

PLAN CHANGE 1 – MINOR IMPROVEMENTS - NON-HERITAGE TOPICS

SECTION 42A REPORT

25 July 2025

APPENDIX C.4 BIODIVERSITY EVIDENCE

BEFORE THE PLAN CHANGE 1 HEARING PANEL

IN THE MATTER

of the Resource Management
Act 1991

AND

Plan Change 1 to the Second
Generation Dunedin City District
Plan (2GP)

STATEMENT OF EVIDENCE OF ZOE LUNNISS FOR DUNEDIN CITY COUNCIL
Dated 08 June 2025

QUALIFICATIONS AND EXPERIENCE

1. My name is Zoe Lunniss.
2. I am employed by the Dunedin City Council ("the Council") as the Biodiversity Advisor within City Development. In this role I am responsible for leading the delivery of the biodiversity outcomes sought under the Second Generation District Plan (2GP). Among other key work areas, I provide expert advice on ecological matters to support plan development and resource consent processes. The scope of the role is primarily related to indigenous biodiversity on private land, however public land is in scope when it relates to statutory processes.
3. I hold a Master of Science in Botany (with Distinction) (2020) and a Bachelor of Science (2018) from the University of Otago. I have over five years' experience working on indigenous biodiversity, mostly in the plant ecology field. I have worked in the public sector for all of that time, including employment with the Department of Conservation as a ranger working in the field and providing advice on pest plants.
4. I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE AND OVERVIEW

5. My evidence is attached to this coversheet.
6. It relates to submissions on biodiversity matters and is within my area of expertise.

DATED this 08 day of June 2025



Zoe Lunniss
Biodiversity Advisor
City Development
Dunedin City Council

RESPONSE TO SUBMISSIONS

CHANGE NE13: ASBV BOUNDARY ADJUSTMENTS OVER QEII COVENANT AREAS

Submission of Jackie Jones (S85.001)

1. This submission sought to amend the extent of ASBV C082 at 287 Wairongoa Road, North Taieri, to exclude areas that do not contain significant biodiversity value.
2. In my opinion, the vegetation within the area of ASBV C082 sought for removal (Figure 1) is comprised mostly of high-producing exotic grassland and exotic trees. Three structures and driveways are also present within this area.
3. It is my view that the vegetation has little biodiversity value and does not meet the criteria for ASBVs set out in Policy 2.2.3.2.
4. Therefore, I support the submission to amend the boundary of ASBV C082 to remove the estimated 9.5 ha area dominated by exotic pasture species that does not meet Policy 2.2.3.2 and retain the remaining 4.34 ha area as ASBV C082.



Figure 1: Recommended ASBV C082 (4.34 ha).

Submission of Maxwell Clive and Janice Gay Crawford (S253.001)

5. The submission sought to amend the extent of ASBV C085 at 74 McMaster Road, Saddle Hill, to exclude areas A and B (as per submission) in order to better reflect the significant biodiversity values present on the site and to align with the Second and Third Schedules of the Queen Elizabeth II Trust Open Space Covenant Deed (Covenant 505677), which is registered over the same area.
6. It is my understanding that the submission is based on the perceived conflict between the management of land as permitted by the QEII covenant deed and the restrictions imposed by the ASBV under the 2GP. The covenant deed has been included in the appendix and provides relevant context.

Amend boundary of Areas A & B

7. In my opinion, Areas A and B do not exclusively contain significant indigenous biodiversity values that meet the criteria for ASBVs as outlined in 2GP Policy 2.2.3.2. While majority of ASBV C085 comprises indigenous kōwhai-broadleaf forest and treeland, the southern portions of Area A and B are actively used as farmland and are dominated by high-producing exotic grassland.
8. Policy 2.2.3.2 identifies significance based on factors such as representativeness, rarity, diversity, and ecological context. The exotic pasture areas do not meet these criteria. Therefore, I consider it appropriate to amend the ASBV boundary to exclude these pasture areas, as indicated in Figure 2.

Covenant deed provisions

9. The QEII covenant deed registered over the site allows for a range of land management activities, including farming, planting, and track maintenance. While some of these activities are permitted under the covenant, they may not always be permitted within an ASBV under the 2GP unless they meet specific criteria.
10. However, Rule 10.3.2.1.a.iv of the 2GP permits vegetation clearance that is consistent with a covenant established under the Conservation Act 1987 or any Act listed in its First Schedule. The Queen Elizabeth the Second National Trust Act 1977 is included in this schedule, meaning that activities provided for in a QEII covenant deed may be permitted under the 2GP.
11. For example, and as raised in the submission, the maintenance of an existing track within the ASBV:
 - a) Is permitted under Rule 10.3.2.1.a.iii of the 2GP, and
 - b) Is consistent with the QEII covenant deed, which allows for ongoing land management, including access maintenance, provided it does not compromise protected values.
12. In conclusion, having reviewed the submission, the QEII covenant deed, and aerial imagery of the site, it is my view that:

- a) The boundary of ASBV C085 should be amended to remove areas which are dominated by exotic vegetation that do not meet the significance criteria in Policy 2.2.3.2 (Figure 2).
- b) The remaining 12.79 ha area of ASBV C085 should be retained as it contains significant indigenous vegetation.
- c) The activities provided for within the covenant deed are generally provided for under the 2GP, particularly where they do not result in significant adverse effects on biodiversity values.

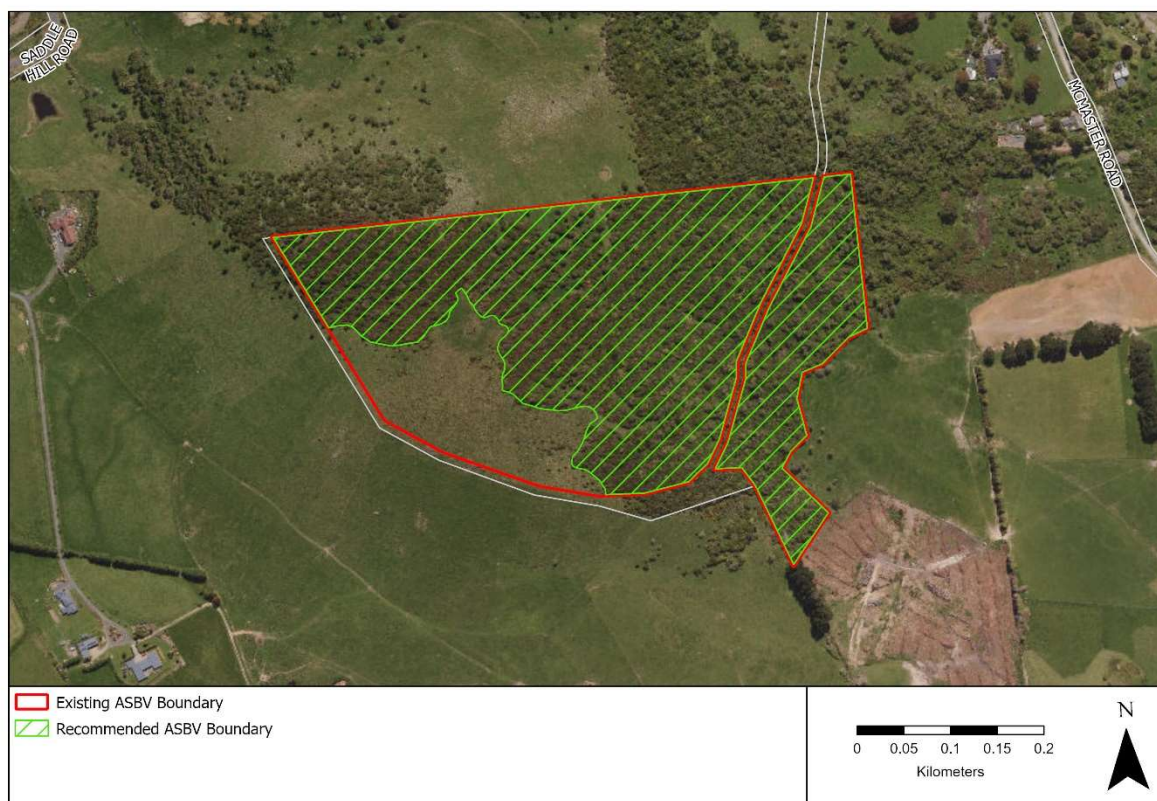


Figure 2: Recommended boundary adjustment for ASBV C085 (12.79 ha)

CHANGE NE7: ADDITIONS TO THE ASBV SCHEDULE ON PUBLIC LAND

Submissions of Mihiwaka Sheep and Beef Limited (S26.004 and S26.005).

13. The submissions sought to remove ASBV C177 and C178 from 214 Pūrākaunui Road.
14. On 28 May 2025, I visited the site with leaseholder Robert Chapman to assess the vegetation, boundaries, and fencing of ASBV C177 and C178.
15. The property is a sheep and beef farm, and both cattle and sheep graze within or adjacent to these areas.

ASBV C177

16. ASBV C177 is largely fenced, with minimal grazing occurring within the area. It has been retired from active grazing, and enhancement planting has been undertaken over the last four years (pers. comms., R. Chapman). Much of this work has been supported by the Halo Project, which provided funding and ecological expertise.
17. The vegetation is predominantly composed of broadleaf and kānuka forest and buffers two tributaries of Drivers Creek. This vegetation occurs in a landscape where most indigenous vegetation has been cleared.
18. The Wildlands assessment identified the site as significant for its ecological context. Following my site visit, I consider that ASBV C177 largely meets the significance criteria under Policy 2.2.3.2 of the 2GP, particularly:
 - a. **Ecological context** – the vegetation buffers tributaries of Drivers Creek and supports an indigenous vegetation type that has largely been cleared from the surrounding landscape.
 - b. **Size and shape** – the area is of substantial size.
 - c. **Rarity** – the area supports *Ileostylus micranthus*, a protected indigenous species listed under 2GP Appendix 10A.1.
19. However, in my view, some areas originally included within ASBV C177 should be excluded. These portions are degraded in terms of ecological integrity, contain a higher diversity of invasive and dominant species, and are heavily swamped by *Muehlenbeckia australis*. Although *M. australis* is a native species, in this context it is compromising biodiversity values by smothering other vegetation. These areas also lack the new fencing that protects the rest of the ASBV, reducing their potential to develop into significant vegetation over time.
20. While I consider most of the vegetation within ASBV C177 to be significant and consistent with the criteria in Policy 2.2.3.2, it is my opinion that the unfenced, degraded portions do not meet the threshold for significance.

21. The original Wildlands methodology¹ used to identify this ASBV states:

“Where exotic vegetation was present within ‘protected area’ boundaries, it was either excluded from potential ASBVs, or treated as part of a proposed ASBV if it is already fenced to exclude stock and likely to develop into indigenous vegetation over time.”

The areas described in paragraph 19, and excluded from the updated polygon in Figure 3, are not fenced and, in my opinion, are unlikely to regenerate into indigenous vegetation over time.

22. Based on my site observations, review of 2023/2024 aerial imagery, and the apparent inconsistent application of the original methodology, I recommended that the boundary of ASBV C177 be amended to exclude these degraded, unfenced areas (Figure 3).

23. I also recommend that the boundary be extended in some locations to accurately reflect the current fence line and include areas that have been retired from grazing and subject to recent ecological enhancement planting (Figure 4). These areas are likely to eventually connect with mature indigenous vegetation within ASBV C177 and meet the significance criteria in Policy 2.2.3.2.

24. In summary, it is my view that:

- a. The boundary of ASBV C177 should be amended to remove degraded, unfenced vegetation (Figure 3); and
- b. The boundary should be extended to include fenced, revegetated areas that will likely eventually meet ecological significance criteria.

25. These amendments would result in a protected area of approximately 12.50 ha under ASBV C177, representing a net increase of around 0.37 ha.

¹ Wildlands (2021). Evaluation of potential new and extended areas of significant biodiversity value (ASBV) within land already subject to some type of formal protection in Dunedin City. Contract Report No. 5771. Prepared for Dunedin City Council.

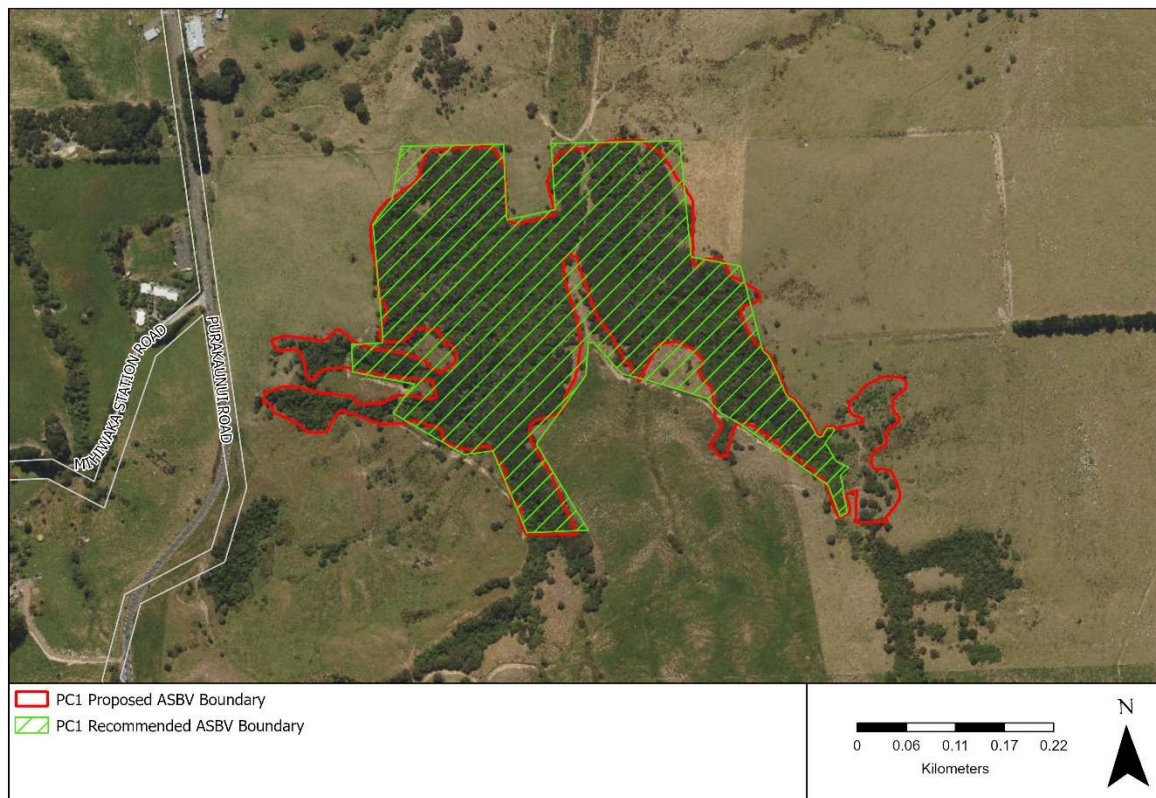


Figure 3: Recommended boundary ASBV C177 (12.50 ha)



Figure 4: Example of fenced revegetation area recommended for inclusion in ASBV C177/

ASBV C178

26. ASBV C178 includes two distinct areas of indigenous vegetation. I refer to the larger area as *Site 1* and the smaller area to the south as *Site 2* (Figure 5). These areas are separated by a strip of pasture which is currently included in the ASBV C178 polygon.
27. Site 1 is largely fenced; however, in my view, some areas of fencing are in poor condition and are likely to allow stock access (Figure 6).
28. Site 2 lies within a different paddock and is not fully fenced from the surrounding pasture.
29. Both sites support regenerating indigenous forest dominated by māhoe (*Melicactus ramiflorus*), *Fuchsia excorticata*, *Coprosma* species, horopito (*Pseudowintera colorata*), and kāpuka (*Griselinia littoralis*). From the vegetation margin, scattered individuals of lancewood (*Pseudopanax* spp.), putaputawētā (*Carpodetus serratus*), and kōwhai (*Sophora microphylla*) are visible within the sites. The fringes of both sites are dominated by *Urtica ferox*, a protected indigenous species listed under 2GP Appendix 10A.1, which appears to provide some natural protection from grazing.

30. In my opinion, both Site 1 and Site 2 meet the significance criteria in Policy 2.2.3.2 due to their ecological context, representing indigenous forest within a heavily cleared landscape and the presence of *Urtica ferox* as a protected species listed in 2GP Appendix 10A.1.
31. The strip of exotic grass and scrub between the two sites does not contain any significant indigenous vegetation. In my opinion, this area does not meet Policy 2.2.3.2 criteria and should be removed from ASBV C178.
32. In summary, it is my opinion that:
- The ASBV C178 boundary should be amended to remove exclude the pasture strip, resulting in two separate polygons that reflect the distinct locations of significant indigenous vegetation; and
 - The revised boundaries should more accurately reflect the true extent of indigenous vegetation at each site (see Figures 7).
33. The proposed amendments would result in the protection of approximately 5.7 ha at Site 1 and 0.76 ha at Site 2.



Figure 5: Aerial image depicting Site 1 and 2 within ASBV C178 current boundary.



Figure 6: Poor fencing surrounding Site 1



Figure 7: ASBV C178 boundary recommendation with Site 1 and Site 2 as mutually exclusive areas.

CHANGE TREEX: SUBSTANTIVE CHANGES TO THE SCHEDULE OF TREES

Submissions of Otago Regional Council (Gretchen Robertson) (S187.002).

34. The submission by the Otago Regional Council seeks the removal of tree species listed in the 2GP Schedule of Trees (Appendix A1.3) that are identified as pest plants under the Otago Regional Pest Management Plan (RPMP)².
35. My evidence is limited to assessing the appropriateness of protecting pest species listed in the 2GP Schedule of Trees. It does not re-evaluate the STEM scores or arboriculture justifications for their inclusion.
36. I have reviewed the species listed in the 2GP Schedule of Trees against:
- a. Table 2 of the Otago RPMP (organisms classified as pests); and
 - b. Unwanted Organisms on the Ministry for Primary Industries' (MPI) Official New Zealand Pest Register (Unwanted Organisms)³.

Relevant Statutory and Policy Framework

37. Biosecurity Act 1993

- a. The Biosecurity Act is the primary legislation for managing harmful organisms in New Zealand.
- b. Section 52 and 53 prohibit the sale, propagation, distribution, or release of Unwanted Organisms. Non-compliance is an offence under section 157(1).

38. Otago Regional Pest Management Plan 2019-2029

- a. The RPMP, prepared under Part 2 of the Biosecurity Act, aims to contain, control, or eradicate pest species using one or more of the following management programmes:
 - i. Progressive containment: contain or reduce the geographic distribution of the subject over time.
 - ii. Site-led pest programmes: a subject that is capable of causing damage to a place is excluded or eradicated from that place, or is contained, reduced, or controlled within the place to an extent that protects the values of that place.
- b. Specific RPMP objectives relevant to my evidence include:
 - i. Objective 6.3.4: seeks progressive containment and the reduction in geographic extent of wilding conifers within the Otago Region to minimise adverse effects on economic well-being and the environment.

² Otago Pest Management Plan 2019-2029 (2019). Otago Regional Council.

³ Official New Zealand Pest Register. Ministry for Primary Industries. <https://pierpestregister.mpi.govt.nz/pests-of-concern/> (Accessed: 27 June 2025).

- ii. Objectives 6.5.4.b, 6.5.5.b & 6.5.6.b: seek to progressively contain sycamore (among other species) to avoid, mitigate or prevent damage to the indigenous ecosystem values at the three site led areas of Otago Peninsula, West Harbour-Mt. Cargill, and Quarantine and Goat Islands.
- c. Wilding conifers listed under the RPMP are also subject to Good Neighbour Rules⁴ (GNRs), which require landowners to prevent spread onto adjoining properties.

39. Otago Regional Policy Statement (RPS)

- a. Policy 3.1.9(d) (operative RPS) and Policy LF–LS–P16A (proposed RPS) promote the control of pests and protection of indigenous biodiversity and landscapes.

40. Dunedin Second Generation District Plan (2GP)

- a. Objective 2.2.3 seeks to protect, enhance, and restore significant and other indigenous biodiversity, improving ecosystem connections and resilience.

Assessment of the 2GP Tree Schedule (Appendix A1.3)

41. Upon my review, seven species currently protected under the 2GP Schedule of Trees are either:

- a. Declared pests under the RPMP, or
- b. Unwanted Organisms by MPI.

42. These are summarised in Table 1. Notable findings include:

- a. Sycamore (*Acer pseudoplatanus*): This is a pest species under the RPMP's site-led programme due to its invasive growth and biodiversity impacts. Two sycamores are protected in Appendix A1.3.
- b. Wilding conifers (*Pinus radiata*, *P. sylvestris*, *P. ponderosa*, *Larix decidua*, and *Pseudotsuga menziesii*): These are listed under the RPMP's Progressive Containment programme and subject to GNRs. Approximately 81 trees of the wilding conifer species listed above are scheduled in Appendix A1.3.
- c. Scots pine (*P. sylvestris*) and larch (*L. decidua*) are also individually classified as pests in the RPMP due to their "...limited commercial value and ...highly invasive [growth habit]" (6.3.4 Table 15).

⁴ Good Neighbour Rule (GNR) is defined in the Biosecurity Act 1993 and identified RPMP:

- a) "means a rule to which the following apply:
- b) it applies to an occupier of land and to a pest or pest agent that is present on the land; and
- c) it seeks to manage the spread of a pest that would cause costs to the occupier of the land that is adjacent or nearby; and
- d) it is identified in the RPMP as a good neighbour rule; and
- e) it complies with the directions in the national policy direction relating to the setting of good neighbour rules."

- d. Japanese walnut (*Juglans ailantifolia*): Not listed in the RPMP but classified by MPI as an Unwanted Organism. Its propagation or distribution is prohibited under the Biosecurity Act. One individual is listed in Appendix A1.3.

43. In total, approximately 84 pest tree individuals are protected under Appendix A1.3.

Discussion

44. The inclusion of pest species in the 2GP Schedule of Trees is inconsistent with national and regional regulatory frameworks. Their protection risks undermining:

- a. The ability to manage pests under the RPMP and Biosecurity Act;
- b. Biodiversity maintenance and enhancement objectives under the RPS and 2GP; and
- c. Local restoration and control efforts already underway across Dunedin.

45. Environmental pest plants, such as those listed in Table 1, are known to have major effects on biodiversity globally⁵ and are reported to cost New Zealand millions of dollars annually in control and restoration efforts^{6,7}.

46. While the 2GP aims to protect landscape and biodiversity values, in my view, this is not aligned where the Schedule includes known pest species, regardless of their STEM scores.

47. In my opinion, this creates regulatory inconsistency and the risk of inadvertently incentivising the retention of species that are known to cause harm to indigenous biodiversity.

Recommendations

48. I recommend removing the following species from Appendix A1.3, as they are listed as pest species in the RPMP or Unwanted Organisms under the Biosecurity Act:

- a. *Pinus sylvestris* (Scots pine)
- b. *Larix decidua* (larch)
- c. *Acer pseudoplatanus* (sycamore)⁸
- d. *Juglans ailantifolia* (Japanese walnut)

49. I recommend that the following wilding conifer species be individually assessed to determine their wilding risk and potential impact on surrounding indigenous ecosystems, to inform

⁵ Vilà, M., Espinar, J.L., Hejda, M., Hulme, P.E., Jarošík, V., Maron, J.L., Pergl, J., Schaffner, U., Sun, Y. and Pyšek, P., 2011. Ecological impacts of invasive alien plants: a meta-analysis of their effects on species, communities and ecosystems. *Ecology letters*, 14(7), pp.702-708.

⁶ Goldson, S. et al. (2015) 'New Zealand pest management: current and future challenges', *Journal of the Royal Society of New Zealand*, 45(1), pp. 31–58.

⁷ Ministry for Primary Industries. (2021). *Economic costs of pests to New Zealand: 2020 Update*. Technical Paper No: 2021/19. Prepared for MPI by Nimmo-Bell & Associates.

⁸ The RPMP specifically targets sycamore in identified mapped areas. Although the scheduled sycamores lie outside those mapped areas, their invasive potential is not limited to mapped zones, and retention of individuals outside of areas identified in the RPMP is therefore not justified.

whether they are appropriate to retain in the Tree Schedule. Priority for assessment could be given to individuals located near low-stature indigenous vegetation, protected ecological areas, or significant landscapes:

- a. *Pinus radiata*
- b. *Pinus ponderosa*
- c. *Pseudotsuga menziesii*

Conclusion

50. In my opinion, the inclusion of pest species in the 2GP Schedule of Trees (Appendix A1.3) is inconsistent with the RPMP, RPS, and relevant 2GP objectives. I believe their protection may cause regulatory conflict, undermine pest control and restoration efforts, and could create confusion for landowners.

51. I support the relief sought in submission S187.002 and recommend the removal or reassessment of the identified pest species in line with this evidence.

Table 1: Pest species listed in the Otago Regional Pest Management Plan identified in the 2GP A1.3 Tree Schedule

Species	Common Name	Tree number (2GP A1.3)	Tree count	RPMP Status	Recommendation
<i>Acer pseudoplatanus</i>	Sycamore	T130, T365	2	Pest species, site-led programme	Remove from 2GP A1.3
<i>Juglans ailantifolia</i>	Japanese Walnut	T218	1	Not listed in RPMP but identified as an Unwanted Organism (MPI)	Remove from 2GP A1.3
<i>Larix decidua</i>	Larch	G039 (x4), T1109	5	Progressive Containment (GNR). Identified individually and on the wilding conifer species list.	Remove from 2GP A1.3
<i>Pinus ponderosa</i>	Ponderosa pine	G109 (x3), T153, T1157, T1217	5	Progressive Containment (GNR). Identified as a wilding conifer.	Assess individuals for wilding potential and effects.
<i>Pinus radiata</i>	Monterey pine	G028 (number unknown), G051 (x2), G074 (x1), G079 (number unknown), G091 (x17), G095 (x4), T150, T170*, T321, T350, T371, T644, T905, T1171*, T1172*	35+	Progressive Containment (GNR). Identified as a wilding conifer.	Assess individuals for wilding potential and effects.
<i>Pinus sylvestris</i>	Scots pine	G057 (x5)	5	Progressive Containment (GNR). Identified individually and on the wilding conifer species list.	Remove from 2GP A1.3
<i>Pseudotsuga menziesii</i>	Douglas fir	G024 (x3), G049 (x3), G087 (x7), G098 (x6), T168, T174, T207, T287, T330, T408, T541, T651, T652, T736, T959, T1177	31	Progressive Containment (GNR). Identified as a wilding conifer.	Assess individuals for wilding potential and effects.

* Note: T170, T1171, and T1172 are identified as *Pinus radiata* 'Aurea' cultivar.

Appendix

[QEI Covenant \(505677\).pdf](#)

Queen Elizabeth II Trust Open Space Covenant Deed (Covenant 505677) - **Submission of Maxwell Clive and Janice Gay Crawford (\$253.001)**