

Economic Analysis for Wilding Conifer Pest Agent Rules

1. Purpose

This report provides an economic analysis for the inclusion of pest agent rules for wilding conifer in the Regional Pest Management Plan (RPMP). It is prepared in accordance with the requirements of the Biosecurity Act 1993 and the related National Policy Direction for Pest Management 2015 (NPD).

2. Description

Wilding conifer has serious adverse effects on both biodiversity and production values. These effects are described in the proposed RPMP and the related report "*Meeting the requirements of the Biosecurity Act 1993 and National Policy Direction for Pest Management 2015: Analysis of costs and benefits*" (April 2017 by Mr Simon Harris of Land Water People).

3. Plan Provisions

The Hearing Panel are considering inclusion of a new pest agent rule to reduce re-infestation of areas previously cleared of wilding conifer. The rule and explanation are as follows:

Plan Rule 6.3.4

Note: this is a pest agent rule

Within the Wilding Conifer Containment Area shown on Map 1 in Appendix 4, occupiers shall, on receipt of written direction from an Authorised Person, destroy any Pest Agent Conifer that is present on land they occupy within 200m of an adjoining property boundary, if:

- (a) wilding conifers, contorta, Corsican, Scots, mountain or dwarf mountain pines, larch and/or other planted conifer species have been destroyed through control operations on the adjoining property, within 200m of the boundary, since 1 July 2016; and*
- (b) the control operations were publicly funded (either in full or in part).*

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

Pest Agent Conifer means any introduced conifer species that is capable of helping the spread of wilding conifers and is not otherwise specified as a pest in the CRPMP and is not located within a plantation forest.

Plantation forest means a forest deliberately established for commercial purposes, being at least 1 ha of continuous forest cover of forest species that has been planted and has or will be harvested or replanted.

Forest species means a tree species capable of reaching at least 5m in height at maturity where it is located.

Explanation of rule

Introduced conifer trees that are capable of helping the spread of wilding conifers present a risk for wilding conifer management.

This rule is to ensure that over the duration of the Plan, new infestations, or reinfestation of wilding conifers are prevented at sites where wilding conifers, contorta, Corsican, Scots, mountain and dwarf mountain pines, larch and or other planted conifer species have previously been destroyed through publicly funded control operations.

4. Cost Benefit Analysis

4.1. Level of analysis

The criteria for determining the level of analysis, as outlined in s6(1) of the NPD, are (in summary):

1. Level of uncertainty of impacts and effectiveness of measures
2. Stakeholder interest, contention and total costs
3. Likely costs relative to benefits
4. Level of certainty and quality of data

The level of analysis required is low. The assessment is summarised in Table 1, with the high level of support for wilding pine control, the high likelihood of benefits exceeding costs and the lack of data available to being key factors.

Table 1: Assessment of the level of analysis required.

Criteria	Assessment	Reasons
1	M	The impacts and effectiveness of the measures is clear but the extent of affected area is unclear.
2	M	Control of wilding conifer is widely supported. There may be some contention regarding this rule among affected landowners but the total costs are not expected to be high for reasons outlined below.
3	L	The benefits are likely to exceed costs as the presence of seed sources undermines control efforts. Removal of the

		source is a cheaper option than on-going removal of wilding conifer.
4	L	The impacts are readily described but neither the benefits or the costs are able to be reliably quantified. Moderate to high level of uncertainty and poor quality of data in regard to known extent and costs of control.

4.2. Impacts

Wilding conifers have the potential to cause loss of production on high country properties, and significant impacts on biodiversity in tussock grasslands.

4.3. Benefits and Costs of Options

The costs and benefits are unable to be reliably quantified and are instead described below.

Do nothing: This option will result in repeated re-infestation of areas where control has previously been undertaken, resulting either in ongoing control by adjacent land occupiers or loss of biodiversity and production in the absence of additional control. The benefit of this option is the avoidance of the direct and indirect costs from the exacerbating land occupiers. The costs, which are expected to exceed the benefits, are the ongoing control required of adjacent land owners.

Proposed pest agent rule: This is the preferred option and part of a wider package of regulatory and non-regulatory methods. The benefit of this option is that it protects the substantial investment made by land owners, the Council and the Crown in control of wilding conifer and reduces the maintenance costs and risks of further spread. This delivers the biodiversity and production benefits for a lower cost.

The direct costs of the rule arise from removing the trees upon receipt of a Notice of Direction. There is no reliable estimate of this cost as it varies with factors such as terrain, tree type, age and the extent of trees to be cleared.

Indirect costs arise from the loss of benefits of having the trees. Examples of the loss of benefit are: increased wind exposure / stock shelter from the removal of shelterbelt trees, or; the loss of visual amenity from landscape plantings.

The costs of this rule are substantially reduced with the exclusion of plantation forestry from the rule and the discretion available to officers through the issuing of notices of direction. In instances where the removal of trees would be unreasonable or cause undue hardship, officers may exercise discretion and not issue notices.

5. Allocation of costs

5.1. Beneficiaries and exacerbators

The beneficiaries are:

- Adjacent landowners who benefit from reduced control costs and avoiding losses in production, amenity and biodiversity benefits on their land.
- The Council and the Crown who have made a substantial investment in control. This rule seeks to protect that investment.
- The wider community through better protection of biodiversity, amenity and landscape benefits.

The exacerbators are:

- Land occupiers whose trees spread seed to adjacent properties.

5.2. Direct and indirect costs of control

The direct and indirect costs are described above in section 4.3.

5.3. Recommended allocation of costs

The factors to be considered in allocating the costs are described in Table 2 (below).

It is recommended that the cost be allocated 100% to exacerbators through a requirement for the land occupier to undertake control. The primary basis of this recommendation is that the existence of the trees creates a significant externality for adjacent properties and the costs of remedying this are being borne by adjacent property occupiers with support from the wider community. It is regarded as unreasonable and inefficient for these groups to have to continue to pay to remedy the externality created by repeated re-infestation following initial control.

Table 2: Matters for consideration in allocating costs for Wilding Conifer Pest Agent

Legislative rights and responsibilities	Occupiers may be required to remove trees that have been lawfully planted.
Management objectives	Progressive control.
Stage of infestation	Moderate / high. Widespread infestations but a potentially far larger area remains susceptible.
Most effective control agents	Land holders are most effective because it requires control on their property and the trees are readily identified and removed.
Urgency	Low. Control under this Pest Agent rule is only required following control on adjacent properties and the issuing of a notice of direction.

Efficiency and effectiveness	Requiring land holders to remove seed sources where wilding conifer are being controlled by neighbours is efficient because control only occurs in areas required and does not require more widespread removal. While spread from more distance sources is possible, most seeds fall within the 200m specified in the rule.
Practicality of targeting exacerbators and beneficiaries	Exacerbators are readily targeted as the rule requires a notice to be issued. Beneficiaries include the adjacent landowner and the wider community who have funded previous control through rates and taxes. The adjacent landowner can be targeted through direct charges and the regional community can be targeted by Council rates. The Council has no mechanism to require payment from the Crown to undertake the control work necessary.
Administrative efficiency	It is administratively efficient as control is undertaken by landowners. Inspection and, when needed, enforcement, can be undertaken.
Security	The funding mechanisms are secure in that the land owners are responsible for the control and if they do not undertake control, this can be done by the Council and monies recovered through legal action, if needed.
Fairness	The rule is regarded as fair as the costs relate directly to exacerbators. Beneficiaries must have already undertaken control of wilding pines before the rule is applied.
Reasonable	Costs are regarded as reasonable.
Parties bearing indirect costs	The indirect costs are borne by the exacerbators.
Transitional cost allocation arrangements	None required.
Mechanisms available	Direct payment for control by landowners can be enforced through the rules in the RPMP or recovered from the land owner if necessary. Council can fund its costs through rates or charges set in accordance with its Long Term Plan.