

**BEFORE THE HEARINGS PANEL
FOR THE QUEENSTOWN LAKES PROPOSED DISTRICT PLAN**

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of Hearing Stream 03 –
Protected Trees
chapter

**REPLY OF RACHAEL MAREE LAW
ON BEHALF OF QUEENSTOWN LAKES DISTRICT COUNCIL**

32 PROTECTED TREES CHAPTER

6 July 2016

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1. INTRODUCTION

1.1 My name is Rachael Maree Law. I prepared the section 42A report (**s 42A report**) for the Protected Trees Chapter of the Proposed District Plan (**PDP**), dated 1 June 2016. My qualifications and experience are listed in that s 42A report.

1.2 I have reviewed the evidence filed by other expert witnesses on behalf of submitters, attended the relevant part of the hearings on 27, 28 and 29 June 2016, and considered relevant information handed up during the course of the hearing.

1.3 This reply evidence covers the following issues:

- (a) consistency with the PDP Wilding Tree Chapter 34;
- (b) notification of affected landowners;
- (c) utility Operators;
- (d) Rule 32.4.20;
- (e) significant trimming activity status Table 2 ARHMZ;
- (f) groups of trees;
- (g) environmental compensation;
- (h) permitted activities where Council has discretion;
- (i) costs of consents/significant trimming or removal;
- (j) liability for damages from protected trees; and
- (k) tree item 1002.

1.4 Where I am recommending changes to the provisions as a consequence of the Hearing evidence, I have appended these as **Appendix 1 (Revised Chapter)**. I have attached a section 32AA evaluation in **Appendix 2** in relation to the recommended changes to Rules 32.4.5 and 32.4.21.

2. CONSISTENCY WITH WILDING TREE CHAPTER

2.1 Chapter 34 (Wilding and Exotic Trees) lists species with wilding potential, the planting of which is a prohibited activity. Chapter 32 (Protected Trees) lists, in its Schedule of Protected (32.8) and Character (32.7) Trees, some species which have been identified in Chapter 34 as having wilding potential (and therefore planting of them is prohibited).

- 2.2** The trees identified in Schedules 32.7 and 32.8 have been found to have significant botanical and amenity value. Many trees listed are prime examples of historical plantings in the region. It is accepted that with mature trees such as these that have wilding potential, the risk of wilding spread from those species is increased due to their ability to produce more seeds. I refer to and rely on the evidence given to the Hearings Panel by Mr Spencer on 27 June 2016, where he stated that the majority of the trees with wilding potential in the District are in urban areas.
- 2.3** In his evidence, Mr Spencer iterates that in urban areas, the wilding potential of Protected Trees is limited due to the surrounding activities largely removing any wilding risk. Mr Spencer elaborated that outside an urban area trees with wilding potential can be more problematic. However, it is also understood that in some rural areas such as the valley floors, amidst rural living or rural productive activities, wilding spread is also considered to be low because the potential for seed spread is constrained by the surrounding land uses (whether for productive, lifestyle or amenity purposes).
- 2.4** The discretionary activity rules (32.4.2, 32.4.12 and 32.4.14) for protected trees means there is the ability for the Council to consider any positive effects associated with removing a protected tree to improve wilding tree spread, using a risk assessment criteria similar to that attached in **Appendix 3**. With regard to the Arrowtown Character Trees, where the activity status for removal is Restricted Discretionary I do not consider that the matters of discretion are deficient despite there being no specific provision for the management of trees with wilding potential. This is because these trees are in an urban environment and the wilding potential is low as was discussed in Mr Spencer's evidence. With respect to seed dispersal by birds, I refer to and rely on the opinion of Mr Blakely where he stated at the hearing that trimming hedges, such as Hawthorn hedges, reduces seed spread by reducing the ability for berries to ripen.
- 2.5** I acknowledge that the Wilding and Exotic Trees chapter prohibits the planting of species with wilding potential. I note that this prohibition is for new plantings and contains no requirement for the removal of existing exotic trees. The

Strategic Directions chapter¹ contains the following relevant Objectives and Policies:

- (a) Objective 3.2.4.4 Avoid the spread of wilding exotic vegetation ~~with the potential to spread and naturalise.~~ to protect nature conservation values, landscape values and the productive potential of land; and
- (b) Policy 3.2.4.4.1 ~~That~~ Prohibit the planting of identified exotic vegetation with the potential to spread and naturalise ~~is banned~~.

2.6 The chapter also contains the following objective and policy in relation to the management of the heritage values of the District:

- (a) Objective 3.2.3.2 - ~~Protect~~ Development is sympathetic to the District's cultural heritage values. and ensure development is sympathetic to them; and
- (b) Policy 3.2.3.2.1 Identify heritage items and ensure they are protected from inappropriate development.

2.7 There is some conflict between the values protected by these two sets of objectives and policies. This conflict is evident in the rules of the Wilding Tree and Protected Trees chapters.

2.8 The Protected Trees which are identified as species with wilding potential are not considered to be the same as those intended for control under PDP Chapter 34. Wilding means *the natural regeneration or seedling spread of exotic trees, occurring in unintended locations and not managed for forestry production.*² The term *avoid* in Objective 3.2.4.4 is intended to control the unintended spread of these species, protecting the Districts' natural landscapes. The trees that are protected in PDP Chapter 32 are exceptional items that have been planted specifically years ago, generally in urban areas where the risk of spread is low, and are items that have been identified for protection due to their significant contribution to the character of the Districts' communities. The chapter 34 is seeking to control future plantings of these

¹ See version dated 7 April Council's Right of Reply

² See PDP Chapter 34 version dated 6 April 2016 34.1,

species to avoid future wilding spread. It is not requiring the removal of all identified species with wilding potential in the District.

2.9 The Protected Trees chapter aims to recognise and protect the contribution that trees and groups of trees make to the District's heritage and in particular the importance of trees to Arrowtown's heritage and amenity values. I refer to and rely on the evidence of Mr Philip Blakely before the Hearings Panel on 27 June where he stated that the character and heritage of the Arrowtown Residential Historic Management Zone (**ARHMZ**) is made up in some part by species with wilding potential. Mr Blakely acknowledged that the conflict between the protection of heritage values and the need to prevent the spread of wilding vegetation will require ongoing management.

3. PROTECTED TREE 193

3.1 In regards to Tree item 193, Ms Black in her evidence dated 29 June,³ states that there is no need for an ecological assessment of the site on which the tree is located. I disagree, and refer to and rely on the evidence of Mr David Spencer before the Hearings Panel on 27 June in which he stated that in a rural setting an assessment should be required when considering removal of a Protected Tree with wilding potential, to see if the risks could be managed. In my view, without the study, there would not be enough information upon which to base a decision.

3.2 Furthermore, in regards to Ms Black's concerns in Part 3.4 of her evidence with respect to the risk of increased spread from sheep consuming the seeds, Ms Black has not purported to be either a specialist in animal digestion or a botanist in giving this evidence. While I also am not an expert on these matters, I consider that there is evidence that is contrary to Ms Black's assertions. **Figure 1** is an example from Flock Hill Station in Canterbury, showing the effect of grazing on wilding threatened landscapes. This figure supports the concept that grazing an area significantly reduces the risk of wilding spread, as the animals either stamp out the seedlings or eat the soft seedlings, preventing their growth and thus the further spread of wildings. In summary, I consider that the tree should be retained on the Protected tree schedule. Real Journeys and Te Anau Developments Limited have not

³ Evidence for Real Journeys and Te Anau Developments Limited.

provided any expert evidence that confirms the tree is a significant wilding source.

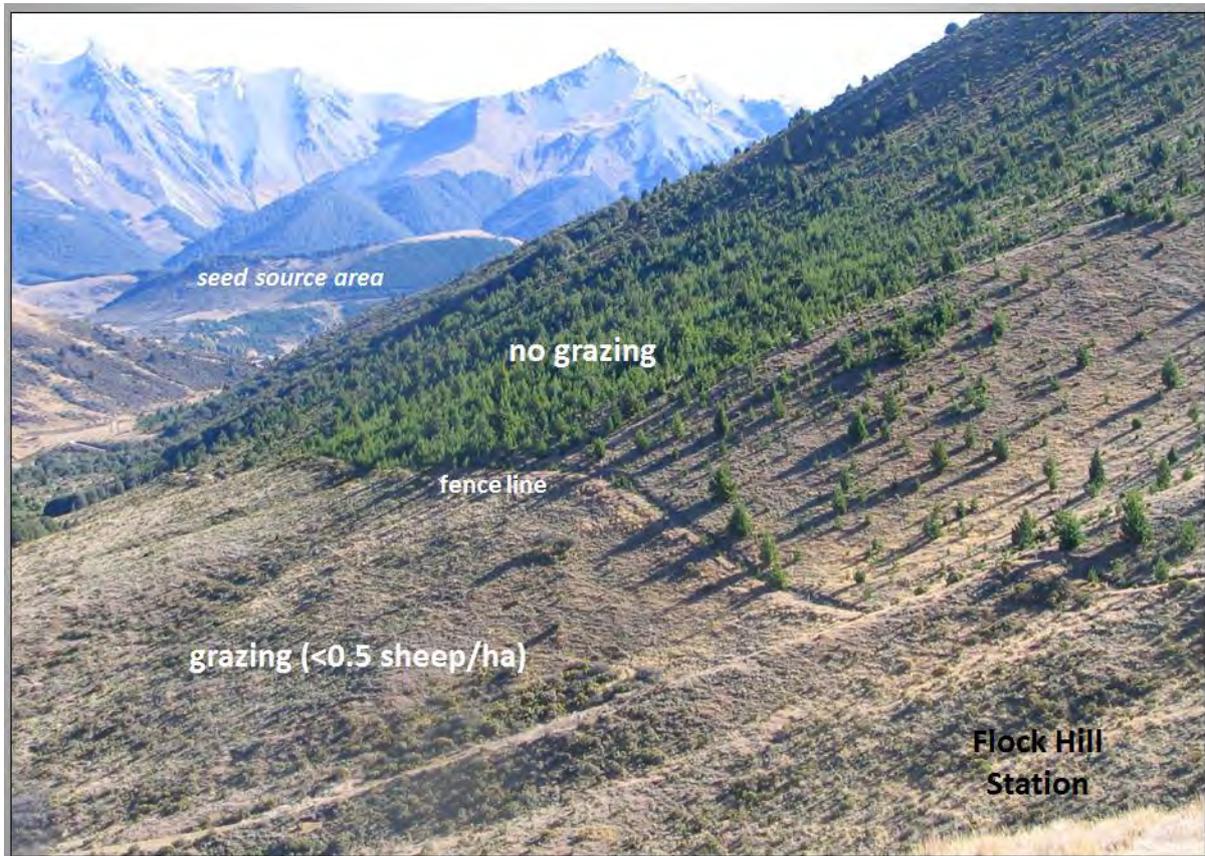


Figure 1: Flock Hill Station, showing the effect of grazing on wilding threatened landscapes. Source: Ledgard, Nik. *Where are we headed with wildings?* Slide 21, presented at Wakatipu Wilding Group, June 18, 2012 (Appendix 4).

4. NOTIFICATION OF AFFECTED LANDOWNERS

- 4.1 The Panel asked Council to clarify the extent of notification and consultation with affected persons. In addition to the opportunity for persons to submit on the PDP through the statutory submission process, landowners and occupiers of properties were consulted as set out in the following paragraphs.

Trees with potential to qualify as a Protected Tree

- 4.2 Nineteen trees that are not scheduled in the ODP as a Heritage Tree were identified in the ARHMZ as having a STEM score of at least 120 and put forward for scheduling as a Protected Tree in the PDP. These trees were identified in 2011 by the Council's arborist as part of body of work associated with the revocation of the 'blanket tree protection rules' announced by the Government.

- 4.3** As part of Mr Spencer's brief to survey the existing schedule of Heritage Trees in the ODP, Mr Spencer surveyed these 19 trees to confirm whether they attained a STEM score of at least 120 and qualified to be scheduled as a Protected Tree.
- 4.4** A letter was sent to the owners and occupiers of properties that contained these trees setting out that a survey was to be undertaken. An additional letter was sent, upon request by the landowner or occupier, that set out the rationale for scheduling the tree and the differences between the existing rules in the ODP and proposed rules in the PDP. An example of the communication is attached as **Appendix 5**.

Existing Trees Scheduled in the ODP

- 4.5** Landowners and occupiers where existing scheduled trees were located on their property were sent a letter (example attached as **Appendix 6**) informing them that the Council was undertaking a review of the scheduled trees, the item in question and the location it was thought to be located on. The letter also outlined a timeframe within which an arborist was going to inspect this tree.

Trees within the Arrowtown Residential Historic Management Zone that were identified as 'Arrowtown Character Trees'

- 4.6** There was no direct consultation undertaken with owners and occupiers of properties within the ARHMZ prior to notification because the ODP rules, at the time, already required a Discretionary Activity resource consent for the felling of any tree greater than a height of 2.5m, or the pruning, trimming or topping of any tree greater than 4m in height in the ARHMZ. The Survey undertaken by Mr Blakely for the Council identified only the trees that provided significant amenity value. As a result, across the zone the rules overall have been significantly relaxed.
- 4.7** However, I understand that some Character Trees may have more regulation placed on them under the rules in the proposed chapter than under the ODP. While the significant trimming of any tree below 4 m in height was a permitted activity under the ODP it is proposed to be a restricted discretionary activity in

the proposed rules. While the felling of any tree below 2.5m was a permitted activity under the ODP it is proposed to be a restricted discretionary activity in the proposed rules. While landowners with such Character Trees on their property were not individually consulted prior to notification, statutory consultation was undertaken through Schedule 1 RMA processes.

5. UTILITY OPERATORS

5.1 For all the categories of Protected Trees in Chapter 32, minor trimming is a permitted activity, including trees on streets and public spaces within the ARHMZ as recommend in my s 42A report. This is to ensure that the tree item can be maintained to a healthy level without requiring consent, and also to maintain safe distances from the overhead network utility lines, ensuring the security of these essential services to the District. It is understood that the utility companies have an interest in keeping their lines safe from hazards, and will undertake communication with landowners of protected trees to inform them when minor trimming is required to trees located close to their network utility lines. Therefore there shouldn't be any need for consent, if they are appropriately managed.

6. RULE 32.4.20 – "DEATH BY 1000 CUTS"

6.1 The Hearings Panel highlighted that the rules in the s42A recommended chapter regarding minor trimming of tree items could enable the continued minor trimming until such time as the tree item was diminished in health, stature and amenity value, and resource consent could be obtained for its removal on the basis that the values for which it was protected were no longer present.

6.2 Upon further reflection I accept this and I consider that adding a time limit on these rules would enable minor trimming as necessary but also ensure continuing protection of the health of the tree item. Mr Spencer has advised appropriate time restraints of minor trimming of trees no more than once in a calendar year, and minor trimming of hedgerows to be limited to no more than 50% in a 5 year period. These changes have been incorporated into the revised chapter in **Appendix 1**.

7. SIGNIFICANT TRIMMING ACTIVITY STATUS TABLE 2 - ARHMZ

7.1 The Hearings Panel questioned the discretionary activity status for significant trimming or removal of trees in public spaces and the road reserve in the ARHMZ, and why these were not given a restricted discretionary status akin to those trees in Schedule 32.7 Character Trees.

7.2 The trees in public spaces and the road reserve in the ARHMZ are in the public realm. The protection of those trees in public spaces and the road reserve to a discretionary level is done so for two reasons:

(a) to counteract the cumulative loss of the great number of trees no longer protected; and

(b) to provide for the variable nature of applications QLDC might expect to receive in relation to these trees.

7.3 For the Arrowtown Character Trees, QLDC can expect to receive applications in regards to removal or significant trimming for more confined reasons than those in public spaces and the road reserve, mainly in order to allow for opportunities for redevelopment of the site. For the trees in public spaces and the road reserve, QLDC could expect applications from a wider group of people ranging from utilities companies to members of the public to the Council itself, requesting significant trimming or modification or removal of these trees for a range of different reasons, including but not limited to removal for new access points (utilities, driveways, infrastructure), safety (falling debris, sightlines), interruption of views, dropping of fruit/berries (danger to slippery footpaths), and allergies. It is for these reasons that I consider the discretionary activity status for significant trimming or removal of trees in public spaces and the road reserve in the ARHMZ appropriate.

8. GROUPS OF TREES

8.1 It is the submission of Mr Beale (#365) that the entire group of Spruce and Larch trees be scheduled in the PDP as item 275. As described in the evidence of Mr David Spencer to the Hearings Panel on 27 June 2016, the value of trees as a group is higher. The STEM assessment was used to evaluate trees individually. Within this, STEM takes into account the value that

trees have in their setting⁴ and this is attributed to each individual tree score. Accordingly, only those Spruce and Larch trees that obtained a STEM score of 120 or more were recommended as being scheduled as protected trees in my s42A report.

8.2 If the Hearings Panel agrees with Mr Beale that the entire group tree item 275 should be scheduled despite some of the individual trees not meeting the STEM criteria then that would be apposite.

8.3 The RMA permits groups of trees to be protected so long as they adequately identified. I consider that the protected trees chapter provides sufficiently for the protection of groups of trees. Objective 32.2.1 states (as recommended) *Scheduled trees and groups of trees are protected from avoidable removal or damage*. This clearly provides for groups of trees. The removal of or works in the root protection zone of Protected Trees is a discretionary activity providing for consent authorities to consider the cumulative effects on surrounding trees. For this reason, I consider that the rules provide sufficiently for the protection of groups of trees and I do not consider the rule framework needs additions in order to protect groups of trees.

9. ENVIRONMENTAL COMPENSATION

9.1 The Hearings Panel questioned whether environmental compensation was a concept that should be applied to the Protected Trees chapter. Environmental compensation is not defined in the notified PDP, however a definition is recommended to be added in the Council's Reply to the submissions on Chapter 33 Indigenous Vegetation and Biodiversity⁵:

Means actions offered as a means to address residual adverse effects to the environment arising from project development that are not intended to result in no net loss or a net gain of biodiversity on the ground, includes residual adverse effects to other components of the environment including landscape, the habitat of trout and salmon, open space, recreational and heritage values.

⁴ See *Proximity* and *Proximity Score* in Appendix 7 Stem evaluations. Note that those indicated as being *solitary* are scored higher than those in *parkland*, or in a *group of 10+*.

⁵ See page 33-25 of Appendix 1 – Right of Reply Recommended Revised Chapter 33 Indigenous Vegetation and Biodiversity 03/06/2016

9.2 Upon further reflection with this concept and the specific situation of Protected Trees, I believe that environmental compensation would not be sufficient or achievable in the matter of Protected Trees. For Character trees, which are typically smaller in stature, this might be more achievable, having a wait time of 5 to 10 years until the replacement would achieve like-values of the original, but for Protected Trees this is not feasible. Any replacement tree would be of lesser value than the scheduled Protected Tree, and would be likely to take decades to achieve the same values as the original. For this reason I do not consider environmental compensation a viable part of the policy framework when considering applications for protected tree removal.

9.3 In the case of the matters of discretion for removing an 'Arrowtown Character Tree', matter of discretion 32.5.1.4 contemplates the merits of any proposed substitution or compensating tree planting or landscaping. Further to this, the previous change to this assessment matter dated 1 June changed *substitution or compensating tree planting/landscaping* to *substitution or mitigation tree planting*. Upon further reflection I consider that substitution is mitigation, whilst compensation could be something other than direct mitigation. I consider the notified version provides for more opportunities than the revised version, and have made the necessary changes in **Appendix 1** to reflect this. The s32AA analysis attached as Appendix 4 to my s42A report regarding this issue should no longer be relied upon.

10. PERMITTED ACTIVITIES WHERE COUNCIL HAS DISCRETION 32.4.5, 32.4.21

10.1 The Hearings Panel highlighted that permitted activity rules 32.4.5 and 32.4.21 pertained to reserve Council the right for discretion, decision making or control over what is listed as a permitted activity. The purpose of these rules was to ensure that persons are able to carry out emergency works to, or removal of Scheduled trees, if they are causing or likely to cause an imminent hazard to life or property. The intention was that this is a notification clause, and I note that other territorial authorities in New Zealand⁶ use a similar form of notification requirement for these types of rules, in order to ensure these actions are being carried out in extreme circumstances as a last resort only.

⁶ See Waipa District Council, Whanganui District Council, and Dunedin City Council for example.

10.2 I have made changes I consider appropriate to rules 32.4.5 and 32.4.21 (see **Appendix 1** and the s32AA in **Appendix 2**) to clarify that there are two permitted activity standards for these activities:

- (a) need for Council notification of these actions prior to the action; and
- (b) following the works persons must provide to the Council a report from a qualified and experienced arborist outlining that the tree was dead, diseased or damaged and likely to cause an imminent hazard to life or property.

11. COSTS OF CONSENTS/SIGNIFICANT TRIMMING OR REMOVAL

11.1 The Hearings Panel questions whether Council has considered the costs of the need to obtain consents and or undertake trimming of protected trees, on private persons. I can advise that the Council offers a Heritage Incentive Grant (**Appendix 8**), where funding may be given towards Professional Advice, Consents or Maintenance of a historic building, site or object listed in the ODP Inventory of Protected Features, including trees. Up to a maximum of \$3,000 total may be given in funding for these areas noted above in regards to Scheduled Trees.⁷ I note that, as it reads currently, this applies only to items scheduled in the Operative District Plan (**ODP**). So far as I am aware there is no indication of a policy shift to remove this option. This policy will need to be updated to reflect the PDP.

12. LIABILITY FOR DAMAGES FROM PROTECTED TREES

12.1 Mr Ritchie (#39) refers to the issue of liability for damages to property or persons resulting from a protected tree (Item 603) on his property. As the tree is on the property owned by Mr Ritchie, he is therefore the owner of the tree and as such may be liable for any damages it may cause, the risks for which are low, as discussed in the s 42A report dated 1 June and the evidence of Mr David Spencer dated 1 June. It is my view that the rules in Chapter 32 enable owners of land, upon which protected trees sit, to adequately maintain these trees. Rule 32.4.1 makes the minor trimming of a protected tree a permitted activity. In most cases minor trimming will be sufficient to maintain trees to a safe degree without the need to apply for consent. Where significant trimming

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See Appendix 8 page1

is required to maintain a tree to a safe standard, residents can apply for a discretionary resource consent under rule 32.4.2 of the PDP.

12.2 Overall, tree item 603 has been assessed worthy of protection under the District Plan. The tree is in good health and the risks of damage to persons or property were assessed by Mr Spencer to be tolerable and unlikely to occur, especially with appropriate tree maintenance. The rules contained in Chapter 32 (rules 32.4.1 and 32.4.2) provide residents with the ability to adequately manage the risks relating to protected trees. I therefore find no cause to remove this tree from 32.8 Schedule of Protected Trees District Wide. Ultimately, liability is not an issue addressed by the PDP.

13. TREE ITEM 1002

13.1 While I acknowledge that there has been some damage to the house at 5 Berkshire Street, I do not consider that Council is giving undue emphasis on the values of the community over the landowners in the case of tree 1002. Mr Spencer has advised the Hearing Panel that the height to which this tree will grow is difficult to predict, and has equally advised that the damage to the foundations and footpath at 5 Berkshire Street could be repaired without requiring the removal of Tree 1002. As this tree is so visually prominent in the centre of Arrowtown, I consider its removal would have significant negative effects on the community.

13.2 The 120 STEM score threshold was adopted by Council some years previously, and I understand that the decision to adopt this threshold was made to a level that is relevant to the Queenstown Lakes District on the basis of arboricultural advice, though I do not have written confirmation of this. This threshold is a continuation from the ODP, and I see no reason for a reassessment of this threshold. Other Council's around New Zealand use scores ranging from 90 to 147. Each Council places the threshold differently based on many different factors considered important to the District, climate and heritage value placed on trees being but of few of these factors.

14. CONCLUSION

- 14.1** Overall, I consider that the chapter dated 1 June has need of some clarification. I consider the revised chapter as set out in **Appendix 1** is the most appropriate way to meet the purpose of the RMA.



Rachael Law
Policy Planner
6 July 2016

APPENDIX 1
32 PROTECTED TREES REVISED CHAPTER

PROTECTED TREES 32

Key:

Red underlined text for additions and ~~red strike through~~ text for deletions, Appendix 1 to Rachael Law's Right of Reply, dated 6 July 2016.

Black underlined text for additions and ~~strike through~~ text for deletions, Appendix 1 to Rachael Law's s42A report, dated 1 June 2016.

32 Protected Trees

32.1 Purpose

Trees have an important environmental, heritage and cultural role and collectively endow the rural and urban landscape with distinctive environmental quality and character.

The purpose of these provisions is to protect trees that have been identified as having high botanical, amenity and heritage values from avoidable removal. The provisions also recognise and provide for the retention and maintenance of trees that contribute to the amenity, character and heritage values of the Arrowtown Residential Historic Management Zone.

The focus is on the protection of trees from inappropriate removal or trimming, and to manage works within the root protection zone. However, it is recognised that there may be circumstances when substantial pruning or removal are unavoidable due to poor health or damage.

Pursuant to Section 4 of Schedule 12 of the RMA, the rules in Table 1 have immediate legal effect for the following Protected Trees identified in Schedule 32.8 of this chapter: 1001 to 1017 inclusive.

Pursuant to Section 4 of Schedule 12 of the RMA, the rules in Tables 2 and 3 have immediate legal effect.

32.2 Objective and Policies

32.2.1 Objective - ~~Protect~~ Scheduled trees and groups of trees are protected from avoidable removal or damage

Comment [RL1]: Grammatical clarification as per Fourth Procedural Minute dated 8 April

Policies

32.2.1.1 Identify and schedule in the District Plan the District's protected trees.

32.2.1.2 Protect scheduled trees from avoidable removal, removal of the protected tree status or inappropriate trimming or destruction, recognising them as an important part of the character, amenity and heritage values of the District.

32.2.1.3 Recognise where genuine circumstances exist, the removal or significant trimming of protected trees may not be avoidable because the values of the tree for which it was protected have significantly deteriorated, or the tree is causing a hazard to life or property.

32.2.1.4 Permit works and maintenance to be undertaken on protected trees where the work will assist in maintaining the health of the tree.

32.2.2 Objective - ~~Protect~~ Trees in streets and public spaces within the Arrowtown Residential Historic Management Zone are protected, recognising their contribution to amenity and heritage values.

Comment [RL2]: Grammatical clarification as per Fourth Procedural Minute dated 8 April

PROTECTED TREES 32

Policies

32.2.2.1 Provide efficiencies to the Council where it is responsible for the conservation, maintenance and management of trees within streets and public spaces.

32.2.2.2 Recognise that trees within streets and public spaces provide a significant contribution to the amenity, heritage and biodiversity values of the Arrowtown Residential Historic Management Zone.

32.2.2.3 Protect trees within streets and public places in the Arrowtown Residential Historic Management Zone while acknowledging the primary function of streets and public spaces.

32.2.3 Objective – ~~Protect and manage~~ Character trees and groups of trees within the Arrowtown Residential Historic Management Zone are managed and protected to ensure the amenity and heritage values of the zone is maintained.

Comment [RL3]: Grammatical clarification as per Fourth Procedural Minute dated 8 April

Policies

32.2.3.1 Identify and schedule in the District Plan trees and groups of trees within the Arrowtown Residential Historic Management Zone that contribute to the zone's unique character and heritage values.

32.2.3.2 Protect or enhance Arrowtown's unique character and amenity by recognising the contribution trees and groups of trees make to Arrowtown's landscape, cultural identity and historic heritage values.

32.2.3.3 Acknowledge the important role trees and groups of trees have in contributing to the character and historic heritage of Arrowtown, despite that on an individual basis a tree or group of trees may not be significant in stature.

32.2.3.4 Have regard to the reasonable and efficient use of land anticipated in the Arrowtown Residential Historic Management zone, while ensuring the removal or modification of trees or groups of trees does not lead to the cumulative loss of Arrowtown's heritage character and amenity values.

32.3 Other Provisions and Rules

32.3.1 District Wide

Attention is drawn to the following District Wide chapters. All provisions referred to are within Stage 1 of the Proposed District Plan, unless marked as Operative District Plan (ODP).

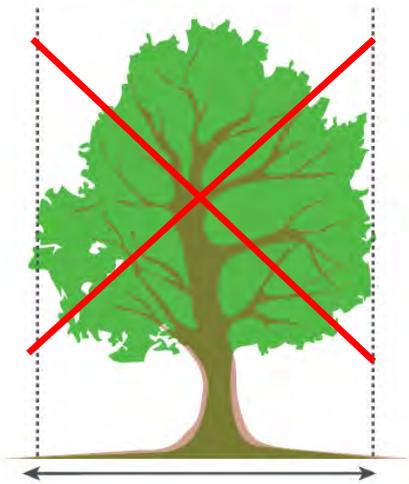
1 Introduction	2 Definitions	3 Strategic Direction
4 Urban Development	5 Tangata Whenua	6 Landscapes
24 Signs (18 ODP)	25 Earthworks (22 ODP)	26 Historic Heritage
27 Subdivision	28 Natural Hazards	29 Transport (14 ODP)
30 Utilities and Renewable Energy	31 Hazardous Substances (16 ODP)	33 Indigenous Vegetation
34 Wilding Exotic Trees	35 Temporary Activities and Relocated Buildings	36 Noise
37 Designations	Planning Maps	

PROTECTED TREES 32

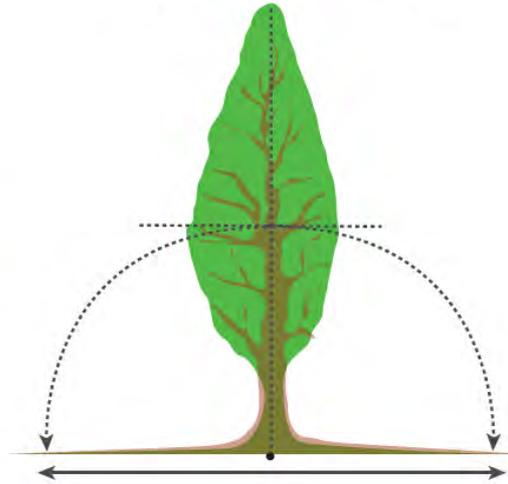
32.3.2 Clarification

32.3.2.1 **Root protection zone**; means for a tree with a spreading canopy, the area beneath the canopy spread of a tree, measured at ground level from the surface of the trunk, with a radius to the outer most extent of the spread of the tree's branches, and for a columnar tree, means the area beneath the canopy extending to a radius half the height of the tree. As demonstrated by the diagrams below.

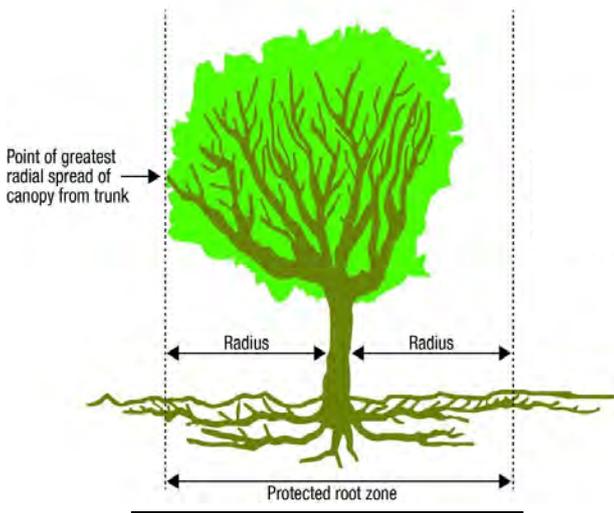
SPREADING CANOPY



COLUMNAR CANOPY



SPREADING CANOPY



Comment [RL4]: Diagram change
Submitter 809

32.3.2.2 **Significant trimming** means; the removal of more than 10% of the live foliage from the canopy of the tree or structural scaffold branches.

32.3.2.3 **Minor trimming** means; the removal of not more than 10% of the live foliage from the canopy of the tree or structural scaffold branches within a calendar year.

Comment [RL5]: Submitter 809

PROTECTED TREES 32

- 32.3.2.4 **Minor trimming of a hedgerow** means; the removal of not more than 50% of the live foliage within a five year period.
- 32.3.2.5 **Works within the root protection zone** includes paving, excavation, trenching, ground level changes, storage of materials or chemicals, vehicle traffic, vehicle parking, soil compaction, construction activity, whether on the same site or not as the tree.
- 32.3.2.6 **Public space** in the context of these rules means the parts of the district that are owned and managed by the Queenstown Lakes District Council, are accessible to the public within the Residential Arrowtown Historic Management Zone including roads, parks and reserves.
- 32.3.2.7 Compliance with any of the following standards, in particular the permitted standards, does not absolve any commitment to the conditions of any relevant land use consent, consent notice or covenant registered on the site's computer freehold register.
- 32.3.2.8 Where an activity does not comply with a Standard rule listed in the Standards Tables 1-3, the activity status identified by the 'Activity Non Compliance Status' column shall apply. Where an activity does not comply with breaches more than one rule Standard, the most restrictive status shall apply to the Activity.
- 32.3.2.9 The following abbreviations are used in the tables. Any activity that is not permitted (P) requires resource consent.

Comment [RL6]: Consequential change Submitter 809

Comment [RL7]: Submitter 383 consequential changes and clarification

P	Permitted	RD	Restricted Discretionary
D	Discretionary		

32.4 Rules – Protected Trees

Table 1	Protected Trees	Non-compliance Activity Status
	Activities involving protected trees listed in Schedule 32.8 shall be subject to the following rules.	
32.4.1	Minor trimming of a protected tree and minor trimming of a protected hedgerow.	P
32.4.2	Significant trimming, removal, damage or destruction of a protected tree or hedgerow.	D
32.4.3	Any works within the root protection zone of a protected tree.	D
32.4.4	Maintenance of protected hedgerows comprising the trimming of not greater than 50% of the canopy provided such work is supervised by a qualified <u>and experienced</u> arborist first approved by the Queenstown Lakes District Council.	P

Comment [RL8]: Submitter 383

Comment [RL9]: Submitter 809

PROTECTED TREES 32

Table 1	Protected Trees	Non-compliance Activity Status
	Activities involving protected trees listed in Schedule 32.8 shall be subject to the following rules.	
32.4.5	<p>The removal or significant trimming of a protected tree where the tree is dead, diseased or damaged and likely to cause an imminent hazard to life or property <u>subject to the following permitted activity standards:-</u></p> <p><u>Notification of Prior to the removal or significant trimming is required to be made to Council prior to commencing the works.-</u></p> <p><u>Following the works persons must provide to the Council a report from a qualified and experienced arborist outlining that the tree was dead, diseased or damaged and likely to cause an imminent hazard to life or property. the reasons for removal or significant trimming. Works must not commence prior to the Council confirming the permitted activity status of the removal or significant trimming of a protected tree.</u></p>	P
32.4.6	Maintenance of the ground within the <u>root</u> protection zone such as lawn mowing or gardening, provided that the maintenance does not alter the ground levels, remove soil or cause damage to the tree root system.	P
32.4.7	Any works to a protected tree, or activity within the root protection zone not provided for in Table 1.	D

Comment [RL8]: Submitter 383

Comment [RL10]: Submitter 809

Comment [RL11]: Submitter 809

Comment [RL12]: Submitters 383, 809

Table 2:	Trees in streets and public spaces within the Arrowtown Residential Historic Management Zone. Not Scheduled as a Protected Tree.	Non-compliance Activity Status
	Works by the Council or its agent	
32.4.8	Removal or significant trimming where the tree is dead, diseased or damaged and likely to cause an imminent hazard to life or property.	P
32.4.9	<u>Minor Tree</u> trimming carried out by the Council or its agent.	P
32.4.10	Any works within the root protection zone of a tree.	P
32.4.11	The removal or significant trimming of any tree less than 4m in height.	P
32.4.12	The removal, <u>or significant trimming or works within the root protection zone</u> of any tree greater than 4m in height.	D
	Works by any other person or party	
32.4.13	<u>Minor trimming</u> of a tree and minor trimming of a hedgerow.	P
32.4.14	Significant trimming or removal.	D
32.4.15	Any works within the root protection zone of a tree.	D

Comment [RL13]: Submitter 383

Comment [RL14]: Clarification and consequential change from submission 179, 191, 421, 781 on minor trimming

Comment [RL15]: Submitter 809

Comment [RL16]: Submitters 179, 191, 421, 781

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Table 3	Trees and groups of trees within the Arrowtown Residential Historic Management Zone identified on the planning maps and scheduled as a character tree in Part 32.7.	Non-compliance Activity Status
32.4.4516	Significant trimming, removal, destruction or damage of a tree or hedgerow.	RD
32.4.4617	Minor trimming of a tree or hedgerow.	P
32.4.4718	Any works within the root protection zone of a tree or hedgerow, whether on the same site not.	RD
32.4.4819	Any building, excavations or trenching for underground services within the root protection zone of a tree or hedge, whether on the same site not.	RD
32.4.4920	Maintenance of a character hedgerow comprising the trimming of not greater than 50% of the canopy, provided such work is carried out under the authority and supervision by a qualified <u>and experienced</u> arborist first approved by the Queenstown Lakes District.	P
32.4.2021	<p>The removal or significant trimming of a character where the tree is dead, diseased or damaged and likely to cause an imminent hazard to life or property.</p> <p><u>Notification of Prior to</u> the removal or significant trimming <u>is required to be made to Council prior to commencing the works.</u></p> <p><u>Following the works</u> persons must provide to the Council a report from a qualified <u>and experienced</u> arborist outlining <u>that the tree was dead, diseased or damaged and likely to cause an imminent hazard to life or property. the reasons for removal or significant trimming. Works must not commence prior to the Council confirming the permitted activity status of the removal or significant trimming of a protected tree.</u></p>	P

Comment [RL17]: Submitter 383

Comment [RL18]: Submitter 809

Comment [RL19]: Submitter 809

Comment [RL20]: Submitter 809

Comment [RL21]: Grammatical clarification

32.5 Rules - Assessment Matters of Discretion

~~Matters of discretion for restricted discretionary activities are~~ Discretion is restricted to ~~all of~~ the following matters listed for each specific rule:

Comment [RL22]: Grammatical clarification

Significant trimming, removal, destruction or damage pursuant to rule 32.4.16:

Comment [RL23]: Clarification

32.5.1.1 The significance of the character, cultural and amenity values of the tree(s) and the degree to which the proposed trimming, works or removal would impact on those values.

32.5.1.2 ~~Whether [The works are reasonably necessary to enable the efficient use of land and resources, including to improve situations where there is inadequate natural reasonable sunlight or to ensure vegetation is not adversely impacting on buildings into dwellings and building maintenance.~~

Comment [RL24]: Submitter 809

32.5.1.3 Whether the proposed works would maintain the values for which the ~~tree item(s)~~ was protected.

32.5.1.4 The merits of any proposed substitution or compensating tree planting or landscaping.

Comment [RL25]: Submitter 809

32.5.1.5 Whether the removal of the tree or group of trees would create a cumulative adverse effect due to previous tree removals, whether on the same property or not.

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32.5.1.6 The effects on the health and structural stability of the tree or hedgerow from any significant trimmings and the possibility of any viable alternatives, as well as whether best practice methods are to be used.

Comment [RL26]: Submitter 809

Works within the root protection zone pursuant to rules 32.4.18 and 32.4.19:

Comment [RL27]: Clarification

32.5.1.67 Potential effects on the health or structural stability of the tree or hedgerow

Comment [RL28]: Submitter 809

32.5.1.78 Whether best practice methods will be used

32.5.1.89 Whether any viable alternatives are available

Comment [RL29]: Submitter 809

32.6 Rules - Non-Notification of Applications

The provisions of the RMA apply in determining whether an application needs to be processed on a notified basis. No activities or non-compliances with the standards in this chapter have been identified for processing on a non-notified basis.

32.7 Schedule of Character Trees in the Arrowtown Residential Historic Management Zone

Item	Address	Legal Description	Species	Contribution
1	3 Berkshire Street 5 Berkshire Street	Lot 1 DP 9213 Lot 2 DP 9123	Hawthorn hedge (Crataegus monogyna) English Oak (Quercus robur) cluster	Contributes to amenity of Arrow Lane and Town Centre
2	5 Berkshire Street	Lot 2 DP 9123	Cypress (Cupressus sp)	Tall columner distinctive evergreen tree in backdrop to Town Centre.
3	7 Berkshire Street	Lot 3 DP 9123	Norway Spruce (Picea abies)	Tall landmark tree planted by settlers. Heritage and amenity values
4	9 Berkshire Street 11 Berkshire Street	Lot 4 Lot 2 DP 9123 Lot 5 Lot 2 DP 9123	Hawthorne hedge (Crataegus sp)	Heritage and amenity value on Berkshire St
5	9, 11, 12, 58 Wiltshire Street 10, 12, 14, 14a Merioneth Street 5, 7 Hertford Street 2 Arrow Lane	Lot 2 DP 19690 Lot 1 DP 19537 Sections 1-4 SO 14012 Block I Town of Arrowtown Section 6 Block I Town of Arrowtown Section 7 Block I Town of Arrowtown Lot 2 DP 19573	Sycamore (Pseudoplatanus) Common Elm (Ulmus procera)	Collectively significant grouping to character and amenity of lower Wiltshire St, Buckingham St and Library Green. Follows first terrace
6	16, 18 Wiltshire Street	Lot 1 DP 23743	Hawthorne hedge	Heritage and amenity
7	5 Denbigh Street	Lot 2 DP 11779	Copper beech (Fagus sylvatica)	Amenity value. Only tall tree in this block. Provides

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Item	Address	Legal Description	Species	Contribution
			Purpurea)	stature and amenity.
8	28 & 30 Buckingham St	NOT IN RAHMZ	English Oak (Quercus robur)	Amenity value in town centre zone
9	10 Buckingham Street 2 Berkshire Street	PT SEC 6 BLK VII ARROWTOWN PT SECS 5-6 BLK VII ARROWTOWN TN PT SECS 5-6 BLK VII ARROWTOWN TN	Lombardy poplar (Populus nigra 'Italica'), Walnut (Juglans regia)	Heritage and character
10	70 Buckingham Street	Lot 19 DP 9914	Red oak (Quercus rubra), Sycamore, Copper beech)	Large deciduous trees contributing to character and heritage. Sycamore planted by settlers.
11	11 Camp Lane	Lot 18 DP 9914	Sycamore	Heritage and amenity. Large deciduous tree
12	64-66 Buckingham Street 7-9 Merioneth Street 2 Camp Lane	Section 1, 2, 9, 10 Block XII Town of Arrowtown	Hawthorne hedges, Copper beech, Prunus sp, European Elm, Lombardy poplar	Heritage and amenity adjoining Buckingham St
13	51 Buckingham Street 2 Wiltshire Street	Part Section 1 Block X Town of Arrowtown Sections 6-7 Block X Town of Arrowtown	Claret Ash, Prunus sp, Acer sp	Amenity
14	5, 7, 9, 11 Surrey St	Lot 2 DP 408944	Lombardy poplar (P. nigra 'Italica') and macrocarpa (Cuppressus macrocarpa)	Heritage and rural character.
15	4 Merioneth Street	Town Section 5 Block X Town of Arrowtown	Prunus sp, walnut, red oak	Heritage and amenity
16	6 Merioneth Street	Lot 2 DP 12521	Copper beech (Fagus silvatica 'Purpurea')	Amenity
18	21 - 23 Merioneth Street	Section 13 Block XX Town of Arrowtown	Walnut	Heritage and amenity
19	29 Merioneth Street	Section 3 Block XX Town of Arrowtown	Silver birch (Betula sp.) Partly on road reserve	Amenity value
20	11 Bedford Street 9 Bedford Street (Reserve)	Section 3 Block XXIV Town of Arrowtown Section 15 Block XXIV Town of Arrowtown	Sycamore (Acer Psuedoplatanus), European Ash (Fraxinus sp), Prunus spp. Hawthorne, Douglas fir (Psuedosuga menziesii)	Significant tree grouping that contributes to streetscape amenity and amenity of adjoining reserve.

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Item	Address	Legal Description	Species	Contribution
21	17 Bedford Street 19 Bedford Street	Lot 8 DP 8405 Lot 7 DP 8405	Two x English Elm (Ulmus procera)	Forms part of historic avenue on intersection of Buckingham and Bedford Streets
22	14,16,18 Nairn Street	Lots 9, 10 and 11 DP 8405	Hawthorne hedge and Sycamore	Contributes to heritage and amenity values on Nairn St
23	30 Nairn Street	Lot 4 DP 9802	Walnut (Juglans regia)	Large deciduous nut tree with historic and amenity value
24	43 Buckingham St	Part Section 4 Block IX Town of Arrowtown	Privet hedge on Buckingham St frontage (Ligustrum ovalifolium), Ash (Fraxinus sp)	Amenity, streetscape character TOWN CENTRE ZONE
25	69 Buckingham Street 71 Buckingham Street	Section 3 Block XI Town of Arrowtown Lot 2 DP 15734 Lot 1 DP 15734	English oak (Quercus robur), Walnut (Juglans regia)	Heritage trees
26	69 Buckingham Street	Section 3 and Section 6 Block XI Town of Arrowtown	Lime (Tilia europaea)	Amenity and character
27	10,12, 14 Merioneth Street	Lot 2 DP 11593 Lot 1 DP 11593 Lot 1 DP 17118 Inclusive of Units A and C DP 2023	Poplar, (P. nigra 'Italica') sycamore 'Acer Psuedoplatanus' Fraxinus sp	Part of treed backdrop following river terrace and providing enclosure and backdrop to Library Green
28	5 Hertford Street	Lot 2 DP 19573	Privet hedge	Amenity and heritage values
29	7 Hertford Street 14 Merioneth St	Lot 2 DP 17118 Lot 1 DP 17118 Inclusive of Units A and C DP 2023	Douglas fir (Psuedotsuga menziesii)	Tall landmark tree planted by early settlers
30	13 Hertford Street	Lot 19 DP 9914	Walnut (Juglans regia)	Tall edible nut tree. Representative of early settler plantings.
31	Upper Camp Lane linking through to Cardigan Street (overlaps 15,17,19, 21 Hertford St and 22,28 Cardigan Street)	Section 6 Block XII Town of Arrowtown Lot 14 DP 9914 Lot 13 DP 9914 Lot 15 DP 9914 Section 13 Block XII Town of Arrowtown Lot 12 DP 9914	English Elm (Ulmus procera) Sycamore (Acer Psuedoplatanus), Rowan (Sorbus aucuparia), Douglas Fir (Psuedotsuga menziesii) 3 Walnuts (Juglans regia)	Forms part of green belt following the first terrace above the Arrow River

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Item	Address	Legal Description	Species	Contribution
		Section 14 Block XII Town of Arrowtown		
32	21 Anglesea Street and Road Reserve	Part Section 6 Block II Town of Arrowtown	NZ Mountain Beech (Nothofagus solandri var. Cliffortioides)	Good example of mountain beech. Provides link to natural beech in surrounding mountain gullies. There are few native beech growing within Arrowtowns Historic Zone.
33	20-22 Anglesea Street	Lot 3 DP 7794	Walnut, Cherry Plum	Heritage and amenity value
34	24 Anglesea Street	Lot 4 DP 7794	Copper Beech (Fagus sylvatica 'Purpurea'), Walnut (Juglans regia)	Large amenity tree in neighbourhood with few tall trees
35	9 Anglesea Street	Section 7 Block V Town of Arrowtown	Privet hedge on frontage and fruit trees at rear	Heritage and amenity value
37	11 Anglesea Street	Lot 2 DP 11488	Mixed species hedge on front boundary (Viburnum, Privet, Lilac)	Heritage and amenity
38	9 Denbigh Street	Section 4 Block II Town of Arrowtown	Lilac (Syringa) Pittosporum, Flowering quince (Chaenomeles), Privet (Ligustrum ovalifolium)	Good example of a tapestry hedge of multiple sp. Hedge is on Anglesea St boundary
40	13 and 15 Berkshire Street	Section 2 Block IV Town of Arrowtown Section 1 Block IV Town of Arrowtown	Red oak (Quercus rubra), Pin oak (Quercus palustris), Kowhai (Sophora microphylla), Poplar sp (Populus sp), cherry laurel (Prunus laurocerasus)	This section belonging to the Anglican Church is unbuilt on and provides visual relief and amenity on the corner of Berkshire and Anglesea Streets.
41	1&5 Anglesea Street	Section 15 Block V Town of Arrowtown Section 11 Block V Town of Arrowtown Sections 1 -2 SO 339000 Part Section 11 Block V Town of Arrowtown	English Elm (Ulmus procera), Flowering Quince, (Chaenomeles japonica), Mountain beech,(Nothofagus solandri 'Cliffortioides') Walnut (Juglans regia), Broadleaf Griselinia littoralis) English Oak (Quercus robur), Gooseberry (Ribes ulva crispa), crabapple (Malus	Vegetation bordering Rose Douglas Park and 5 Anglesea St. Provides enclosure, amenity and screening to park

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Item	Address	Legal Description	Species	Contribution
			sp)	
42	5 Anglesea Street	Part Section 11 Block V Town of Arrowtown	Chaenomeles & Privet hedge	Contributes to historic streetscape on Anglesea St.
44	15 Berkshire Street 17 Berkshire Street	Section 2 Block IV Town of Arrowtown Section 3 Block IV Town of Arrowtown	Cherry laurel, English elm, Picea sp	Contribute to setting and context of historic Anglican timber church
45	10,22,24,26 Berkshire Street	Sections 1, 2, 3, 4, Block VIII Town of Arrowtown	Holly hedge	Contributes to historic character of Berkshire St avenue
46	19, 21 Berkshire Street	Part Section 1 Block XIV Town of Arrowtown Lot 3 DP 18207	Hawthorne and English Elm hedge	Contributes to historic character of Berkshire St avenue (Note: hedge on 19 Berkshire St continues into Caernarvon St)
47	14,16,18 Caernarvon Street	Section 2, 3, 4 Block XIV Town of Arrowtown	Fruit trees	Part of early orchard. Heritage values
48	18 Caernarvon Street	Section, 4 Block XIV Town of Arrowtown	Red Oak, Walnut trees, fruit trees and Hawthorne hedge	Amenity and streetscape character
49	20 and 22 Caernarvon Street	Section, 5 Block XIV Town of Arrowtown Lot 1 DP 10960	Walnut	Tall edible tree representative of trees planted by early settlers
50	24 Caernarvon Street	Lot 2 DP 10960	Lonicera hedge	Historic character to timber bungalow and wider streetscape
51	25 Caernarvon Street	Part Section 9 Block IV Town of Arrowtown	Walnut	Tall edible tree representative of trees planted by early settlers
52	22 Denbigh Street	Lot 2 DP 15455	Walnut	Amenity and heritage value
53	21 Denbigh Street	Section 1 Block XV Town of Arrowtown	English Oak	Tall mature tree. Amenity values
54	34 and 36 Caernarvon Street	Section and Section 2 Block XV Town of Arrowtown	Two Walnut Trees	Early planting with heritage and amenity values
55	40 Caernarvon Street	Lot 2 DP 12438	Copper Beech	Tall amenity tree in prominent location
56	34 Merioneth Street	Section 8 Block III Town of Arrowtown	Copper beech, Hawthorne hedge, Red Oak, Prunus sp	Copper beech is a distinctive tall tree and hawthorne hedge contributes to heritage and amenity
57	31 Merioneth Street 33 Merioneth Street	Section 2 Block XX Town of Arrowtown Section 1 Block XX Town	Lombardy poplar, Sycamore Damson plum, Hawthorne hedge, Quercus sp	Heritage values associated with historic Tobins Cottage. Contributes to old

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Item	Address	Legal Description	Species	Contribution
		of Arrowtown	assorted fruit trees eg Pear, apricot, cherry laurel	town character
58	37 and 33 Caernarvon Street	Part Section 4 Block III Town of Arrowtown South ½ of Part Section 5 Block III Town of Arrowtown	Hawthorne hedge	Heritage character and amenity
59	19 Denbigh Street	Part Section 4 Block III Town of Arrowtown	Almond, lilac, walnut, and hedge consisting of cotoneaster, pittosporum and viburnum	Heritage character and amenity
60	5, 7, 9,11 Surrey Street 3-7 Villiers Street	Lot 1 DP 408944 Lot 2 DP 408944 Lot 3 DP 408944 Section 4 SO 416155 Road Reserve	Fruit trees, walnut, monkey puzzle	Heritage values (Redihaven) and botanical interest
61	1 Villiers Street	Section 2 SO 472628	Cypress sp (Cupressus sp)	Tall conifer. Heritage character and amenity
62	1-13 Cardigan Street t	Lot 6 DP 11786	Red Oak (Quercus rubra)	Heritage character and amenity
63	78 Buckingham Street	Lot 4 DP 9914	Lombardy poplar (Populus sp)	Heritage character and amenity
64	4, 6,8 Hertford Street	Section 2, Section 3, Section 4 Block V Town of Arrowtown	Holly and hawthorn hedges	Heritage character and amenity
65	41 Caernarvon Street 34 Merioneth Street	Section 7 Block III Town of Arrowtown	Copper beech, Hawthorn hedge	Heritage character and amenity
66	10 Hertford Street	Lot 1 DP 7793	Hawthorne hedge	Heritage character and amenity

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32.8 Schedule of Protected Trees District Wide

32.8.1 *Items are located on road, lake or river and the land it is located within does not have a legal description. The legal description and parcel ID shown are the closest proximity to that item and are for reference purposes.

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
1	Eucalyptus globulus	Lot 1	DP 334121	6701399	†
2	Eucalyptus globulus	Lot 123	DP 9161	3090349	†
2	Eucalyptus globulus	Lot 123	DP 9161	3090349	†
2	Eucalyptus leucoxyton	Lot 123	DP 9161	3090349	†
2	Eucalyptus globulus	Lot 123	DP 9161	3090349	†
2	Eucalyptus cinerea	Section 2	SO 421664	7191348	†
2	Eucalyptus leucoxyton	Pt Lot 255	DP 7086	7204858	†
4	Crataegus monogyna	Lot 6	DP 360656	6829706	
5	Juglans regia	Section 15 Blk XX	TN OF Arrowtown	3065305	
9	Quercus rubra	Lot 2	DP 12884	3129516	
10	Aesculus hippocastanum	Lot 9	DP 22121	3096248	
10	Pyrus communis	Lot 9	DP 22121	3096248	
10	Pyrus communis	Lot 9	DP 22121	3096248	
10	Ulmus glabra 'Lutescens'	Lot 2	DP 476309	7534358	
11	Ulmus glabra 'horizontalis'	Lot 1	DP 365052	6838201	†
146	Acer palmatum	Section 1 Blk XVIII	TN OF Queenstown	3057935	†
147	Sequoiadendron giganteum	Section 7 Blk XXXI	TN OF Queenstown	3014700	
147	Sequoiadendron giganteum	Section 17 Blk XVI	TN OF Queenstown	3047281	†
148	Ulmus procera	Lot 2	DP 18459	3124308	
148	Fraxinus excelsior	Lot 2	DP 18459	3124308	
148	Acer psuedoplatanus	Lot 2	DP 18459	3124308	
149	Sequoiadendron giganteum	Pt Block LVI	TN OF Queenstown	3088070	†
150	Sorbus acuparia	Section 1 Blk XXXIIA	TN OF Queenstown	3090844	†
151	Sequoiadendron giganteum	Pt Block LVI	TN OF Queenstown	3088070	†
152	Sequoiadendron	Pt Section 1 Blk	TN OF Queenstown	3094584	†

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
	gigantium	XXXVII			
153	Tilia x europaea	Section 4 Blk XX	TN OF Queenstown	3117540	†
153	Tilia x europaea	Section 5 Blk XX	TN OF Queenstown	3110906	
155	Araucaria araucana	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Abies grandis	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Abies grandis	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Sequoiadendron giganteum	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Sequoiadendron giganteum	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Sequoiadendron giganteum	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
155	Sequoiadendron giganteum	Pt Section 7 Blk LI	TN OF Queenstown	3006370	
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	†
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	
156	Populus nigra 'italica'	Section 2 Blk XVII	TN OF Queenstown	3006646	
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110	Shotover SD	3066939	†

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
		Blk XX			
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
156	Populus nigra 'italica'	Pt Section 110 Blk XX	Shotover SD	3066939	†
157	Tilia x europaea	Section 2 Blk XVII	TN OF Queenstown	3006646	
159	Sequoiadendron gigantium	Pt Section 110 Blk XX	Shotover SD	3066939	†
159	Sequoiadendron gigantium	Pt Section 110 Blk XX	Shotover SD	3066939	†
159	Sequoiadendron gigantium	Pt Section 110 Blk XX	Shotover SD	3066939	†
159	Sequoiadendron gigantium	Pt Section 110 Blk XX	Shotover SD	3066939	
162	Sequoiadendron gigantium	Lot 300	DP 365562	6850465	
163	Populus nigra 'italica'	Pt Section 1	SO 24109	6646572	
164	Cedrus atlantica	Pt Section 8 Blk I	Earnslaw SD	3119617	
165	Picea smithiana	Section 27 Blk I	Earnslaw SD	3035793	
165	Picea smithiana	Section 27 Blk I	Earnslaw SD	3035793	
166	Pinus lambertiana	Section 28 Blk I	Earnslaw SD	3123430	
166	Pinus lambertiana	Section 28 Blk I	Earnslaw SD	3123430	
166	Pinus lambertiana	Section 28 Blk I	Earnslaw SD	3123430	
166	Pinus lambertiana	Section 27 Blk I	Earnslaw SD	3035793	
168	Juglans regia	Section 134 Blk XX	Shotover SD	3034925	
169	Magnolia grandiflora	Lot 4	DP 385775	6951618	
170	Aesculus x carnea	Lot 1	DP 395546	7015150	
171	Juglans regia	Lot 1	DP 395546	7015150	
172	Tilia x europaea	Lot 2	DP 366461	6860428	
172	Tilia x europaea	Lot 2	DP 366461	6860428	
173	Arbutus unedo	Lot 2	DP 366461	6860428	
174	Pseudotsuga menziesi	Lot 2	DP 366461	6860428	
175	Fagus sylvatica	Lot 2	DP 366461	6860428	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
179	Acer saccharum	Lot 2	DP 366461	6860428	
180	Sequoiadendron giganteum	Lot 2	DP 366461	6860428	
181	Juglans regia	Lot 1	DP 22310	3121566	
182	Quercus robur	Lot 1	DP 22310	3121566	
184	Cedrus libani	Lot 1	DP 22310	3121566	
185	Picea abies	Lot 1	DP 22310	3121566	
186	Sorbus domestica	Lot 1	DP 22310	3121566	
187	Sequoiadendron giganteum	Lot 1	DP 22310	3121566	
189	Pseudotsuga menziesii	Section 16 Blk III	Mid Wakatipu SD	3280550	
192	Laurus nobilis	Crown Land Block II Mid Wakatipu Survey District		3243812	
193	Acer psuedoplatanus	Crown Land Block II Mid Wakatipu Survey District		3243812	
194	Taxus baccata 'fastigiata'	Section 15 Blk III	Mid Wakatipu SD	3242467	
195	Sequoiadendron giganteum	Section 4 Blk XXIII	TN OF Queenstown	3164182	
196	Sequoiadendron giganteum	Lot 1	DP 18109	3044406	
197	Populus nigra 'italica'	Section 1	SO 325746	6644055	
198	Cedrus deodara	Pt Block XXXII	TN OF Queenstown	3035554	
198	Cedrus deodara	Pt Block XXXII	TN OF Queenstown	3035554	
198	Cedrus deodara	Pt Block XXXII	TN OF Queenstown	3035554	
199	Ulmus glabra 'horizontalis'	Section 2 Blk XVI	TN OF Queenstown	3008324	
201	Populus nigra	Section 1	SO 325746	6644055	†
204	Juglans regia	Lot 3	DP 336365	6694960	
204	Juglans regia	Lot 3	DP 336365	6694960	
204	Juglans regia	Lot 7	DP 336365	6694964	
204	Juglans regia	Lot 11	DP 336365	6694968	†
204	Juglans regia	Lot 11	DP 336365	6694968	
204	Juglans regia	Lot 11	DP 336365	6694968	
204	Juglans regia	Lot 16	DP 336365	6694973	†

Comment [RL30]: Submitter 607

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
204	Juglans regia	Lot 65	DP 345265	6746106	
204	Juglans regia	Lot 67	DP 345265	6746108	†
204	Juglans regia	Lot 71	DP 345265	6746112	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 72	DP 403132	7109350	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 74	DP 403132	7109352	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	
204	Juglans regia	Lot 302	DP 403132	7109354	

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	†
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	
209	Populus nigra 'italica'	Lot 6	DP 301618	6524760	
209	Populus nigra 'italica'	Lot 2	DP 312744	6649420	†
209	Populus nigra 'italica'	Lot 2	DP 312744	6649420	†
209	Populus nigra 'italica'	Lot 2	DP 312744	6649420	†
209	Populus nigra 'italica'	Lot 2	DP 312744	6649420	†
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	†
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	†
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	†
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	
209	Populus nigra 'italica'	Lot 2	DP 416007	7167723	
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†
209	Populus nigra 'italica'	Lot 1	DP 420442	7193583	†

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
209	Populus nigra 'italica'	Lot 4	DP 312744	6649422	†
209	Populus nigra 'italica'	Lot 4	DP 312744	6649422	
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	†
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	
209	Populus nigra 'italica'	Lot 3	DP 416007	7167724	
209	Populus nigra 'italica'	Lot 2	DP 420442	7193584	†
209	Populus nigra 'italica'	Lot 2	DP 420442	7193584	†
209	Populus nigra 'italica'	Lot 2	DP 420442	7193584	
209	Populus nigra 'italica'	Lot 1	DP 441466	7346086	†
209	Populus nigra 'italica'	Lot 1	DP 441466	7346086	†
209	Populus nigra 'italica'	Lot 1	DP 441466	7346086	†
209	Populus nigra 'italica'	Lot 1	DP 441466	7346086	
209	Populus nigra 'italica'	Lot 100	DP 441466	7346090	
<u>210</u>	<u>Ulmus Louis van Houtte</u>	<u>Lot 1</u>	<u>DP 300643</u>	<u>6514087</u>	<u>†</u>
212	Acer saccharum	Lot 1	DP 22658	3027334	
214	Cedrus deodara	Lot 1	DP 354070	6776026	
214	Cedrus deodara	Lot 1	DP 354070	6776026	
214	Cedrus deodara	Lot 1	DP 354070	6776026	
214	Cedrus deodara	Lot 1	DP 354070	6776026	
214	Sequoiadendron giganteum	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	

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PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
214	Quercus robur	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	
214	Quercus robur	Lot 1	DP 354070	6776026	
215	Sequoiadendron giganteum	Lot 2	DP 362778	6860714	
215	Sequoiadendron giganteum	Lot 2	DP 362778	6860714	
215	Chamaecyparis lawsoniana	Lot 2	DP 362778	6860714	
215	Tilia x europaea	Lot 2	DP 362778	6860714	
215	Tilia x europaea	Lot 2	DP 362778	6860714	
215	Tilia x europaea	Lot 2	DP 362778	6860714	
215	Tilia x europaea	Lot 2	DP 362778	6860714	
239	Castanea sativa	Lot 41	DP 7926	3072118	
240	Eucalyptus gunnii	Lot 2	DP 361132	6867137	
240	Eucalyptus gunnii	Lot 2	DP 361132	6867137	†
241	Eucalyptus sp.	Lot 6	DP 313833	6589105	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
242	Quercus robur	Pt Lot 2	DP 24234	6516103	
244	Sequoiadendron giganteum	Lot 5	DP 351561	6779755	
245	Tilia x europaea	Pt Recreation Reserve Block XV Town of Queenstown		3161098	
246	Ulmus procera	Section 25C Blk VII	Shotover SD	3003569	
246	Ulmus procera	Section 25C Blk VII	Shotover SD	3003569	
246	Ulmus procera	Section 25D Blk VII	Shotover SD	3135314	†
246	Ulmus procera	Section 25D Blk VII	Shotover SD	3135314	†
246	Ulmus procera	Section 25D Blk	Shotover SD	3135314	†

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
		VII			
246	Ulmus procera	Section 25D Blk VII	Shotover SD	3135314	
246	Ulmus minor	Section 25D Blk VII	Shotover SD	3135314	
246	Ulmus minor	Section 25D Blk VII	Shotover SD	3135314	
246	Ulmus minor	Lot 4	DP 18290	3120402	
247	Aesculus hippocastanum	Pt Section 6 Blk XX	Shotover SD	6886662	†
<u>255</u>	<u>Crataegus monogyna</u>	<u>Section 1 Blk XII</u>	<u>TN of Arrowtown</u>	<u>3143545</u>	<u>†</u>
263	Sequoiadendron giganteum	Lot 2	DP 15580	3066887	
264	Ulmus procera	Lot 19	DP 8405	3003317	
264	Acer psuedoplatanus	Lot 19	DP 8405	3003317	
264	Fraxinus sp.	Lot 4	DP 8405	3089336	
264	Ulmus procera	Lot 4	DP 8405	3089336	†
264	Sorbus acuparia	Lot 4	DP 8405	3089336	†
264	Acer psuedoplatanus	Lot 1	DP 11214	3101116	
264	Acer psuedoplatanus	Lot 1	DP 8405	3102324	
264	Ulmus procera	Lot 1	DP 8405	3102324	
264	Ulmus procera	Lot 1	DP 8405	3102324	
264	Ulmus procera	Lot 2	DP 9802	3139413	†
264	Quercus robur	Lot 2	DP 9802	3139413	
264	Fraxinus excelsior	Lot 21	DP 8405	3140831	
264	Quercus robur	Lot 21	DP 8405	3140831	
264	Quercus robur	Lot 2	DP 8405	3142554	
264	Ulmus procera	Lot 1	DP 21140	3167832	
264	Ulmus procera	Lot 1	DP 23589	3012034	†
264	Quercus robur	Lot 6	DP 8405	3044419	
264	Acer psuedoplatanus	Lot 5	DP 8405	3046547	
264	Acer psuedoplatanus	Lot 5	DP 8405	3046547	
264	Acer psuedoplatanus	Lot 5	DP 8405	3046547	
264	Acer psuedoplatanus	Lot 5	DP 8405	3046547	†
264	Acer psuedoplatanus	Lot 3	DP 8405	3059634	

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PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
264	Ulmus procera	Lot 6	DP 11786	3102155	†
264	Ulmus procera	Lot 6	DP 11786	3102155	†
264	Fraxinus excelsior	Lot 6	DP 11786	3102155	†
264	Ulmus procera	Lot 5	DP 11786	3144953	†
264	Ulmus procera	Lot 5	DP 11786	3144953	†
264	Ulmus procera	Lot 5	DP 11786	3144953	†
266	Sequoiadendron giganteum	Section 2 Blk XVIII	TN OF Arrowtown	3149027	†
266	Sequoiadendron giganteum	Lot 3	DP 18207	3162756	†
267	Picea abies	Lot 1	DP 8232	3131205	
268	Acer psuedoplatanus	Section 2 Blk XI	TN OF Arrowtown	3016770	
268	Acer psuedoplatanus	Section 2 Blk XI	TN OF Arrowtown	3016770	
268	Acer psuedoplatanus	Section 2 Blk XI	TN OF Arrowtown	3016770	
268	Acer psuedoplatanus	Lot 1	DP 26376	3062051	
268	Fraxinus excelsior	Lot 2	DP 9914	3102273	†
268	Ulmus procera	Lot 3	DP 9914	3117837	
268	Ulmus procera	Lot 1	DP 15734	3141656	†
268	Ulmus procera	Lot 1	DP 15734	3141656	†
268	Ulmus procera	Lot 1	DP 15734	3141656	†
268	Ulmus procera	Lot 1	DP 15734	3141656	
268	Populus nigra 'italica'	Section 1 Blk XII	TN OF Arrowtown	3143545	
268	Populus nigra 'italica'	Section 1 Blk XII	TN OF Arrowtown	3143545	
268	Ulmus procera	Section 1 Blk XII	TN OF Arrowtown	3143545	†
268	Ulmus procera	Section 1 Blk I	TN OF Arrowtown	3145111	†
268	Fraxinus excelsior	Section 1 Blk I	TN OF Arrowtown	3145111	†
268	Acer psuedoplatanus	Lot 19	DP 9914	3013186	†
268	Ulmus procera	Section 4 Blk I	TN OF Arrowtown	3013799	†
268	Acer psuedoplatanus	Section 4 Blk I	TN OF Arrowtown	3013799	†
268	Acer psuedoplatanus	Pt Section 1 Blk X	TN OF Arrowtown	3025337	
268	Acer psuedoplatanus	Pt Section 3 Blk X	TN OF Arrowtown	3035042	
268	Fraxinus excelsior	Pt Section 3 Blk X	TN OF Arrowtown	3035042	

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
268	Acer psuedoplatanus	Section 2 Blk I	TN OF Arrowtown	3046312	†
268	Ulmus procera	Section 2 Blk I	TN OF Arrowtown	3046312	†
268	Fraxinus excelsior	Section 2 Blk I	TN OF Arrowtown	3046312	†
268	Acer psuedoplatanus	Lot 1	DP 12521	3061638	†
268	Ulmus procera	Lot 1	DP 12521	3061638	†
268	Acer psuedoplatanus	Lot 1	DP 12521	3061638	†
268	Fraxinus excelsior	Lot 1	DP 10422	3061646	
268	Fraxinus excelsior	Lot 1	DP 10422	3061646	
268	Acer psuedoplatanus	Section 3 Blk XI	TN OF Arrowtown	3102290	
268	Acer psuedoplatanus	Section 3 Blk XI	TN OF Arrowtown	3102290	
268	Fraxinus excelsior	Pt Section 3 Blk X	TN OF Arrowtown	3146104	†
269	Abies cephalonica	Lot 2	DP 480129	7554814	
270	Ulmus glabra 'horizontalis'	Section 15 Blk V	TN OF Arrowtown	3043960	
271	Quercus palustris	Section 15 Blk V	TN OF Arrowtown	3043960	
272	Pyrus communis	Lot 1	DP 11488	3016834	
273	Catalpa bignonioides	Section 4 Blk XIII	TN OF Arrowtown	3077834	†
274	Juglans regia	Lot 1	DP 5746	3083453	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
<u>275</u>	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	

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PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Larix decidua</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
275	<u>Picea breweriana</u>	<u>Lot 1</u>	<u>DP 18109</u>	<u>3044406</u>	
276	Sequoiadendron gigantium	Section 2 Blk XXII	TN OF Arrowtown	3023911	
276	Sequoiadendron gigantium	Section 2 Blk XXII	TN OF Arrowtown	3023911	
276	Sequoiadendron gigantium	Section 3 Blk XXII	TN OF Arrowtown	3152571	
276	Sequoiadendron gigantium	Section 3 Blk XXII	TN OF Arrowtown	3152571	
277	Sequoiadendron gigantium	Lot 3	DP 342248	6728643	
277	Sequoiadendron gigantium	Lot 2	DP 342248	6728642	
420	Sequoiadendron gigantium	Section 16 Blk I	Kingston SD	3214080	
420	Sequoiadendron gigantium	Section 16 Blk I	Kingston SD	3214080	†
421	Eucalyptus gunnii	Lot 1 SECT 15Blk I	Kingston SD	3242602	†

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
560	Abies grandis	Lot 14	DP 26147	3062639	
561	Abies pinsapo	Pt Section 47 Blk XIV	Lower Wanaka SD	3044102	
562	Acer psuedoplatanus	Lot 3	DP 408132	7109279	
563	Acer saccharum	Lot 9	DP 13040	3026497	
564	Aesculus hippocastanum	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
565	Betula pendula	Lot 3	DP 408132	7109279	
566	Calocedrus decurrens	Crown Land Block IV Lower Wanaka Survey District		3130973	
566	Calocedrus decurrens	Crown Land Block IV Lower Wanaka Survey District		3130973	
568	Cedrus deodara	Lot 1	DP 16152	3151720	
569	Chamaecyparis lawsoniana	Section 53 Blk I	Cardrona SD	3081253	
570	Corylus avellana	Lot 3	DP 408132	7109279	
573	Eucalyptus globulus	Section 2 Blk X	TN OF Wanaka	3068270	
574	Acer palmatum	Lot 8	DP 27278	6504787	
574	Acer palmatum	Lot 8	DP 27278	6504787	
575	Fraxinus excelsior	Lot 3	DP 408132	7109279	
576	Ginkgo biloba	Section 1 Blk XLII	TN OF Wanaka	3084065	
577	Juglans regia	Lot 1	DP 16152	3151720	
577	Juglans regia	Lot 1	DP 16152	3151720	
577	Juglans regia	Lot 1	DP 16152	3151720	
577	Juglans regia	Lot 1	DP 16152	3151720	
577	Juglans regia	Lot 1	DP 16152	3151720	

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
578	Juglans regia	Lot 5	DP 382935	6979598	
580	Maclura pomifera	Lot 82	DP 375230	6904683	
581	Acacia baileyana	Lot 1	DP 16152	3151720	
582	Metasequoia glyptostroboides	Lot 1	DP 21501	3041268	
583	Metasequoia glyptostroboides	Section 67 Blk XIV	TN OF Wanaka	3169146	
584	Picea abies	Lot 3	DP 408132	7109279	
585	Picea abies	Section 53 Blk I	Cardrona SD	3081253	
586	Picea abies	Lot 2	DP 420241	7204771	
586	Picea abies	Lot 2	DP 420241	7204771	
588	Fraxinus sp.	Lot 7	DP 18590	3030960	†
588	Platanus x hispanica 'Acerifolia'	Lot 7	DP 18590	3030960	
588	Platanus x hispanica 'Acerifolia'	Lot 7	DP 18590	3030960	
588	Platanus x hispanica 'Acerifolia'	Lot 7	DP 18590	3030960	†
588	Platanus x hispanica 'Acerifolia'	Lot 7	DP 18590	3030960	†
588	Platanus x hispanica 'Acerifolia'	Lot 7	DP 18590	3030960	
588	Fraxinus sp.	Lot 52	DP 21967	3087563	
588	Platanus x hispanica 'Acerifolia'	Lot 5	DP 18590	3092511	
588	Platanus x hispanica 'Acerifolia'	Lot 55	DP 15833	3114028	
588	Platanus x hispanica 'Acerifolia'	Lot 2	DP 302776	6535836	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	†
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	†
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	
588	Fraxinus sp.	Lot 1	DP 340126	6715300	†
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 340126	6715300	
588	Fraxinus sp.	Lot 2	DP 408206	7088974	
588	Platanus x hispanica 'Acerifolia'	Lot 2	DP 408206	7088974	
588	Platanus x hispanica 'Acerifolia'	Lot 2	DP 408206	7088974	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 426301	7243999	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 426301	7243999	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 426301	7243999	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 426301	7243999	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 426301	7243999	
588	Fraxinus sp.	Lot 1	DP 426301	7243999	
588	Platanus x hispanica 'Acerifolia'	Lot 6	DP 18590	3141626	†
588	Platanus x hispanica 'Acerifolia'	Lot 6	DP 18590	3141626	†
588	Platanus x hispanica 'Acerifolia'	Lot 6	DP 18590	3141626	†
588	Platanus x hispanica 'Acerifolia'	Lot 6	DP 18590	3141626	†
588	Fraxinus sp.	Lot 6	DP 18590	3141626	†
588	Fraxinus sp.	Lot 6	DP 18590	3141626	†
588	Fraxinus sp.	Lot 6	DP 18590	3141626	
588	Platanus x hispanica 'Acerifolia'	Lot 6	DP 18590	3141626	
588	Platanus x hispanica 'Acerifolia'	Lot 3	DP 302776	6535837	†
588	Platanus x hispanica 'Acerifolia'	Lot 3	DP 302776	6535837	†
588	Fraxinus sp.	Lot 3	DP 302776	6535837	†
588	Platanus x hispanica 'Acerifolia'	Lot 3	DP 302776	6535837	†
588	Platanus x hispanica	Lot 2	DP 340126	6715301	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
	'Acerifolia'				
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 408206	7088973	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 408206	7088973	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 408206	7088973	
588	Fraxinus sp.	Lot 1	DP 408206	7088973	
588	Platanus x hispanica 'Acerifolia'	Lot 1	DP 408206	7088973	
589	Populus nigra	Pt Section 1	SO 24921	3113724	
<u>590</u>	<u>Populus nigra</u>	<u>Lot 1</u>	<u>DP 16152</u>	<u>3151720</u>	
591	Populus nigra 'italica'	Crown Land Block I Town of Albert Town		3026944	
592	Nothofagus solandrii var. cliffortoides	Crown Land Block IV Motatapu Survey District		6783582	
592	Nothofagus solandrii var. cliffortoides	Section 12	SO 350038	6783598	
593	Pseudotsuga menziesi	Lot 14	DP 26147	3062639	
594	Pseudotsuga menziesi	Lot 14	DP 26147	3062639	
596	Quercus robur	Lot 18	DP 24481	3046372	
596	Quercus robur	Lot 18	DP 24481	3046372	
596	Quercus robur	Lot 2	DP 314131	6589906	
598	Quercus robur	Lot 1	DP 16152	3151720	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
599	Quercus robur	Lot 3	DP 449599	7397688	
600	Sequoiadendron giganteum	Lot 1	DP 20290	3012654	
601	Sequoiadendron giganteum	Section 45 Blk III	Lower Wanaka SD	3115890	
601	Sequoiadendron giganteum	Lot 14	DP 26147	3062639	
601	Sequoiadendron giganteum	Lot 1	DP 16152	3151720	
601	Sequoiadendron giganteum	Lot 1	DP 16152	3151720	
601	Sequoiadendron giganteum	Lot 1	DP 16152	3151720	
602	Sequoiadendron giganteum	Lot 2	DP 10796	3034598	
602	Sequoiadendron giganteum	Lot 2	DP 10796	3034598	
603	Sequoiadendron giganteum	Lot 1	DP 18842	3084332	
606	Sequoiadendron giganteum	Section 31 Blk III	Lower Wanaka SD	3059991	
606	Sequoiadendron giganteum	Section 31 Blk III	Lower Wanaka SD	3059991	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	†
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 1	DP 327869	6663768	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	†
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron	Lot 3	DP 327869	6663770	

PROTECTED TREES 32

Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
	gigantium				
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
607	Sequoiadendron giganteum	Lot 3	DP 327869	6663770	
609	Sequoiadendron giganteum	Lot 1	DP 17828	3134395	†
609	Sequoiadendron giganteum	Lot 4	DP 18460	3043187	†
609	Sequoiadendron giganteum	Lot 1	DP 380819	6932731	†
610	Sequoiadendron giganteum	Section 1	SO 397170	7020498	
611	Sequoiadendron giganteum	Pt Section 10 Blk III	Lower Wanaka SD	3133319	
613	Sequoiadendron giganteum	Lot 9	DP 13040	3026497	
615	Taxus baccata 'fastigiata'	Section 1 Blk XLII	TN OF Wanaka	3084065	†
616	Metasequoia glyptostroboides	Section 67 Blk XIV	TN OF Wanaka	3169146	
616	Metasequoia glyptostroboides	Section 67 Blk XIV	TN OF Wanaka	3169146	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 10	DP 13040	3058104	
620	Tilia x europaea	Lot 11	DP 13040	3060003	
620	Tilia x europaea	Lot 11	DP 13040	3060003	
620	Tilia x europaea	Lot 11	DP 13040	3060003	
620	Tilia x europaea	Lot 12	DP 13040	3145339	
620	Tilia x europaea	Lot 12	DP 13040	3145339	

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Tree Ref.	Botanical Name	Legal Description		Parcel ID	Road /Water Margin*
1003	Quercus robur	Section 15 Blk V	TN OF Arrowtown	3043960	†
1004	Nothofagus menziesii	Pt Section 6 Blk II	TN OF Arrowtown	3022527	
1005	Fagus sylvatica var. purpurea	Lot 4	DP 7794	3055459	
1006	Juglans regia	Section 3 Blk XV	TN OF Arrowtown	3109317	
1007	Juglans regia	Section 3 Blk XV	TN OF Arrowtown	3109317	
1008	Quercus robur	Section 1 Blk XV	TN OF Arrowtown	3059466	
1009	Quercus palustris	Section 5 Blk XIV	TN OF Arrowtown	3098659	†
1010	Fraxinus excelsior	Section 7 Blk I	TN OF Arrowtown	3145076	
1011	Pseudotsuga menziesii	Lot 1	DP 17118	3145078	
1012	Nothofagus solandrii var. cliffortoides	Lot 2	DP 8949	3108323	
1013	Nothofagus solandrii var. cliffortoides	Lot 1	DP 8949	3011939	
1014	Acer psuedoplatanus	Lot 18	DP 9914	3144969	
1015	Quercus rubra	Lot 6	DP 11786	3102155	
1016	Acer psuedoplatanus	Lot 19	DP 9914	3013186	
1017	Quercus rubra	Lot 19	DP 9914	3013186	

APPENDIX 2
SECTION 32AA EVALUATION

Red underlined text for additions and ~~red strike through~~ text for deletions to chapter text, Appendix 1 to Rachael Law's Right of Reply, dated 6 July 2016.

Black underlined text for additions and ~~strike through~~ text for deletions to chapter text, Appendix 1 to Rachael Law's s42A report, dated 1 June 2016.

The section 32AA assessment then follows in a separate table underneath each of the provisions.

Updated Rules 32.4.5 and 32.4.21 - Permitted Activity

Recommended updated Rules 32.4.5 and 32.4.21

The removal or significant trimming of a protected tree where the tree is dead, diseased or damaged and likely to cause an imminent hazard to life or property.

Notification of ~~Prior to~~ the removal or significant trimming is required to be made to Council prior to commencing the works.

Following the works persons must provide to the Council a report from a qualified and experienced arborist outlining that the tree was dead, diseased or damaged and likely to cause an imminent hazard to life or property the reasons for removal or significant trimming. ~~Works must not commence prior to the Council confirming the permitted activity status of the removal or significant trimming of a protected tree.~~

Costs	Benefits	Effectiveness & Efficiency
<ul style="list-style-type: none"> Persons will need to take the time to contact the Council to notify of the works prior to completing them. 	<ul style="list-style-type: none"> This change puts the Council on notice of the works. The report requiring details on the reasons the tree was removed ensures that the works are necessary, while keeping the permitted status thus providing economic benefits. Allows for the removal or significant trimming in emergency situations, enabling the protection and safety of people and property from dangerous protected trees. 	<ul style="list-style-type: none"> The changes create efficiencies by providing the ability to remove or undertake significant trimming to a tree that is diseased or damaged, without the need to obtain a resource consent or allowing Council discretion or control.

APPENDIX 3

DSS CALCULATING WILDING SPREAD RISK FROM NEW PLANTINGS APPENDIX 3

DSS CALCULATING WILDING SPREAD RISK FROM NEW PLANTINGS

Assessing risk of wilding spread

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ABSTRACT

Two decision support systems (DSS) have been developed to assess a) the threat of introduced conifer (wilding) spread from new plantings and b) the risk of wildings establishing at any particular site. Scores (0-4) are given for risk factors related to the species involved, their spreading vigour (includes seedling growth rate, age of coning, seed production and seed weight), palatability, siting of the parent seed trees, and vegetation cover and land use, particularly downwind of the seed source. The maximum possible score is 20, and scores above 12 (DSSa) and 14 (DSSb) indicate high levels of risk. The two DSSs can be used by land managers to quickly undertake an assessment of likely risk of wilding spread, and to test how they might lower the risk by changing input factors. In this way, spread risk can be mitigated or avoided by good decision-making prior to unwanted wilding spread occurring.

Keywords: Conifer, natural regeneration, wilding tree, risk, assessment

INTRODUCTION

The natural regeneration of introduced conifers, or wilding spread, has been occurring in this country for over 100 years (Smith 1903), but has received increasing attention during the last decade (well covered in Hill et al 2004). Land management and administrating agencies such as regional and district councils and the Department of Conservation now proactively address wilding tree risk and control in their planning, policies and prioritisation of field operations (Bowman 2004, Department of Conservation 2001, Woods 2004). As with the management of any weed or pest, good prevention can save significant funds having to be spent on control. Fortunately, the process of spread is predictable (Ledgard & Langer 1999), which makes prevention easier than for many other pest plants. A DSS for assessing the risk of spread from new plantings was first produced in 1993 (Ledgard 1994). This paper introduces an updated version of this DSS (referred to as DSSa), and a new wilding DSS (DSSb) for assessing the spread risk onto any site.

THE RISK ASSESSMENT FORMS

An early version of DSSa, which assesses spread risk from new plantings, was first produced over a decade ago (Ledgard 1994), and has been used quite widely by land managers (Ledgard & Langer 1999), such as regional and district councils. It is available in electronic form on the Project website (www.wildingconifers.org.nz). This version has had three new species added, maritime pine (*Pinus pinaster*), mountain pine (*P. uncinata*) and dwarf mountain pine (*P. mugo*) and been modified slightly to make it easier to follow (see Appendix 1).

DSSb, which assesses the risk of wildings arriving on any site, is an expanded version of DSSa, using the same assessment criteria. This has been field tested on a number of occasions and appears to be useful for estimating the risk of wilding invasion (see Appendix 2).

DISCUSSION

Both DSSa and DSSb address all the major factors influencing wilding spread and establishment (Ledgard & Langer 1999, Ledgard 2004). The risk of spread is assessed by supplying information under three categories – the conifer species involved, the siting or location of those species, and the vegetation of the surrounding land together with its use.

Species

The first two points of both DSSa and b relate to the species involved – their spreading vigour and palatability. Spreading vigour combines knowledge of seedling vigour and growth rate, age of coning, and seed production and weight. For example, the most vigorous spreading species, contorta pine (*Pinus contorta*), grows fast as a seedling and can produce light seed in quantity before age 10 (Miller & Ecroyd 1987). In the same category is Douglas-fir (*Pseudotsuga menziesii*). It is also a fast grower, and although it seeds later than contorta pine, it can produce large numbers of light-weight seed (Ledgard 2006a). Seed dissemination is aided by the cones hanging free at the ends of branches, from where seed can be readily picked up by wind. Scots pine (*P. sylvestris*) has not been planted widely, so less is known about its spread capability, but it produces light seed at a relatively early age, and as it has shown considerable spread potential in the few places where it is found (eg., Molesworth station, Ledgard unpublished contract report) it has been included in the same category as contorta pine and Douglas-fir. Mountain pine and dwarf mountain pine produce light seed at an early age (Ledgard & Ecroyd 1988), but their short compact habit (especially dwarf mountain pine) means that wind is less able to reach the cones and that seed is less readily dispersed over long distances by wind. It is included in the same category as Corsican pine (*P. nigra*) as although Corsican pine is not such an early and prolific seed producer, and is a shy coner above 800 m asl, it is the least palatable of the common conifers (Crozier & Ledgard 1990), and hence best adapted to establish where animal browsing might eliminate other species. Species with larger seed (ponderosa, muricata, maritime and radiata pine – *P. ponderosa*, *P. muricata*, *P. pinaster* and *P. radiata* respectively) are less likely to have seed dispersed long distances (Ledgard, unpublished data, in Ledgard, 2004), and tend to be more attractive to browsing animals (Crozier & Ledgard 1990). European larch (*Larix decidua*) produces light seed (Miller & Knowles 1988) and can spread long distances, but seed production drops off considerably with increasing rainfall and altitude, and viability can often be low.

The uneven representation of the above species in the high country means that knowledge of altitudinal limits of growth and seeding capability is incomplete, but both contorta and mountain pine can grow and seed well above native treeline (Ledgard 2001, Ledgard & Baker 1988), and there is good evidence that Scots pine and Douglas-fir can establish from seed at least up to native treeline (Ledgard unpublished contract reports). This ability to grow, and possibly produce seed, at higher altitudes than other conifers, is further reason for their higher scoring in the 'spreading vigour' category.

Other conifers named in the two DSSs are the cypresses, spruces and cedars. All are common conifers, often associated with farm plantings. A few wildings can be found in certain sites, but in general natural regeneration is uncommon. For this reason, both DSSs indicate a very low risk of significant spread from these species.

Siting of seed source

The middle point of both DSSs relates to siting of the parent seed-producing trees. Sites on the more exposed ridges and slopes (often called take-off sites) are more likely to spread seed long distances, over larger areas. Knowledge of local weather is important in order to supply useful information relative to wind prevalence and strength. Even when this is known, seed can still be dispersed 'upwind' in open areas (more likely in hilly and mountainous terrain), but due

to the orientation of New Zealand across the 'roaring forties' this happens infrequently, and rarely is seed carried more than a few hundred meters against the prevailing wind direction.

Vegetation cover and land use

The last points in the DSSs relate to vegetation and land use, particularly in the area downwind of the seed source. Wilding establishment is markedly influenced by existing vegetation cover and by the level of grazing and browsing pressure.

If the existing vegetation is vigorous and competitive, then establishment success is considerably reduced (Ledgard 2006b). For example, wildings will not establish successfully in improved pasture (Benecke 1967, Davis et al 1996) or under a closed canopy forest (Langer, unpublished data, in Ledgard 2004). Cattaneo (2002) also showed that contorta pine established best where there was little vegetation cover.

Browsing by introduced and wild animals is probably the major influence on the survival of young seedlings in the high country (Ledgard 2008). Benecke (1967), working at Tara Hills, demonstrated the effect of different levels of browsing pressure by sheep, showing that a sheep stocking level as low as 0.5 stock units / hectare was enough to significantly depress contorta pine seedling survival. More recently, Cattaneo (2002) had the same results on Flock Hill station. In a simulated browsing trial, Crozier and Ledgard (1990) found that seedlings could be readily killed by removal of all green foliage before age 2 - after which time shoots had become sufficiently woody and robust to make it much harder for browsing animals to remove all needles, and hence ensure mortality. Davis et al (1996) looked at the effect of excluding rabbits, birds and insects from young radiata pine seedlings during their first year of growth from seed. Rabbits were clearly the major cause of seedling failure. Where rabbit numbers have been significantly reduced, such as after the arrival of the rabbit haemorrhagic disease in the late 1990s, all woody seedlings, including wildings, have a much greater chance of survival.

The above research results have been combined with considerable field experience to produce assessment forms which are simple, and allow land managers to estimate the risk of tree spread even if they have no prior knowledge on the topic. The forms presented here are based on the original prototype produced earlier (Ledgard 1994), but have been improved by incorporating more recent research and experience. For example, in the 'risk of spread from new plantings' form (DSSa - Appendix 1), Douglas-fir has been moved to the highest spreading vigour category, due to findings of the last few years (Ledgard 2006), and dwarf mountain pine has been included as more is known about the species. The form for assessing risk into new areas (DSSb - Appendix 2), has not been published before. It should be noted that in this form, a score of zero for any one factor can mean a very low spread risk, even if scores for the other factors are high. For example, there is little likelihood of wilding spread from a very spread-prone species in an exposed windy site, if it is surrounded by intensively grazed pasture.

In conclusion, the two assessment forms can be used by land managers to quickly undertake an assessment of likely risk of wilding spread. Depending on the resulting score, managers can do a sensitivity analysis ie., test how they might lower the risk of spread by changing factors such as siting of new plantings or the use of surrounding. In this way, spread risk can be mitigated or avoided by good decision making *prior* to planting (Appendix 1), or *prior* to the time when wildings are likely to arrive and possibly become a problem on a new site (Appendix 2).

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App 1 (DSSa). CALCULATING WILDING SPREAD RISK FROM NEW PLANTINGS
(Enter appropriate score for all 5 questions)

1. Species - spreading vigour

(Cypresses (*Cupressus* spp), cedars (*Cedrus* spp), spruces (*Picea* spp) - see under NB below)

- * Radiata (*P. radiata*) and ponderosa (*P. ponderosa*) pine 1
- * Muricata (*P. muricata*), maritime (*P. pinaster*) pine, European larch (*Larix decidua*) 2
- * Corsican (*P. nigra*) and mountain/dwarf mountain (*P. uncinata/mugo*) pine 3
- * Douglas-fir (*Ps. menziesii*), Scots (*P. sylvestris*), Lodgepole/contorta (*P. contorta*) pine 4

Enter score (1,2,3 or 4) here

2. Species - palatability

- * Radiata, maritime and ponderosa pine 1
- * Lodgepole and muricata pine and European larch 2
- * Scots and mountain/dwarf mountain pine and Douglas-fir 3
- * Corsican pine 4

Enter score (1,2,3 or 4) here

3. Siting

- * *Either* sheltered sites, *or* slopes facing away from strong / prevalent winds 1
- * Sites partially exposed to strong / prevalent winds (often from N & W - 200° to 45°) 2
- * Sites fully exposed to strong / prevalent winds 3
- * *Either* 'take-off' site - i.e. ridgetops, on or at base of slopes (>10°) *or* undulating land fully exposed to strong / prevalent winds 4

Enter score (1,2,3 or 4) here

4. Downwind landuse - within 200 m

- * *Either* developed pasture/regular mob stocking (sheep) *or* closed canopy scrub/forest 1
- * Semi improved (some fertiliser use in past) sheep grazing/occasional mob stocking 2
- * Extensive grazing only 3
- * No grazing 4

Enter score (1,2,3 or 4) here

5. Downwind landuse - from 200 m - 400 m (if 1 or 2 scored in 'Siting'),

OR, from 200 m - 2 km (if 3 or 4 scored in 'Siting')

- * *Either* developed pasture/regular mob stocking (sheep) *or* closed canopy scrub/forest 1
- * Semi improved grazing/occasional mob stocking 2
- * Extensive grazing only 3
- * No grazing 4

Enter score (1,2,3 or 4) here

TOTAL SCORE

NB * A score of 12 or more means a high spread risk.
 * A high risk does not necessarily mean that trees should not be planted. A change of species, or siting, or downwind land management can significantly lower spread risk. *Or*, a commitment to wilding removal can be made - this is not onerous, particularly with regard to long distance spread from plantings on flat land (in 3 - scores 1, 2 or 3).

(Cypresses, cedars and spruces – a high spread risk is very unlikely with species from these genera).

Long distance spread. This is likely if a score of 3 or 4 in 'Siting' (in 3) is followed by a 3 or 4 in 'Downwind landuse' (in 5), especially if larch, Douglas-fir, or Corsican, contorta, mountain or Scots pines are involved.

App 2 (DSSb). CALCULATING RISK OF WILDING TREE SPREAD INTO/WITHIN NEW SITES

(Select score applicable for each category)

1). SPECIES PROVIDING SEED SOURCE *(choose one species only)*

Spreading vigour varies with species:

- Cypresses, spruces and cedars 0
- Radiata (*P. radiata*) and ponderosa (*P. ponderosa*) 1
- Muricata (*P. muricata*) and maritime (*P. pinaster*) pine and larches (*Larix* spp) 2
- Corsican (*P. nigra*) and mountain/dwarf mountain (*P. uncinata/mugo*) pine 3
- Douglas-fir (*Ps. menziesii*), Scots (*P. sylvestris*) and Lodgepole/contorta (*P. contorta*) pine 4

Enter score (0, 1, 2, 3 or 4) here

2). SITING OF SOURCE TREES *

Source trees are on....

- Sites well sheltered from prevalent and strong winds 0
- Flat sites (<10⁰), partially exposed to strong/prevalent winds 1
- Lee slopes where strong eddy gusts are likely 2
- Flat sites (<10⁰), fully exposed to strong/prevalent winds 3
- *Either* elevated 'take-off' sites, (ridge-tops, or base of exposed slopes >10⁰) or undulating land, fully exposed to strong/prevalent winds 4

Enter score (0, 1, 2, 3 or 4) here

3). SITING OF SAMPLE SITE RELATIVE TO SOURCE TREES

Location relative to seed-dispersing winds

- Up-wind relative to prevalent or strong winds (If upwind and >1km distant - score 0) 1 (0)
- Subject to cross-winds and/or wind-eddies relative to prevalent or strong winds 2
- Down-wind relative to prevalent and strong winds (often from N and W) 3

Enter score (0/1, 2 or 3) here

4). DISTANCE OF SAMPLE SITE FROM SOURCE TREES

- Greater than 5km 0
- 1-5km 1
- 200m – 1km 3
- 0-200m 4

Enter score (0, 1, 3 or 4) here

5). VEGETATION OF SAMPLE SITE *(if Douglas-fir involved see ** below)*

- *Either* developed pasture, or rank grass; closed canopy forest/scrub; or tussock/grassland with a continuous, vigorous, permanent vegetation cover 0
- *Either* open forest or shrub/tussock/grassland with mostly dense vegetation cover 1
- Shrubland/tussock/grassland with a moderate vegetation cover 2
- *Either* open slips/rockland or shrubland/tussock/grassland with a light vegetation cover 3

Enter score (0, 1, 2 or 3) here

6). GRAZING WITHIN SAMPLE AREA

- Developed pasture and / or regular mob stocking with sheep *** 0
- Semi-improved grazing (sheep/cattle)/ occasional mob stocking with sheep 1
- Extensive grazing only **** 2
- No grazing 3

Enter score (0, 1, 2 or 3) here

TOTAL SCORE (SUM)*:

(See Notes below for score interpretation)

NOTES:

* Altitude. The coning ability of some species drops off quickly with increasing altitude. Contorta and mountain pine will establish and cone above native treeline. Scots pine and Douglas-fir will establish at tree line. Corsican pine and Douglas-fir coning drops off quickly above 800 and 1100 m respectively – the limit for Scots pine coning is unknown. Radiata pine is a reluctant spreader above 6-700 m, except on the warmer sites. The altitudinal establishment and coning limits for muricata pine and larch are unknown.

* * Douglas-fir. This species is more shade tolerant than the other common conifers. For this species score 2 for open forest *or* shrub/tussock/grassland with mostly dense vegetation cover, or 3 for shrubland/tussock/grassland with a moderate vegetation cover.

** * Regular mob stocking. If the pasture is only semi-improved and the seed rain is heavy, such as alongside mature conifers (particularly Corsican pine – the least palatable conifer), regular mob stocking may not prevent wilding establishment over the long term.

**** Light grazing. This will reduce wilding establishment, but given enough time, some wildings will eventually grow to above browse height. Palatability of introduced conifers is (in decreasing order): radiata > ponderosa > contorta > larch > Scots pine > Douglas fir > Corsican pine.

Larger sources of seed are likely to lead to a greater density of seedlings.

ASSESSMENT

A score of **14** or more indicates a high risk of invasion by the assessed species onto the sample area. *But a high risk is unlikely where any one category scores a '0', especially in 1), 5) or 6)*

A high risk does not necessarily mean that the area will inevitably succumb to wilding trees. A commitment to wilding removal can be made, possibly involving the owner of the source trees. Providing it is timely (before wildings cone and produce seed), this commitment need not necessarily be onerous.

APPENDIX 4

WHERE ARE WE HEADED WITH WILDINGS? NIK LEDGARD PRESENTATION

Where are we headed with wildings?

Nick Ledgard

nick.ledgard@xtra.co.nz

'The wise (informed) use of the right species on the right site'

Address to Wakatipu Wilding Group, June 18, 2012

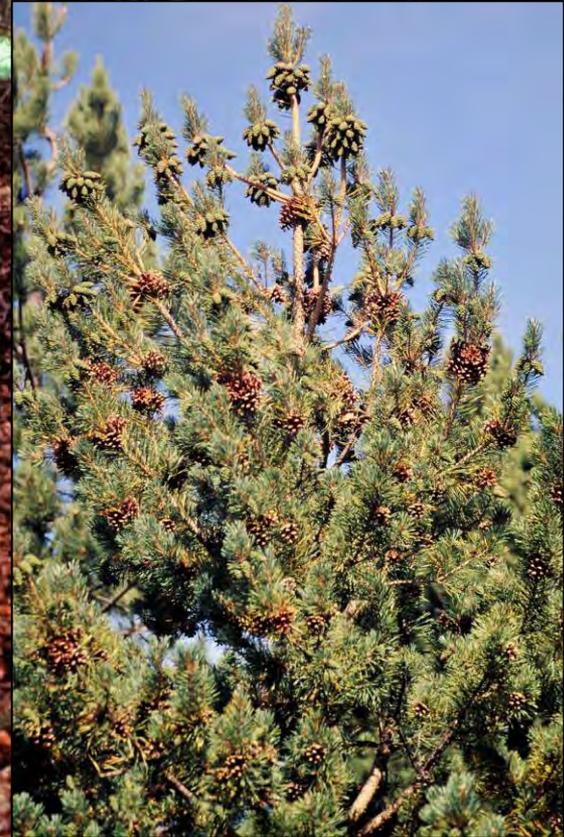
**Braemar Station,
Lake Pukaki**

NZ is a natural environment for woody species

- In the past, woody species have been kept in check by:
 - burning
 - grazing (by wild and domestic animals)
 - lack of seed sources
- Now, and in the future, there is likely to be:
 - less burning
 - less grazing (decline of pastoralism, pest control, RCD etc)
 - increase in seed sources

Therefore, the incidence of woody species is likely to increase

Wilding conifers



Mackenzie Basin, high
country

Introduced conifers not only grow well
in NZ, they reproduce well too –
particularly in the drier, colder areas

Wilding conifers



Fringe spread

**Mackenzie Basin, high
country**

Wilding conifers

An aerial photograph showing a landscape with numerous scattered, young conifer trees. The trees are dark green and conical in shape, growing in a field of dry, yellowish-brown grass. The trees are distributed across the entire frame, with some areas appearing more densely populated than others. The overall scene suggests a natural or semi-natural environment where these trees are spreading.

Distant spread of scattered outlier trees

L. Coleridge area

Wilding conifers

D-fir on exposed seed
'take-off' site

Above Queenstown



Major Spreading Conifer Species

- Species (age of significant coning)
 - Contorta pine (*Pinus contorta*) (8)
 - Douglas-fir (*Pseudotsuga menziesii*) (10)
 - Scots pine (*P. sylvestris*) (12)
 - Dwarf mountain pine (*P. mugo*) (8)
 - Corsican pine (*Pinus nigra*) (13)
 - European larch (*Larix decidua*) (12)
 - Radiata pine (*Pinus radiata*) (10)
 - Maritime pine (*P. pinaster*) (10)
 - Bishops pine (*P. muricata*) (10)
 - Ponderosa pine (*P. ponderosa*) (13)

Wilding conifers

Contorta pine – most vigorous spreading species.

L. Ohau area

Douglas-fir – less vigorous, but more shade tolerant

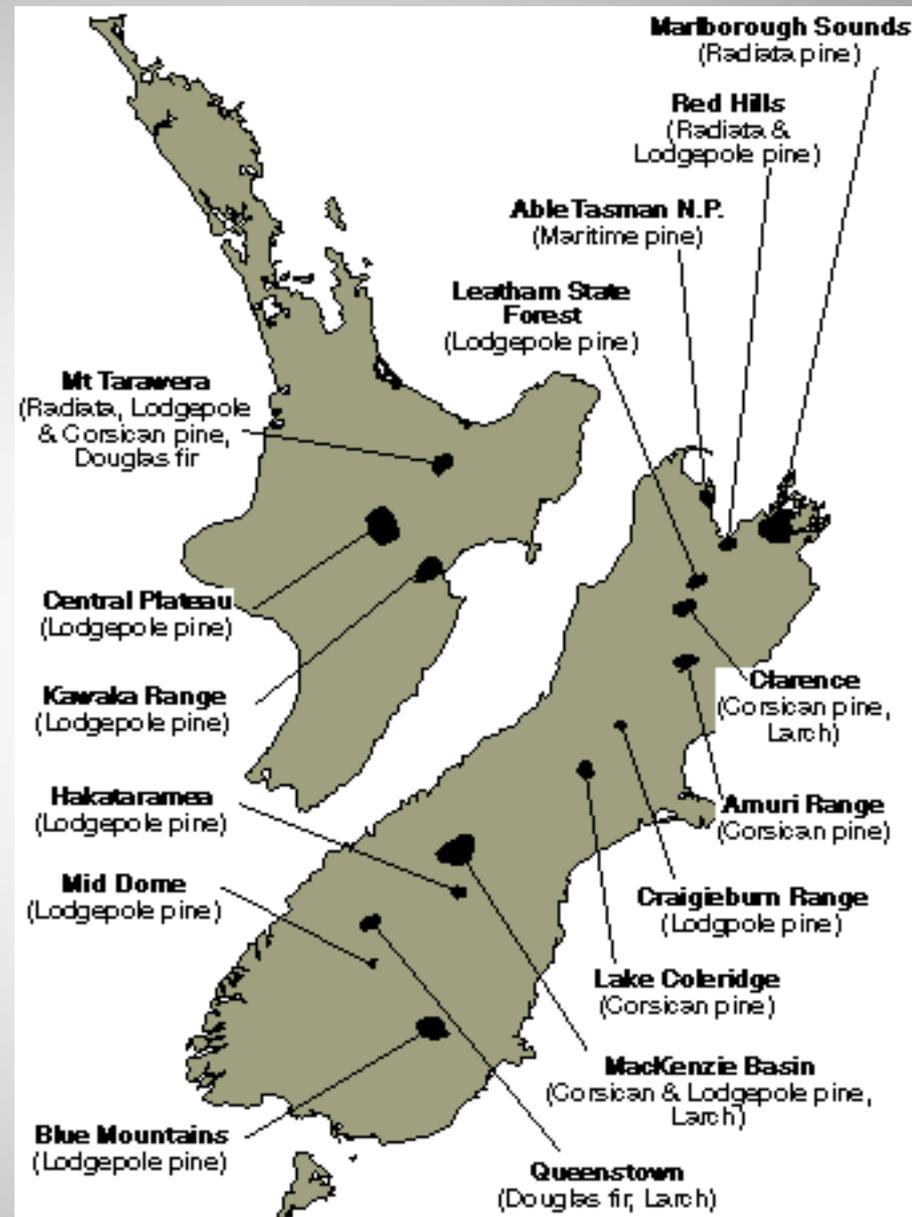
Above Queenstown

Area affected by wildings in NZ

- This is difficult to estimate due to differing interpretations of the word 'affected'
- In the North Island, an area of 300,000 ha has been suggested.
- In the S. Island, the area 'affected' by wildings' is estimated at over 800,000 ha
- **Therefore, the total of affected land in NZ is around 1.2 m ha**

Much larger areas are susceptible to wilding invasion if a source of seed exists nearby.

**Major areas of
coniferous spread
(>100 trees/ha)
in New Zealand**



Sources of seed for wildings in NZ

- In general, wildings have arisen from:
 - Commercial plantations (now privately owned, but mostly planted by the Government) – 33%
 - Erosion-control plantings in mountainlands (mostly planted by the Government) – 33%
 - Private plantings (mostly woodlots and shelterbelts on farmland) – 33%

Wildings are seen to threaten:

- **Landscape values**
 - *disrupt existing open and often treeless landscapes*
- **Conservation values**
 - *dominate/degrade native flora/fauna habitats*
- **Existing pastoral uses**
 - *shade out grazing species*
- ***Future land use options***
 - *often made more expensive*
- **Existing hydrology**
 - *can significantly lower catchment water yield (but only if >20% of catchment is covered)*

What is the problem with wildings?

Is it:

The inherent capability of introduced trees to disperse seed some distance and to outcompete local vegetation, and possibly disrupt existing landscapes?

or

The inability of land managers to recognise this capability, and hence their failure to amend management practices accordingly?

Almost certainly the latter

Two factors make wilding spread more manageable than the spread of most other problem plants

a) Predictability

- direction of spread; mostly downwind
- age of seed production; generally 8-12 years
- sites where wildings are most likely to establish; light vegetation cover and light grazing

b) Visibility

- conifers are usually very obvious, well before coning begins

Any natural process which is predictable, should by definition, be more manageable.

Major factors influencing spread

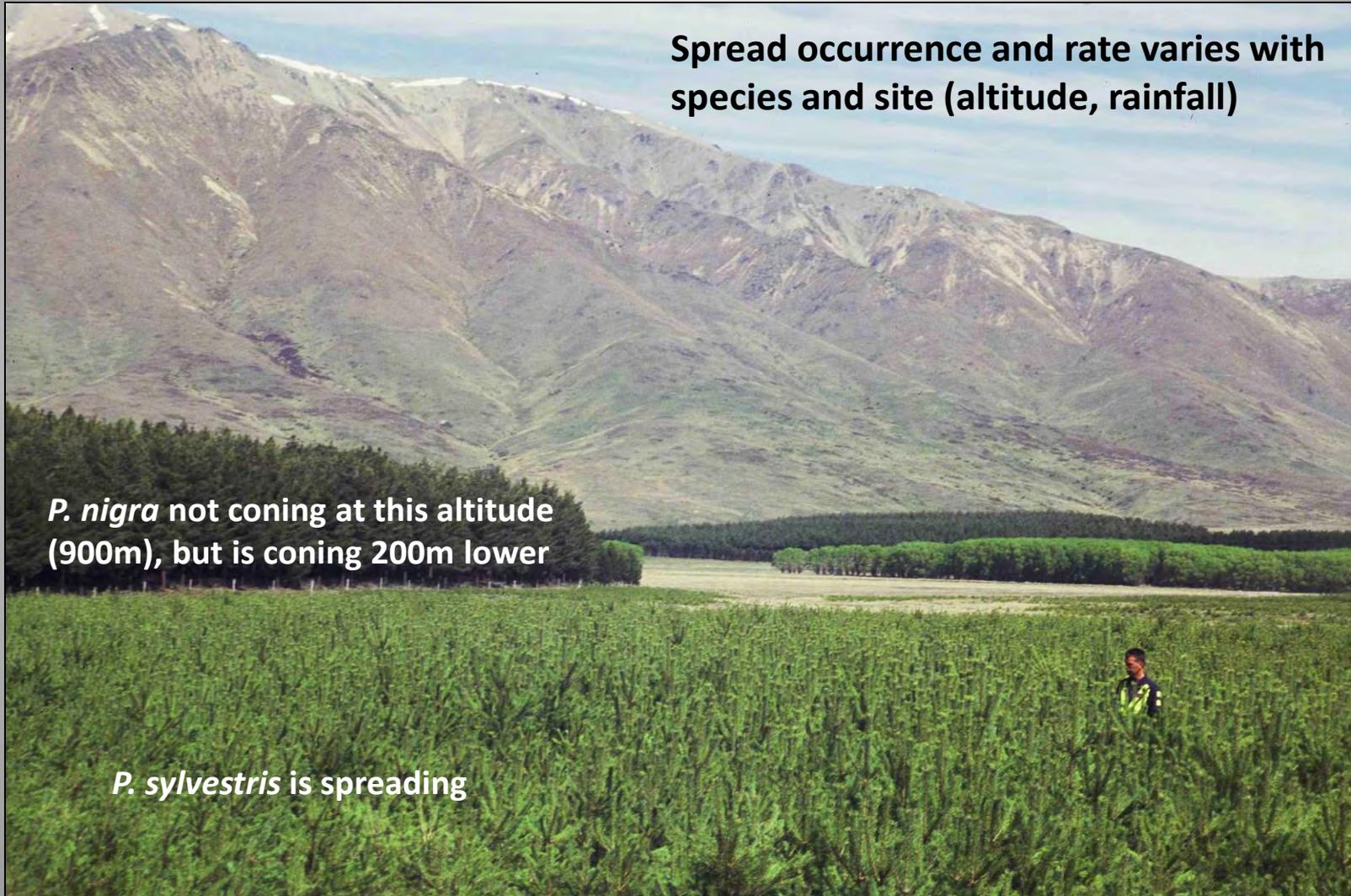
- **Species choice**
- **Siting (beware seed 'take-off' sites)**
- **Plantation design**
- **Surrounding land management (particularly grazing pressure) and vegetation cover**

Species choice - Molesworth

Spread occurrence and rate varies with species and site (altitude, rainfall)

P. nigra not coning at this altitude (900m), but is coning 200m lower

P. sylvestris is spreading



Siting

Be wary of planting spread-prone conifers on exposed sites – especially adjacent to lightly vegetated or lightly grazed rangeland



**Craigieburn
Flock Hill**

Seed blown from these 'take-off' sites has given rise to wildings at least 9 km downwind.

Plantation design

Most wildings come from seed produced by edge trees.

A marginal row of less spread-prone species (such as radiata or ponderosa pine) can reduce density of fringe spread.



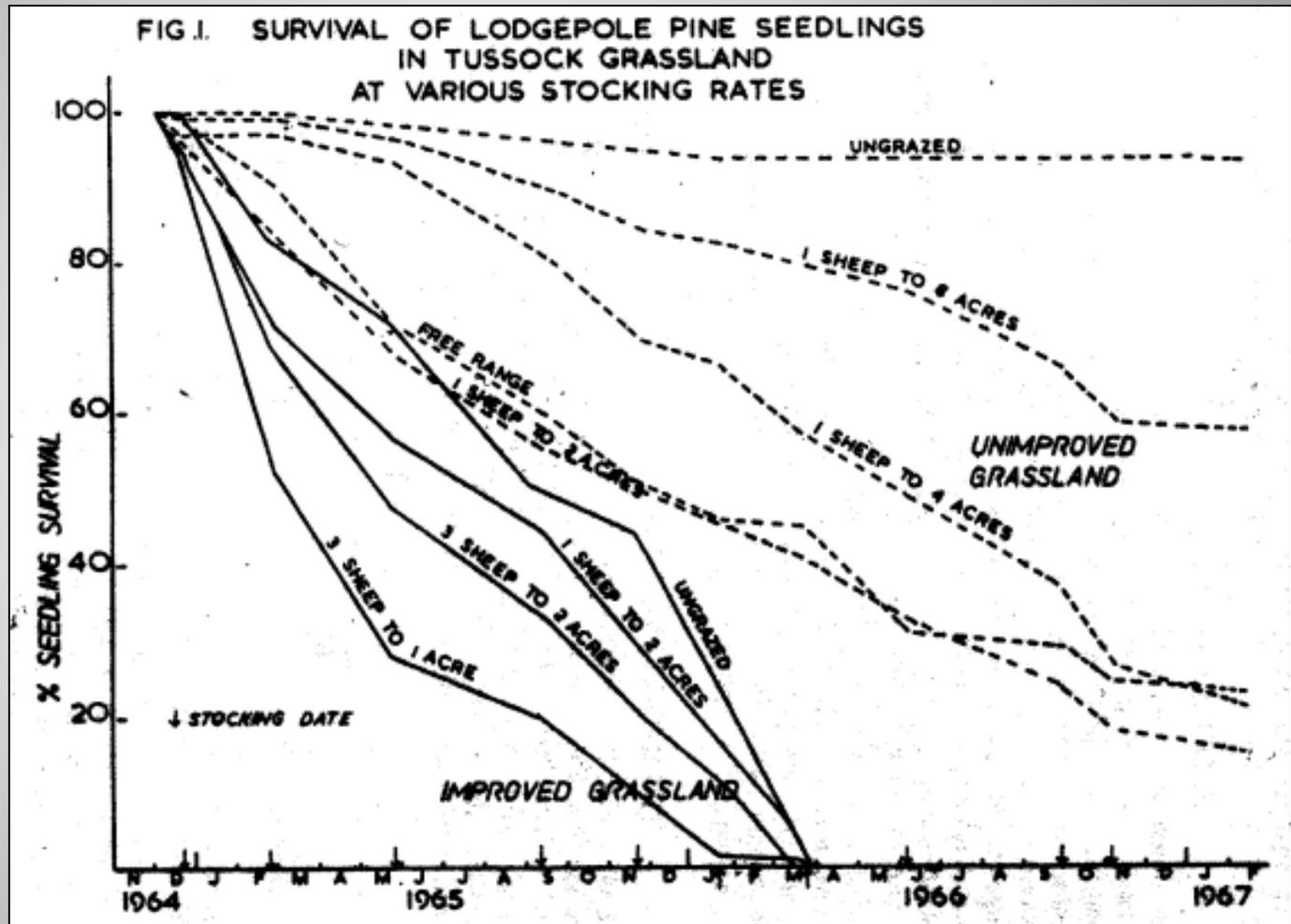
Mt Barker, L. Coleridge area

Surrounding land management



Grazing / browsing pressure

Grazing, even at very low levels, will significantly reduce wilding survival



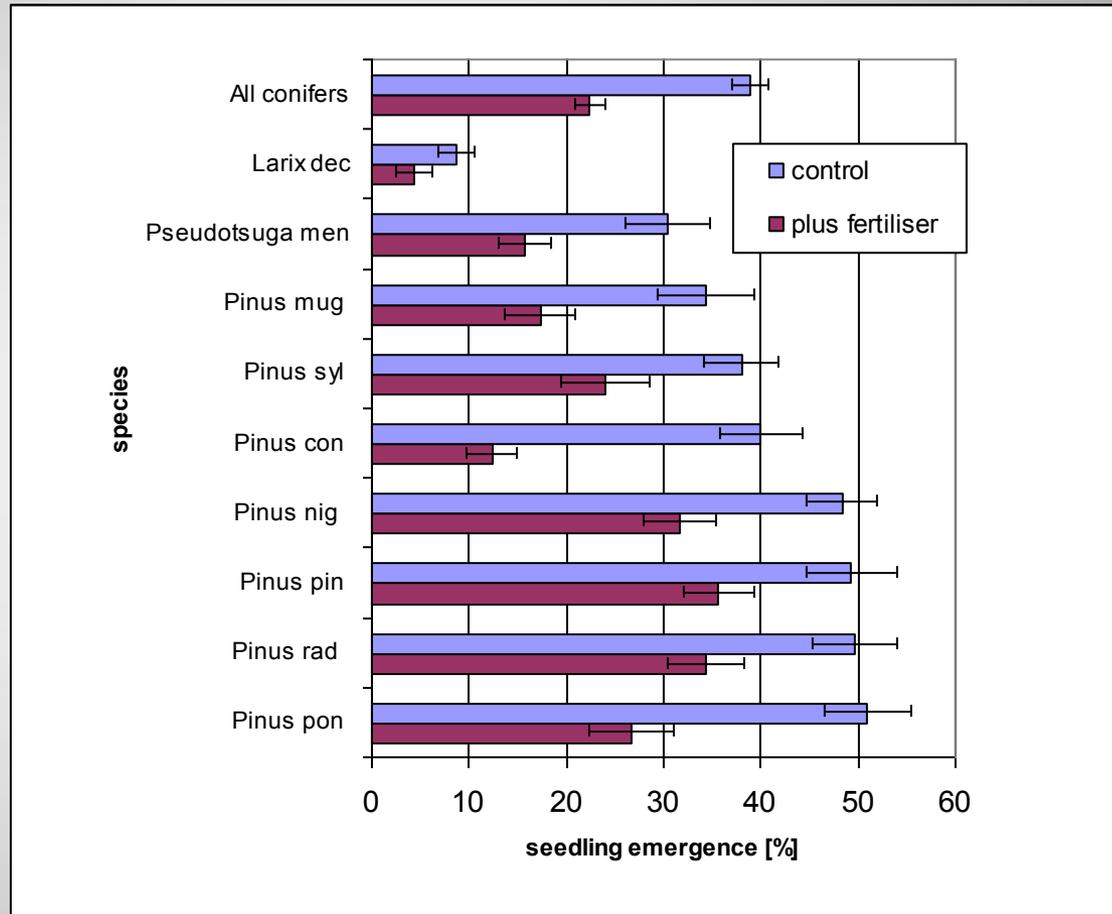
Benecke, 1967

Grazing/browsing pressure



Existing vegetation vigour

Fertiliser application will increase competition from existing vegetation, which will depress wilding establishment – on average by 50%



NZ case studies – Branch river



1985

2007



Contorta pine on eroding land in the Branch river

NZ case studies - Craigieburn



Pinus contorta, P. mugo, P. sylvestris, Pseudotsuga menzesii, Larix decidua

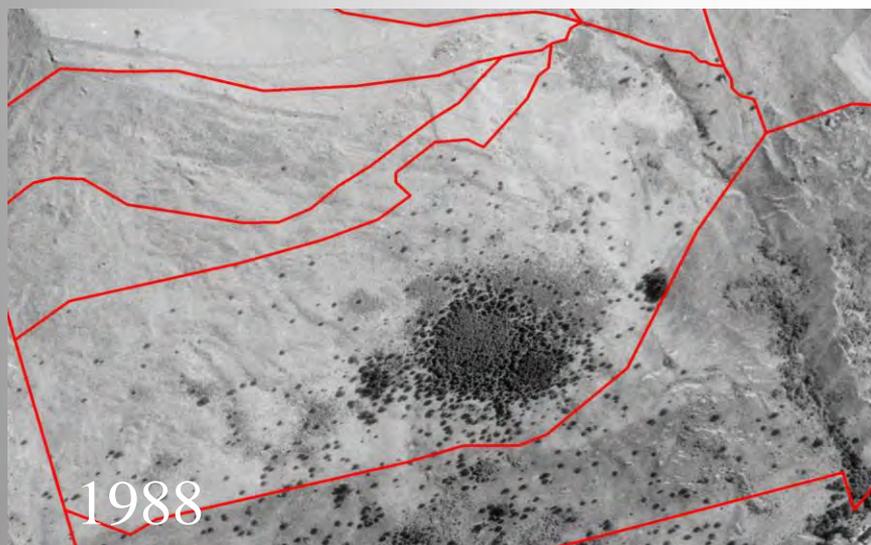
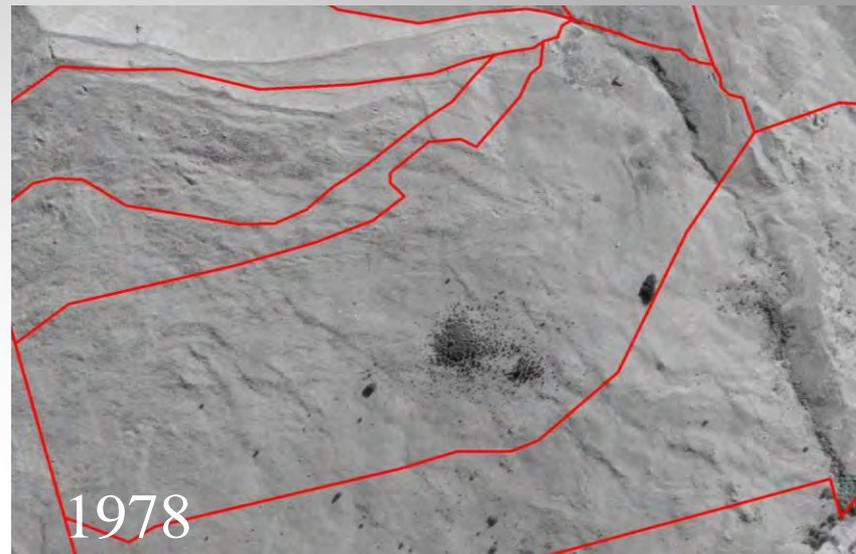
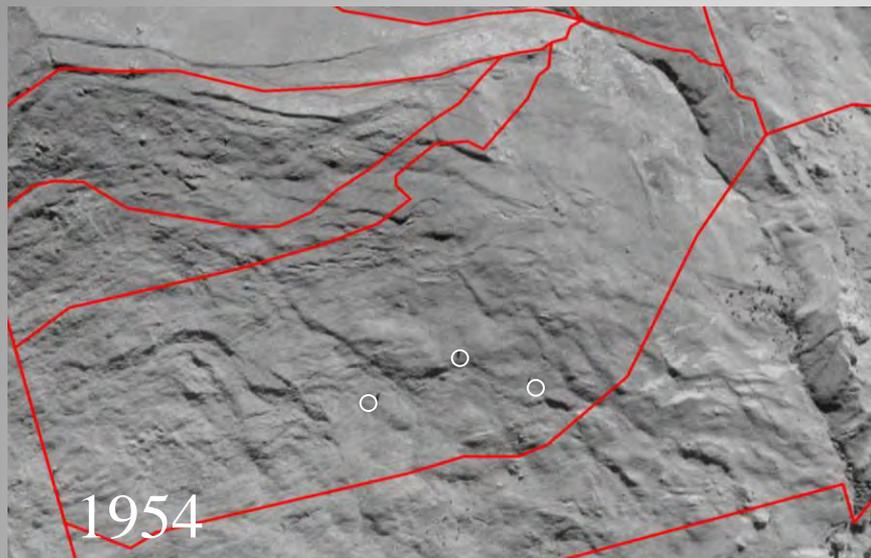
2001

**Change of farm ownership
and sheep numbers in 2002**

2007



NZ case studies – Mt Dewar, Queenstown



Sheep numbers significantly reduced, no fertilising after 1992

NZ case studies – Marlborough



Tarndale, Molesworth station
– spread of *Pinus sylvestris*

1997



2006

NZ case studies - Queenstown



1985

Pseudotsuga menziesii
invasion behind
Queenstown



2004



2011

NZ case study – Marlborough Sounds



1970

By 1990s, invasion opportunities for pines closed by invasive scrub cover (native)

Reversion to woody species after farm abandonment (1970) (pine is *P. radiata*)



2006

The prevention, management and control of wilding conifers

New Zealand Wilding Conifer Management Group

Three main objectives:

1. Identifying wilding risk and areas

Avoiding



2. Control methods

Remedying



3. Achieving desired vegetation outcomes

Mitigating

New Zealand Wilding Conifer Management Group members

- Dept of Conservation
- High Country Federated Farmers
- All major forest owners (including 12 companies)
- Regional and District Governments (9)
- Landcorp Farming
- Land Information New Zealand
- Royal Forest and Bird Society
- plus research providers – Scion and Landcare Research

Obj 1: Calculating spread risk from new plantings (DSS 1)

DSS 1 should be a major part of resource consent considerations

Scores given for:

- * Species
- * Palatability
- * Siting
- * Surrounding land use

	1	2
Species	3	3
Palatability	3	3
Siting	1	3
Surrounding land use	1	3
Total	8	12

Site 2

Site 1

Calculating spread risk onto any site (DSS2)

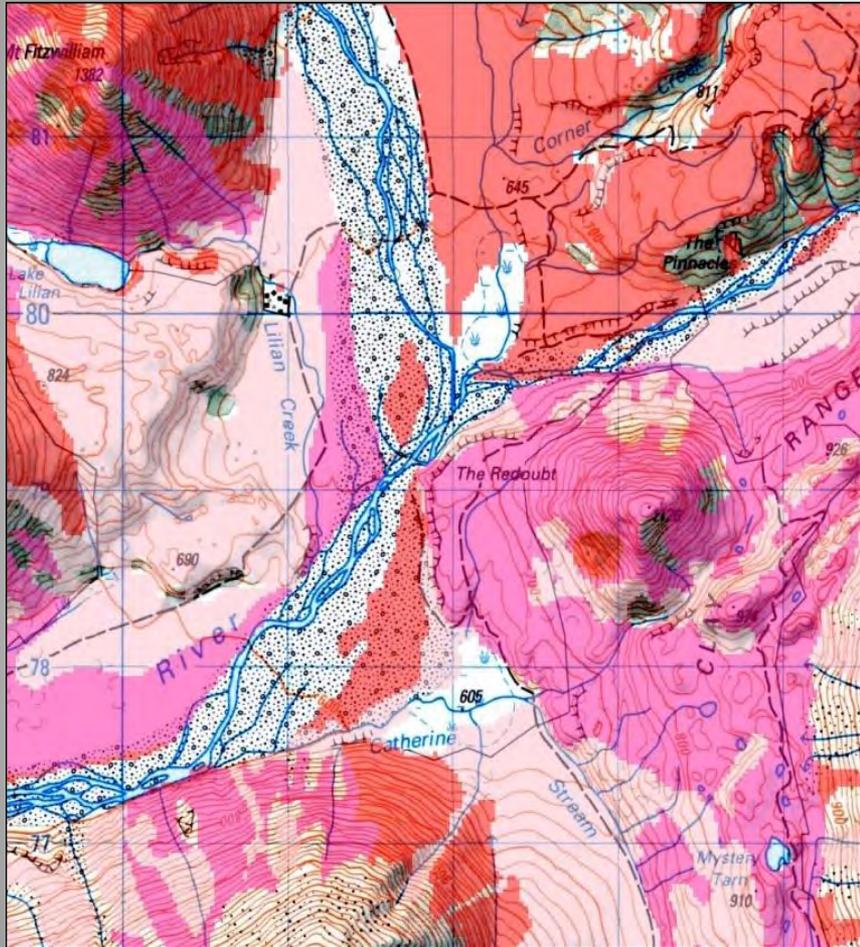


Scores given for:

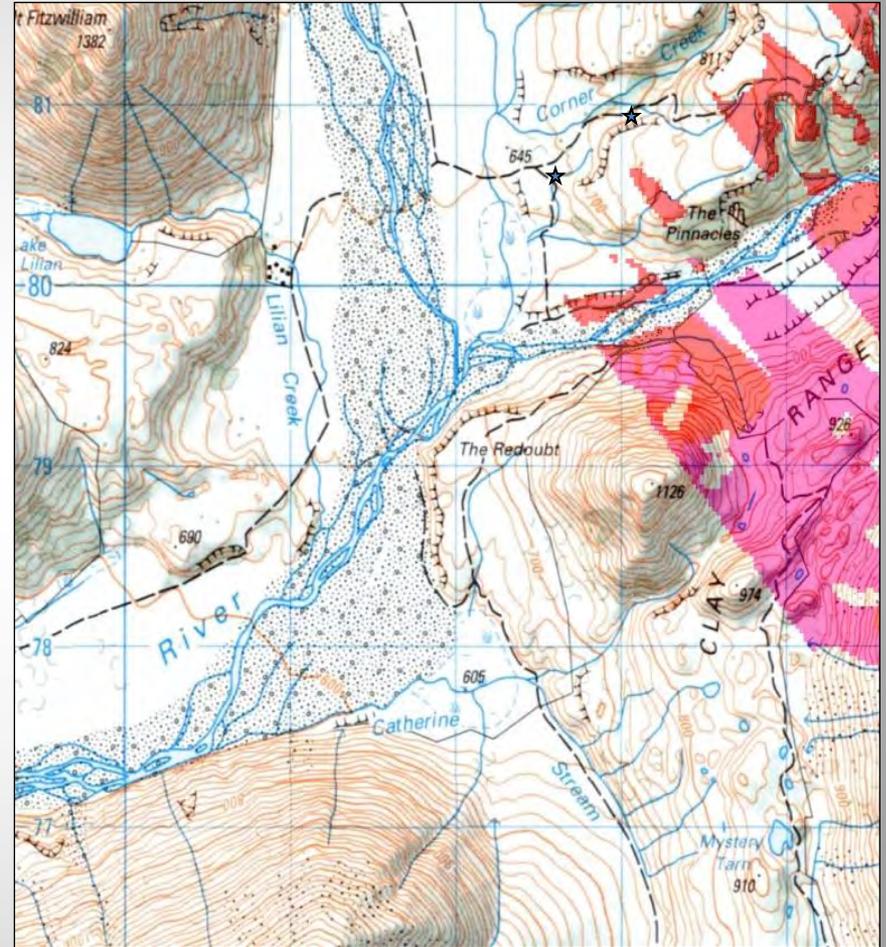
* Seed source species	4	4
* Siting (exposure) of source trees	3	3
* Location of sample site relative to source trees	1	3
* Distance of sample from source trees	1	3
* Vegetation of sample site	2	2
* Grazing of sample site	2	2
TOTAL	13	17

Any score above 14 indicates a high spread risk

Modelling spread risk, according to vegetation cover (LCDB2) and land use (Enhanced LCDB)

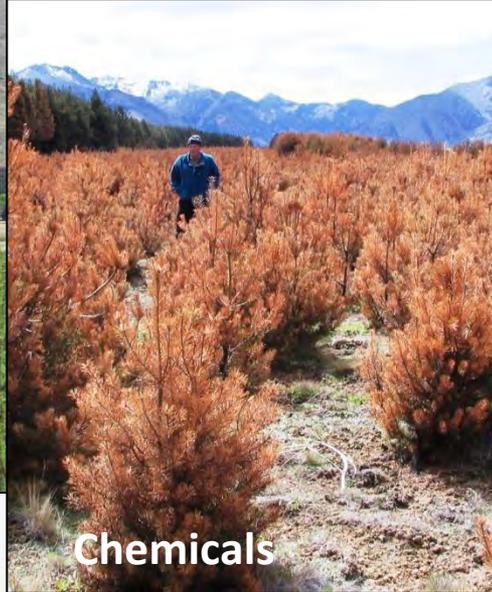


Risk relative to vegetation cover and land use (primarily grazing)



Risk relative to vegetation cover, land use *and existing seed source*

Obj 2: Controlling wildings



Chemicals



Hand tools



Fire

Grazing



Machine

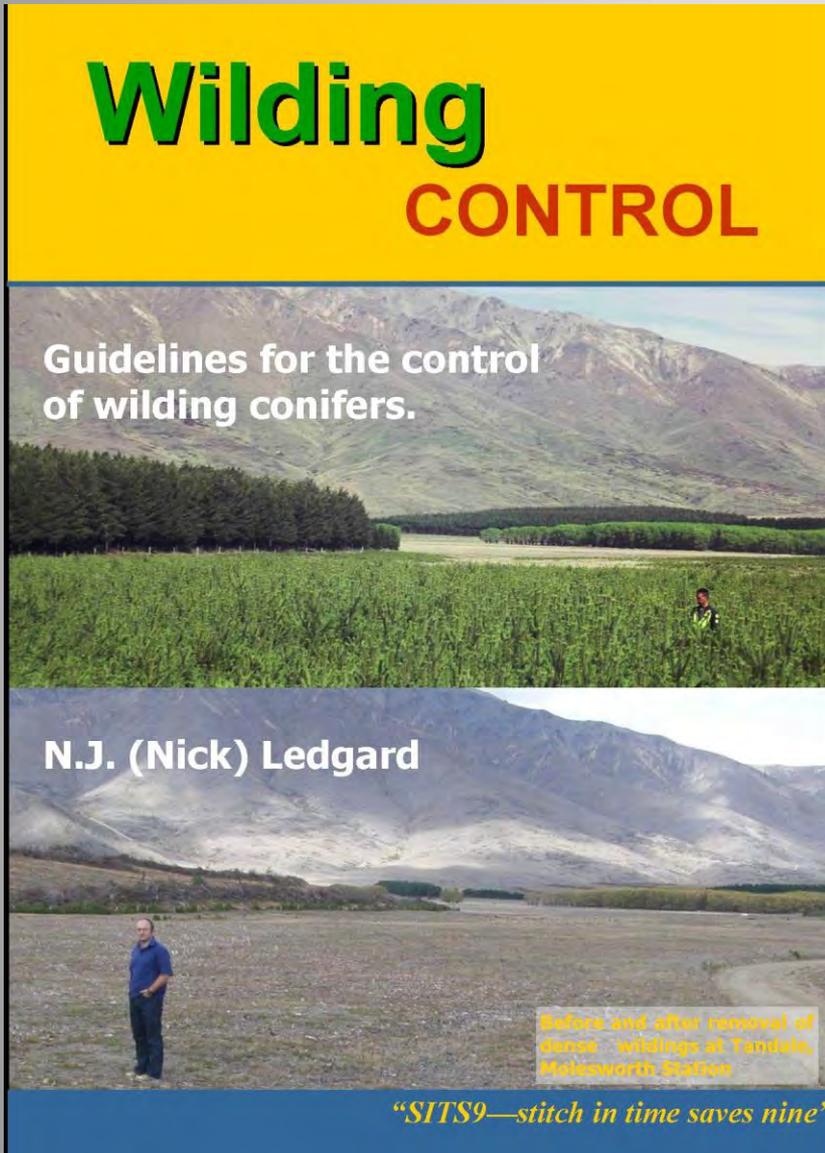


Power tools

Obj 2: Control guideline manual

Manual covers fifteen different control techniques:

- **Site management**
 - Burning
 - Grazing
 - Fertilising
- **Physical – by hand**
 - Pulling
 - Tools
 - Ring-barking
- **Physical – power tools**
 - Chainsaw
 - Scrub-bar
- **Machine**
 - Mulcher
 - Digger / dozer
- **Chemical**
 - Foliar
 - Cut stump
 - Stem poisoning
 - Bark application
 - Soil uptake



Obj 2: Controlling wildings

Recent developments have seen the bark application of chemicals (mainly from the air by boom or hand-held wand) become the most cost effective means of killing wildings. The 'brew' is 20% Grazon (picloram) and 80% oil (often diesel).

The use of these new techniques allows significantly more area to be covered per \$\$ spent



'ring of death'

Flock Hill station



Ground basal-barking



Aerial 'basal-barking'

Motto for wilding control

**Outlier wildings MUST be removed
before coning age**

SITS9 – ‘stitch in time saves nine’



Obj 3: Vegetation successions
associated with wilding conifer
removal

Contorta pine slash, Kaikomata
Range, Hawkes Bay

Native regeneration under felled contorta pine

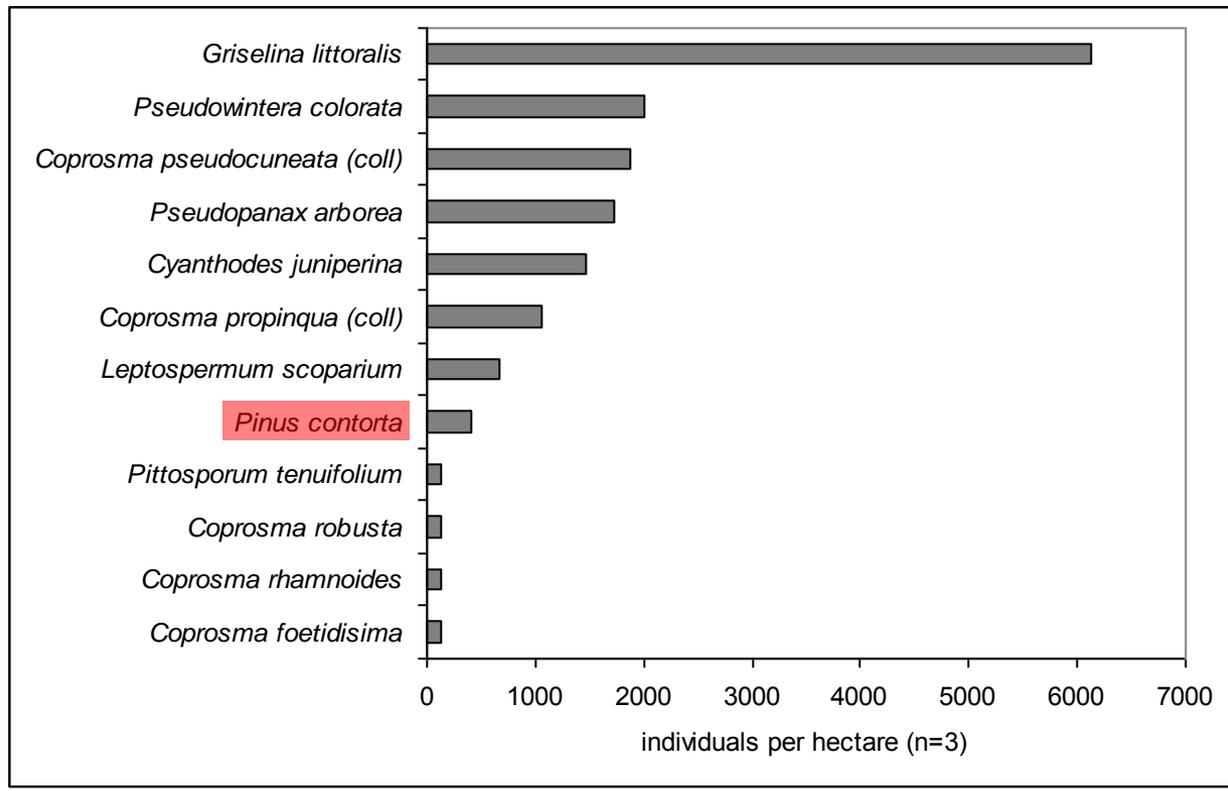


Felled contorta wildings
Kaikomaka Range



Slash of felled trees creates good environment for native regeneration

Native regeneration under felled contorta pine



Slash of felled trees creates good environment for native regeneration

Felled contorta wildings
Kaikomaka Range

Successions after stem poisoning (a), and harvesting of standing trees (b)



Good native regen under poisoned trees

Marlborough Sounds. Dense wilding stand of radiata pine,
stem-poisoned 8 years previously.

Successions after harvesting of standing trees (b)



Marlborough Sounds. Looking into area of radiata pine wildings, clearfelled 5 years previously.

Very few native plants volunteering under felled trees

Two identical wilding stands removed in two different ways – leading to two totally different outcomes

Vegetation successions under stem-poisoned pines



1 year after poisoning



2.5 years after poisoning

Exceptional native plant response after stem poisoning

Queen Charlotte Sound,
Marlborough

Vegetation successions after burning wildings



July, 2008

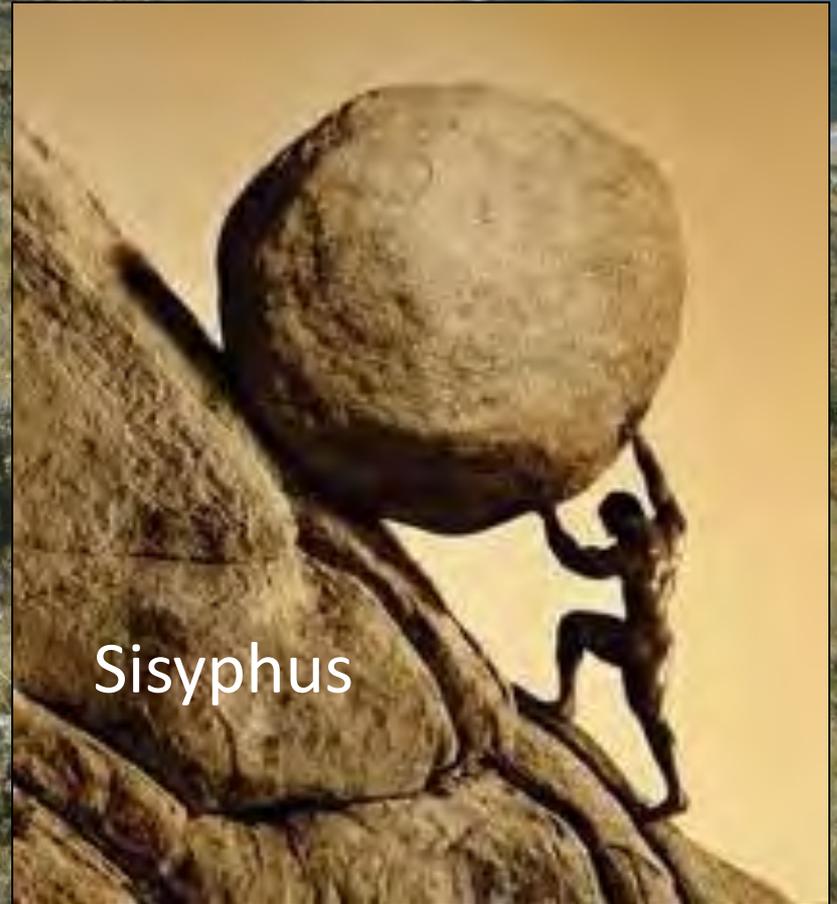
Vigorous herbaceous growth after fire will restrict establishment of most woody species



Dec, 2009

Wilding forest fire, Mt Cook station

Are we winning?



Sisyphus

In many cases - yes

DOC study on cost-effectiveness of wilding control in Basin

Mackenzie Basin

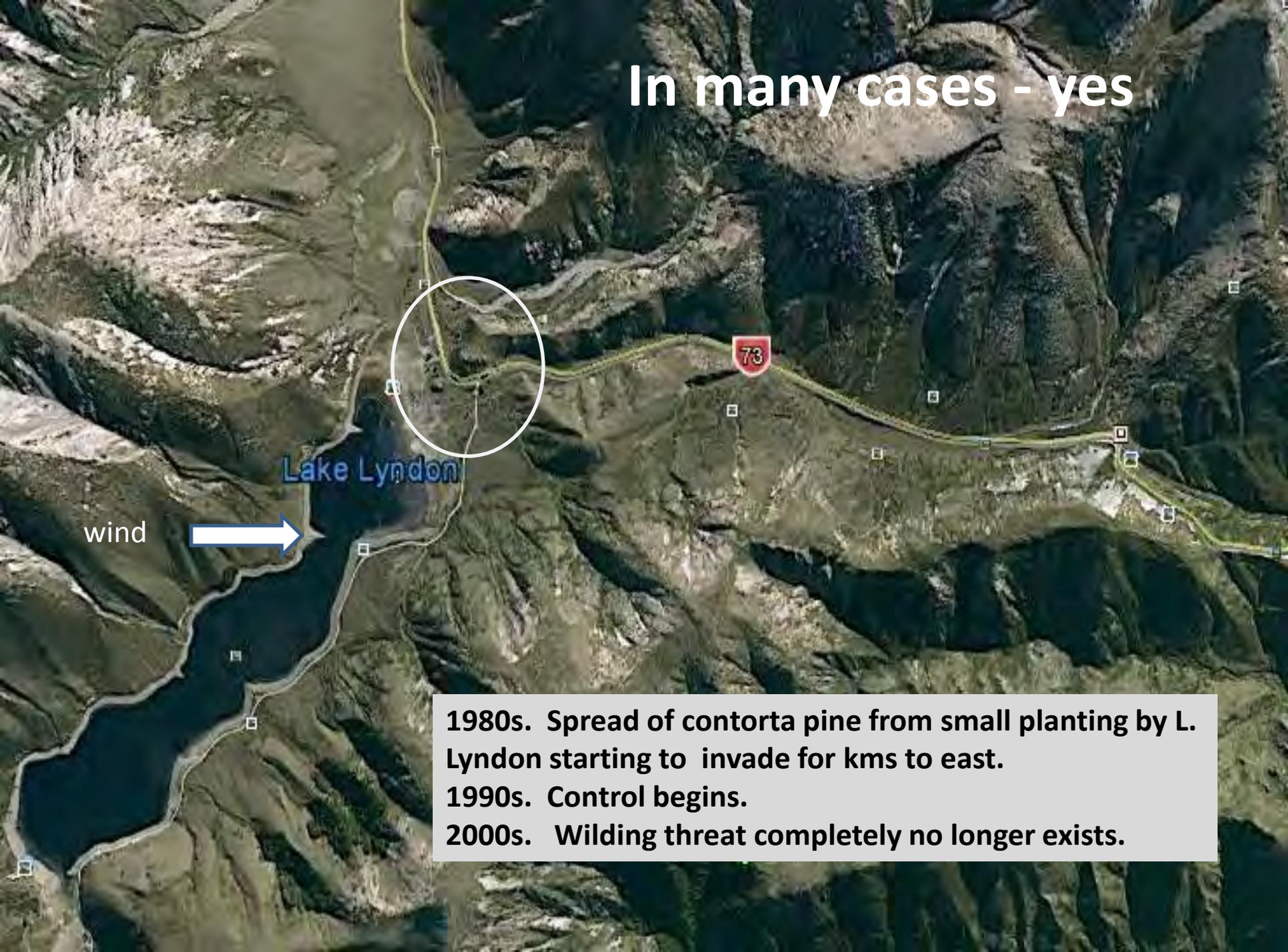
In many cases - yes



Queen Charlotte Sound, 2011

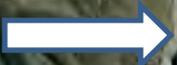
Biodiversity benefits of lone outlier wildings

In many cases - yes



Lake Lyndon

wind



1980s. Spread of contorta pine from small planting by L. Lyndon starting to invade for kms to east.
1990s. Control begins.
2000s. Wilding threat completely no longer exists.

In many cases - yes

Major seed source



Dense contorta pine wildings –
completely removed in mid 2000s

Glen Eyrie station – L. Ohau



**In many cases
- yes**

**Tarndale,
Molesworth**

2008

2010



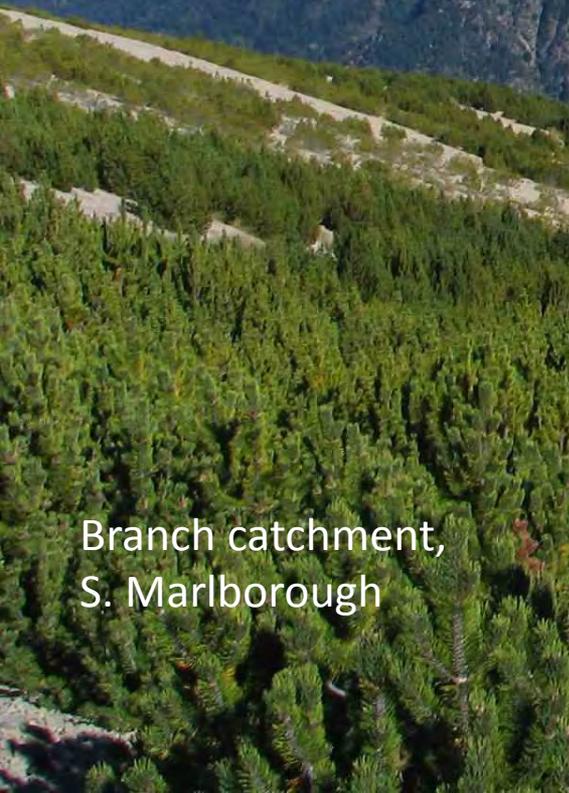
In many cases - yes

Removal of scattered outlier wildings
by Wakatipu Wilding Control Group

Cecil Peak and Queenstown

Other S. Island community groups targeting wildings. Mid Dome Charitable Trust; L. Ohau Conservation Group, L. Pukaki Wilding Management Group, Waimakariri Ecological Landscape Restoration Alliance, Marlborough Sounds Wilding Group . Between them \$1.5m for use in 2011-12.

In some cases, the horse has bolted



Branch catchment,
S. Marlborough



Formerly open riverbed

In some cases, the horse may still bolt



1980- 2000.
Major invasion of contorta
pine from experimental
plantings, east onto Flock
Hill station.



In some cases, the horse may still bolt

Great work by the Mid Dome Charitable Trust, but a long way yet to go.

Vital importance of long-term commitment – can we keep up the effort for the years (often decades) needed to successfully eliminate wildings ?

Mid Dome,
N. Southland

Wildings, forestry and the future



The traditional spreading species (contorta, Scots, and Corsican pine) harvested, and are no longer planted

Radiata is not often a problem

Douglas-fir is of concern

Hanmer and forest

Douglas-fir. The species is very prone to spread. It has light seed which is readily shed from cones hanging from branch tips and is more shade tolerant than the pines. The species has only really been of spread concern for the last 20 years (mycorrhizae).



Over the last 20 years south of Christchurch, there has been more new-land planting of Douglas-fir than radiata pine. Much of that planting has been in extensively managed inland parts of the high country.



Douglas-fir invading intact forests - not the concern that most people imagine

Invasions such as these occurred while the forest was recovering from past disturbances (fires, grazing) when it was much more open. Present risk is low.

Motueka gorge,
Mt Richmond Forest Park

20-yr-old D-fir seedling
from under kanuka forest



Burnt Face, Craigieburn Forest Park

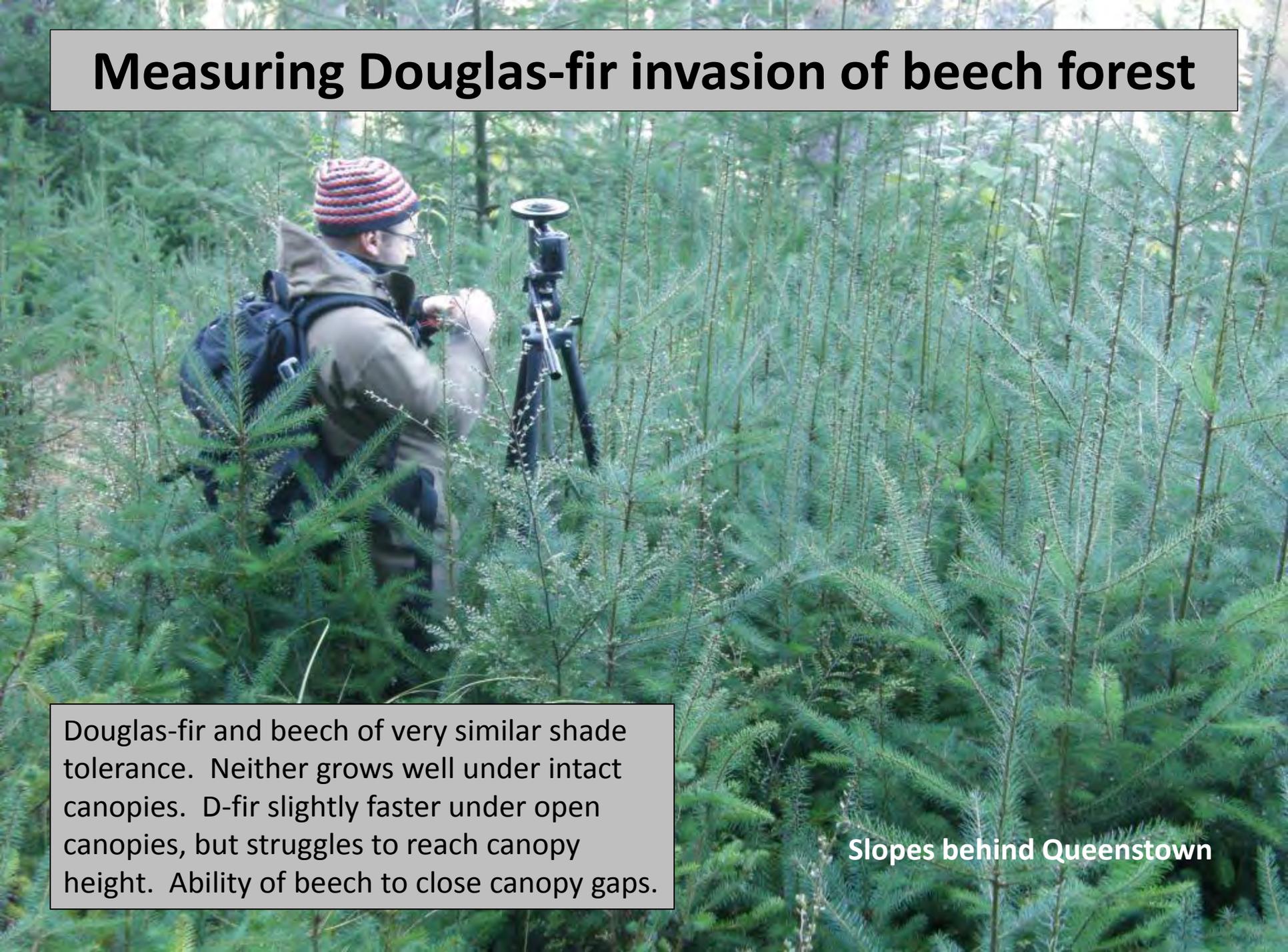


1989



2009

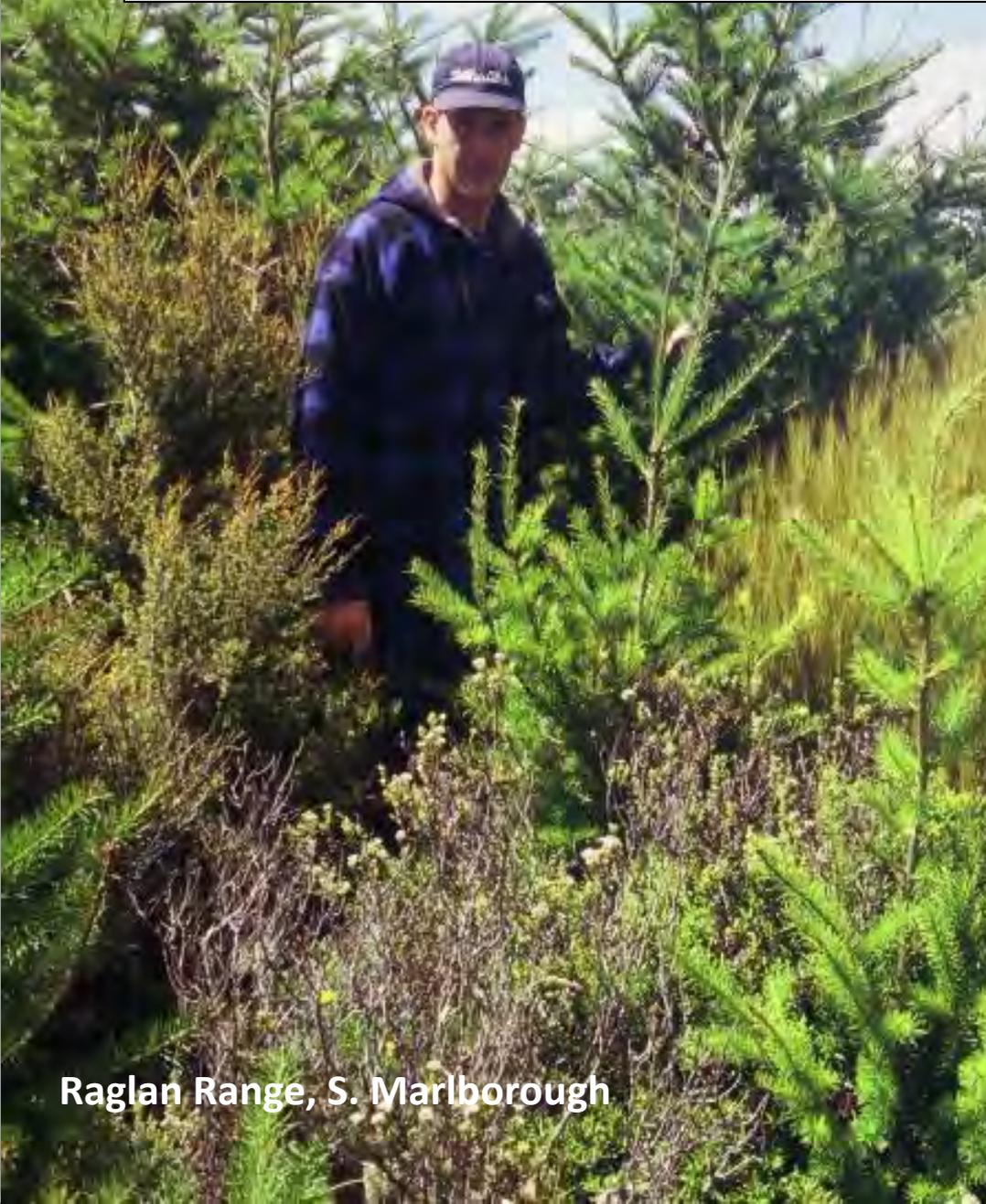
Measuring Douglas-fir invasion of beech forest



Douglas-fir and beech of very similar shade tolerance. Neither grows well under intact canopies. D-fir slightly faster under open canopies, but struggles to reach canopy height. Ability of beech to close canopy gaps.

Slopes behind Queenstown

The major concern with Douglas-fir is in shrublands and open grasslands

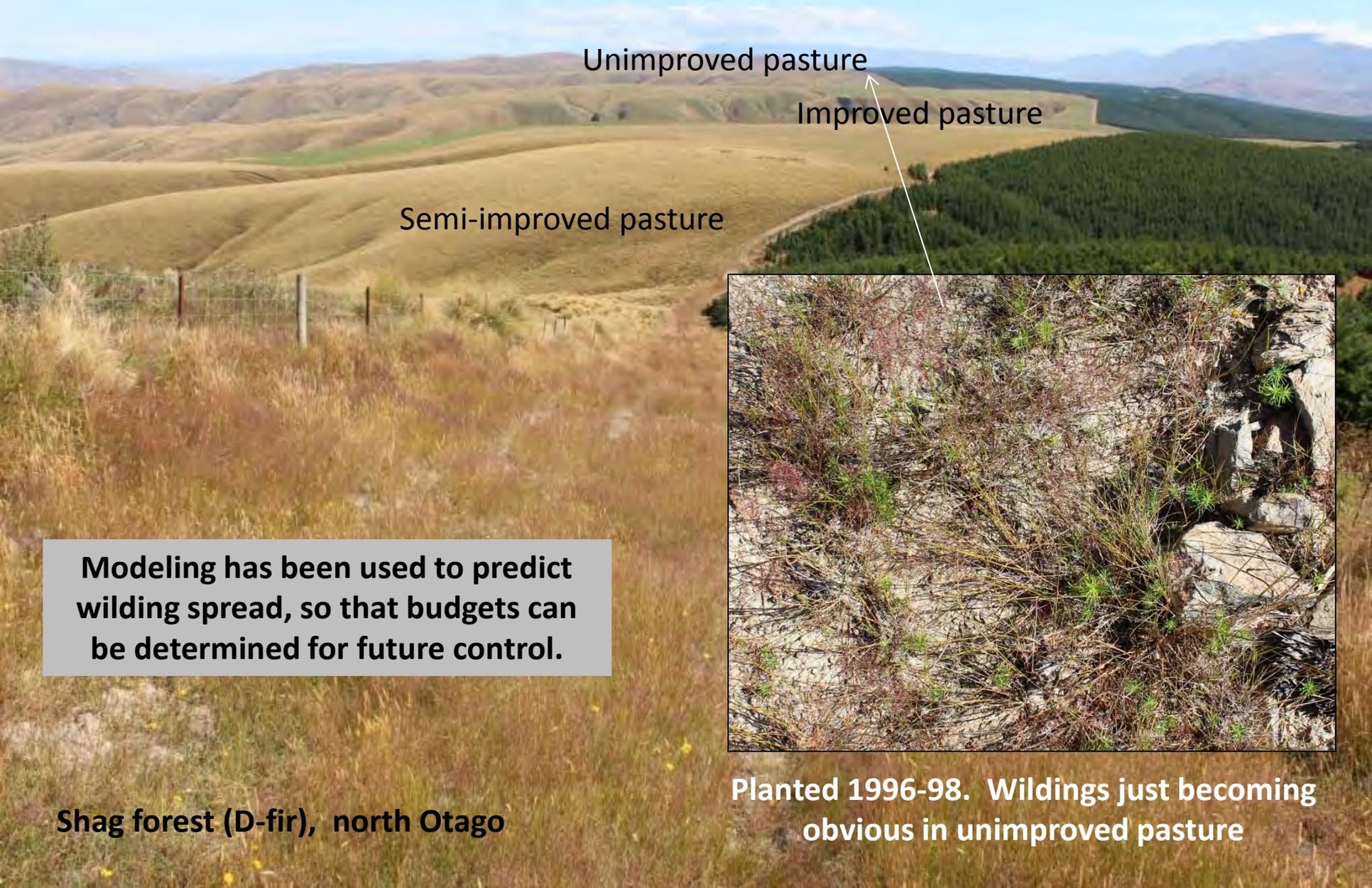


Raglan Range, S. Marlborough



Diadem range, upper Waitaki

Wildings, trees, forestry and the future



Unimproved pasture

Improved pasture

Semi-improved pasture

Modeling has been used to predict wilding spread, so that budgets can be determined for future control.



Planted 1996-98. Wildings just becoming obvious in unimproved pasture

Shag forest (D-fir), north Otago

“The wise (informed) use of the *right* species
on the *right* site”

Cainard

Fairlight

Fairlight

Glenfallon

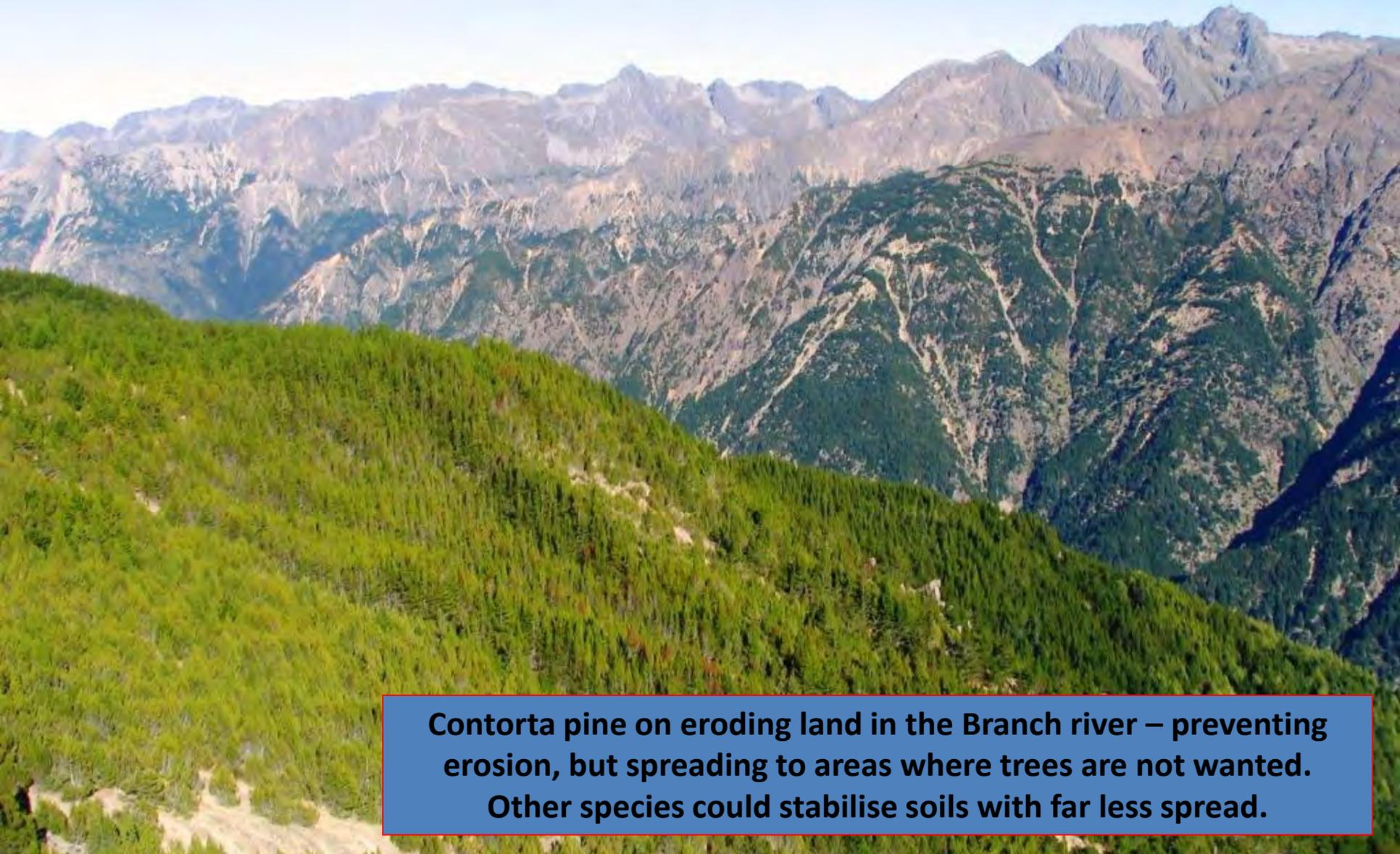


‘The wrong species on the wrong site’



Contorta pine on stable land at Pukaki Downs

'The wrong species on the right site'



Contorta pine on eroding land in the Branch river – preventing erosion, but spreading to areas where trees are not wanted. Other species could stabilise soils with far less spread.

‘The right species on the wrong site’



**Douglas-fir below Coronet Peak road,
Queenstown (visual, spread-risk)**

‘The right species on the right site’



D-fir stand (foreground) on Ribbonwood station

Plantation resource consents



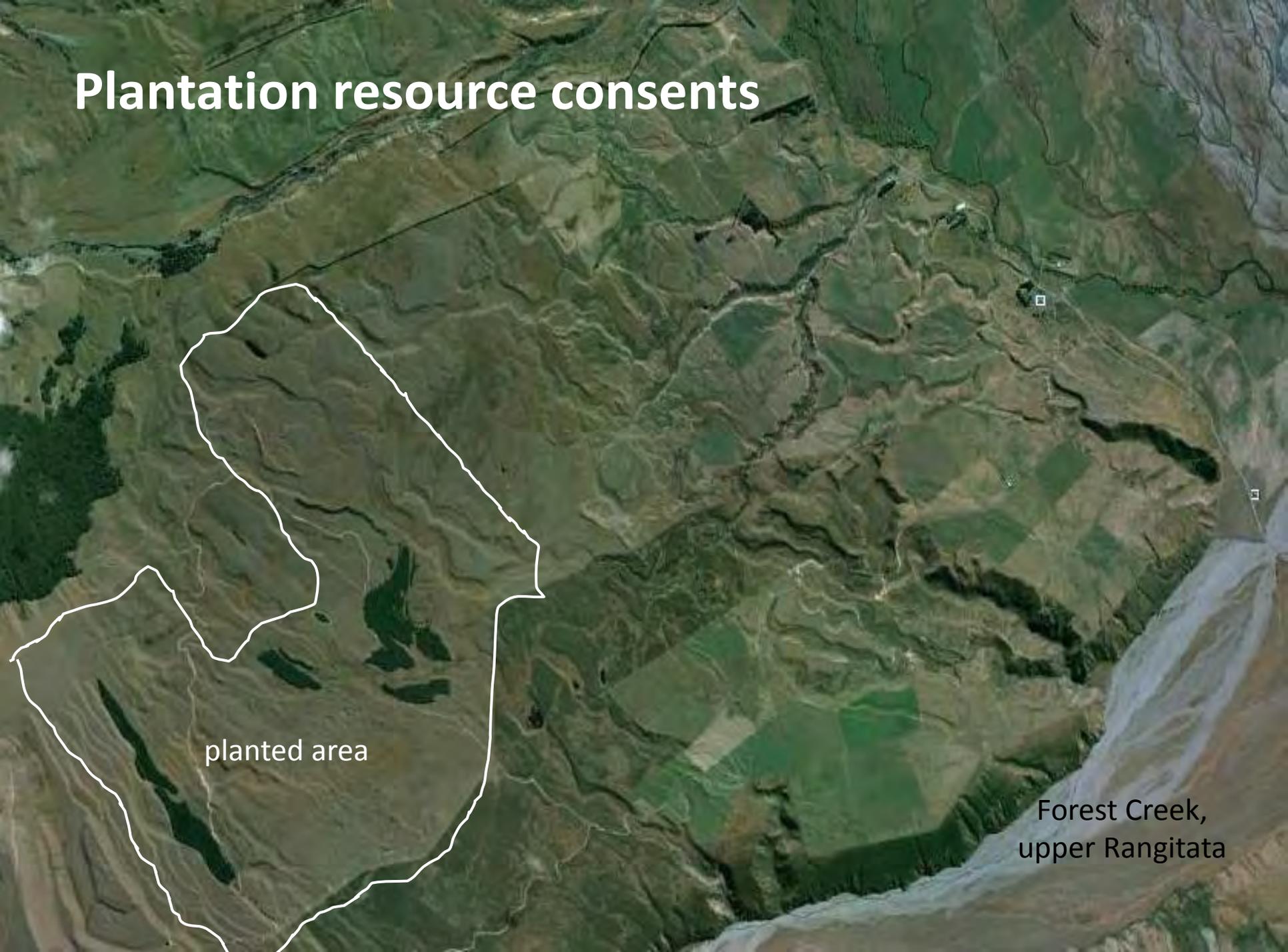
**Negative attitude to plantations by many eastern S. Island councils.
Is part of this an over-reaction to perceived wilding risk?**

Forest Creek, upper Rangitata

Plantation resource consents

planted area

Forest Creek,
upper Rangitata



Plantation resource consents

Queenstown Lakes District Council Proposed plan review – draft

Wilding species list

The list is:

Contorta, Corsican, Scots mugo, ponderosa, Bishops and radiata pine, larch and Douglas-fir, gorse, broom, lupins, all eucalypts, boxthorn, hawthorn and sycamore.

Wilding issues

Presumption that all wildings occur as dense spread eg., suppression of conservation, production and recreation values, water yield. Whereas in reality, wildings appear first as scattered spread (which these days are usually removed fairly quickly)

Proposed changes

- * Public notification of consent applications
- * Prohibiting use of wilding trees in landscape treatment for new houses, or the use / retention of wilding trees to screen new development
- * Prohibiting planting of wilding trees in all urban zones
- * Making the planting of wilding trees a prohibited activity on all or parts of the Outstanding Natural Landscapes.

Plantation resource consents

There is a simple solution.

The risk of wilding spread from plantations must consider all factors relative to local circumstances.

The tool to do this is available. What's more, it has been refined by representatives of the major affected parties, specially for the National Environmental Standard (NES) for Plantation Forests.

The tool is DSS1 – this incorporates all the major factors affecting wilding spread. It is already being used by many councils.

If DSS1 determines that there is a spread risk (especially if it is high), then plantation owners have to accept conditions to nullify that risk, or accept that the planting should not go ahead.

In so doing, they must be realistic as to the likely cost, and whether they will be able to implement the control required.

Plantation resource consents – costing control

1. Fire
2. Animal grazing
3. **Fertilisers** –increase competition will decrease wilding numbers c. 50%
c. \$100/ha
4. **Hand tools** - volunteers with some chainsaw support \$0.2/tree
5. **Hand tools** – contractors
 - a.Small trees at high to extreme density \$2000-3500 /ha
 - b.Moderate to high density \$250-750/ha
 - c.Low densities \$10-100/ha
6. **Ringbarking**
Unlikely to be used
7. **Chainsaws.** Contractors
 - a.Dense mature stands \$5000-10,000/ha
 - b.Dense fringe spread \$1000-2000/ha
 - c.Frequent outliers \$150-300/ha
 - d.Occasional low /mod density \$15-30/ha
8. **Scrub-bars.** Contractors
 - a.Small trees high densities \$100/ha
 - b.Mixed-age sparse trees \$500-1600/ha

9. Machinery

Unlikely to be used

10. Chemical.

- a. Ground spraying – foliar <\$1/tree
- b. Ground spraying – basal-bark for trees <5m tall <\$1/tree
- c. Ground spraying – stem drill and fill for trees >5m tall, \$5/tree(easy access); \$15 (hard access)

11. Chemical.

- a. Aerial foliar boom spray \$1600/ha
- b. Aerial wand basal-bark spray \$1300/hr or \$5/tree

12. Chemical. Cut stump application

13. Helicopter. Skid-hopping operation
Largely replaced by aerial basal-bark spraying (11b)

14. Helicopter. Human sling operations
Largely replaced by aerial basal-bark spraying (11b)

Budget ahead for projected costs

Wildings, forestry and the future

Wildings are here to stay

In a few situations, 'the horse has bolted', and we will battle to contain them.

In some sites, the risk and control costs are too large, and no planting should occur.

Elsewhere, we now know enough to determine that management need not be onerous.

In the future, such management must be accepted.

Control will become part of everyday forest management.



Lower Wairau river valley

APPENDIX 5
CONSULTATION WITH LANDOWNERS OF POTENTIAL PROTECTED TREES



1 May 2015

Stewart Alan Bruce & Stewart Judth Mae
127 PURIRI STREET
RICCARTON
CHRISTCHURCH 8041

Assessment Number 2918220700
Reference: 1005

Dear Sir or Madam

QUEENSTOWN LAKES DISTRICT PLAN REVIEW: SCHEDULED TREES

We are undertaking a review of the Queenstown Lakes District Plan with the aim of notifying the proposed district plan in 2015. As part of this review, the Council is seeking to ensure that the information within the District Plan which relates to scheduled trees is correct and up to date.

The Council's arborist has undertaken a survey of the Residential Arrowtown Historic Management Zone, and identified a European Beech, *Fagus sylvatica* var. *purpurea* on your property at 24 Anglesea Street that qualifies for listing in the District Plan as a Scheduled Tree.

It is considered that the tree identified on your property offers a significant contribution to Arrowtown's character and amenity. Your agreement to having the tree scheduled would be appreciated. Please contact me if you do not agree to the tree being scheduled.

Having a scheduled tree on your property means that you would require a resource consent to undertake significant pruning, works within the root protection zone of the tree, or to remove the tree. Minor trimming and ground maintenance activities within the root protection zone will be permitted without the need to obtain a resource consent.

Please contact me if you are interested in viewing the arborists report and entire set of proposed rules relating to scheduled trees.

Yours faithfully

Craig Barr
Senior Planner
Queenstown Lakes District Council
Direct line 03 443 0121
Email: craig.barr@qldc.govt.nz



Private Bag 50072, Queenstown 9348, New Zealand
QUEENSTOWN, 10 Gorge Road, Phone +64 3 441 0499, Fax +64 3 450 2223
WANAKA, 47 Ardmore Street, Phone +64 3 443 0024, Fax +64 3 450 2223

 QUEENSTOWN
LAKES DISTRICT
COUNCIL

www.qldc.govt.nz

13 February 2015

Barnfield Holdings Ltd
PO BOX 5156
MORAY PLACE
DUNEDIN 9058

Valuation No. 2918209900
Reference: R16.1

Dear Sir or Madam

QUEENSTOWN LAKES DISTRICT PLAN REVIEW: SCHEDULED TREES

We are undertaking a review of the operative Queenstown Lakes District Plan with the aim of notifying the proposed district plan in May 2015. As part of this review, the Council has identified that a tree on your property at 1-13 Cardigan Street ARROWTOWN 9302 may have potential values to be scheduled in the District Plan as a notable tree.

As enabled by Section 333 of the Resource Management Act 1991, the Council's arborist will enter the property on foot to undertake a brief inspection to determine whether the tree qualifies as a scheduled item in the District Plan.

Attached is a copy of the initial assessment undertaken on the tree in 2011. The assessment was undertaken from outside your property.

The inspection will be undertaken from 16 February to 6 March and should take no longer than 10 minutes.

Please respond to the writer if you wish to discuss this matter, including the location of the tree, or if you object to the tree being scheduled in the District Plan as a notable tree.

Yours faithfully



Craig Barr
Senior Planner
Queenstown Lakes District Council
Direct line 03 443 0121
Email: craig.barr@qldc.govt.nz

Rachael Law

From: Craig Barr
Sent: Friday, 1 July 2016 3:01 PM
To: Rachael Law
Subject: FW: Tree 1005 Alan Stewart RE: District Plan Review : Scheduled Trees - 24 Anglesea St, Arrowtown
Attachments: RAHMZ DP Review comparison.pdf; Alan Stewart survey complete letter.pdf

From: Craig Barr
Sent: Tuesday, 5 May 2015 10:41 AM
To: 'Alan Stewart'
Subject: Tree 1005 Alan Stewart RE: District Plan Review : Scheduled Trees - 24 Anglesea St, Arrowtown

Hi Alan

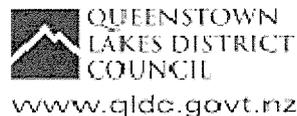
As discussed last week, the Council's arborist has completed their survey and confirmed that the tree qualifies as a notable tree. Also attached is a note that explains the tree protection rules in the Residential Arrowtown Historic Management Zone and proposed changes.

Below is the arborist's assessment. This will be compiled into a report. Trees need to achieve a score of 120 points. This tree scored 138.

tree_number	botanical_name	height_m	girth_mm	crown_spread_radius_ew_m	crown_spread_ra
1005	Fagus sylvatica var. purpurea	12	2000	12	12

Please contact me at your earliest convenience if you wish to discuss this matter.

Craig Barr | Senior Planner | Planning & Development
Queenstown Lakes District Council
DD: +64 3 443 0121 | P: +64 3 441 0499
E: craig.barr@qldc.govt.nz



From: Alan Stewart [<mailto:Alan.Stewart@calderstewart.co.nz>]
Sent: Thursday, 19 February 2015 8:36 AM
To: Craig Barr
Subject: District Plan Review : Scheduled Trees - 24 Anglesea St, Arrowtown

Craig,

We've received your letter of 13 February 2013, copy attached, and advise we object to our English (Copper) Beech tree being scheduled in the District Plan as a notable tree.

In the event Council decide to include our tree in the notable tree schedule please include us on your list affected parties to be notified in respect of District Plan to enable us to formally submit against the proposal.

Thanks,
Alan Stewart

Phone 021 324 080

This email has been scrubbed for your protection by SMX. For more information visit smxemail.com

APPENDIX 6

CONSULTATION WITH LANDOWNERS OF DISTRICT WIDE EXISTING TREES

13 February 2015

ALLAN TIMOTHY MICHAEL HOPE & HUGHES SALLY LORRAINE MAY
41 OLD BEACH ROAD
RD 2
WESTPORT 7892

Valuation No. 2906126000

Dear Sir or Madam

QUEENSTOWN LAKES DISTRICT PLAN REVIEW: SCHEDULED TREES

We are undertaking a review of the operative Queenstown Lakes District Plan with the aim of notifying the proposed district plan in May 2015. As part of this review, the Council is seeking to ensure that the information within the District Plan which relates to scheduled trees is correct and up to date.

Your property is identified as having protected tree number 569, being described in the schedule as follows: Lawsoniana (*Chamaecyparis lawsoniana*) Old Catholic Church site, Cardrona.

The schedule describes the legal description of the property as Sec 11 Blk II Cardrona SD.

As enabled by Section 333 of the Resource Management Act 1991, the Council's arborist will enter your property on foot to undertake a brief inspection to ensure that the tree qualifies as a scheduled item in the District Plan.

The inspection will be undertaken from 16 February to 6 March and should take no longer than 10 minutes.

Please respond to the writer if you wish to discuss this matter.

Yours faithfully



Craig Barr
Senior Planner
Queenstown Lakes District Council
Direct line 03 443 0121
Email: craig.barr@qldc.govt.nz

**APPENDIX 7
STEM EVALUATIONS**

Tree Number	193	240	240	275						
Botanical Name	Acer psuedoplatanus	Eucalyptus gunnii	Eucalyptus gunnii	Larix decidua						
Common Name	Sycamore	Cider Gum	Cider Gum	Deciduous Larch						
Height (m)	20	28.2	28.8	27.2	23.8	25.6	24.2	20	24.2	17.6
Girth (m)	4830	5690	4700	2690	2950	3330	3620	3060	3025	3230
Crown Spread E/W (m)	11	15	13	9	7.5	8	6	9	7	10
Crown Spread N/S (m)	9	13	10	6	6	6	6	6	5.5	6
Health	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Good	Specimen	Good	Moderate	Moderate	Moderate	Moderate	Poor	Moderate	Poor
Form Score	15	27	15	9	9	9	9	3	9	3
Occurance	Common	Common	Common	Common	Common	Common	Common	Common	Common	Common
Occurance Score	9	9	9	9	9	9	9	9	9	9
Vigour	Very Good	Excellent	Excellent	Good						
Vigour Score	21	27	27	15	15	15	15	15	15	15
Function	Minor	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful
Function Score	3	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	75	99	87	69	69	69	69	63	69	63
Stature	21 - 26	21 - 26	21 - 26	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	21	21	21	15	15	15	15	15	15	15
Visibilty (km)	0.5	4	4	1	1	1	1	1	1	1
Visibility Score	3	21	21	9	9	9	9	9	9	9
Proximity	Parkland	Solitary	Solitary	Group 10+						
Proximity Score	9	27	27	15	15	15	15	15	15	15
Role	Important	Important	Important	Important	Important	Important	Important	Important	Important	Important
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor	Moderate	Moderate	Minor						
Climate Score	3	9	9	3	3	3	3	3	3	3
Amenity Evaluation Total	51	93	93	57						
STEM Evaluation Total	126	192	180	126	126	126	126	120	126	120

Tree Number	275	275	275	275	275	275	275	275	275	275
Botanical Name	Larix decidua	Larix decidua	Larix decidua	Larix decidua	Picea breweriana	Larix decidua				
Common Name	Deciduous Larch	Deciduous Larch	Deciduous Larch	Deciduous Larch	Brewer's Spruce	Deciduous Larch				
Height (m)	23.2	26.4	22.4	25	27.2	23.8	22.6	26.8	28.4	22.6
Girth (m)	2680	4000	2920	4200	2230	3380	2940	2640	3820	2910
Crown Spread E/W (m)	8	8	7	8	5	8	6	8	8	7
Crown Spread N/S (m)	6.5	8	6	6.5	5	6	6	6	6	6
Health	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Form Score	9	9	9	9	9	9	9	9	9	9
Occurance	Common	Common	Common	Common	Infrequent	Common	Common	Common	Common	Common
Occurance Score	9	9	9	9	15	9	9	9	9	9
Vigour	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Vigour Score	15	15	15	15	15	15	15	15	15	15
Function	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful
Function Score	9	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	69	69	69	69	75	69	69	69	69	69
Stature	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	15	15	15	15	15	15	15	15	15	15
Visibilty (km)	1	1	1	1	1	1	1	1	1	1
Visibility Score	9	9	9	9	9	9	9	9	9	9
Proximity	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+				
Proximity Score	15	15	15	15	15	15	15	15	15	15
Role	Important	Important	Important	Important	Important	Important	Important	Important	Important	Important
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57	57	57	57	57	57	57	57	57	57
STEM Evaluation Total	126	126	126	126	132	126	126	126	126	126

Tree Number	275	275	275	275	275	275	275	275	275	275
Botanical Name	Picea breweriana	Larix decidua	Larix decidua	Larix decidua	Picea breweriana	Larix decidua	Larix decidua	Larix decidua	Picea breweriana	Larix decidua
Common Name	Brewer's Spruce	Deciduous Larch	Deciduous Larch	Deciduous Larch	Brewer's Spruce	Deciduous Larch	Deciduous Larch	Deciduous Larch	Brewer's Spruce	Deciduous Larch
Height (m)	26.2	23	24.8	21	24.6	19.8	21.4	18.8	27.8	23.6
Girth (m)	1720	1850	2580	3110	1610	2190	3270	2900	1880	4320
Crown Spread E/W (m)	4	7	6	6	4	8	8	7	4	5
Crown Spread N/S (m)	4	6	6	6	4	6.5	6	6	4	5
Health	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Good	Moderate	Moderate	Moderate	Good	Moderate	Moderate	Moderate	Poor	Poor
Form Score	15	9	9	9	15	9	9	9	3	3
Occurance	Infrequent	Common	Common	Common	Infrequent	Common	Common	Common	Infrequent	Common
Occurance Score	15	9	9	9	15	9	9	9	15	9
Vigour	Good	Good	Good	Good	Good	Good	Good	Good	Some	Some
Vigour Score	15	15	15	15	15	15	15	15	9	9
Function	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful
Function Score	9	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	81	69	69	69	81	69	69	69	63	57
Stature	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	15	15	15	15	15	15	15	15	15	15
Visibility (km)	1	1	1	1	1	1	1	1	1	1
Visibility Score	9	9	9	9	9	9	9	9	9	9
Proximity	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+
Proximity Score	15	15	15	15	15	15	15	15	15	15
Role	Important	Important	Important	Important	Important	Important	Important	Important	Important	Important
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57	57	57	57	57	57	57	57	57	57
STEM Evaluation Total	138	126	126	126	138	126	126	126	120	114

Tree Number	275									
Botanical Name	Larix decidua	Picea breweriana								
Common Name	Deciduous Larch	Brewer's Spruce								
Height (m)	25	28	25	25.8	27.2	22	27	24.2	26	28
Girth (m)	2860	2510	2550	3830	3600	2890	3380	4270	4270	2190
Crown Spread E/W (m)	4	4	5	6	6	6	6	6	6	4
Crown Spread N/S (m)	5	5	5	6	6	6	6	6	6	6
Health	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Fair
Age Class	Mature									
Form	Poor	Moderate	Moderate	Moderate	Moderate	Poor	Moderate	Moderate	Moderate	Poor
Form Score	3	9	9	9	9	3	9	9	9	3
Occurance	Common	Infrequent								
Occurance Score	9	9	9	9	9	9	9	9	9	15
Vigour	Some	Some	Some	Good	Good	Some	Good	Good	Good	Some
Vigour Score	9	9	9	15	15	9	15	15	15	9
Function	Useful									
Function Score	9	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	57	63	63	69	69	57	69	69	69	63
Stature	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	15	15	15	15	15	15	15	15	15	15
Visibility (km)	1	1	1	1	1	1	1	1	1	1
Visibility Score	9	9	9	9	9	9	9	9	9	9
Proximity	Group 10+									
Proximity Score	15	15	15	15	15	15	15	15	15	15
Role	Important									
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor									
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57									
STEM Evaluation Total	114	120	120	126	126	114	126	126	126	120

Tree Number	275	275	275	275	275	275	275	275	275	275
Botanical Name	Picea breweriana	Picea breweriana	Larix decidua	Picea breweriana	Picea breweriana	Picea breweriana	Larix decidua	Picea breweriana	Picea breweriana	Picea breweriana
Common Name	Brewer's Spruce	Brewer's Spruce	Deciduous Larch	Brewer's Spruce	Brewer's Spruce	Brewer's Spruce	Deciduous Larch	Brewer's Spruce	Brewer's Spruce	Brewer's Spruce
Height (m)	27.8	23.6	23.4	30.6	28.8	27	24.5	30	32	33.2
Girth (m)	1970	2070	2990	2340	1990	2170	2770	1390	2540	2710
Crown Spread E/W (m)	3	4	4	4	4	4	4	4	4	4
Crown Spread N/S (m)	3	3	3	5	5	5	4	4	5	4
Health	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Moderate	Poor	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Form Score	9	3	9	9	9	9	9	9	9	9
Occurance	Infrequent	Infrequent	Common	Infrequent	Infrequent	Infrequent	Common	Common	Common	Infrequent
Occurance Score	15	15	9	15	15	15	9	9	9	15
Vigour	Good	Some	Good	Good	Good	Some	Some	Some	Some	Some
Vigour Score	15	9	15	15	15	9	9	9	9	9
Function	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful
Function Score	9	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	75	63	69	75	75	69	63	63	63	69
Stature	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	15	15	15	15	15	15	15	15	15	15
Visibility (km)	1	1	1	1	1	1	1	1	1	1
Visibility Score	9	9	9	9	9	9	9	9	9	9
Proximity	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+
Proximity Score	15	15	15	15	15	15	15	15	15	15
Role	Important	Important	Important	Important	Important	Important	Important	Important	Important	Important
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57	57	57	57	57	57	57	57	57	57
STEM Evaluation Total	132	120	126	132	132	126	120	120	120	126

Tree Number	275	275	275	275	275	275	275	275	275	275
Botanical Name	Picea breweriana	Picea breweriana	Larix decidua	Larix decidua	Picea breweriana	Picea breweriana	Picea breweriana	Picea breweriana	Larix decidua	Picea breweriana
Common Name	Brewer's Spruce	Brewer's Spruce	Deciduous Larch	Deciduous Larch	Brewer's Spruce	Brewer's Spruce	Brewer's Spruce	Brewer's Spruce	Deciduous Larch	Brewer's Spruce
Height (m)	27	26	20	18	19	27	20	18	24	29
Girth (m)	2290	2160	2450	2490	2510	1550	1880	1380	3670	3040
Crown Spread E/W (m)	4	5	6	7	5	4.5	4.5	4	8	8
Crown Spread N/S (m)	8	5	6	5	5	4	4	3	8	8
Health	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Moderate	Moderate	Moderate	Poor	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Form Score	9	9	9	3	9	9	9	9	9	9
Occurance	Infrequent	Infrequent	Common	Common	Common	Infrequent	Infrequent	Infrequent	Common	Infrequent
Occurance Score	15	15	9	9	9	15	15	15	9	15
Vigour	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Vigour Score	15	15	15	15	15	15	15	15	15	15
Function	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful	Useful
Function Score	9	9	9	9	9	9	9	9	9	9
Age	100+	100+	100+	100+	100+	100+	100+	100+	100+	100+
Age Score	27	27	27	27	27	27	27	27	27	27
Condition Evaluation Total	75	75	69	63	69	75	75	75	69	75
Stature	15 - 20	15 - 20	3 - 8	9 - 14	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Stature Score	15	15	3	9	15	15	15	15	15	15
Visibilty (km)	1	1	1	1	1	1	1	1	1	1
Visibility Score	9	9	9	9	9	9	9	9	9	9
Proximity	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+
Proximity Score	15	15	15	15	15	15	15	15	15	15
Role	Important	Important	Important	Important	Important	Important	Important	Important	Important	Important
Role Score	15	15	15	15	15	15	15	15	15	15
Climate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57	57	45	51	57	57	57	57	57	57
STEM Evaluation Total	132	132	114	114	126	132	132	132	126	132

Tree Number	275	275	275	275	275	275	573	603	1002	1005
Botanical Name	Picea breweriana	Larix decidua	Larix decidua	Larix decidua	Picea breweriana	Picea breweriana	Eucalyptus globulus	Sequoiadendron giganteum	Thuja plicata	Fagus sylvatica var. purpurea
Common Name	Brewer's Spruce	Deciduous Larch	Deciduous Larch	Deciduous Larch	Brewer's Spruce	Brewer's Spruce	Eucalyptus	Wellingtonia	Western Red Cedar	Copper Beech
Height (m)	22	23	23	20	27	27	38	34	16	12
Girth (m)	2030	2910	3150	3600	2320	2180	11700	5900	2600	2000
Crown Spread E/W (m)	5	8	8	8	6	6	20	10	5	12
Crown Spread N/S (m)	4.5	8	8	8	6	6	16.5	7.5	5	12
Health	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Age Class	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature	Mature
Form	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Very Good	Very Good	Very Good	Very Good
Form Score	9	9	9	9	9	9	21	21	21	21
Occurance	Infrequent	Common	Common	Common	Infrequent	Infrequent	Common	Common	Common	Infrequent
Occurance Score	15	9	9	9	15	15	9	9	9	15
Vigour	Good	Good	Good	Good	Good	Good	Good	Very Good	Very Good	Very Good
Vigour Score	15	15	15	15	15	15	15	21	21	21
Function	Useful	Useful	Useful	Useful	Useful	Useful	Minor	Useful	Useful	Minor
Function Score	9	9	9	9	9	9	3	9	9	3
Age	100+	100+	100+	100+	100+	100+	100+	80 - 99	40 - 79	40 - 79
Age Score	27	27	27	27	27	27	27	21	15	15
Condition Evaluation Total	75	69	69	69	75	75	75	81	75	75
Stature	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	27+	21 - 26	15 - 20	15 - 20
Stature Score	15	15	15	15	15	15	27	21	15	15
Visibilty (km)	1	1	1	1	1	1	2	2	1	1
Visibility Score	9	9	9	9	9	9	15	15	9	9
Proximity	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Group 10+	Solitary	Solitary	Solitary	Group 3+
Proximity Score	15	15	15	15	15	15	27	27	27	21
Role	Important	Important	Important	Important	Important	Important	Major	Significant	Moderate	Important
Role Score	15	15	15	15	15	15	27	21	9	15
Climate	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor	Minor
Climate Score	3	3	3	3	3	3	3	3	3	3
Amenity Evaluation Total	57	57	57	57	57	57	105	87	63	63
STEM Evaluation Total	132	126	126	126	132	132	180	168	138	138

APPENDIX 8
QLDC HERITAGE INCENTIVE GRANT APPLICATION

Grants

There are three types of grants that can be awarded.

Professional advice: This grant can help pay for advice on earthquake strengthening, building conservation plans, adaptive re-use feasibility studies or other studies to do with the conservation of the place or object.

Consents: Reimbursing the landowner for land use consent and building consent fees incurred in preservation or adaptive re-use. These are fees incurred because of the historic designation.

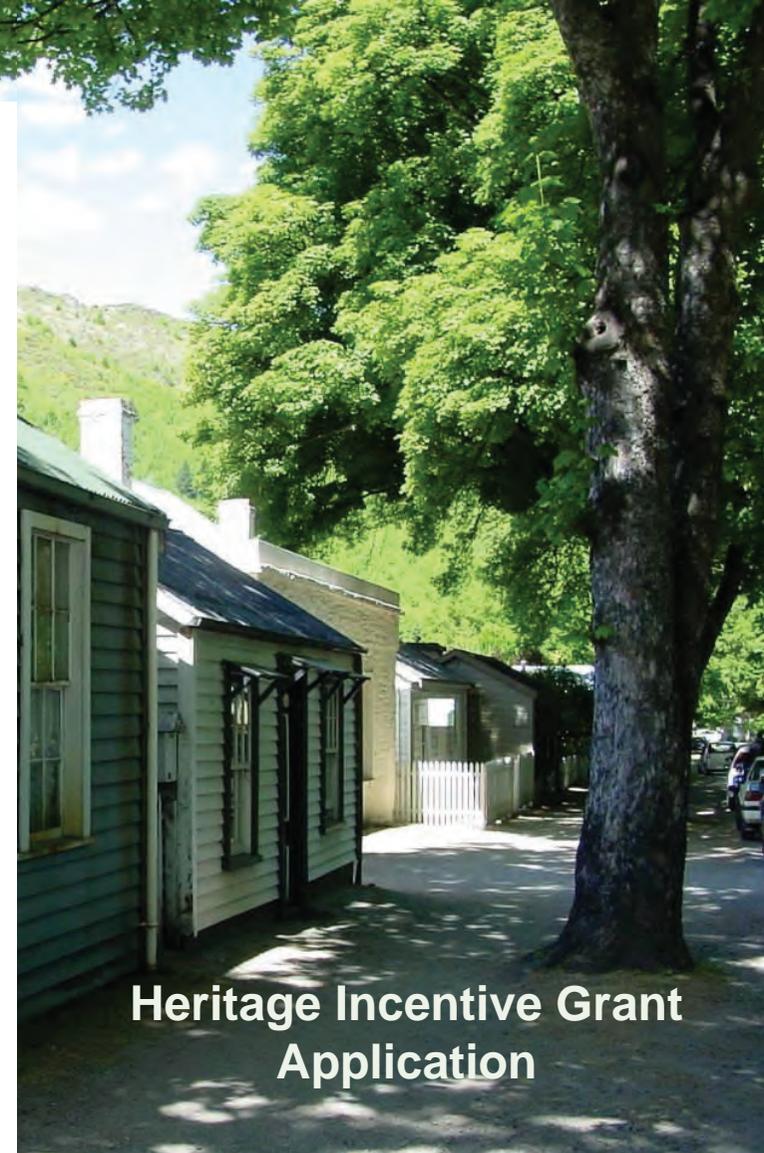
Maintenance: Monetary grants to help pay for routine maintenance work undertaken by a professional. For example the pruning of trees or the repair of specialist stonework, roofing or sash windows.

The level of funding is dependent on the Category of the heritage item as shown in the Inventory of Protected Features (Appendix 3) in the District Plan. The grant can fund between 50% and 100% of the total cost of the project, up to the maximum amount as shown in the table below.

Type of assistance	Category 1 item	Category 2 item (trees)	Category 3 item
Grants for professional advice	100%	100%	50%
Reimbursement for Resource or Building Consent fees	100%	100%	50%
Grant for Maintenance work by professionals	100%	100%	50%
Maximum Grant (combination of the above)	\$4,000	\$3,000	\$1,500

Guidelines

- Applications must be for historic building, site or object (including trees) listed in the Inventory of Protected Features (Appendix 3) in the District Plan.
- Assistance for buildings will apply whether the building is an earthquake risk or not.
- Grants will be available for private property only.
- Assistance will not be made available retrospectively. Only approved projects are eligible.
- Applications must disclose if there are any competing community objectives related to the site and the work proposed in the application.
- Disbursement of grants will only be made on a reimbursement basis for eligible costs detailed in the approved project budget.
- Applications for professional advice and maintenance work must include information about the heritage experience of the professional.
- Grants will only be considered for planning or resource consent costs which are necessary for the preservation, conservation or safety of the building or place. These costs must be above and beyond what would be incurred if the site were not listed in the District Plan Inventory of Protected Features
- Entitlement to heritage funding will not be automatic. A decision will be made in each case whether funds will be allocated or not.
- The awarding of grants for any one item will occur no more frequently than once every three years.
- Work to a property, tree or site that is required by a resource consent condition is not eligible for funding.
- Funding must be uplifted within 18 months of an application being approved by the Property Subcommittee.



Heritage Incentive Grant Application

The Queenstown Lakes District Council Heritage Incentive Policy allows the Council to assist with the financial costs of maintaining, protecting and preserving the natural and built heritage of the district.

Application

All applications will be considered on a first come basis, as only one annual allocation is made each financial year (1 July to 30 June). Once the fund is exhausted applications will be considered in the next financial year. The Council will assume no liability for any application.

Applicants are encouraged to explore resources and funding that may be available from other sources to meet the project's needs.

No grant can exceed the totals listed for each category for the combination of professional advice and consent fees.

Applications will be considered by the Property Subcommittee, which must satisfy itself with the calibre of the applicant's professional advice and experience.

The Subcommittee can make reasonable requests in exchange for funding, for example agreeing to a 'historic place' plaque.

Council staff or the Subcommittee may request additional information. If this request is made the application is not deemed complete.

Applicants will receive confirmation of receipt and expected time frame between processing the application and the Subcommittee's consideration.

Applicants will be notified of the Subcommittee's decision within 20 working days of receiving a complete application.

"The preservation and celebration of the district's local cultural heritage."

Council Community Outcome

Application Form

Applicant's Name
Telephone
Email

Location/Address of Heritage Item

Describe the item in brief

District Plan Reference
(See Appendix 3 Inventory of Protected Features)

Category Listing (Please indicate by circling)
1 2 3

Type of assistance (Please indicate by circling)
Professional Advice Consents Maintenance

I have attached relevant quotes
 I have attached a resource consent deposit receipt

Please send the completed form to:
Jan Maxwell
Private Bag 50072
Queenstown 9348

Consent applied for and why (in brief)

Advice sought and why (in brief)

Maintenance planned and why (in brief)

Name of Professional (include contact details)

Heritage Experience of Professional

Fax: (03) 450 2223
Email: services@qldc.govt.nz
If you have any enquiries regarding this application please call (03) 441 0499.