is to eradicate these 14 pests from the region. Tasman District Council, as the Management Agency, will take responsibility for controlling these Eradication Pests. Maps No location specific map required.

Alternate options:

1. Do nothing – would result in increasing infestations and impacts on urban and wider biodiversity values. Over time, infestations would 'escape' into rural environs.

2. Sustained Control or Progressive Containment – would require occupier rules to manage this pest. As infestations are few it would be more important and more cost effective to undertake 'professional' control now rather than leave control to occupiers.

Comments/observations:

Small, isolated urban infestations with limited seedlings produced so far. Moth plant is easy enough to control at early stages and easy to 'sell' on social media and through campaigns as being toxic.

4.7 Pampas (Golden Bay sites)

Species: Common pampas (*Cortaderia selloana*) and purple pampas (*C. jubata*)
Current status: Not named pests in the RPMP. Listed however as an OOI. **Proposed status**: Sustained Control programme but only proposed in two areas in Golden Bay (see map Figure 2 below) – the Aorere Valley and Whanganui Inlet to Puponga. **Rationale for inclusion**: Both species have been planted well prior and are widely spread through much of the lowlands of the Tasman District and Nelson City areas. Since 2019 when pampas was removed from the RPMP, TDC biosecurity officers have noted a marked increase in the incidence of the pest. However, parts of the Aorere Valley and the western coast of Golden Bay around Westhaven remain relatively free of pampas[4]. Pampas is likely to continue to spread into these areas if unmanaged, affecting the indigenous biodiversity values of bush margins, indigenous grasslands, escarpments and wetlands in these areas. Proposal is for inclusion of both species of pampas, otherwise staff would be left 'splitting hairs' on which species is where. And visually, the public see pampas as pampas, not as jubata or selloana. They both have a negative impact.
Summary of approaches/rules: Text/Tables • Pampas (within 2 sites Golden Bay) added to Table 1 (yes to occupier control). • Species, description and status to be added to Table 7 – *Sustained Control pests in part Tasman-Nelson region*. • Add *Specific Rules for pampas in Golden Bay.* • Amend pampas in OOI list (Appendix 2) to note 'excluding Golden Bay sites'. Maps Need a new map to reflect new pampas Sustained Control areas. *Specific Rule For Common and Purple Pampas In The Tasman-Nelson Region* Over the duration of this Plan: a. Occupiers in Golden Bay (within the Sustained Control areas - Aorere Valley and Whanganui Inlet to Puponga) as shown on Map xyz must destroy any common and purple pampas on their land, on an annual basis, prior to the completion of flowering. b. Occupiers in Golden Bay (immediately adjoining the Sustained Control areas - Aorere Valley and Whanganui Inlet to Puponga) as shown on Map xyz must destroy any common and purple pampas within 200m of their property boundary (prior to the completion of flowering) where the adjoining

[4] A July 2023 survey of the Aorere Valley found that the area is largely clear of pampas with the exception of a few fence lines. None was found along the 'tight' bush pasture margins with public conservation land (PCL).

occupier (within the Sustained Control area) is taking reasonable steps to destroy pampas on the adjoining land. This is a Good Neighbour Rule.

A breach of this rule is an offence under Section 154N(19) of the Act.

Explanation of the Rule

The purpose of the rule is control impacts on production and environmental values in these areas by reducing pampas infestations in the two mapped Sustained Control areas in Golden Bay and to prevent inaction by occupiers adjoining the Sustained Control areas impacting on the outcomes and values within the Sustained Control areas.

Alternate options:

1. Do nothing – however staff believe pampas could be positively managed in some areas (NW Nelson) which are still substantially clear of this pest.

2. Eradication - within the two areas of Golden Bay is unsuitable, because of firstly the cost to TDC but more importantly the chance of success with constant reinvasion is unlikely within the timeframe of the plan.

Comments/observations:

The Good Neighbour Rule may require further testing. A 200m buffer may not be that effective for a plant that blows seed for 25km. However, this is the only way the Crown (Department Of Conservation) would consider being bound to a rule.

Figure 2: Two pampas control areas suggested by TDC staff 7/6/2023. Map source, TDC.

4.8 Sabella

Species: Sabella (*Sabella spallanzanii*) or Mediterranean fanworm

Current status:

Eradication over whole region with rules requiring occupiers to report Sabella presence and to allow access for control.

Proposed status:

Keep eradication goal and add rules requiring owners of vessels and marine equipment (craft) entering the region to not exceed fouling level 2 (as determined by the Cawthron Institute) and for owners/occupiers of places to destroy Sabella when directed to by an authorised person, and stating how this is to be done. The requirement to report Sabella observations remains.

Rationale for inclusion:

Aligns with the Marlborough RPMP and provides consistency across the Top of the South's coastal marine areas. The two Sabella control rules provide a backstop ability to undertake enforcement action if and when compliance situations arise. The current 'reporting of sabella' rule would be retained as Sabella is a notifiable organism.

Summary of approaches/rules:

Specific Rules For Sabella In The Tasman-Nelson Region

Over the duration of this Plan:

a. The owner or person in charge of any craft entering the Tasman-Nelson region must ensure that the fouling on the hull and niche areas of the craft does not exceed level 2 on the Cawthron level of fouling (LoF) scale, unless:

   i) The craft is entering Tasman-Nelson for the purpose of hauling out. The haul out must be undertaken within 24 hours of arriving. Proof via receipt from a haul out facility must be provided to an authorised person if requested, or

   ii) The craft is entering Tasman-Nelson for an emergency relating to the safety of the craft and/or the health and safety of any person on the craft, or

   iii) The craft is required to enter Tasman-Nelson in response to a declaration of a state of emergency, as determined by the Ministry of Civil Defence & Emergency Management.

- *Rule a. does not apply to craft that have entered New Zealand waters in compliance with the Craft Risk Management Standard (CRMS) for Biofouling in the period two months prior to either directly or subsequently entering Tasman-Nelson waters.*
- *Rule a. is also not intended to apply to craft that are usually moored in the Tasman-Nelson region and leave the region for no more than 24 hours before returning.*

- *Level 2 macrofouling (e.g. having goose barnacles) is defined by the Cawthron Institute as: macrofouling is present in small patches, or a few isolated individuals or small colonies, and covers between 1 - 5% of the visible surface (refer to Appendix 3 of this report).*

b. The occupier or person in charge of any place (e.g. craft or structure) shall destroy Sabella that has been found on that place, on written direction from an authorised person, unless there is an approved agreement in place between the Management Agency and occupier as an alternative way to achieve this requirement.

c. In undertaking steps to destroy Sabella (under rule b.), the place shall first be slipped or contained within an encapsulation system and treated with biocode. If that is not practicable, Sabella may be removed in water by divers who are appropriately trained and all Sabella must be contained and returned to the surface for disposal to a suitably authorised facility.

- *Craft that have been hand cleared of sabella by divers under rule c. are permitted to stay at the site of treatment for a maximum of one month following treatment. After this period craft are required to be slipped and fully cleaned, to the satisfaction of an authorised person.*

d. Any person who suspects they have observed Sabella in Tasman-Nelson shall notify the Management Agency within 24 hours of making the observation, detailing the location and situation of the suspected pest.

- *Rule d. applies as Sabella is also a notifiable organism through the Biosecurity (Notifiable Organisms) Order 2016. The suspected presence of sabella must also be reported to the Ministry for Primary Industries in accordance with section 46 of the Biosecurity Act 1993.*

A breach of any part of the rule(s) is an offence under Section 154N(19) of the Act.

Explanation of the Rules

The purpose of this rule is to facilitate the eradication of Sabella from the region. Sabella has a limited distribution in the Tasman-Nelson region and these rules are intended to ensure prompt removal of infestations when discovered (through either council or occupier control), leading to its eradication.

TDC/NCC and MPI will work collaboratively on Sabella management in the Top of the South Marine Biosecurity Partnership, in conjunction with the owners of vessels and marine structures (places) who may also have control obligations placed upon them. A key consideration on what action is required will be the extent of biofouling on the place in question – hence the application of rule a.

The extent of TDC/NCC's service delivery funding obligations will be detailed in annual RPMP Operational Plans.

Alternate options:

1. Drop Sabella from RPMP as it is too difficult and costly to manage – this would potentially heavily impact on the multi-million dollar mussel industry and would directly impact the values and messages portrayed by Figure 3.

2. Do nothing, keep the current RPMP provisions – but this isn't consistent with MDC and doesn't legally provide powers that oblige occupiers to control Sabella on their property/place.

Comments/observations:

While strictly a pathway pest type rule (as it allows TDC/NCC to manage other pest species transmitted through vessel hull-fouling or on structures) the first new rule (a) provides the basis for doing more to manage marine biofouling which will help suppress the need to implement other rules.

Figure 3: Marine pest signage at Port Tarakohe – June 2023. Photo: BBSL.

4.9 Water celery and Vietnamese parsley

Species: Water celery (*Apium nodiflorum*) and Vietnamese parsley (*Oenanthe javanica*)
Current status: Neither species are in current RPMP. **Proposed status**: Sustained Control programme proposed for whole region for both species. They would be listed together in terms of programme regime and rules as the approach taken is the same for both plants. **Rationale for inclusion**: Relatively low rate of occurrence currently but large invasion potential. Best managed to reduce impacts on values, as determined by the Management Agency. Would need to include a '*check, clean, dry'* type rule, being useful to help reduce spread impacts. Both plants were the subject of a NIWA commissioned report by NCC - *Two new emergent aquatic weeds in Nelson City - Vietnamese parsley (Oenanthe javanica) and water celery (Apium nodiflorum) - Prepared for Nelson City Council, May 2018.*
Summary of approaches/rules: Text/Tables • Vietnamese parsley and water celery added to Table 1, Neither listed as UOs and occupiers would have control responsibility. • Species, description and status to be added to Table 6 – *Sustained Control pests in the whole Tasman-Nelson region.* • Add specific rule for Vietnamese parsley and water celery (as follows). *Specific Rule for Vietnamese parsley and water celery in the Tasman-Nelson Region.* Over the duration of this Plan occupiers within the Tasman-Nelson region must: a. Destroy any Vietnamese parsley and water celery on their land, on the written direction of an authorised person, on an annual basis, prior to the onset of flowering. b. Remove all fragments of Vietnamese parsley and water celery from their places (i.e. machinery, equipment and craft that have been in contact with waterway vegetation) when leaving infested waterways. A breach of this rule is an offence under Section 154N(19) of the Act. *Explanation of the Rule* The purpose of this rule is to reduce the impacts of Vietnamese parsley and water celery on regional values and slow their spread to other waterways in the region. TDC/NCC may assist occupiers depending on locations and densities of infestations, as determined through the RPMP Operational Plan. (e.g. these plants may require herbicide being applied into or over water for their control which requires resource

consent and Environmental Protection Authority approval). In many situations both TDC and NCC will be deemed 'the occupier'.

Alternate options:

1. Do nothing – would see these pest plants spread through drains and streams and into other water bodies, creating impacts (Figure 4). Spread risk through water users pathways would increase.
2. Eradication - not feasible, as infestation extents are beyond this goal. Also, additional contractor resources would be required to undertake substantial direct control work (which would not be feasible).
3. Under a Sustained Control scenario (reducing the spread), Progressive Containment may also remain a viable future option.

Comments/observations:

No location specific map is required as control regime would apply to the whole region. Also, current infestations are known but further survey work is needed. Both plants are harvested as a food source, so targeted media campaigns would be required.

Figure 4: Water celery in a typical drain situation, Richmond, May 2023. Photo: BBSL.

4.10 Pest / wilding conifers

Species: Various conifers – 13 *Pinus, Larix* and *Pseudotsuga* species
Current status: No species of conifers are currently named pests except for Douglas fir within the Abel Tasman National Park enclaves and subsequent ATNP site-led programme. **Proposed status**: Progressive Containment programmes for '**pest conifers'**, as noted: • Bishop pine • Contorta pine (lodgepole pine) • Corsican pine • Dwarf mountain and mountain pine • European larch • Maritime pine • Mexican weeping pine • Ponderosa pine • Scots pine • Western white pine Pest conifers have no commercial worth and they need to be destroyed wherever they occur in the region as soon as is practicable. A further group comprises two conifer species, grown as valuable commercial crops, but prone to wilding, hence Progressive Containment programmes are proposed for these '**wilding conifers'**: • Douglas fir • Radiata pine **Rationale for inclusion**: The region needs to protect the investments made to date in the current national and community led programmes in the region (at Mt Richmond, Takaka Hill, ATNP – Project Janszoon and Golden Bay – Project De-vine sites). The concept is about maintaining the above gains now, leading to full review in 5 years' time, for the whole region. An interim policy needs to be worthwhile, practicable and broad based and align with Marlborough District RPMP policy where possible. In considering the MDC policy (and their recent Environment Court decision), there is an opportunity for TDC/NCC to include greater flexibility on meeting rules if an alternate option can achieve similar outcomes (e.g. negotiated agreements). In relation to radiata pine and Douglas fir, increasingly, the forestry sector's social license to operate requires external impacts on neighbouring occupiers to be better managed. The RPMP is not concerned with preventing production or permanent forestry operating within their own land boundaries. However, these two conifer species can result in self-seeded and unintentional spread, therefore these self-seeded trees are deemed 'wilding conifers' only, but not pest conifers[5]. **Appendix 4 expands on the issues and policy directions raised above and following.**

[5] Staff have also recently become aware of the practice of allowing for the natural regeneration (instead of re-planting) of *Pinus radiata* within a harvested pine block. Although the definition of 'wilding' does not cover existing 'plantations' the semantics might be important if it came to enforcement where "wilding" does not necessarily equate to "self-sown".

Summary of approaches/rules:

Region-wide programmes

Two approaches proposed, outside named operational areas, as resourcing and funding allows:

- A clear land rule; and
- A planted conifer forest (wilding spread) rule.

Specific rules for pest/ wilding conifers in the whole region

Over the duration of this Plan, within the Tasman-Nelson region and prior to cone bearing:

a. After 1 July 2024, occupiers outside of named wilding conifer operational areas, must destroy any **pest or wilding conifer** on their land, to ensure that land that is clear or relatively clear of pest or wilding conifers remains clear, on the written direction of an authorised person, unless there is a negotiated agreement in place between the Management Agency and occupier as an alternative way to achieve this requirement.

- *Clear land' is defined as parts of the region that are currently clear, (or infestations are at a low or very low density), but highly susceptible to wilding conifer spread if a seed source becomes established. Although the majority of wilding conifer spread is predictable, a characteristic of spread (particularly in highly susceptible areas) is also the occurrence of random, irregular long distance spread into areas previously unaffected. This rule provides an early intervention trigger for these vulnerable or susceptible areas. Further, protected 'specimen' conifer trees named in District Plans (made under the Resource Management Act) would generally be exempt from this requirement, on a case by case basis.*

b. Occupiers of planted conifer forests (greater than 1 hectare), outside named wilding conifer operational areas, are responsible for the destruction of any **wilding conifers** present on adjoining land, within 200m of the planted forest boundary. This requirement will be on written direction from an authorised person, following a valid complaint from an adjoining affected neighbour, where there is clear evidence that wilding spread has occurred from the planted forest (in the opinion of an authorised person) to an adjoining property.

Targeted operational areas in the region

- Mt Richmond Wilding Conifer Management Unit;
- Takaka Hill community project;
- Abel Tasman National Park (ATNP) - Project Janszoon; and
- Golden Bay (including ATNP Halo) - Project De-vine.

Specific rules for pest/ wilding conifers in parts of the region (as above)

Over the duration of this Plan, within the operational areas in the Tasman-Nelson region (as shown in Maps w, x, y and z) and prior to cone bearing:

a. Occupiers must destroy any pest/wilding conifers on their land where they are located within a defined operational area that has received prior control, or there is a negotiated agreement in place between the Management Agency and occupier as an alternative way to achieve this requirement.

b. Occupiers within a defined operational area must destroy any pest/wilding conifers on their land within 200m of an adjoining property boundary, where the adjoining property has previously been cleared of pest/wilding conifers through prior control and the adjoining occupier is also undertaking active control work within 200m of their property boundary. This is a Good Neighbour Rule.

c. Occupiers must destroy any pest agent conifer on their land, on direction of an authorised person, where an adjoining occupier is undertaking active wilding conifer control on their land and the wilding spread is clearly attributable to the pest agent conifer(s).

Appendix 4 contains plain English explanations of the 5 rules and their intent.

A breach of these rules is an offence under Section 154(N)19 of the Act.

Alternate options:

1. Do nothing – In every other region where work is undertaken under the National Programme, wilding conifers are included in the relevant RPMP. This is because without their inclusion, and without rules, there is no compulsion on occupiers to maintain the gains made to date.

2. Eradication is not feasible, while a Sustained Control Programme, while essentially containing the same rules as Progressive Containment, does not address the overall goal sought of wildings management, being the control of spread then progressively pushing back infestations to source/core areas then controlling those source areas (in the long-term).

Comments/observations:

Subject to external discussion with various parties. Two of the rules are not contained in other RPMPs as far as it is known.

5 Concurrent and future consultation

Prior to this paper's writing, limited consultation only had been carried out on the key changes outlined in this proposal, noting that some of the changes are not onerous (e.g. moth plant inclusion and the name change for koi).

Some other changes noted may be of limited interest as they list new landowner obligations to control them (e.g. blue passion flower, boneseed, water celery/Vietnamese parsley), However, it is not anticipated that these will cause major issues for occupiers and individual landowner consultation will not be necessary (other than NZTA for boneseed proposals). Landowner feedback on these general matters will be received through region-wide notification of the proposal and subsequent submissions.

Feral and stray cat interest is likely to be higher because of the nature of the subject matter and the complex relationships between feral cats and companion cats and their owners. Again, submissions on proposed policies will be addressed through the region-wide notification process. The rules in relations to feral cats (except the proposed St Arnaud site-led programme) does not restrict or impinge on cat ownership, but it does raise the profile of better cat management in the region and the need for more responsible cat ownership (and possible bylaws being developed by both councils), including national legislation.

Targeted stakeholder consultation will be carried out within the month prior to this meeting (late July through to mid-August) and following the meeting, as part of the process outlined in this paper's background. Pest and wilding conifer, Sabella and pampas proposals are likely to generate the most interest[6], therefore a more structured consultation approach will occur with, for example, forestry industry representatives, DOC, MPI, LINZ, NZTA, Iwi, TOS, marine operators, Federated Farmers and environmental organisations.

Outcomes and updates in relation to consultation with the above parties will be verbally reported to the Joint Committee at the meeting.

[Placeholder to record consultations and stakeholder responses below]

[6] Other than feral/stray cat proposals.

6 Conclusion and recommendation

Conclusion

This paper discusses proposed changes to existing policy and introduces new proposals for new pests. The rationales for their inclusions are clearly set out for all organisms. Regarding the RPMP Limited Review process, it will be highly beneficial that:

- Issues and potential submission points are ironed out prior to notifying the Limited Review Proposal – e.g. aimed at reducing the likely number of submissions, saving time at hearings and reducing the risks of appeal.

- When preparing for consultation it will be important to ask the right questions, to ensure they are correctly targeted for receiving robust and detailed feedback.

- Focus for working with Crown departments may be best achieved through developing MOUs with relevant agencies rather than focusing on using Good Neighbour Rules.

- Qualitative CBA explanations simplify the process rather than more long-winded quantitative data and workings.

Recommendations

That the RPMP Joint Committee is satisfied that National Policy Direction for Pest Management requirements have been met and subsequently approves the development of the Tasman-Nelson RPMP Limited Review Proposal for the following subjects:

1. Agree on the rationale, and approve the proposed region-wide programme and rules, for **blue passion flower.**

2. Agree on the rationale, and approve the proposed programme and rules, for **boneseed** within the Port Hills area of Nelson, subject to satisfactory discussions with NZTA on long term management approaches**.**

3. Agree on the rationale, and approve the proposed site-led programmes and rules, for **feral and stray cats** (being inclusion in Abel Tasman National Park existing programme, new programme for 31 reserves in Nelson City and inclusion of pest agent cats in St Arnaud village as part of the existing programme)**.**

4. Approve the name change and subsequent minor changes needed for **koi carp**.

5. Agree on the rationale, and approve the proposed region-wide programme and rules for, **moth plant.**

6. Agree on the rationale, and approve the proposed Golden Bay programme (two sites) and rules, for **common and purple pampas.**

7. Agree on the rationale, and approve the proposed programme and rules, for **Sabella**, subject to agreement in principle from the Top of the South Marine Biosecurity Partnership and MPI.

8. Agree on the rationale, and approve the proposed region-wide programme and rules, for **water celery and Vietnamese parsley.**

9. Agree on the rationale, and approve the proposed region-wide programme and rules, for **pest and wilding conifers,** subject to further engagement with forestry industry representatives and other interested parties**.**

Appendices

Appendix 1: Summary of analysis of options against the National Policy Direction for Pest Management (NPD)

Appendix 2: Feral and stray cat – further policy discussion

Appendix 3: Level of fouling guide for Sabella policy

Appendix 4: Pest and wilding conifers – further policy discussion

Appendix 1: Summary of analysis of options against the National Policy Direction for Pest Management (NPD)

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
Blue passion flower	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely outweigh cost of control. Preferred option passes all NPD requirements.	**Eradication:** Low risk that this option will not achieve intended outcome (zero density).	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity value of (e.g.) The Grampians. **(Progressive containment). Yes.** Low but carries a risk that relying on occupier control will not stop spread.
Boneseed (Port Hills)	Low	Environmental benefits probably outweigh cost of control but advised to undertake a quantitative analysis to test revised assumptions. Preferred option passes other NPD requirements.	**Sustained Control in Port Hills:** Low risk that this option will not achieve intended outcome (reduce spread). There is a high risk that specialist control of the coastal cliffs would push costs beyond benefits and a moderate risk that closure of the road causes inconvenience.	**(Do nothing – status quo in Port Hills). Yes.** Modest risk that infestations will damage the biodiversity values of the Port Hills. Also put the boneseed (rest of Nelson and Tasman) eradication objective at risk, with high likelihood of perpetual invasion of high value coastal habitat. **(Eradication in Port Hills). No.** High likelihood that costs outweigh benefits.
Moth plant	Low	Narrative cost and benefit analysis only. Narrative cost and benefit analysis only. Environmental benefits highly likely outweigh cost of control. Preferred option passes all NPD requirements.	**Eradication:** Low risk that this option will not achieve intended outcome (zero density)	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity value of (e.g.) The Grampians. **(Progressive containment). Yes.** Low but carries a risk that relying on occupier control will not stop spread.

Species	Level CBA analysis warranted	CBA comments / recommendations	Preferred option: Level of risk	(Alternatives). Pass NPD requirements? What are the risks?
Pampas	Medium	Benefits probably outweigh cost of control. A medium level of analysis can be a quantified analysis using the cost of control borne by occupiers (to be determined) balanced with assumed $$ environmental benefit (to be determined). AgPest calculator to be used to derive net present value as a measure of cost effectiveness. Preferred option passes other NPD requirements.	**Sustained Control in specified areas:** Low risk that this option will not achieve intended outcome (reduce spread). There are modest risks of non-compliance though benign neglect, difficulty undertaking regular inspections, and/or adversity to the proposed rules.	**(Do nothing). Yes.** Modest risk that increasing infestations will damage the biodiversity values of specified areas. Moderate concern of invasion in areas clear of the pest. **(Eradication). No.** High likelihood that costs outweigh benefits.
Sabella	Medium	Benefits highly likely to outweigh cost of control. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. It may prove difficult to estimate the dollar benefits to the marine farming industry without being overly presumptive. Assumptions of costs may require extrapolation from incomplete data. Preferred option passes other NPD requirements.	**Eradication - new rule:** Lower risk that this option will not achieve intended outcome in contrast to status quo.	**(Eradication - status quo). Yes**. Modest risk that this option will not achieve intended outcome (sustained level of zero density)
Vietnamese parsley	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely to outweigh cost of control. Preferred option passes all NPD requirements.	**Sustained Control:** Low risk that this option will not achieve intended outcome (reduce spread). There is a moderate risk of non-compliance until the community become aware that this is a pest. The efficacy of herbicidal control to reduce extent is still being tested. While the need for resource consent for herbicidal control adds a layer of complexity, it is not envisaged that it increases the risk to reducing spread.	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity and infrastructural value of affected streams. **(Eradication). No.** The intermediate outcome (to control to zero density) is not considered feasible due to the extent of the infestation. There is a high risk that this objective would not be met. **(Progressive containment). Possibly not.** The intermediate outcome (reduce the size of infestation) is only feasible if herbicides are effective. There is a moderate risk that this objective could not be met.
Water celery	Low	Narrative cost and benefit analysis only. Environmental benefits highly likely to outweigh cost of control. Preferred option passes all NPD requirements.	**Sustained Control:** Low risk that this option will not achieve intended outcome (reduce spread). There is a moderate risk of non-	**(Do nothing). Yes.** Modest risk that infestations will damage biodiversity and infrastructural value of affected streams.

			compliance until the community become aware that this is a pest. The efficacy of herbicidal control to reduce extent is still being tested. While the need for resource consent for herbicidal control adds a layer of complexity, it is not envisaged that it increases the risk to reducing spread.	**(Eradication). No.** The intermediate outcome (to control to zero density) is not considered feasible due to the extent of the infestation. There is a high risk that this objective would not be met.
				(Progressive containment). Possibly not. The intermediate outcome (reduce the size of infestation) is only feasible if herbicides are effective. There is a moderate risk that this objective could not be met.
Pest/wilding conifers	Medium	Environmental benefits probably outweigh cost of control. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. The cost of control borne by occupiers (to be determined) balanced with assumed $$ environmental benefit (to be determined). Cost estimates may be highly presumptive. Environmental benefit based on well-recognised forest and scrub valuation data. AgPest calculator to be used to derive net present value as a measure of cost effectiveness. Preferred options pass other NPD requirements.	**Progressive Containment (pest pines):** Low risk that this option will not achieve intended outcome (contain and reduce infestations). **Site-led:** Low risk that this option will not achieve intended outcome (reduction of the incidence of wildings of these species in specific places).	**(Do nothing):** High risk that wildings of these species will re-occur in the places where they have been removed, resulting in a loss in the investment and reduction in environmental values. **(Do nothing):** High risk that wildings of these species will spread at specific sites impacting on environmental values.
Feral/stray cats	Medium	Environmental benefits probably outweigh cost of having rules but advised to undertake a quantified analysis. A medium level analysis would ideally identify costs and benefits in monetary terms along with an estimate of net present value. However, the calculation of value proposition is highly presumptive / lacks empirical data. The preferred options pass other NPD requirements.	**Site-led with pest-agent rule:** Low risk that the approach will not achieve intended outcome (reduction of the effects of a pest in specific places), but moderate to high risk of public adversity to rules.	**(Do nothing):** High risk that feral and stray cat numbers will increase, causing incalculable losses of indigenous fauna and other costs associated with spread of disease (toxoplasmosis) and social nuisance.
Koi carp	Not required	Not required	**Change species name:** No risk – maintains consistency.	**(Do nothing):** Slight risk of legal challenge to any Notices of Direction.

Appendix 2: Feral and stray cat – further policy discussion

Background

The Regional Pest Management Joint Committee resolved to seek the views of both councils regarding the identification of additional site led control areas for feral and stray cats within the Terms of Reference for the partial review.

Rationale to include cats in the RPMP

- Cats contribute to the collective direct and indirect negative impacts on indigenous biodiversity (e.g. predation on native birds, reptiles and insects, freshwater fish and invertebrates and nest desertion in ground nesting bird species) across the region.

- An increased willingness from both councils to do more to protect high-value biodiversity sites from the impacts of cats has been demonstrated, along with other measures (e.g wider cat education and regulatory tools).

- Feral cats are currently listed as a site-led pest in the RPMP but only in the Waimea Estuary environs (Map 19 Tasman-Nelson RPMP – pg.107). It is only one site in Tasman District and no sites are included from Nelson City. There is increased urgency to address this lack of inclusion of other high value sites across the region.

- The main target is feral and stray cats at high-value sites. Therefore, the ability to distinguish companion cats from feral and stray cats would rely to some extent on bylaws being implemented to support RPMP provisions (and vice versa).

Assumptions

In discussing options and examples several assumptions are made:

- The RPMP is the most suitable legal tool to consider feral / stray cat management regimes, but realistically only through site-led programmes.

- Local bylaws are best suited for the widespread management of companion cats through bylaws around compulsory microchipping and desexing, in the absence of national cat management legislation.

- It is difficult to impose rules in the RPMP requiring occupiers to control/destroy cats as they are highly mobile (i.e., it would be difficult to use land tenure as the identifier for non-compliance) and may be owned (i.e., a cat may also be property) but not identified as such.

- Any cat could be deemed a ‘pest agent cat’ in certain circumstances, such as a companion cat which, in any way leads to the replication or survival of stray or feral cat populations.

Whatever options are discussed and ultimately decided upon there will be a raft of differing opinions among Tasman-Nelson residents.

Current situation

The Waimea site-led programme covers five mapped areas. The inclusion of feral cats is to raise their profile as pest predators along with other predators at this site. There is an occupier rule but this relates only to reporting feral cats to TDC if seen on their land and they need to allow access to an authorised person to control the pest[7]. The control programme typically includes:

- Trapping (using live capture traps), which occurs once a year (in a short window of a couple of weeks) and is fully organised by Tasman Environmental Trust (TET).
- Prior to trapping communication is had with property owners in the area via a contractor who door knocks, advising that trapping is going to occur and that domestic cats should be microchipped and kept indoors during the trapping period.
- Cat owners are also encouraged to provide photos of their cats to the trapping co-ordinator as risk mitigation around accidental capture.
- TET has purchased a microchip scanner for the project while TDC subsidised cat microchipping within the site led area to assist cat owners. This is a relatively low inputs programme. A few feral cats are caught each year and all are humanely euthanized.

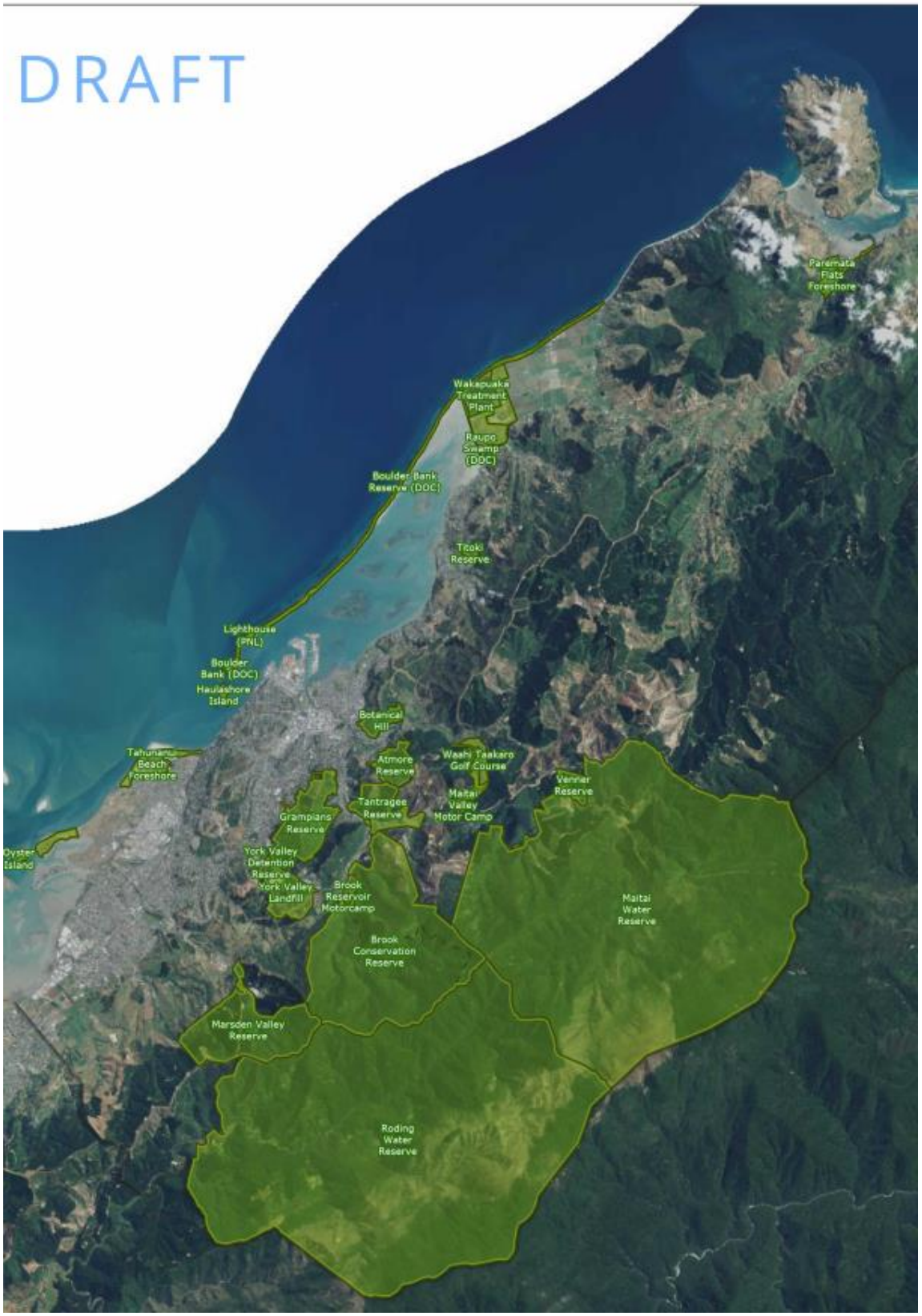
Proposed RPMP approach

While the key drivers to 'do more about cats' are probably similar for both councils (to protect key values at sites) the geographic and human/social situations across the region are quite different. Tasman District is essentially rural (containing several iconic national parks), while a large part of Nelson City is urbanised (with arguably higher cat densities and ownerships).

1. Nelson City Council has identified 31 specific sites of high biodiversity value or where feral or stray cats are known to be free living (refer to map following). These areas comprise different native bush, coastal and wetland ecosystems, where native wildlife should be thriving. NCC wants the ability to destroy feral and stray cats with better legal backing than currently and without specifically targeting owned companion cats.

   The sites are all in public ownership. At most of these sites possum, rat and mustelid trapping is underway. In general, the way in which these predator pests are trapped will not target feral and stray cats, so different methods would be needed (e.g. live capture trapping). Other named sites may see targeted predator control operations implemented over the RPMP duration (and beyond) as needs and resources allow.

[7] APs already have this power at this site by virtue of feral cat being a named pest here.



Indicative sites of high biodiversity value in Nelson City, where live capture cat trapping may occur. Image source: NCC.

Note for above map:

1. *This is a draft list of sites that map entire reserves. 'Doglegs' into residential areas may need to be further assessed.*
2. *Included are:*
   - *York Valley Landfill, as this is a common site for stray and feral cats and potentially a gateway to the high values sites;*
   - *Public Conservation Land Boulder Bank to Mackay's Bluff;*
   - *Raupō Swamp Reserve; and*
   - *Port Nelson Lighthouse area.*
3. *Not included are any private sites (SNA), as this may involve considerable work engaging with owners. Potential to add sites as part of a future RPMP review.*

The aim is to improve the native wildlife chances of flourishing at these sites, which would effectively become 'no cat zones'. Live capture trapping may be carried out overtime at these sites as part of an integrated control programme to manage pest predators. Another goal of NCC is to promote responsible pet cat ownership[8], particularly around and near high value biodiversity sites. A bylaw that mandates microchipping / desexing of cats, along with the current responsible cat management guidelines, will greatly support this proposed programme. However, not having a bylaw in place first shouldn't stop NCC from commencing an RPMP site-led programme.

2. Tasman District Council contains various high value biodiversity sites (e.g three national parks) and other smaller sites like Waimea Estuary. Feral cats are ubiquitous and well spread across the district. However, undertaking more site led feral / stray cat management may be feasible, such as under existing site led programmes. These initiatives would also support the Tasman Biodiversity Strategy (objective 4).

   Regarding existing site led programmes at St Arnaud and Abel Tasman National Park (refer to Maps 17 and 18 Tasman-Nelson RPMP – pgs.103-106), several complementary approaches are considered appropriate:

   - For the existing **Abel Tasman site-led RPMP programme**, feral/stray cats would be added to the current named pests in this programme. While the focus of the current approach is around pest plant control in several privately owned enclaves, adding feral/stray cats sends a stronger signal that these areas are special. A rule could compel occupiers to report any cat seen in the Torrent Bay, Awaroa and Marahau North sites to TDC within 48 hours. Domestic animals are already banned in law from National Parks (i.e ATNP lands surrounding these private enclaves) and domestic animals released in

[8] http://www.nelson.govt.nz/services/licensing-and-environmental-health/good-cat-ownership-guidelines/#:~:text=As%20a%20cat%20owner%2C%20you,Desex%20your%20cat

these areas may be destroyed under conservation legislation. Feral cat trapping has previously been undertaken.

- **St Arnaud township site-led programme** could ultimately in the future become a 'cat free area' (via a pest agent cat rule) focusing on the urban area within the current site-led area. A pest agent rule would focus around domestic cat management and the presence of an iconic national park adjoining, which includes the 5,000 ha. Rotoiti Nature Recovery Project adjoining the St Arnaud township which is managed as a Mainland Island. The reason for the rule is to reduce the opportunity for a domestic cat to breed with a feral cat, thereby expanding the population of feral cats.

General advocacy and support, outside of a formal site-led RPMP approach, such as lending traps and support (e.g. if a Pohara wildlife group wanted to protect a particular area not named in the RPMP) would complement these different site-led programmes and could be addressed under a general TDC policy and initiatives package through its Biodiversity Strategy provisions, including good cat ownership guidelines (to mirror the NCC approach).

Draft policy – with reference to using the current RPMP layout and terminology

(i) **Add to 'Principal Measures'** (pg 57)

d. Service delivery: The councils, or their agents, may undertake control of pests listed in site-led programmes, at their sole discretion (e.g. feral/stray cat control at any high value site named in this section of the Plan).

(ii) Add feral cats to Tables 10 and 11 for St Arnaud and Abel Tasman SLP's

Note: Edit text around feral cats in the Waimea site – pg 63 (as per new text below)

SITE	SPECIES	DESCRIPTION	STATUS
31 sites in Nelson City: - Airport Peninsula Esplanade - Andrews Farm Reserve - Atmore Reserve - Botanical Hill - Boulder Bank (DOC) - Boulder Bank Reserve (DOC) - Boulder Bank Reserve (DOC) - Brook Conservation Reserve - Brook Reservoir Motorcamp - Eureka Park - Grampians Reserve - Haulashore Island - Lighthouse (PNL) - Maitai River Esplanade - Maitai Valley Motor Camp - Maitai Water Reserve	Feral or stray cat	Feral and stray cats* originate from companion cats and are usually short-haired and slightly built, with large heads and 'sharp' features. Coat colours revert to black, tabby or tortoiseshell, with varying extents of white. Adult male cats are generally larger than females and can weigh up to 5kg. They can produce two or three litters per year with an average of four young in each. New Zealand's unique native wildlife is particularly vulnerable to predation by all cats. Feral and stray cats kill young and adult birds and occasionally take eggs and prey on native lizards, fish, frogs and large invertebrates. Cats are highly efficient predators, and	Environmental pest Human health pest

- Marsden Valley Reserve - Oyster Island - Paremata Flats Foreshore - Raupō Swamp (DOC) - Roding Water Reserve - Tahunanui Beach Foreshore - Tantragee Reserve - Titoki Reserve - Venner Reserve - Waahi Taakaro Golf Course - Wakapuaka Sandflats - Wakapuaka Sandflats Esplanade - Wakapuaka Treatment Plant - York Valley Detention Reserve - York Valley Landfill (Map 20)		have been known to cause local extinctions of seabird species on islands around the world. Birds that nest or feed on or near to the ground are particularly at risk. Feral and stray cats are aggressive towards companion (owned) cats and also carry parasites and toxoplasmosis, which causes abortions in sheep and illness in humans. *Feral or stray cat definition under this Plan is: *any cat not microchipped and registered on the New Zealand Companion Animal Register (including in areas where microchipping is or becomes compulsory), free living, unowned and unsocialised or feral in nature and has limited or no dependence on humans.* A cat can also be deemed a 'pest agent cat' under the RPMP, with rules. Pest agent cat definition under this Plan is: *any cat that in any way leads to the replication or survival of stray or feral cat populations.*	

(iii) Include rules for feral and stray cats (after existing site-led programme for Waimea Estuary)

Specific rule for feral and stray cats in the Nelson City site led programmes

Over the duration of this Plan, and with regard to high value sites within Nelson City (as shown on Map xyz):

a. Any person who suspects the presence of any feral or stray cat in any named high value site must report its presence and location to the council.

b. No person shall feed or shelter any feral or stray cat in any named high value site.

Explanation of the rules

Rule a. is to assist NCC in detecting the presence of feral or stray cats for the purposes of biodiversity protection and wildlife management.

Rule b. is to discourage people supporting cat colonies on public land with recognised high biodiversity values.

A breach of these rules creates an offence under Section 154N (19) of the Act.

Statutory obligations: Sections 52 and 53 of the Biosecurity Act prohibit the communication, release, spread, sale and propagation of pests, including for this Plan releasing or abandoning any cat into a named site of high biodiversity value. A breach of section 52 or 53 creates an offence under section 154(O) of the Act.

Also, under section 14(2) of the Animal Welfare Act 1999: "A person commits an offence who, being the owner of, or person in charge of, an animal, without reasonable excuse, deserts the animal in circumstances in which no provision is made to meet its physical, health, and behavioural needs".

Specific pest agent rule for the St Arnaud site-led programme

Over the duration of this Plan, and with regard to the St Arnaud site-led programme (as shown on Map xyz):

a) Sightings of feral cats observed within the mapped area shall be reported to Tasman District Council within five working days of their sighting.

b) No person shall keep, hold or harbour any companion (owned) cat within the mapped area unless it is desexed and its identity is microchipped and registered on the New Zealand Companion Animal Register.

c) No person shall release into the wild (e.g. Nelson Lakes National Park and environs) any companion (owned) cat from or living within the mapped area.

A breach of this Rule creates an offence under Section 154N (19) of the Act.

Explanation of the rule

The reason for this pest agent rule is to restrict the presence of companion cats living in the St Arnaud area and potentially breeding with feral cats. It also assists with reducing the likelihood of companion cats being released into the wild around St Arnaud and causing long term impacts.

(iv) Include new rule for feral and stray cats in the existing Abel Tasman National Park Site-Led Programme (ATNPSP)

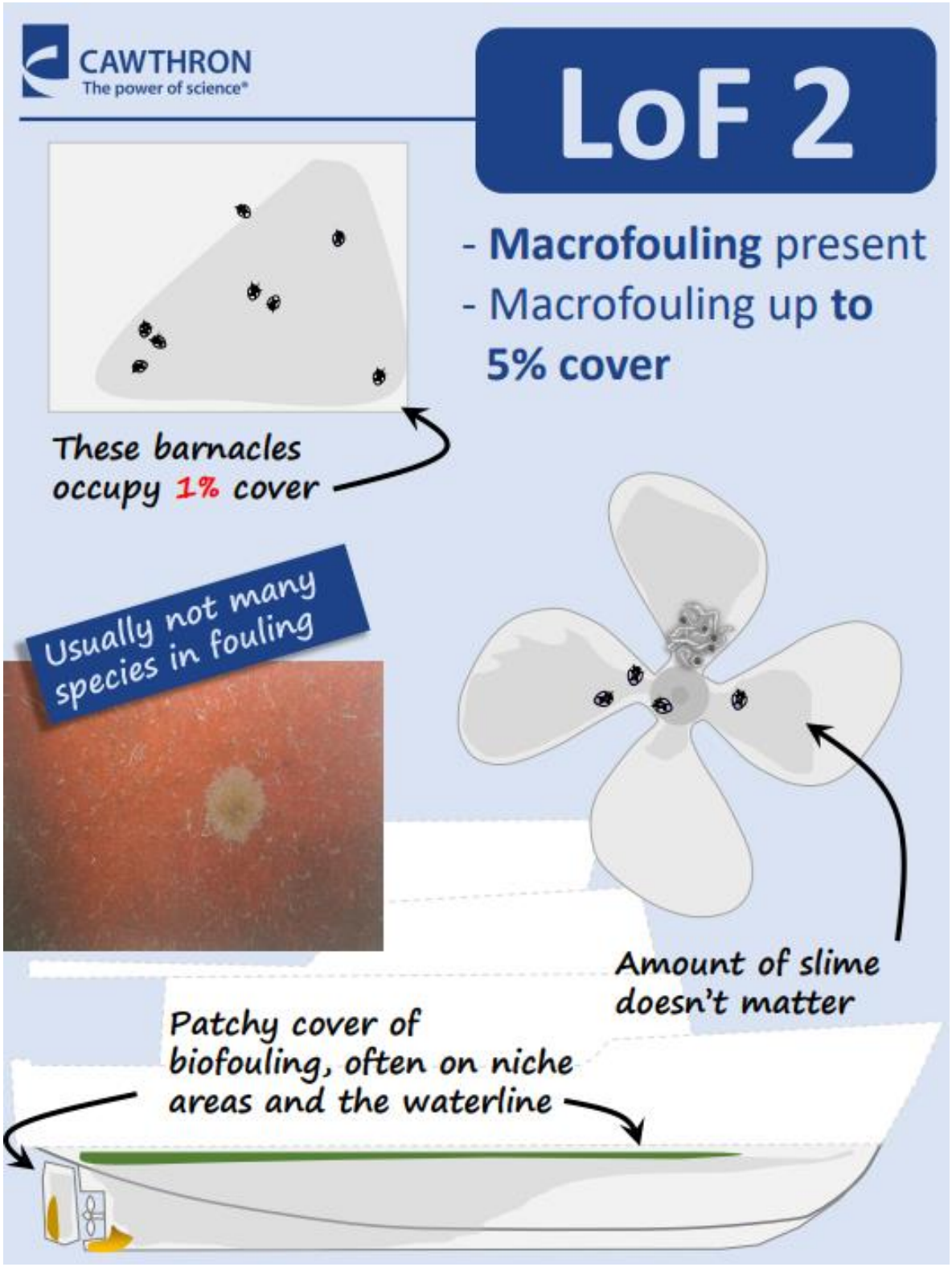
Following rules a. and b. and in relation to the ATNPSP areas – Awaroa, Torrent Bay and Marahau, as shown in maps 17.1, 17.2 and 17.3:

b. From 1 July 2024, then for the duration of this Plan, any person who suspects the presence of any feral or stray cat within the ATNPSP must report its presence and location to the council within 48 hours of their sighting.

Explanation of the rule

The current rule explanation is generic to cover the intent of the inclusion of feral/stray cats but needs to be edited to read 'named pest plants and pest animals' in two places.

Appendix 3: Level of fouling proposed in relation to new sabella rules



Appendix 4: Pest and wilding conifers – further policy discussion

Background

Species covered and definitions

There are ten conifer trees proposed to be declared '**pest conifers'** in the RPMP:

- Bishop pine
- Contorta pine (lodgepole pine)
- Corsican pine
- Dwarf mountain pine & mountain pine
- European larch
- Maritime pine
- Mexican weeping pine
- Ponderosa pine
- Scots pine
- Western white pine

These species occur in planted (historical) or wilding states and all cause untold impacts on environmental, production and cultural/aesthetic values. Contorta pine is the worst of this group (e.g. for spread risk and negative impacts). None of this group are commercially valuable and they all need to be destroyed (including where they occur in plantations) wherever they occur in the region, overtime, through a progressive containment management regime. They are also deemed wilding conifers in their own right.

A further group comprises two conifer species, grown as valuable commercial crops, but which can also create **wilding conifer** spread:

- Douglas fir
- Radiata pine

The RPMP is not concerned with preventing production or permanent forestry operating within their own land boundaries. However, plantations of Douglas fir and radiata pine can result in self-seeded and unintentional spread – hence self-seeded trees outside the area of plantation are deemed 'wilding conifers'. Increasingly, the forestry sector's social license to operate requires these external impacts on neighbouring occupiers to be better managed.

In order to develop RPMP occupier control ('backstop') rules all 12 species need to be named as pests in the region, but listed in two separate tables, 'pest conifers' and 'wilding conifers', for the reasons set out above. *For ease of reference below the term 'wilding conifers' refers to any of the 12 named conifer species, to reflect the National Wilding Conifer Strategy.*

Reasons to include wilding conifers in the RPMP

The basis for including wilding conifers in the Plan stems from a need to protect the substantial investments made in Tasman-Nelson via MPI's national programme and through community/Trust led operations, especially if funding of current programmes is reduced (as has been forecasted). There are several resourcing issues as to why the whole region cannot be considered for wide-spread policy inclusion. Therefore an interim policy needs to be developed which is worthwhile, practicable but also broad based. By focusing on maintaining the gains of control work now, this will assist in a lead in to a full review in 5 years' time, for the whole region.

The above 'maintain the gains' philosophy is the main thread of wilding conifer policies in other regions, but it is not the only driver. Two new initiatives are also outlined in this proposal. They

would apply region-wide, include occupier control rules and are based on (i) protecting places not yet infested with wildings (the 'keeping clear land clear' principle) and (ii) holding forestry companies to account where there is clear and demonstratable wilding spread occurring into neighbouring land from planted or permanent conifer forests.

Another requirement is for the policy to align with MDC's policy where possible. In considering the MDC policy (and the recent Environment Court decision), it was felt that rules should include flexibility to provide for negotiated agreements with occupiers where such agreements can demonstrate that they will achieve the desired outcome (i.e. reduces wilding spread). Outcomes sought in both region-wide and specific operational areas could include negotiating control agreements with occupiers, instead of direct compliance of rules, on a case by case basis.

Proposed RPMP Approach

Region-wide programmes (a sustained control approach)

Two approaches proposed, outside named operational areas, as resourcing and funding allows:

- Keeping land that is currently clear of wildings, clear, to 'nip issues in the bud' in other parts of the region before problems arise or worsen – *a staff led programme to inspect and afford protection to vulnerable areas not yet affected or greatly affected by wildings - hence this involves implementing a 'clear land rule'*.

- In some places in the region it is anticipated that plantation and permanent forests (e.g. comprising radiata and Douglas fir) will be creating or exacerbating wilding conifer spread (usually in the dominant downwind direction) onto neighbouring properties. It is not reasonable for the affected occupiers to have to pay for or control these wilding trees which have originated from these forests. *Where a valid complaint has been received and spread can be clearly attributed to a forest estate then the appropriate occupier would be held responsible to manage this spread – hence having a 'planted forestry rule'.*

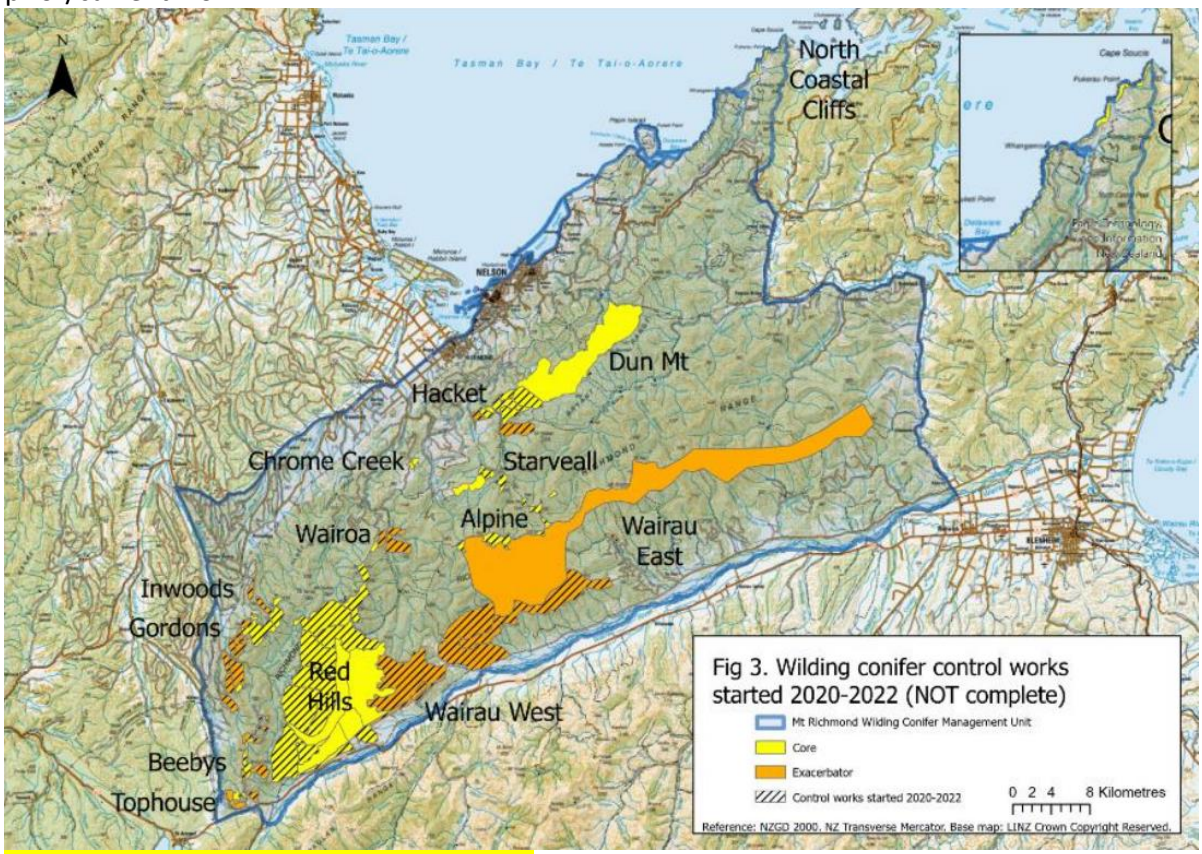
Named operations programmes – to maintain the gains of prior work (a progressive containment approach, but focusing on key sites)

There are four broad wilding conifer control operational areas in the Tasman-Nelson region which are the key subject of the RPMP wilding conifers proposal:

- Mt Richmond Wilding Conifer MU;
- Takaka Hill community project;
- Abel Tasman National Park (ATNP) - Project Janszoon; and
- Golden Bay (incl. ATNP Halo) - Project De-vine.

The four areas proposed (refer to following maps for their locations) for initial inclusion all have different operational and funding situations and groups undertaking control work. However, the intent of this policy is generic and relies on each of the operational areas being mapped in the RPMP at an appropriate scale, showing the geographic areas to where the rules apply (and where relevant, show these areas in relation to the nearby/adjacent high-risk source wildings). Maintaining the gains of control are crucial, leading to progressively pushing back and containing

the source trees in the long-term. Rules need to be developed to safeguard the integrity of this prior/current work.



Placeholder: for correct Mt Richmond MU map - noting high-risk, core, source areas of spread within the MU.

Placeholder: Takaka Hill community project map

Placeholder: Abel Tasman National Park (ATNP) - Project Janszoon map

Placeholder: Golden Bay (incl. ATNP Halo) - Project De-vine map

Draft policy – with reference to using the current RPMP layout and terminology

(i) Add to 'Principal Measures'

d. *National Wilding Conifer Control Programme*: The outcomes of the pest and wilding conifer management programme in Tasman-Nelson is reliant on the sustained implementation of the National Wilding Conifer Control Programme (NWCCP). This is a collaborative nation-wide control approach and funding model for wilding conifer management. Significant joint Crown funding for control work, from the Ministry for Primary Industries, Department of Conservation and Land Information New Zealand, came into effect in 2016 but the programme requires ongoing Crown funding and occupier support to continue (including Crown occupied land). The NWCCP programme will see ongoing investment in control operations primarily within current operational areas, including those areas primarily managed through community efforts. Work may also occur outside these areas should it be prioritised and resources made available through the NWCCP.

(ii) Add to Table 5 – progressive containment pests

<table>
<tr><th>SPECIES</th><th>DESCRIPTION</th><th>STATUS</th></tr>
<tr>
<td>Wilding conifers

Contorta (or lodgepole) pine</td>
<td>Pest conifers are introduced conifer trees that have established in the region by natural means (e.g. wilding spread) and are not managed as commercial species. They include all or any of the 10 species listed in the table below.

<table>
<tr><th>Common name</th><th>Scientific name</th></tr>
<tr><td>Bishop pine</td><td>Pinus muricata</td></tr>
<tr><td>Contorta pine (lodgepole pine)</td><td>Pinus contorta</td></tr>
<tr><td>Corsican pine</td><td>Pinus nigra</td></tr>
<tr><td>Dwarf mountain pine and mountain pine</td><td>Pinus mugo and Pinus uncinata</td></tr>
<tr><td>European larch</td><td>Larix decidua</td></tr>
<tr><td>Maritime pine</td><td>Pinus pinaster</td></tr>
<tr><td>Mexican weeping pine</td><td>Pinus patula</td></tr>
<tr><td>Ponderosa pine</td><td>Pinus ponderosa</td></tr>
<tr><td>Scots pine</td><td>Pinus sylvestris</td></tr>
<tr><td>Western white pine</td><td>Pinus monticola</td></tr>
</table>
Table: Pest conifers (planted and self-seeded) subject to progressive containment programmes in the Tasman-Nelson region.

Pest conifers cause significant impacts on native ecosystems in the region, such as iconic tussock grasslands, alpine herblands and ultramafic areas. In regenerating scrub and forest areas they will outcompete native species. They also adversely affect recreational and visual/landscape values, alter soil and soil fauna, reduce pastoral farming availability, impact water availability and quality and create wildfire risks. All these impacts also adversely affect iwi, runanga and hapu values across Te Tau Ihu. The named pest conifers above have created</td>
<td>Environmental pest

Production pest

Unwanted organism (Pinus contorta)</td>
</tr>
</table>

much of the wilding conifer problems in New Zealand[9] and have no commercial value.

There are two further conifer species, Douglas fir and radiata pine, (listed in the table below) that are highly valuable, commercially grown species that contribute significantly to New Zealand's export economy. Plantation and permanent forests (1 hectare or greater in size) containing these two species are not included in the definition of 'pest conifers' and subsequent rules do not prevent these forest estates operating within their own land boundaries. However, planted Douglas fir and radiata pine can create similar impacts as pest conifers and contribute to wilding spread through wind dispersal of seed onto neighbouring land. Douglas fir in particular is shade tolerant and can readily establish in closed forest ecosystems. There is an increasing social expectation in the region that the wilding spread impacts from plantation and permanent forests are addressed.

Common Name	Scientific Name
Douglas fir	*Pseudotsuga menziesii*
Radiata pine	*Pinus radiata*

Table: Conifers named pests in the RPMP (self-seeded and occurring in a wilding state only) which are subject to progressive containment programmes in the Tasman-Nelson region.

(iii) Include rules for wilding conifers (after existing prog. containment pest rules)

Specific rules for pest/ wilding conifers in the whole region

Over the duration of this Plan, within the Tasman-Nelson region and prior to cone bearing:

a. After 1 July 2024, occupiers outside of named wilding conifer operational areas, must destroy any **pest or wilding conifer** on their land, to ensure that land that is clear or relatively clear of pest or wilding conifers remains clear, on the written direction of an Authorised Person, unless there is a negotiated agreement in place between the Management Agency and occupier as an alternative way to achieve this requirement.

- *'Clear land' is defined as parts of the region that are currently clear, (or infestations are at a low or very low density), but highly susceptible to wilding conifer spread if a seed source becomes established. Although the majority of wilding conifer spread is predictable, a characteristic of spread (particularly in highly susceptible areas) is also the occurrence of random, irregular long distance spread into areas previously unaffected. This rule provides an early intervention trigger for these vulnerable or susceptible areas. *see also footnote at end of section. Further, protected 'specimen' conifer trees named in District Plans (made under the Resource Management Act) would generally be exempt from this requirement, on a case by case basis.*

[9] Froude, V.A. 2011. Wilding conifers in New Zealand: Beyond the status report. Report prepared for Ministry of Agriculture and Forestry by Pacific Eco-logic, Bay of Islands.

b. Occupiers of planted conifer forests (greater than 1 hectare), outside named wilding conifer operational areas, are responsible for the destruction of any **wilding conifers** present on adjoining land, within 200m of the planted forest boundary. This requirement will be on written direction from an authorised person, following a valid complaint from an adjoining affected neighbour, where there is clear evidence that wilding spread has occurred from the planted forest (in the opinion of an Authorised Person) to an adjoining property.

A breach of these rules is an offence under Section 154(N)19 of the Act.

Explanation of the rules

- *Rule (a) is a **'clear land clear rule'** and requires occupiers to take specific actions to control pest or wilding conifers when instructed to by appropriate council officers in writing. The intent of the rule is to primarily protect high value biodiversity areas which are deemed vulnerable to any wilding conifer spread where infestations are small (and densities low to very low) and control now is feasible and cost effective, as determined by council officers. The rule could also be used to protect production land or for cultural/aesthetic reasons where wilding or pest conifers are impacting on these values. A negotiated agreement between the council and occupier is a valid alternative way to meet this rule requirement.*

- *Rule (b) is a '**planted forestry rule'** and aims to ensure that forest occupiers (plantation and permanent forests) are responsible for any wilding spread of conifer seedlings from their forests onto immediately neighbouring land. It is unreasonable for affected occupiers adjoining planted forests to have to clear wildings and/or pay for this control work. Implementation of this rule is based on the opinion of an appropriate council officer and must be backed with proof of spread occurring. A negotiated agreement between the forest occupier and adjoining occupier will be a valid alternative to meet this rule requirement, e.g. that the agreement documents which party will undertake and/or fund the required control and over what time period.*

Specific rules for pest/ wilding conifers in parts of the region

Over the duration of this Plan, within the operational areas in the Tasman-Nelson region (as shown in Maps w, x, y and z) and prior to cone bearing:

a. Occupiers must destroy any pest/wilding conifers on their land where they are located within a defined operational area that has received prior control, or there is a negotiated agreement in place between the Management Agency and occupier as an alternative way to achieve this requirement.

b. Occupiers within a defined operational area must destroy any pest/wilding conifers on their land within 200m of an adjoining property boundary, where the adjoining property has previously been cleared of pest/wilding conifers through prior control and the adjoining occupier is also undertaking active control work within 200m of their property boundary.

c. Occupiers must destroy any pest agent conifer on their land, on direction of an authorised person, where an adjoining occupier is undertaking active wilding conifer

control on their land and the wilding spread is clearly attributable to the pest agent conifer(s).

A breach of these rules is an offence under Section 154(N)19 of the Act.

Explanation of the rules

- *Rule (a) is about '**maintaining the gains'** of any control work undertaken to ensure that the benefits of control are not lost through inaction (or for any other reason) by any occupier. 'Prior' means any work underway from 1 January 2016 (when the national programme commenced) to the present day. 'Control' means any work funded all or in part through formalised or planned programmes (e.g. national, regional or local operations including environmental trust led initiatives, as deemed valid by Tasman District Council). This definition extends to include individual private property control programmes, on a case by case basis.*

- *Rule (b) is a '**good neighbour rule'** designed to protect an occupier who has been taking reasonable steps (e.g active/ongoing control work) on their property and is being impacted by wilding conifer infestations on neighbouring property (e.g. through inaction or unsatisfactory/incomplete control). The 200m distance is based on science that notes the majority of conifer seeds fall within this space from source trees. In practicable terms this is the most suitable way to bind the Crown to meet its RPMP obligations.*

- *Rule (c) is a '**pest agent rule'** which aims to prevent pest/wilding conifer establishment across property boundaries through the control of conifer woodlots and shelterbelts (under 1 hectare in size) or individual trees that are determined, in the opinion of an authorised person, to be genuine sources of seed spread. This rule would be triggered primarily through a valid complaint made to the Management Agency.*

**Clear land rule*

A key gap in RPMPs is a lack of rules to keep areas that are clear of wilding conifers, clear. Some include rules requiring landowners to keep areas clear where publicly funded wilding conifer control has been undertaken, but none include a 'clear land' rule that applies generally to wilding conifers, regardless of species, source, or previous control operations. History has shown that an important contributor to wilding conifer problems is a lack of early action, and that the cost of wilding conifer control increases significantly the longer any spread is left uncontrolled. Therefore, this type of rule is an important mechanism to help prevent new areas of wilding conifers becoming established due to a lack of early action. They are particularly important given the current policy and economic drivers incentivising afforestation.

Extract from *Wilding Conifer Management in New Zealand. Understanding the Gaps and Limitations in the Policy, Statutory, and Regulatory Framework and Potential Options for Addressing Them*. Report prepared for the Wilding Pine Network by Tamsin Page, October 2021.

Attachment 2

Supporting Document for the limited review of certain pests for the Tasman Nelson Regional Pest Management Plan (2023)

An analysis against the requirements of the National Policy Direction for Pest Management including narrative analyses of benefits and costs

(a draft document for Joint Committee reference)

July 2023

Introduction

This technical report provides detail on the benefits and costs analyses that are currently being undertaken to inform the proposed revisions to the *Tasman Nelson Regional Pest Management Plan 2019-2029* (the RPMP). The RPMP review is limited to proposals for eight new species to be added as pests to be managed under the RPMP (blue passion flower, boneseed (Port Hills), moth plant, pampas, Vietnamese parsley, water celery, pest/wilding conifers, and feral/stray cats), an additional rule for *Sabella*, and a name change for koi carp).

The first steps in the making of a plan to manage a pest under the under the Biosecurity Act 1993 (BSA) is to form a proposal which sets out, among many things, the pest(s) to be managed, the objective of that management, and an analysis of the benefits and costs of the plan (Section 70 BSA). To guide the decision-making process, the National Policy Direction for Pest Management 2015 (NPD) includes directions on the content and process requirements for developing a pest management plan which includes directions on analysing benefits and costs (Section 6 of the NPD).

The proposed change of species name for koi carp is minor and does not trigger the requirements to perform an analysis following the NPD. For the remaining proposals, Appendix 1 of this technical report presents an assessment of the appropriate level of benefit and cost analysis (NPD 6 (1)). **Note: at the present time, medium or high-level quantitative analyses have not been performed.** The body of the report presents a low-level assessment of the benefits and costs of each option with limited quantification (where practicable). Importantly, the low-level analysis identifies the assumptions on which these assessments are based (a requirement of Section 6 (2) of the NPD).

The body of the report also presents other matters addressing Section 6 of the NPD particularly NPD 6 (3) which considers the risks that each option will not achieve its objective and 6 (4) identification of the residual risk, indicating the likelihood, and impact on the benefits mostly likely affected if the risk eventuated. In doing so, this technical report brings to satisfaction NPD 6 (5) – that the assessment of level of benefit analysis, the cost and benefit analysis itself, and the risks – are documented.

To assist the decision-making process, this technical report also identifies the beneficiaries, exacerbators and the proposed allocation of costs as required by NPD Section 7 along with a specific consideration of the cost allocation of grouped pests (NPD 7 (1)) where appropriate and a specific comment on satisfying NPD Section 8 with regard to proposed Good Neighbour Rules where appropriate.

Blue passion flower

Blue passion flower (*Passiflora caerulea*) is a vigorous evergreen climbing vine with hanging white purple flowers. It can be distinguished from all other passionfruit by at least some of the leaves having five lobes. This species inhabits light gaps and forest edges, scrub, roadside margins, wastelands, hedges, and domestic gardens. It will readily spread into natural areas, smothering native plants and preventing establishment of native plant seedlings. It is spread by birds and possums.

While it appears that the species has yet to become fully naturalised in the Nelson-Tasman area, there are signs of wild spread. The proximity of the known occurrence of this species to the Grampians Reserve is a significant threat to the natural values of that area. It would be very difficult to control this species once it gets out of the current domestic setting.

The preferred option is ***Eradication*** with ***Do nothing*** and ***Progressive Containment*** presented as alternative options.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for blue passion flower is "low" (see Appendix 1) and a narrative (qualitative) costs and benefits analysis is sufficient.

It is estimated that there is a 26-hectare core infestation in and around Nelson South. There are isolated infestations in North Nelson, Stoke, Hope, Wakefield and Appleby, which in total (including the core) sum to around 360 hectares of infestation. This estimate is based on a 200m buffer of known infestations. If left uncontrolled, it is estimated that this pest could affect at least 1200 hectares of the native forest and shrubland values of the Grampians and Sugarloaf Hill within 10 years and could become widespread across the eastern hills from Brightwater to the Gentle Annie in 50 years.

The most significant aspect of the cost of control lies with the councils helping landowners with control and monitoring compliance. The cost to landowners / occupiers is mainly a time cost to remove this pest from their gardens (less than $25 per annum). An indirect benefit of this approach that the costs borne by the councils are fairly disbursed across the wider community of beneficiaries.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	**Do Nothing**	**Eradication**	**Progressive Containment**
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate blue passion flower and eliminate its adverse effects.	Over the duration of this Plan, progressively contain blue passion flower and reduce its adverse effects.
Intermediate outcome	The infestation of blue passion flower may spread in the short to medium term.	Reduce the infestation level of blue passion flower to zero levels in the short to medium term.	Relying on occupiers to reduce the infestation to near-zero density in the medium term.

Programme Options	Do Nothing	Eradication	Progressive Containment
Technical and operational risks	Low	Low	Low
The risk that the option cannot be implemented and of non-compliance	Low / none	Low While blue passion flower has some inherent value as a garden ornamental, people with this pest are generally aware of its potential to spread once they have had it in the garden for a while.	Low While blue passion flower has some inherent value as a garden ornamental, people with this pest are generally aware of its potential to spread once they have had it in the garden for a while.
The risk that compliance with other legislation will adversely affect implementation of the option	Low / none	Low Blue passion flower can be managed by manual means and is readily controlled using off-the-shelf woody weed herbicides.	Low Blue passion flower can be managed by manual means and is readily controlled using off-the-shelf woody weed herbicides.
The risk that public or political concerns will adversely affect implementation of the option	Low There is possibly a degree of ambivalence or unawareness among the general population of the potential for this pest to spread.	Low While blue passion flower has some inherent value as a garden ornamental, there are less weedy species that can be used instead.	Low While blue passion flower has some inherent value as a garden ornamental, there are less weedy species that can be used instead.
Other material risks	None identified	None identified	Low Occupier-led control slightly increases the risk that spread will not be stopped (in contrast to Council-led eradication)

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective. However, there is a modest to high risk that this pest could deteriorate the natural values of the Grampian Hills over the next ten years.

Eradication: Low

The risk of not achieving the intermediate outcome of a reduction in the area of the pest within the next ten years is also rated as low. Under this scenario, the pest might not be completely eradicated in ten-years' time, but the value of indigenous and forest habitats in the near vicinity of the infestation will not deteriorate (due to blue passion flower) within the next ten years.

Progressive Containment: Low

The risk of not achieving the intermediate outcome of a reduction in the area of the pest within the next ten years is rated as low. However, under this scenario, the reliance on occupier control slightly increases the risk that the spread of the pest is not stopped, leading to a deterioration of the indigenous and forest habitats in the near vicinity of the infestation within the next ten years.

Beneficiaries of the programme [NPD 7(2)(b)]

The eradication of this environmental pest benefits the whole community through the protection of native habitats and biodiversity.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with this plant on their land

Best mechanism to impose cost allocation [NPD 7(2) (d) and (e)]

The simplest and most efficient method of allocating the cost fairly across beneficiaries and exacerbators to incorporate it into the general rate. Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

This vine will spread rapidly, with its seed being carried by water, animals and machinery, invading indigenous-dominated ecosystems and reducing their indigenous biodiversity.

Rationale

There is a need to act promptly while there is still a chance to eradicate this plant. The size of known infestations are still relatively small and contained which makes eradication highly feasible. Eradication may reduce the overall cost in contrast to the longer-term costs of a *Progressive Containment* programme or on-going cost of a *Sustained Control* programme.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, depending on every occupier with this pest on their land to take voluntary action to ensure its eradication is not a reliable strategy to avoid the ecological effects of this species.

Adverse effects [BSA Section 71(d)]

Is blue passion flower capable of causing an adverse effect on:		**Comments**
Economic well-being?		
The viability of threatened species or organisms?	Yes	Invasion and transformation of natural habitats of threatened plants.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?	Yes	The leaves and unripe fruit contain cyanide and can be poisonous if consumed. Can be confused for the edible banana passionfruit.
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Impedes access and restricts roadside vision.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Boneseed (Port Hills)

Boneseed (*Chrysanthemoides monilifera* subsp. *monilifera*) is a bushy shrub or small tree up to 2-3m tall with bright yellow daisy-like flowers and a very hard seed. It quickly forms dense thickets, replacing all native communities under 2m tall and preventing establishment of native seedlings. It can colonise disturbed sites faster than native species.

Boneseed is presently an *Eradication* species for all of the Tasman District and Nelson City area except for the Port Hills which is identified as an area of no control in the current RPMP. While good progress is being made outside the zone, the Port Hills infestation remains a source of re-invasion into areas close to the Port Hills zone and along Tahunanui Beach and Moturoa Rabbit Island. Also, while the Port Hills infestation has areas that are very difficult to manage, there are areas within the Port Hills zone that remain clear of the pest and will likely benefit from remaining that way.

The preferred option is ***Sustained control*** within the Port Hill zone with ***Do nothing*** (the status quo) and ***Eradication*** (Port Hills) presented as alternative options. The existing eradication programme over the rest of the Nelson and Tasman region remains unchanged.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for boneseed is "low" (see Appendix 1) and a narrative (qualitative) costs and benefits analysis is sufficient.

A quantitative analysis undertaken in 2018 to examine the benefits of the eradication of boneseed from the Port Hills identified that this scenario was not cost beneficial. The prevailing assumption was that the Port Hills costs should be considered in isolation to the rest of the Nelson – Tasman region due to the overwhelming cost of eradicating boneseed from difficult sites along the coastal cliffs above Wakefield Quay / Rocks Road. The benefits were also considered in isolation meaning that the cost of eradication substantially outweighed the benefits.

It is increasingly apparent that the Port Hills infestation continues to spread within the Port Hills zone. Seed is spread from this zone via birds and water into sensitive sites many kilometres away, causing ongoing cost to the regional eradication programme and putting that programme in jeopardy. If left uncontrolled, it is estimated that this pest could affect a further 535 hectares of urban garden, and scrubby habitat within the Port Hills zone and continue to be the source of reinfestation of at least 500 hectares of coastal land outside the Port Hills zone over the intermediate term.

The revised assumptions for a sustained control programme specifically for Port Hills are:

- that the costs of a sustained control programme (stopping the spread) are not nearly as high as eradication, with
    - effective management of easy to reach garden infestations being within the means of most property occupiers (less than $25 dollars per year) who are not expected to achieve total eradication, just the destruction of flowering bushes;
    - effective management of the more difficult infestations is not adding more to the existing weed control budget of the property owners who have formal weed destruction programmes over the same estates (namely Waka Kotahi);
- a small cost of compliance monitoring is likely to be less than the continued cost of control in the eradication zone;

- that the benefits of not having boneseed in valuable habitats within 1.5km outside the Port Hills zone accrue to the boneseed (Port Hills) sustained control programme.

The benefit of the sustained control programme is the improved protection afforded to regenerating native shrubland and cliff escarpment communities and the reduction of spread outside the zone into areas where boneseed is being eradicated.

Note: As at July 2023, the costs and benefits have not been fully quantified. Quantitative analysis of the assumptions may be warranted, subject to consultation with Waka Kotahi.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	Do Nothing	Eradication	Sustained Control
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate boneseed and eliminate its adverse effects.	Over the duration of this Plan, undertake the ongoing control of boneseed to reduce its impacts on biodiversity and urban garden values in the Port Hills zone and reduce its spread to properties outside the zone.
Intermediate outcome	The infestation of boneseed will continue to increase within the Port Hills zone in the short to medium term and may threaten the eradication objective outside the zone.	Reduce the infestation level of boneseed in the Port Hills zone in the short to medium term.	The spread of boneseed on to properties clear of the pest will reduce in the short to medium term.
Technical and operational risks	Low / none	Modest to high. The longevity of the seed in the soil is a technical hurdle for eradication from difficult to access sites due to the frequency of visits required to eliminate all seedlings	Low for most areas. The longevity of the seed in the soil is a technical hurdle, but *Sustained Control* is chosen as a feasible option to manage this effect. High along the coastal cliffs – involves specialist machinery and crew and (possibly) road closures.

Programme Options	Do Nothing	Eradication	Sustained Control
The risk that the option cannot be implemented and of non-compliance	Low / none	Low in most areas but high along Wakefield Quay / Rock Road.	Low in most areas but high along Wakefield Quay / Rock Road.
The risk that compliance with other legislation will adversely affect implementation of the option	Low / none	Low The shrub is readily treatable with woody herbicides.	Low The shrub is readily treatable with woody herbicides.
The risk that public or political concerns will adversely affect implementation of the option	Moderate There is public demand for increased control in the Port Hills area	Moderate to high The cost of control is likely to outweigh the benefits	Moderate It is anticipated that the control of infestations along the coastal cliffs could lead to short term inconvenience to users of the road.
Other material risks	None identified	Cost likely to outweigh benefit	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective within the zone itself, but doing nothing puts the eradication programme outside the zone at risk. This includes a high likelihood of perpetual invasion of high value coastal habitat. There is also a modest risk that the value of indigenous habitats within Port Hills zone will deteriorate over the next ten years.

Eradication: Low

There are no residual risks to the objective within the zone itself, but attempting to undertake eradication is likely to result in costs that outweigh benefits.

Sustained Control: Low

The risk of not achieving the Sustained Control objective within the next ten years is also rated as low. Under this scenario, the value of indigenous habitats within the Port Hills zone will not deteriorate further within the next ten years and the eradication objective outside the zone is less at risk.

Beneficiaries of the programme [NPD 7(2)(b)]

The prime beneficiaries are considered to be occupiers who have land that is clear of this pest. However, there is a benefit to the whole community resulting from the protection of biodiversity values in the Port Hills and security of the eradication of boneseed from high value coastal habitats that are under the neighbouring boneseed eradication programme.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with this plant on their land within the Port Hills zone who retain seeding bushes on the property that they occupy.

Best mechanism to impose cost allocation [NPD 7(2) (d) and (e)]

The simplest and most efficient method of allocating the cost fairly across beneficiaries is to incorporate compliance monitoring costs into the general rate. The simplest and most efficient method of allocating the cost fairly across exacerbators is for them to bear the cost of control. Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

Boneseed will continue to spread through the Port Hills area, invading indigenous-dominated ecosystems and reducing their indigenous biodiversity and putting the regional eradication programme at risk.

Rationale

Extensive survey of the Port Hills indicates the need for active control within the area. It is a source of reinvasion into land that is clear of or being cleared of the pest. This type of problem is suited to a *Sustained Control* -style programme.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, depending on every occupier with this pest on their land to take voluntary action to ensure its eradication is not a reliable strategy to avoid the ecological effects of this species.

Adverse effects [BSA Section 71(d)]

Is Boneseed capable of causing an adverse effect on:		**Comments**
Economic well-being?		
The viability of threatened species or organisms?	Yes	Will readily invade coastal sand ecosystems, competing with and destroying the habitat of pīngao (for instance).
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Impedes access and restricts roadside vision.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Feral/stray cat

The origins of feral and stray cats are from the domestic cat (*Felis catus* or *Felis* 'domesticus'). Like other felines, *Felis catus* has a strong flexible body, quick reflexes, and retractable claws. Like domestic cats, feral/stray cats can produce two or three litters per year with an average of four kittens in each.

Under this proposal, a feral or stray cat is a *Felis catus* that is not microchipped and registered on the New Zealand Companion Animal Register, and is free living, unowned and unsocialised or feral in nature and has limited or no dependence on humans.

Feral cats are more often short-haired, more slightly built, with large heads and "sharper" cat-like features in contrast to many domestic breeds. Colouration is not a distinguishing factor, but feral cats tend to be black, tabby or tortoiseshell, with varying extents of white. Stray cats are more like domestic cats in appearance. The most distinguish factor is socialisation to humans[1]. Feral cats are fully unsocialised and tend to avoid human contact. A stray cat is a cat that was once socialised but has lost regular human contact and may be unsocialised or less socialised in contrast to a well socialised pet cat.

Cats are obligate carnivores, and cannot survive without the amino acid taurine in their diet[2]. Cats are opportunistic predators favouring small terrestrial mammals when available but also highly capable hunters of birds, bats, reptiles, amphibians, and invertebrates. They will also feed on carrion.

This proposal also refers to the 'pest agent' cat which is any cat (including any owned companion cat) that in any way leads to the replication or survival of pest (i.e., feral or stray) cat populations – usually in the form of an unneutered male cat or a sexually entire female cat that is abandoned or does not come back home (i.e., becomes stray).

The preferred option is ***Site-led*** with ***Do nothing*** presented as an alternative option.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for feral/stray cats is "medium" (see Appendix 1). The following is a low-level analysis that sets out the prevailing assumptions.

Cats are an apex predator in Aotearoa-New Zealand, and in ecologically sensitive areas, have undoubtedly significant effects on indigenous fauna. In the absence of intervention, there may be direct costs in the form of impacts on the survival, reproductive productivity, and distribution of indigenous animals in regionally significant ecosystems with the knock-on effects in the reduction in economic wellbeing from nature tourism and reduction in the amenity, social, and recreational value of indigenous ecosystems resulting from (for instance) the loss of bird song or local extinction of rare species. These costs are difficult to quantify. The ecosystem benefits derived annually from forest and scrub ecosystems, wetlands, and coastal ecosystems are conservatively valued as being between $345 and $14,208 per hectare per year - although the rate that feral cats diminish these values is information deficient.

Cats are the only animal in which the organism *Toxoplasma gondii* - which causes toxoplasmosis – can sexually reproduce. Toxoplasmosis can cause serious complications for pregnant women and people

[1] www.alleycat.org/resources/feral-and-stray-cats-an-important-difference/#:~:text=Stray%3A%20Might%20walk%20and%20move,Unlikely%20to%20make%20eye%20contact.
[2] https://www.npvet.co.nz/pets/animal-info-pets/natural-medicine-articles/natural-feeding-cats/

with weakened immune systems, and deaths of livestock. The increasing incidence of toxoplasmosis in Hector's (Nationally Vulnerable) and Māui (Nationally Critical) dolphins is linked to the cat population on the mainland. There is too little empirical information to attribute the cost of toxoplasmosis to the regional economy.

The cost of feral cat control is also somewhat of an unknown because the total number of feral cats is not known. The cost of control of feral cats under this proposal is somewhat a moot point because, being site-led programmes which seek to control a raft of mammalian pests, the cost of implementation cannot be attributed to any one type of pest.

The cost of implementing a region-wide campaign of domestic cat de-sexing is not knowable as the number of domestic cats is presently not known. Again, this is somewhat moot because this proposal does not seek to enforce compulsory micro-chipping and desexing at the regional scale, but rather encourages this so that companion cats are not accidentally identified as feral, stray, or pest agent cats. The exception is the St Arnaud Village pest agent rule which effectively would require any cat kept within the village to be desexed and microchipped. This cost is still to be estimated.

The benefits of site-led feral and stray cat control relate to the protection of fauna in high value ecosystems. The value of cat control may be estimated based on the reduction of ecosystem values, but as stated above, there is very little information to gauge the value proposition.

Companion cats are also beneficial, not only for the companionship that cats provide but for the industry created through cat breeding and veterinary services. Again, the value of these benefits is moot because the proposal does not seek to reduce the number of companion cats.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	**Do Nothing**	**Site-led**
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, control the number of feral and stray cats at listed sites.
Intermediate outcome	To allow feral and stray cat populations to increase.	To reduce the number of feral or stray cats at sites to reduce their impacts on the values of those sites.
Technical and operational risks	Low	Low

Programme Options	Do Nothing	Site-led
The risk that the option cannot be implemented and of non-compliance	Low	Low - moderate It is understood that owners of companion cats in the St Arnaud village area are quite supportive of responsible cat ownership and feral cat control. It is likely that cat enthusiasts will not report the presence of a feral or stray cat. However, this is unlikely to significantly affect programme success. It is possible that cat enthusiasts will attempt to shelter and/or feed feral or stray cats near or within named high value sites. This is an effect that enforcement of the rules is anticipated to address.
The risk that compliance with other legislation will adversely affect implementation of the option	Low	Low
The risk that public or political concerns will adversely affect implementation of the option	Moderate The public is increasingly intolerant of the loss of indigenous biodiversity to feral and stray cats	Moderate Some enthusiasts do not distinguish the negative value of feral/stray cats and the positive value of companion cats
Other material risks	None identified	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: High

There are no residual risks to the objective. However, there is high risk that the population of feral/stray cats in high value ecosystems will continue to increase, causing increased losses in the value of those ecosystems.

Site-led: Low

The risk of not achieving feral/stray cat control within specific sites is rated low. While it is possible that there will be non-compliance with rules initially, it is anticipated that the value of indigenous habitats will not deteriorate due to feral/stray cats.

Beneficiaries of the programme [NPD 7(2)(b)]

The prime beneficiaries are considered to be the regional community and general public who enjoy the wildlife value of high value natural areas.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Any person who willingly or accidentally causes the persistence of a feral or stray cat population in a listed site as a consequence of non-compliance with the rules.

Best mechanism to impose cost allocation [NPD 7(2)(e)]

The simplest and most efficient method of allocating the cost of control is for feral / stray cat control to be part of community-funded or council-funded site-led pest control programmes.

Given the public benefit, the simplest and most effective (and fair) method of allocation the cost of compliance monitoring is for those costs to be subsumed into regional pest management budgets. Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

The population of feral/stray cats in high value ecosystems will continue to increase, causing increased losses in the value of those ecosystems.

Rationale

Feral and stray cats have a negative impact on indigenous fauna. These effects cannot be managed through responsible companion cat management alone, as it requires control of the feral population.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

To date the Waimea site-led feral cat control programme has proven effective without the need for rules due to a high level of interest by the surrounding community, some of whom are owners of companion cats, most of which are desexed and microchipped. However, as the number of site-led programmes increases, there is increasing risk that there will be sexually entire and non-microchipped companion cats being caught and mistaken for feral or stray cats if voluntary de-sexing and microchipping is relied on. The rules provide for the fast and effective identification of companion cats. The rules also provide the regulatory backstop that has been missing with respect to dumping cats in the wild.

Adverse effects [BSA Section 71(d)]

Are feral / stray cats capable of causing an adverse effect on:		Comments
Economic well-being?	Yes	Toxoplasmosis affects livestock health
The viability of threatened species or organisms?	Yes	Predation and nesting success of threatened fauna
The survival and distribution of indigenous plants or animals?	Yes	Predation of threatened fauna
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Predation of threatened fauna
Soil resources?		
Water quality?	Yes	Contamination of water resources with *Toxoplasma*
Human health?	Yes	Toxoplasmosis affects human health
Social and cultural well-being?	Yes	Predation of threatened fauna. Social nuisance in domestic vegetable gardens and with cats fighting at night.
The enjoyment of the recreational value of the natural environment?	Yes	Predation of threatened fauna. Social nuisance in domestic vegetable gardens and with cats fighting at night.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Predation of threatened fauna

Moth plant

Moth plant (*Araujia hortorum*). Also known as *Araujia sericifera*. A vigorous evergreen climbing vine with clusters of bell-shaped white flowers followed by a leathery pear-shaped pod that can be mistaken for choko. This plant has a toxic smelly milky sap that can cause skin irritation and dermatitis. This species inhabits light gaps and forest edges, scrub, roadside margins, wastelands, hedges, and domestic gardens. It will readily spread into natural areas, smothering native plants and preventing establishment of native plant seedlings. It can also gum up the feeding parts of moths and butterflies feeding on the nectar, causing their eventual starvation. Moth plant has black thistledown-like seeds that are spread by wind.

While it appears that the species has yet to become fully naturalised in the Nelson-Tasman area, there are signs of wild spread. The proximity of the known occurrence of this species to the Grampians is a significant threat to the natural values of that area. It would be very difficult to control this species once it gets out of the current domestic setting.

The preferred option is ***Eradication*** with ***Do nothing*** and ***Progressive containment*** presented as alternative options.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for moth plant is “low” (see Appendix 1) and a narrative (qualitative) costs and benefits analysis is sufficient.

It is estimated that there are around 450 hectares of moth plant infestation involving a small core infestation in and around the Enner Glynn / Stoke area and isolated infestations which occur from Marybank through Richmond to Hope, and in Mapua, Upper Moutere, Motueka, Korere, and Kaiteriteri. The infestation estimate is based on a 200m buffer of known infestations.

If left uncontrolled, it is estimated that this pest could affect at least 4900 hectares of indigenous forest and scrub, exotic forest, orchard and botanical park values in and around Stoke, the Grampians, and Sugarloaf, Jenkins and Saxton Hills within 10 years (spreading 200m per year). In 50 years, this pest could become widespread across the eastern hills from Brightwater to the Gentle Annie and throughout the Moutere Valley, Motueka, Korere and Kaiteriteri if left unmanaged.

The most significant aspect of the cost of control lies with the councils helping landowners with control and monitoring compliance. The cost to landowners / occupiers is mainly a time cost to remove this pest from their gardens. An indirect benefit of this approach that the costs borne by the councils are fairly disbursed across the wider community of beneficiaries.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	**Do Nothing**	**Eradication**	**Progressive Containment**
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate moth plant to eliminate its adverse effects.	Over the duration of this Plan, progressively contain moth plant and reduce its adverse effects.

Programme Options	Do Nothing	Eradication	Progressive Containment
Intermediate outcome	The infestation of moth plant may spread in the short to medium term.	Reduce the infestation level of moth plant to near-zero levels in the short to medium term and to zero levels in the long term.	Relying on occupiers to reduce the infestation to near-zero density in the medium term.
Technical and operational risks	Low	Low	Low
The risk that the option cannot be implemented and of non-compliance	Low / none	Low People with this pest are generally aware of its potential to spread once they have had it in the garden for a while.	Low People with this pest are generally aware of its potential to spread once they have had it in the garden for a while.
The risk that compliance with other legislation will adversely affect implementation of the option	Low / none	Low Moth plant can be managed by manual means and is readily controlled using off-the-shelf woody weed herbicides.	Low Moth plant can be managed by manual means and is readily controlled using off-the-shelf woody weed herbicides.
The risk that public or political concerns will adversely affect implementation of the option	Low There is possibly a degree of ambivalence or unawareness among the general population of the potential for this pest to spread.	Low While moth plant has some inherent value as a garden ornamental, there are less weedy species that can be used instead.	Low While moth plant has some inherent value as a garden ornamental, there are less weedy species that can be used instead.
Other material risks	None identified	None identified	Low Occupier-led control slightly increases the risk that spread will not be stopped (in contrast to council-led eradication)

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective. However, there is a modest to high risk that this pest could deteriorate the natural values of the eastern hills, riparian margins and botanical parks in the Stoke area over the next ten years.

Eradication: Low-moderate

There is some risk of not achieving zero-levels in the short to medium term. Under this scenario, the pest is unlikely to be completely eradicated in ten years (the life of the current RPMP). However, the value of indigenous and forest habitats in the near vicinity of the infestations will not deteriorate (due to moth plant) within the next ten years if control is continued.

Progressive Containment: Low

The risk of not achieving the intermediate outcome of a reduction in the area of the pest within the next ten years is rated as low. However, under this scenario, the reliance on occupier control slightly increases the risk that the spread of the pest is not stopped, leading to a deterioration of the indigenous and forest habitats in the near vicinity of the infestation within the next ten years.

Beneficiaries of the programme [NPD 7(2)(b)]

The eradication of this environmental pest benefits the whole community through the protection of native habitats and biodiversity. It also benefits orchardists and forestry owners who presently do not have this pest affecting the vigour of their trees or endangering their health.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with this plant on their land.

Best mechanism to impose cost allocation [NPD 7(2) (d) and (e)]

The simplest and most efficient method of allocating the cost fairly across beneficiaries and exacerbators to incorporate it into the general rate. Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

This vine will spread rapidly, with its seed being carried by wind, water, animals and machinery, invading indigenous-dominated ecosystems and reducing their indigenous biodiversity. Will also invade orchards, hedgerows, and forestry margins.

Rationale

The size of known infestations are still relatively small and contained which makes eradication highly feasible. Eradication may reduce the overall cost in contrast to the longer-term costs of a *Progressive Containment* programme or on-going cost of a *Sustained Control* programme. At some point TDC/NCC will need the powers under the Biosecurity Act to access properties.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, depending on every occupier with this pest on their land to take voluntary action to ensure its eradication is not a reliable strategy to avoid the ecological effects of this species.

Adverse effects [BSA Section 71(d)]

Is moth plant capable of causing an adverse effect on:		**Comments**
Economic well-being?	Yes	Will invade orchards and the margins of pine forests affecting plant vigour and/or making harvest more difficult.
The viability of threatened species or organisms?	Yes	Invasion and transformation of natural habitats of threatened plants.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat. The nectar can have a negative impact on butterflies and moths.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?	Yes	The sap can cause irritation of the skin and dermatitis
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Impedes access and restricts roadside vision.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Pampas species (Golden Bay Sites)

Pampas grass (*Cortaderia selloana*) and purple pampas grass (*Cortaderia jubata*) are large-clump forming grasses of up to 3m-4m tall. Pampas can be distinguished from the native toetoe (*Austroderia* species) by its more erect and fuller flower head that is white-pinkish (*C. selloana*) or has a purple tinge (*C. jubata*) rather than cream coloured.

The pampas species tolerate most extremes making them highly adaptable to a range of habitats including forest light gaps, slips and other disturbed sites (including sprayed or burned sites), river and forest margins, cliffs, shrublands, tussockland, fernland, herbfields, salt marshes, and wetlands. It colonises quickly and can become very dense, effectively out-competing indigenous species to replace ground cover species and shrubs. Pampas tends not to invade grazed pastures, but can quickly invade retired pasture and over-run restoration planting sites.

Seeds are spread very long distances by wind (up to 25km) and occasionally by water, soil movement, contaminated machinery, clothing and on animal pelts.

Both species have been planted and are spread through much of the lowlands of the Tasman District and Nelson City areas. Since 2019 when pampas was removed from the RPMP, TDC biosecurity officers have noted a marked increase in the incidence of the pest. Parts of the Aorere Valley and the western coast of Golden Bay around Westhaven remain relatively free of pampas. Pampas is likely to continue to spread into these areas if unmanaged, affecting the native biodiversity values of bush margins, indigenous grasslands, escarpments and wetlands in these areas.

The preferred option is ***Sustained Control*** with ***Do nothing*** and ***Eradication*** presented as alternative options.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for pampas species (Golden Bay) is “medium” (see Appendix 1). The following is a low-level analysis that sets out the prevailing assumptions.

Specifically, the size of the present infestation within the proposed management zones is estimated to be around 850 hectares based on assigning 200m buffer to known infestations, which itself is based on recent and intensive survey of the proposed management areas. The estimated cost of treatment has yet to be properly peer reviewed but may be in the order of $100-$200 per hectare[3]. This would equate to between $73,000 - $140,000 for knock-down treatment of the existing infestation. There are ongoing invasion and monitoring costs after initial treatment.

The benefits involve over 7,000 hectares of land valued for indigenous biodiversity that is habitat for pampas, including the dunes and swales of Farewell Spit, wetland and estuarine margins of the West Haven Inlet, and the bush margin of the Kahurangi National Park.

Risks that each option will not achieve its objective [NPD 6(3)]

[3] The recommended rate of application of Glyphosate 360 for the control of pampas is at concentrations of 1 litre per 100L with 9L / hectare application. At $80 of 5L, the cost of herbicide itself is about $1.50 per hectare and is not a significant factor in the cost. The Golden Bay infestations are reasonably accessible, but would still require several weeks (estimate = 3 to 6 weeks) of staff (estimate = 2) time per annum to treat infestations if this was a council-led programme. $100-200 per hectare is a “best-guess” that is still being investigated.

Programme Options	Do Nothing	Eradication	Sustained Control
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate pampas from the pampas control sites to eliminate its adverse effects.	Over the duration of this Plan, cease the expansion of the geographic distribution of pampas within the pampas control areas to reduce their adverse effects on the environment.
Intermediate outcome	The infestation level of pampas will continue to increase in the short to medium term.	Reduce the infestation level of pampas to zero levels in the short to medium term.	The ongoing control of pampas in specified areas to reduce its impacts and its spread to other properties.
Technical and operational risks	Low	High Reinvasion risk (from external sources) is high	Low Reinvasion from external sources is an acceptable risk, as long as spread is manageable.
The risk that the option cannot be implemented and of non-compliance	Low / none	Moderate to High Enforcing control of pampas on Crown Land can only be via a Good Neighbour Rule which itself can only be used to manage spread.	Low A Good Neighbour Rule manages spread
The risk that compliance with other legislation will adversely affect implementation of the option	Low / none	Low Pampas is readily killed by glyphosate.	Low Pampas is readily killed by glyphosate.
The risk that public or political concerns will adversely affect implementation of the option	Moderate There may be moderate concern from occupiers of invasion in areas clear of the pest	Moderate Crown land and forestry land occupiers may be averse to the imposition of a Good Neighbour Rule	Moderate Crown land and forestry land occupiers may be averse to the imposition of a Good Neighbour Rule
Other material risks	None identified	None identified	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective. However, there is a modest risk that the value of indigenous habitats within the pampas control zones will deteriorate over the next ten years.

Eradication: High

Eradication is unlikely to be achievable due to the sources of reinvasion and limitations on how the RPMP can bind Crown agencies. The cost to TDC (if undertaking council-led control across the zones) for initial knock-down treatment is likely to exceed the council's annual budgetary means.

Sustained Control: Low

The risk of not achieving the Sustained Control objective within the next ten years is also rated as low. Under this scenario, the value of indigenous habitats that are presently clear of pampas within the pampas control zones will not deteriorate within the next ten years.

Beneficiaries of the programme [NPD 7(2)(b)]

The prime beneficiaries are occupier (including the Crown) where the estate is clear of this pest and other restored or naturally regenerating indigenous habitat. However, the protection from the further spread of this pest benefits the whole community (including national community) through the protection of native habitats and biodiversity. There are also benefits to forestry occupiers where the continued absence of the pest reduces a future cost of having to clear it from access routes at harvest time.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with this plant on their land.

Best mechanism to impose cost allocation [NPD 7(2) (d) and (e)]

The simplest and most efficient method of allocating the compliance and inspection cost fairly across regional beneficiaries and exacerbators to incorporate it into the general rate. It is considered that the cost of control should rest with occupiers who are more direct beneficiaries or exacerbators (for instance, Crown agencies who represent the national community of beneficiaries and are a local exacerbator). Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

Pampas will continue to spread, with its seed being carried by wind, invading indigenous-dominated grassland, shrubland, and ultramafic ecosystems which reduces their indigenous biodiversity. Pampas will also invade forestry margins and tracks making access more difficult.

Rationale

The size of known infestations at Aorere and Westhaven are still relatively small which makes sustained control highly feasible. The pest is so extensive across the rest of the Tasman and Nelson regions that a wider regional pest management programme is unlikely to be cost beneficial.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, depending on every occupier with this pest on their land to take voluntary action to ensure its eradication is not a reliable strategy to avoid the ecological effects of this species.

Comment on Good Neighbour Rule [NPD Section 8]

In the absence of the rule, it is highly likely that pampas would spread to high biodiversity-value land that is adjacent or nearby and cause an unreasonable deterioration of those values which is a cost to the occupier - particularly with respect to high value conservation estate. Given that the Crown is both a beneficiary and an exacerbator, the rule does not impose a cost on the Crown that is not otherwise balanced by benefits. For other occupiers, the costs imposed are limited to the control of immediate spread (within 200m) of a boundary and only applies if the affected neighbour is also undertaking steps to destroy pampas on the adjoining land. The requirements of NPD Section 8 are satisfied.

Adverse effects [BSA Section 71(d)]

Is pampas capable of causing an adverse effect on:		Comments
Economic well-being?	Yes	There is a cost to forestry to clear tracks of pampas at harvest time.
The viability of threatened species or organisms?	Yes	Invasion and transformation of natural habitats of threatened plants.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Impedes access and restricts roadside vision.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Sabella

Sabella spallanzanii or Mediterranean fanworm is a marine worm that inhabits harbours and estuaries. The worm attaches to hard surfaces such as boat hulls and wharf pilings and is a sessile (non-mobile) organism that has a long leathery tube of up to 40cm long which extends a spiral fan of yellow-orange filaments to collect plankton from the water column. Sabella can form dense colonies of up to 1000 individuals per square metre that will exclude the settlement of other organisms. The presence of Sabella on areas where mussels or oysters are located may affect their growth due to competition for food and space.

Sabella is an *Eradication* species in the current RPMP. Under the RPMP, any marine based occupiers and operators, including marina personnel, who identify the presence of Sabella is required to report it to the Tasman District Council and/or MPI. TDC works with NCC, MDC and MPI under the Top of the South Marine Biosecurity Partnership (TOSMBP) to destroy any infestations as and when they are identified.

While the present monitoring and immediate control operation has been successful at preventing the permanent establishment of infestations in the Tasman and Nelson regions, boats entering the region with modest to high levels of fouling have been identified as a significant cause of and/or risk of reinvasion of the species into places that are clear of this pest. The review proposes to add a new rule that requires boat owners to keep their boats free of Sabella by reducing the level of fouling on their boats (as opposed to destroying it only when they see it – by which time the boat may already have spread the pest).

The preferred option remains *Eradication* with an ***Additional Rule***. The ***Status Quo*** is presented as an alternative option.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for Sabella is "medium" (see Appendix 1). The following is a low-level analysis that sets out the prevailing assumptions.

Specifically, the additional cost of the new rule is estimated to be around $13,000 pr year. This is based on an estimated cost of $482 per boat per annum[4] with an estimated 26 boats likely to be required to be cleaned in any given year (based on existing trends)[5]. The benefit is the improved certainty that Sabella remains at near-zero density across the Tasman and Nelson regions.

A significant benefit is the continued protection of the green-lipped mussel industry from significant impacts of Sabella. Simulations considering the direct economic impact of Sabella on producers estimates that the immediate loss in revenue of a widespread Sabella incursion is $14 million dollars (Soliman and Inglis; 2018).

[4] Cost to clean a 32ft (10m) boat at Waikawa marina is $268 for haulout, $59 for water blast and $31/day for use of hardstand (average 5 days to re-paint the hull). The estimated cost of compliance with the rule does not include the hull-repaint which is assumed to be a cost of normal / responsible boat maintenance.

[5] Based on the average number of moored boats in the Tasman and Nelson areas that have > level 2 fouling but noting that some of these will be residential (to the region) rather than visitors.
https://marinebiosecurity.gitlab.io/report/lof.html?region=overall&from=2022&to=2023

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	Status Quo	Additional Rule
Objective	Over the duration of this Plan, eradicate the pests listed in the Eradication Programme to eliminate their adverse effects.	Over the duration of this Plan, eradicate the pests listed in the Eradication Programme to eliminate their adverse effects.
Intermediate outcome	To reduce the infestation level of the Sabella to zero levels in the short to medium term.	To reduce the infestation level of the Sabella to zero levels in the short to medium term.
Technical and operational risks	Low – while the pest is known to be difficult to control once established, the current plan has been effective at preventing establishment	Medium – the lack of haul-out facility at Tarakohe limits the efficacy of hull cleaning.
The risk that the option cannot be implemented and of non-compliance	Low There is a low risk that inspection and control operations cannot be carried out annually.	Low While there is a lack of haul-out facility, *in-situ* cleaning may have some benefit over doing nothing.
The risk that compliance with other legislation will adversely affect implementation of the option	Low	Low
The risk that public or political concerns will adversely affect implementation of the option	Low	Low Antifouling / de-fouling is part of normal boat maintenance.
Other material risks	None identified	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Status Quo: Low

Moderate to high levels of fouling of residential boats is a suspected cause of breakdowns (reinfestation) in areas previously clear of Sabella. Boats higher than "light" levels of fouling put the current eradication objective at risk.

Additional Rule: Lower

The risk of not achieving the eradication objective is likely to be lower as a consequence of the new rule, but comes with an additional cost of enforced boat maintenance.

Beneficiaries of the programme [NPD 7(2)(b)]

The prime beneficiaries are the whole community and the aquacultural industry as a result of decreased risk of *Sabella* becoming established in the Tasman and Nelson regions, affecting coastal habitats and marine biological resources.

While the proposed additional rule will add costs to boat owners, they benefit from better boat performance.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are boat owners with *Sabella* on their boat hulls.

Best mechanism to impose cost allocation [NPD 7(2)(e)]

The simplest and most efficient method of allocating the cost of compliance inspection is to incorporate it into the general rate. It is fair for the cost of boat hull cleaning rest with the boat owner/occupier as the prime exacerbator. Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

Boats with moderate to heavy fouling have higher risk of spreading *Sabella* to other parts of the Tasman and Nelson Regions. This would undermine the success of the current strategy that ensures that this pest does not become established in the regions.

Rationale

Eradication remains the objective the *Sabella* regional pest management programme. The proposed new rule reduces the risk of spread of *Sabella*. The rule provides the means by which the councils can identify and externalise the cost of this potential risk.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

It is clear from current data that there is an increasing trend in the number of boats with higher than "low" levels of fouling. Depending on boat owners to undertake regular hull cleaning is not a reliable strategy to reduce the potential spread of *Sabella* if it is on the hulls of such boats.

Adverse effects [BSA Section 71(d)]

Is Sabella capable of causing an adverse effect on:		Comments
Economic well-being?	Yes	It is an aggressive competitor that will occupy marine farms.
The viability of threatened species or organisms?	Possibly	Will outcompete native sessile species (if/where present).
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Occupies space otherwise occupied by a more diverse native flora and fauna.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Vietnamese parsley

Vietnamese parsley (*Oenanthe javanica*) is cultivated as an ornamental and culinary herb species and was first recorded as naturalised (successfully establishing in the wild) in 2014 (Champion; 2018). It is an aquatic herb that can have negative impacts on river recreational (fishing and swimming), infrastructural (drainage), and environmental (aquatic biodiversity) values by clogging small streams and waterways. It is in the very early stages of naturalisation in the Tasman District and Nelson City, in isolated infestations near Washbourn Gardens and Poorman Valley Stream.

Trials to control the species have been successful at reducing the size of infestations, but have not yet proven to durably eliminate the pest completely. The most effective herbicides are also ones that require resource consent for use over water. Infestations can be managed by manual means to prevent nuisance levels of growth but this would need to be undertaken in perpetuity with increased risk of spread to new sites by contaminated machinery and fragments (Champion; 2018). Therefore, control to effectively remove Vietnamese parsley permanently from the wild is a specialised long-term operation involving herbicides and resource consenting.

Due to the specialised nature of control and high potential for the organism to be spread in the short term by people unaware of the nature of this pest, eradication or containment are presently not viable objectives.

The preferred option is ***Sustained Control*** with ***Do nothing*** and ***Eradication*** presented as alternative options. Under the sustained control scenario (reducing the spread), progressive containment remains a viable future option if herbicidal control trials prove effective.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for Vietnamese parsley is “low” (see Appendix 1) and a narrative (qualitative) costs and benefits analysis is sufficient.

It is estimated that there is less than 1 kilometre of stream margin presently infested with Vietnamese parsley. If left uncontrolled, it is estimated that this pest could affect up to 9109 kilometres of stream habitat within 10-20 years. Because much of this spread would be within urban catchments, the spread has a high cost on the efficacy of stormwater infrastructure (by clogging water ways) if left unmanaged. There is an indirect benefit of early intervention in the form of mitigation of future costs on stormwater infrastructure management as well as direct environmental benefits accruing from waterways remaining open for native fish migration.

One significant aspect of the cost of control lies in resource consenting where herbicides are being trialled. Another significant cost of control is mechanical clearance. As the current infestation is within waterways managed by Tasman District or Nelson City Council, this is a cost that can be subsumed within council operational budgets which removes any privatised cost involved with consents and mechanical clearance. An indirect benefit of this is that the costs are fairly disbursed across the wider community of beneficiaries.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	Do Nothing	Eradication	Sustained Control
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate Vietnamese parsley to eliminate its adverse effects.	Over the duration of this Plan, cease the expansion of the geographic distribution of Vietnamese parsley to reduce its adverse effects on the environment and economic well-being.
Intermediate outcome	The infestation level of Vietnamese parsley will continue to increase in the short to medium term.	Reduce the infestation level of Vietnamese parsley to zero levels in the short to medium term.	The ongoing control of Vietnamese parsley to reduce its impacts and its spread to other streams.
Technical and operational risks	Low	High The efficacy of herbicidal treatment is still being tested. Without this tool, current control methods make eradication infeasible.	Low Methods to effectively manage spread are known. While herbicidal use requires resource consents, it is not envisaged that this is a significant operational risk.
The risk that the option cannot be implemented and of non-compliance	Low / none	High Until herbicidal treatment is proven effective, eradication would involve mechanical control across all known sites. The cost is likely to be beyond annual budgetary means of the councils.	Low to Moderate There is a moderate risk of non-compliance through community ignorance in the short term. In the longer term, it is expected that the risk will reduce to low as the community becomes more aware of this pest species.

Programme Options	Do Nothing	Eradication	Sustained Control
The risk that compliance with other legislation will adversely affect implementation of the option	Low	Low The use of herbicides requires resource consent but it is not envisaged that this will conflict with other legislation.	Low The use of herbicides requires resource consent but it is not envisaged that this will conflict with other legislation.
The risk that public or political concerns will adversely affect implementation of the option	Low The general public are not aware of the problem of this pest	Low to Moderate A small community of people use Vietnamese parsley as a culinary herb and it might be spread purposely into the wild for culinary use. Herbicide use over water requires social license which is assumed to be granted on the issuance of consent.	Low to Moderate A small community of people use Vietnamese parsley as a culinary herb and it might be spread purposely into the wild for culinary use. Herbicide use over water requires social license which is assumed to be granted on the issuance of consent.
Other material risks	None identified	The size of the infestation is possibly beyond the "lag" phase which makes eradication practicably infeasible.	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective. However, there is a modest risk that the aquatic biodiversity value and stormwater infrastructural value of local waterways will deteriorate over the next ten years.

Eradication: High

The risk of not achieving eradication within the next ten years is rated as high. The cost of manual treatment of all known sites at a level that would lead to eradication is likely to be higher than the councils can afford. Until herbicidal trials prove the long-term efficacy and durability of control, eradication is out of reach.

Sustained Control: Low

The risk of not achieving the Sustained Control objective within the next ten years is rated as low. Under this scenario, the value of indigenous habitats and stormwater infrastructure is less likely to deteriorate (due to Vietnamese parsley) within the next ten years. While the need for resource consents for herbicidal application adds a layer of complexity, it is not envisaged that it adds more risk to the objective of reducing spread.

Consideration of combined cost allocation [NPD 7(1)]

It is proposed that Vietnamese parsley and water celery are to be grouped for ease of administering the proposed rules. For intents and purposes, the environment in which they live is the same, their effects are the same, and the habitats to be protected from spread at the same. For all intents and purposes the methods by which they will be managed are the same. The exacerbators and beneficiaries are very similar. For these reasons, it is also proposed that these pests are grouped for cost allocation analysis.

Beneficiaries of the programme [NPD 7(2)(b)]

The sustained control of this Vietnamese parsley and water celery benefits the whole community through the protection of native habitats and aquatic biodiversity and protection of drainage infrastructure.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with Vietnamese parsley and water celery on their land, or dump or otherwise purposefully (or inadvertently) release viable fragments of these species into the wider environment. Presently, the councils are the occupier of affected lands, although there may be private occupiers growing Vietnamese parsley in home gardens.

Best mechanism to impose cost allocation [NPD 7(2)(e)]

The simplest and most efficient method of allocating the cost of inspection and compliance fairly across beneficiaries and exacerbators to incorporate it into the general rate. The fairest mechanism for the allocation of cost of control lies with the occupier. In most instances, this is a cost borne by the councils who can then allocate out to beneficiaries either as part of the general biosecurity rate (for the protection of the natural environment) or as part of drainage scheme (for efficient management of the infrastructure).

Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

Vietnamese parsley will continue to spread downstream of current infestations and may be transported into other waterways through poor machinery hygiene. This spread potentially reduces the viability of indigenous-dominant aquatic ecosystems and may cause a reduction in the efficacy of the drainage infrastructure.

Rationale

The known infestations are still relatively contained which makes sustained control (reducing / preventing spread to other sites) highly feasible. Reducing the size of infestation (*Progressive containment*) is not considered feasible until / unless ongoing trials identify that the species can be contained and reduced (as required by the legal definition of that category). Eradication is also not considered feasible until / unless ongoing trials identify that the species can be removed to zero densities of infestation (as required by the legal definition of that category).

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, and due to the need for resource consents for herbicidal control, depending on every occupier with this pest on their land to take voluntary action to ensure its control is not a reliable strategy to avoid the ecological and infrastructure effects of this species.

Adverse effects [BSA Section 71(d)]

Is Vietnamese parsley capable of causing an adverse effect on:		**Comments**
Economic well-being?	Yes	Clogs streams and drains, causing flooding of properties.
The viability of threatened species or organisms?	Yes	Invasion and transformation of natural habitats of threatened plants.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Clogs waterways.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Water celery

Water celery (*Apium nodiflorum*) is not cultivated as a culinary herb but may be mistaken for watercress (*Nasturtium officinale*). It was as naturalised (successfully establishing in the wild) in 1947 and is now widespread in the North Island, though rare in the South Island (Champion; 2018). It as an aquatic herb that appears to be quite reliant on human activity to disperse fragments. It can have negative impacts on river recreational (fishing and swimming), infrastructural (drainage), and environmental (aquatic biodiversity) values by clogging small streams and waterways. It is in the very early stages of naturalisation in Nelson City and Tasman District, in isolated infestations in Brook Stream, Orphanage Stream, Jenkins Creek, Saxton Creek, Appleby Stream, and O'Connor Creek, Eastern Hills waterway, Borck Creek, Neimann Creek, Jimmy Lee Stream, Cotterell Road.

Like Vietnamese parsley, trials to control water celery have been successful at reducing the size of infestations, but have not yet proven to durably eliminate the pest completely. The most effective herbicides are also ones that require resource consent for use over water. Infestations can be managed by manual means or repeat use of glyphosate to prevent nuisance levels of growth but this would need to be undertaken in perpetuity with the risk of spread to new sites by contaminated machinery (Champion; 2018). Therefore, like Vietnamese parsley, control to effectively remove water celery permanently from the wild is a specialised long-term operation involving herbicides and resource consenting.

Due to the specialised nature of control and high potential for the organism to be spread in the short term by people unaware of the nature of this pest, eradication or containment are presently not viable objectives. The preferred option is ***Sustained Control*** with ***Do nothing*** and ***Eradication*** presented as alternative options. Under the sustained control scenario (reducing the spread), progressive containment remains a viable future option.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for water celery is "low" (see Appendix 1) and a narrative (qualitative) costs and benefits analysis is sufficient.

It is estimated that there are around 10 kilometres of stream margin presently infested with water celery. If left uncontrolled, it is estimated that this pest could affect up to 9109 kilometres of stream habitat within 10-20 years. Because much of this spread would be within urban catchments, the spread has a high cost on the efficacy of stormwater infrastructure (by clogging water ways) if left unmanaged. There is an indirect benefit of early intervention in the form of mitigation of future costs on stormwater infrastructure management as well as direct environmental benefits accruing from waterways remaining open for native fish migration.

One significant aspect of the cost of control lies in resource consenting where herbicides are being trialled. Another significant cost of control is mechanical clearance. As the current infestation is within waterways managed by Tasman District or Nelson City Council, this is a cost that can be subsumed within council operational budgets which removes any privatised cost involved with consents and mechanical clearance. An indirect benefit of this is that the costs are fairly disbursed across the wider community of beneficiaries.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	Do Nothing	Eradication	Sustained Control
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, eradicate water celery to eliminate its adverse effects.	Over the duration of this Plan, cease the expansion of the geographic distribution of water celery to reduce its adverse effects on the environment and economic well-being.
Intermediate outcome	The infestation level of water celery will continue to increase in the short to medium term.	Reduce the infestation level of water celery to zero levels in the short to medium term.	The ongoing control of water celery to reduce its impacts and its spread to other streams.
Technical and operational risks	Low	High The efficacy of herbicidal treatment is still being tested. Without this tool, current control methods make eradication infeasible.	Low Methods to effectively manage spread are known. While herbicidal use requires resource consents, it is not envisaged that this is a significant operational risk.
The risk that the option cannot be implemented and of non-compliance	Low / none	High Until herbicidal treatment is proven effective, eradication would involve mechanical control across all known sites. The cost is likely to be beyond annual budgetary means of the councils.	Low to Moderate There is a moderate risk of non-compliance through community ignorance in the short term. In the longer term, it is expected that the risk will reduce to low as the community becomes more aware of this pest species.

Programme Options	Do Nothing	Eradication	Sustained Control
The risk that compliance with other legislation will adversely affect implementation of the option	Low	Low The use of herbicides requires resource consent but it is not envisaged that this will conflict with other legislation.	Low The use of herbicides requires resource consent but it is not envisaged that this will conflict with other legislation.
The risk that public or political concerns will adversely affect implementation of the option	Low The general public are not aware of the problem of this pest	Low to Moderate. Herbicide use over water requires social license which is assumed to be granted on the issuance of consent.	Low to Moderate Herbicide use over water requires social license which is assumed to be granted on the issuance of consent.
Other material risks	None identified	The size of the infestation is possibly beyond the "lag" phase which makes eradication practicably infeasible.	None identified

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low

There are no residual risks to the objective. However, there is a modest risk that the aquatic biodiversity value and stormwater infrastructural value of local waterways will deteriorate over the next ten years.

Eradication: High

The risk of not achieving eradication within the next ten years is rated as high. The cost of manual treatment of all known sites at a level that would lead to eradication is likely to be higher than the councils can afford. Until herbicidal trials prove the long-term efficacy and durability of control, eradication is out of reach.

Sustained Control: Low

The risk of not achieving the Sustained Control objective within the next ten years is rated as low. Under this scenario, the value of indigenous habitats and stormwater infrastructure is less likely to deteriorate (due to water celery) within the next ten years. While the need for resource consents for

herbicidal application adds a layer of complexity, it is not envisaged that it adds more risk to the objective of reducing spread.

Consideration of combined cost allocation [NPD 7(1)]

As identified in the section on Vietnamese parsley above, it is proposed that Vietnamese parsley and water celery are to be grouped for ease of administering the proposed rules. If follows that the NPD Section requirements to identify the beneficiaries and exacerbators, and describe the cost allocation, are the same and so these are not reiterated below.

Effects of not intervening

Water celery will continue to spread downstream of current infestations and may be transported into other waterways through poor machinery hygiene. This spread potentially reduces the viability of indigenous-dominant aquatic ecosystems and may cause a reduction in the efficacy of the drainage infrastructure.

Rationale

The known infestations are still relatively contained which makes sustained control (reducing / preventing spread to other sites) highly feasible. Reducing the size of infestation (*Progressive containment*) is not considered feasible until / unless ongoing trials identify that the species can be contained and reduced (as required by the legal definition of that category). Eradication is also not considered feasible until / unless ongoing trials identify that the species can be removed to zero densities of infestation (as required by the legal definition of that category).

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

Based on the slow but trending increase in the incidence of this pest, and due to the need for resource consents for herbicidal control, depending on every occupier with this pest on their land to take voluntary action to ensure its control is not a reliable strategy to avoid the ecological and infrastructure effects of this species.

Adverse effects [BSA Section 71(d)]

Is water celery capable of causing an adverse effect on:		Comments
Economic well-being?	Yes	Clogs streams and drains, causing flooding of properties.
The viability of threatened species or organisms?	Yes	Invasion and transformation of natural habitats of threatened plants.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement.
Soil resources?		
Water quality?		
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Clogs waterways.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Pest/Wilding conifers

The pest/wilding conifer group are all cone-bearing plants that grow needles instead of leaves. With the exception of European larch (*Larix decidua*), all are evergreen trees. In addition to larch, the species in this group are bishop pine (*Pinus muricata*), lodgepole pine (*P. contorta*), Corsican pine (*P. nigra*), dwarf mountain / mountain pine (*P. mugo*), maritime pine (*P. pinaster*), Mexican weeping pine (*P. patula*), Monterey/radiata pine (*P. radiata*), ponderosa pine (*P. ponderosa*), Scots pine (*P. sylvestris*), western white pine (*P. monitcola*), and Douglas fir (*Pseudotsuga menziesii*).

With the exception of radiata pine and Douglas fir, these species have very little economic (timber) value, though have been planted in the Nelson and Tasman regions (some species quite extensively) either for (valuable) ornamental, shelterbelt, erosion protection or (not valuable) timber enterprises. They have all proven to naturalise readily and are now considered a threat to the viability of indigenous ecosystems (including intact native forests, scrub and regenerating forests, ultramafic areas and sub-alpine and alpine environments above the natural tree line) and low-intensity pastoral production. The proposal to manage these species as pests in an RPMP provides the legislative tool for the strategic destruction of these species over time through a progressive containment programme.

Radiata pine and Douglas fir remain very valuable commercial crops of significant economic value to the Nelson and Tasman regions. However, wildings of both species are proving to be a similar threat to indigenous habitat and production values. The proposal to manage the wildings of these species is not concerned with preventing ongoing production or permanent forestry, but rather to provide the legislative tools for the strategic management of unintentional spread.

The preferred options are ***Progressive Containment*** **and** ***Site-led*** with ***Do nothing*** presented as an alternative option.

Narrative Analysis of Costs and Benefits [NPD 6(2)]

The level of costs and benefit analysis required for pest/wilding conifers is “medium” (see Appendix 1). The following is a low-level analysis that sets out the prevailing assumptions.

A total of $3.8 million dollars[6] was budgeted for the control of pest and wilding conifers in the Mt Richmond Wilding Conifer Management Unit (MU). As the project transitions from central government investment into knockdown control, the responsibility for securing that investment rests with the landowners (both private and public) within the MU. This responsibility is the annual control of emerging pest and wilding conifers in land that is clear of (or has been cleared of) those pests. This cost of ongoing control is difficult to estimate because the rate of re-invasion is not known, though it may be as little as $5-10 per hectare per year to treat sparse infestations (Wyatt, 2018). What is known with certainty is that, if nothing is done to control reinvasion, any investment into knockdown control is wasted.

At a national level, the costs and benefits analysis for the national Wilding Conifer Control Programme (of which Mt Richmond MU is a part) identifies that the benefits of control and protection greatly outweigh the cost (Wyatt, 2018). The cost of doing nothing (nationally) is estimated to result in $5.3

[6] https://www.tasman.govt.nz/my-council/projects/economic-recovery-projects/jobs-for-nature/mt-richmond-wilding-conifer-project-updates/#:~:text=A%20total%20of%20%243.8%20million,are%20more%20accessible%20by%20foot.

billion of lost revenue from production and environmental capital over 50 years. This contrasts steeply with a gain of $6.1 billion (including the million-dollar investment in knock-down control under Phase 2) if the tide of wilding invasion is turned (Wyatt, 2018).

While the national costs and benefits analysis does not account for the ongoing cost of maintaining the gains, the ongoing annual investment ($5 to $10 per hectare per year[7]) is much less that the annual accrual of environmental capital ($345 for native scrub to $1264 for agriculture, per hectare per year[8]), offering positive returns to the natural economy of the Tasman and Nelson regions every year.

The national CBA also rules out carbon sequestration as a liability or a benefit because new wilding forests have no value as emissions credits. Nevertheless, the rules proposed for pest/wilding conifer control in the Tasman and Nelson regions provide for a flexible approach to the long-term management of pest/wilding conifers that might include benefits derived from carbon sequestration. For example, under the proposal, it is possible for an occupier to approach TDC/NCC with a plan to progressively manage an infestation of wildings using carbon credits generated under the Emissions Trading Scheme (ETS) from a portion of a wilding forest to fund the destruction the remaining infestation. However, until or unless such forests are registered under the ETS, the benefits of the ETS payout from a wilding infestation is unknowable, and therefore not factored into this analysis.

Risks that each option will not achieve its objective [NPD 6(3)]

Programme Options	**Do Nothing**	**Progressive Containment and Site-led**
Objective	Do nothing / rely on voluntary occupier control.	Over the duration of this Plan, reduce the geographic distribution of the pest/wilding conifers to reduce their adverse effects.
Intermediate outcome	The infestation levels of the listed pest/wilding conifers will continue to increase in the short to medium term.	The geographic distribution of pest/wilding conifers will be contained and slightly reduced in the short to medium term.
Technical and operational risks	Low	Low
The risk that the option cannot be implemented and of non-compliance	Low There is a low risk that inspection and control operations cannot be carried out annually.	Low There is a low risk that the inspection and control operations cannot be carried out annually.

[7] Wyatt, S. 2018. Benefits and costs of the Wilding Pine Management Programme Phase 2. Quoted figures are in 2018 terms.

[8] Cameron, C., McQueen-Watton, J., and Shaw, W. 2020. Economic valuation of the ecosystem services provided by Pāmu Landcorp farms. Quoted figures are in 2020 terms.

Programme Options	Do Nothing	Progressive Containment and Site-led
The risk that compliance with other legislation will adversely affect implementation of the option	Low	Low
The risk that public or political concerns will adversely affect implementation of the option	Modest The effects of pest/wilding conifers on agricultural productivity and indigenous forests are increasing unacceptable to the public.	Low While it is anticipated that the forestry sector will be concerned with regulation, the negotiated management plan option provides flexibility while assuring responsibility.
Other material risks	None identified	High The signalled central government decrease in funding is likely to slow down the initial knock down phase of work, delaying the implementation of this proposal

Residual risks that each option will not achieve its objective [NPD 6(4)]

Do Nothing: Low-modest

There are no residual risks to the objective. However, there is a high risk that the value of agricultural productivity and indigenous habitats within the management zones will deteriorate. There is also a risk that "walking away" from investments already made is publicly unacceptable.

Progressive Containment and Site-led: High (for Richmond MU). Low for other sites.

The risk of not achieving the proposed Progressive Containment objectives within the Richmond MU over the next ten years is rated as high. This is due to the government's signalled decrease in the knockdown funding which is likely to lead to continued spread in some circumstances in the immediate future. Over the longer term though, once knockdown has been achieved, the value of indigenous habitats within the pest/wilding conifer control zones will not deteriorate under the proposed "maintain the gains" scenario. The risk of not achieving the proposed site-led objective is low. Under this proposal, the values of indigenous habitats within the site-led programmes will not deteriorate (due to pest and wilding conifers) over the next ten years.

Consideration of combined cost allocation [NPD 7(1)]

The listed pest and wilding conifers are combined for ease of administering the proposed rules. For intents and purposes, the environment in which they live is the same, their effects are the same, and the habitats to be protected from spread at the same. For all intents and purposes the methods by which they will be managed are the same. The exacerbators and beneficiaries are the same. For these reasons, it is also proposed that these pests are grouped for cost allocation analysis.

Beneficiaries of the programme [NPD 7(2)(b)]

The prime beneficiaries are considered to be occupiers who benefit from the capital that accrues in the absence of the pest. With respect to conservation forests and public lands of high biodiversity value, there are benefits to the whole community.

Exacerbators of the programme [NPD 7(2)(c)] (those who contribute to the creation, continuance or exacerbation of the problem)

Active and passive exacerbators are occupiers with any of the listed pest and wilding conifers on their properties that are the sources of conifer propagules on neighbouring land that is clear of, or being cleared of pest/wilding conifers. This includes private occupiers and Crown agencies.

Best mechanism to impose cost allocation [NPD 7(2)(e)]

The simplest and most efficient method of allocating the cost of control is on the occupier being both the exacerbator and the beneficiary. On occasions where pest/wilding conifer spread is demonstrably as a result of sources on neighbouring land, this cost will be enforced on the exacerbator as a means of fairly apportioning the cost of control.

The simplest and most efficient method of allocation the cost of inspection and compliance is for this to come under the general rate. This helps apportion some of the cost of the programme to the public beneficiaries. At its discretion, each council may also contribute funding toward site-led programmes as a means of allocating the cost of control back to the general public beneficiaries.

Where an exacerbator is identified due to non-compliance with rules, it is fair that the councils seek to recover the costs for compliance enforcement (e.g., the cost of acting on default).

Effects of not intervening

Pest/wilding conifers will continue to spread causing untold impacts on pastoral productivity and loss of value of indigenous forests, scrublands, and grasslands.

Rationale

The pest conifers are invasive species that are well-known for their propensity to invade indigenous and pastoral ecosystems and transform them into monocultures of conifers. Control of these pests and their source populations is necessary to protect existing ecosystem and production value.

The basis for including wilding conifers (including Douglas fir and radiata pine) stems from a need to protect the substantial investment that has already been made in reducing pest/wilding conifer populations in the Mt Richmond Forest Park area, other vulnerable ultramafic areas in North Nelson, Takaka Hill area, Abel Tasman National Park, and Golden Bay area.

Reasons for not relying on voluntary actions [BSA Section 70(2)(c)(vi)]

The emergence of pest/wilding conifers as a national threat is evidence that relying on voluntary action is insufficient to stem the time of invasion. Bearing in mind that the emergence of the problem has its source in past and current conifer plantation schemes, there is need for a certain level of regulatory oversight to allocate costs on to exacerbators where this can be deemed fair and reasonable under the specific circumstances of spread.

Comment on Good Neighbour Rule [NPD Section 8]

In the absence of the rule, it is highly likely that pest/wilding conifers would spread to high biodiversity-value land that is adjacent or nearby and cause an unreasonable deterioration of those values which is a cost to the occupier - particularly with respect to high value Crown conservation estate and Council reserves. Given that, with respect to high value conservation areas, the Crown and the councils may be both a beneficiary and an exacerbator, the rule does not impose a cost on them that is not otherwise balanced by conservation benefits. For other occupiers, the costs imposed are limited to the control of immediate spread (within 200m) of a boundary and only applies if the affected neighbour is also undertaking steps to destroy pest/wilding conifers on the adjoining land. The requirements of NPD Section 8 are satisfied.

Adverse effects [BSA Section 71(d)]

Are pest/wilding conifers capable of causing an adverse effect on:		Comments
Economic well-being?	Yes	Under low-intensity grazing regimes, can outcompete pasture, reducing pastoral productivity.
The viability of threatened species or organisms?	Yes	Loss of habitat of rare plants. Includes habitat above the natural treeline, coastal dunes, and the ultramafic mineral belt.
The survival and distribution of indigenous plants or animals?	Yes	Invasion and transformation of natural habitat.
The sustainability of natural and developed ecosystems, ecological processes and biological diversity?	Yes	Competition and displacement. Includes habitat above the natural treeline, coastal dunes, and the ultramafic mineral belt.
Soil resources?		
Water quality?	Yes	Invasion of tussock grassland and other non-forest habitats changes hydrological patterns.
Human health?		
Social and cultural well-being?	Yes	Loss of valued natural ecosystems.
The enjoyment of the recreational value of the natural environment?	Yes	Impedes access and restricts roadside vision.
The relationship between Māori, their culture, and their traditions and their ancestral lands, waters, sites, wāhi tapu and taonga?	Yes	Invasion of natural ecosystems.

Appendix 1: Determining the level of costs and benefits analysis to be applied [NPD 6(1)].

Section 6(1) of the NPD specifies four criteria to consider when determining the level of cost and benefits analysis. Guidance on how to set levels for each of the criteria is provided by *Meeting the requirements of the National Policy Direction for Pest Management 2015* (Version 1.0) produced by the Ministry for Primary Industries (MPI; 2015). The following assessment criteria have been derived from these sources:

Assessment criteria

1 Uncertainty of the impact of the pest and the effectiveness of the methods of control

- **High uncertainty** – Little known about its impacts and the effectiveness of control measures
- **Medium uncertainty** – Some information available on its impacts and on the effectiveness of control measures
- **Low uncertainty** – Plenty of information on its impacts and effectiveness of control measures

2 Significance of the pest or the proposed measures

- **High** – High total costs **or** strongly opposed community views **or** significant community interest
- **Medium** – Moderate total costs **or** some opposed community views **or** moderate community interest
- **Low** – Low total costs **or** limited community interest

3 Relationship between costs and benefits

- **High** – costs are likely to be similar to the benefits
- **Medium** – costs are likely to be less than the benefits
- **Low** – costs are likely to be much lower than the benefits

4 Level and quality of available data

- **High** – High quality data on distribution and well-established costs and impacts
- **Medium** – Limited information on distribution and on costs and impacts
- **Low** – Little information available on distribution and costs and impacts

The level of Cost Benefit Analysis that is required to be undertaken is determined by the combination of ratings for these different categories where:

- A **High** level of CBA is needed when three of the four criteria listed above (Criteria 1-4) are assessed as high.
- A **Low** level of CBA can be undertaken when none of the first three criteria (Criteria 1-3) are ranked high and no more than two are ranked as medium.
- A **Medium** level of CBA is required for all other combinations.

The results of the application of the NPD Section 6(1) criteria are presented in Table 1 below.

Table 1: Assessment of the level of cost and benefits analysis (CBA) to be applied

Pest	6(1)(a) Uncertainty of impacts and effectiveness of methods	6(1)(b) Likely significance or controversy of the pest or proposed measures or cost of measures	6(1)(c) Likely costs relative to likely benefits	6(1)(d) Level and quality of data	Level of CBA warranted	Response
Blue passion flower	Low - the environmental impact of the species is known. Control measures known.	Low – a proportion of currently affected occupiers appear to be aware of the pest nature of the species and are undertaking voluntary control already.	Low - the environmental benefits are likely to significantly outweigh costs. There would potentially be lower occupier costs for this TDC-led programme.	High - the total extent assumption is based on good existing information about the extent of the pest.	Low	A narrative (qualitative) cos and benefits analysis presented for this pest.
Boneseed (Port Hills)	Low - the environmental and production impact of the species is known. Control measures known.	Low – the general public are aware of the pest nature of this species and there is public demand for its increased control in the Port Hills area.	Medium - the environmental benefits likely outweigh the costs except at known steep and inaccessible sites. Previous analysis identified that the costs outweigh the benefits. This was based on a *Progressive Containment* scenario that included the cost to manage sites that are difficult to access.	High - location of infestations reasonably well known. Further survey is needed to improve knowledge of full distribution.	Low	A narrative (qualitative) cos and benefits analysis presented for this pest. A quantitative analysis may l warranted to test revise assumptions.
Moth plant	Low - the environmental and health impact of the species is known. Control measures known.	Low – while the general public are likely to be unaware of the problems of this pest, the currently known infestation is very small. The imposition of the proposed reporting rule on occupiers is very minor.	Medium – while at low density in an urban area, the environmental benefits and the cost of control are likely to be similar ("high"). However, the wider regional environmental benefits are likely to significantly outweigh the costs if this pest was allowed to spread ("low").	Medium to high - the total extent assumption is based on good existing information about the location of the pest.	Low	A narrative (qualitative) cos and benefits analysis presented for this pest.
Pampas	Low - the environmental impacts are understood. Control tools are known.	Low to medium – the public are generally aware of the pest nature of this species aware of the pest. Possibly some resistance to imposing costs onto Crown occupiers. For other occupiers, the imposition is similar to that which existed when pampas was a pest in the RPMP prior to 2019.	Medium. Given the distribution of these pests inside the proposed sustained control aera.	Medium to High. The distribution within the control zones appears to be low, though further survey is needed to confirm full extent. Both species are known to be widely distributed in the buffer zone.	Medium	A medium level analys warranted.

Pest	6(1)(a) Uncertainty of impacts and effectiveness of methods	6(1)(b) Likely significance or controversy of the pest or proposed measures or cost of measures	6(1)(c) Likely costs relative to likely benefits	6(1)(d) Level and quality of data	Level of CBA warranted	Response
Sabella	Medium - the environmental effects are well known. The difficulties managing this marine pest is known.	Medium – there is ongoing public support for control of this species. A new impositions posed on boat owners will introduce new costs.	Medium – the qualitative CBA identifies that the benefits are likely to outweigh the cost, but that there will be a new cost imposition on boat owner.	High - the source of this pest and mechanisms of dispersal are well known.	Medium	A medium level analys warranted. It may prove difficu to estimate the dollar benefi to the marine farming indust without being over presumptive. Assumptions costs may require extrapolatic from incomplete data.
Vietnamese parsley	Low - the environmental impact of the species is known. Control measures known. While the need for resource consent is required for use of herbicides over water, this does not reduce certainty.	Low to medium – the general public are probably unaware of the significance of this pest but are also likely to be ambivalent about its management as long as the cost of control is justifiable and reasonable. The plant is a culinary herb and so there may be some disbenefit from the ban on sale and distribution. The number of affected parties is assumed to be small. The need for resource consent may impose an unreasonable burden on private occupiers. However, as all currently affected land is council managed, the privatised costs remain low.	Low - the environmental and drainage infrastructure benefits are likely to significantly outweigh costs.	High - the total extent assumption is based on good existing information about the extent of the pest.	Low	A narrative (qualitative) cos and benefits analysis presented for this pest.
Water celery	Low - the environmental impact of the species is known. Control measures known. While the need for resource consent is required for use of herbicides over water, this does not reduce certainty.	Low – recent work by NCC to manage this species has not led to controversy. The plant has minor use as a culinary herb and so there may be some disbenefit from the ban on sale and distribution. The number of affected parties is assumed to be small. The need for resource consent may impose an unreasonable burden on private occupiers. However, as all currently affected land is council managed, the privatised costs remain low.	Low - the environmental and drainage infrastructure benefits are likely to significantly outweigh costs.	High - the total extent assumption is based on good existing information about the extent of the pest.	Low	A narrative (qualitative) cos and benefits analysis presented for this pest.

Pest	6(1)(a) Uncertainty of impacts and effectiveness of methods	6(1)(b) Likely significance or controversy of the pest or proposed measures or cost of measures	6(1)(c) Likely costs relative to likely benefits	6(1)(d) Level and quality of data	Level of CBA warranted	Response
Pest/wilding conifers	Low - the environmental impact of the species is known. Control measures known.	Medium – pest nature well understood. The proposal to include an "approved management agreement" option in the rule is intended to manage the imposition on neighbouring forest owners to a level that, while possibly significant, remains reasonable and acceptable to those owners.	Medium – the environmental benefits are likely to outweigh the cost under most scenarios, but the medium level of uncertainty on distribution leads to some uncertainty in the level of cost.	Medium – the extent of the wilding infestation in the control area is reasonably well known (medium level of certainty). The costs of ongoing management are well known.	Medium	A medium level analys warranted. The dollar benefi to the protection of indigeno biodiversity requir extrapolation, but an acceptab and logical process can l followed. Assumptions of cos may require extrapolation fro incomplete data and may l highly presumptive.
Feral/stray cats	Low - the environmental and social impact of the species in feral and unowned state is known. Control measures known.	High – there are strongly opposing points of view on the management of cats.	Low – the environmental and social benefits of a lower feral and unowned cat population are likely to outweigh the cost of cat registration.	Low – the number of feral and stray cats is not known. The number of sexually entire and un-microchipped companion cats is unknown.	Medium	A medium level analys warranted, however the doll benefits to the protection indigenous biodiversity ar dollar costs of control requi extrapolation from incomple data and will be high presumptive.