

Section 32 Evaluation Report for the Proposed Otago Land and Water Regional Plan

Chapter 16: Other discharges

**This Section 32 Evaluation Report should be read together with the Proposed
Otago Land and Water Regional Plan**



**Otago
Regional
Council**

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Abbreviations

FMU	Freshwater Management Unit
HSNO Act	Hazardous Substances and New Organisms Act 1996
HSW Act	Health and Safety at Work Act 2015
NES	National Environmental Standard
NES-CF	National Environmental Standards for Commercial Forestry 2023
NOF	National Objectives Framework
NPS	National Policy Statement
NPSFM	National Policy Statement for Freshwater Management 2020
ORPS	Otago Regional Policy Statement 2019
pORPS	Proposed Otago Regional Policy Statement 2021
pLWRP	Proposed Otago Land and Water Regional Plan 2024
RPS	Regional Policy Statement
RPW	Regional Plan: Water
RMA	Resource Management Act 1991

Other Discharges [OTH]: Assessment of Provisions

1.0 Introduction

1. Discharges of contaminants and water into the environment can adversely affect the health of receiving water, soils, and the ecosystems they support. Discharges to water (whether direct or indirect) can affect the quality of receiving water bodies, while discharges to land can affect the health of the soil and, if they occur in circumstances where contaminants or runoff may enter water, can also affect water quality. In some circumstances, contaminants may be toxic to human and animal life, which in turn may lead to both acute and chronic effects.
2. The OTH chapter seeks to protect water and land from the discharge of hazardous substances or contaminants, while permitting activities or discharges that are relatively low risk. The OTH chapter covers a wide range of specific discharges, being the discharge of agrichemicals, vertebrate toxic agents, dust suppressants, tracer dyes, swimming and spa pool water, water treatment backwash, water used for holding live organisms, and the discharges arising from firefighter training, cemeteries, and major hazard facilities. These activities are further described and discussed in relation to the relevant options below. The OTH chapter also includes 'catch-all' rules to regulate discharges that are not managed elsewhere in the pLWRP.
3. The relevant provisions for this section are:
 - a. OTH – Other Discharges chapter
 - b. APP13 – Receiving water standards
 - c. APP29 – Management plan (major hazard facilities)
 - d. IM – Integrated Management

2.0 Issues

4. Several issues across the region have been identified as relevant to the discharges and activities managed in this section. These include:
 - a. Impacts on freshwater ecosystems
 - b. A lack of understanding of the cumulative impacts of contaminant discharges
 - c. Issues of significance for Kāi Tahu
5. Additional policy issues with the status quo policy context that the OTH chapter seeks to address are outlined in Section 3.4 below.

2.1. Impacts on freshwater ecosystems

6. The primary issue relevant to OTH – Other discharges is the effect these discharges can have on water quality and freshwater ecosystems, both individually and cumulatively. Given that almost any discharge has the potential to impact or change the receiving environment, there is a need to set limits and controls on discharges and activities that are likely to lead to adverse effects on water quality and the health of human and animal life. As identified in the pORPS, declining water quality has adverse effects on the environment,

Otago's communities and the economy; the discharges captured within the OTH chapter are likely contributing to this decline in water quality, however evidence and understanding is limited in relation to these contaminants.

2.2. Lack of understanding of the cumulative impacts of contaminant discharges

7. It can be difficult to estimate the cumulative effects of discharges, particularly those permitted in plans and those not monitored by the Council. The Water Plan permits many discharges to land and water, meaning the Council is limited by the amount and quality of information able to be utilised in order to better understand and manage the cumulative impacts of discharges, especially in relation to their location. This lack of understanding has been highlighted as a key issue in relation to implementing the NPSFM in New Zealand (Larned, Howard-Williams, Taylor, & Scarsbrook, 2022). It will be important that the Council is cognisant of the cumulative effects of permitted discharges on the overall achievement of environmental outcomes in FMUs and rohe.

2.3. Issues of significance for Kāi Tahu

8. The pORPS provides a thorough overview of water quality issues for iwi across the Otago region. Several of these are relevant to the discharges and activities to be managed under the OTH chapter. In particular, the following issues are regarded as being closely related:
 - a. RMIA-WAI-I1: The loss and degradation of water resources through drainage, abstraction, pollution, and damming has resulted in material and cultural deprivation for Kāi Tahu ki Otago;
 - b. RMIA-WAI-I2: Current water management does not adequately address Kāi Tahu cultural values and interests;
 - c. RMIA-WAI-I5: Poor integration of water management, across agencies and across a catchment, hinders effective and holistic freshwater management;
9. Deterioration in the mauri of water and habitats as a result of pollution from point and non-point sources has a direct impact on iwi practices. This has led to changes in the way iwi use of the environment; for instance, Mahika kai activities cannot take place in areas which have been polluted by pesticides or other agrichemicals. The environmental impacts of pollution have corresponding perverse social outcomes for iwi, leading to breakdowns in intergenerational knowledge transfers which have occurred for over 800 years.

3.0 Status quo policy context (including operative plan provisions)

3.1. National direction

3.1.1. Resource Management Act 1991

10. Section 15 of the RMA states that no person may discharge contaminants into water or onto or into land in circumstances which may result in that contaminant entering water unless the discharge is expressly allowed by a national environmental standard or other regulations, a rule in a regional plan, or a resource consent. This means that, in the absence

of a relevant national environmental standard or regional plan permitted activity rule, all discharges of contaminants to water or to land where they may enter water, require resource consent. One of the roles of a regional plan is to determine at what threshold a resource consent should be required.

11. The Resource Management (Exemption) Regulations (the Exemption Regulations) introduced in 1996 and then again in 2017 exclude certain types of discharges from being managed under section 15 of the RMA. The Exemption Regulations manage discharges of the following substances:
 - a. *Bacillus thuringiensis* var. *kurstaki*
 - b. Brodifacoum
 - c. Rotenone
 - d. Sodium fluoroacetate (also known as 1080)
 - e. Pre-feed
 - f. Repellent
12. Excluding discharges of these substances from section 15 means that regional plans, including the pLWRP, cannot manage these discharges. They are managed solely by the Exemption Regulations.

3.1.2. Hazardous Substances and New Organisms Act 1996

13. In addition to the RMA, hazardous substances are regulated under the Hazardous Substances and New Organisms Act 1996 (HSNO). The HSNO seeks to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms¹. Amendments made to sections 30 and 31 of the RMA under the Resource Legislation Amendment Act 2017 (RLAA) addressed potential duplication of controls between the RMA, HSNO, and the Health and Safety at Work Act 2015 (HSWA). This included the removal of the explicit function of local authorities to control the prevention or mitigation of adverse effects of the storage, use, disposal and transportation of hazardous substances.
14. However, there will still be circumstances where controls under the RMA are necessary to manage the effects of the use of hazardous substances. HSNO does not directly manage discharges of hazardous substances to land or water, which is a function of regional councils under the RMA. There may also need to be controls in plans in relation to sensitive receiving environments, for example, establishing setback distances from these areas.

3.1.3. Biosecurity Act 1993

15. Although the Biosecurity Act 1993 sits outside the ambit of the RMA, it is relevant to the activities regulated in the OTH chapter, namely agrichemical and VTA use to control or eradicate pest species. The Biosecurity Act 1993 provides for the eradication or effective management of harmful organisms that are present in New Zealand and allows for national

¹ HSNO, s4.

and regional pest and pathway management plans and small-scale management programmes that detail how to manage the pests. ORC has a regional pest management plan and three industry groups (Kiwifruit Vine Health, Apiculture New Zealand and OSPRI New Zealand) have national pest management plans for pests and diseases that affect their respective industries.

3.1.4. The National Policy Statement for Freshwater Management 2020

16. The NPSFM is also highly relevant to this topic. The objective of the NPSFM and foundation concept, Te Mana o te Wai, requires ensuring that natural and physical resources are managed in a way that prioritises:
 - a. First, the health and well-being of water bodies and freshwater ecosystems.
 - b. Second, the health needs of people (such as drinking water).
 - c. Third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.
17. The NPSFM also contains specific direction for regional councils to implement the NOF process, which includes identifying values and outcomes for freshwater bodies, and the environmental outcomes to be achieved for each FMU.

3.2. Regional policy statements

3.2.1. The Proposed Regional Policy Statement for Otago

18. There are several chapters of the pORPS that are relevant to the management of all natural and physical resources, as well as chapters containing specific direction for the management of discharges. The IM – Integrated Management chapter of the pORPS seeks that activities are managed in a way that embraces ki uta ki tai and to achieve the long-term vision of a healthy and resilient natural environment that supports the well-being of present and future generations. The LF – Land and Freshwater chapter in pORPS is the most directly relevant to this topic and sets out expression of Te Mana o te Wai in Otago (LF-WAI-O1) and contains the long-term visions (and the timeframes for achieving them) for freshwater in Otago's FMUs and Rohe (LF-FW-O1A and LF-VM-O2 to O6)². This direction includes that freshwater supports healthy populations of indigenous species and Mahika kai that are safe to eat, and that the health of the water supports the health of people and their connections with waterbodies. LF-LS contains more specific direction on the management of land and soils and in particular seeks to recognise the connection between activities on the land and their effects on freshwater.
19. Of great relevance to the OTH chapter and where greater change is proposed under this section of the pLWRP in relation to agrichemical use is the ECO chapter of the pORPS. Objectives ECO-O1 to ECO-O3, which seek to ensure indigenous biodiversity is healthy, thriving, or restored and enhancing, and which also states that mana whenua are recognised as kaitiaki of Otago's indigenous biodiversity.

² LF-FW – Fresh water Chapter of the pORPS.

3.2.2. The operative Regional Policy Statement for Otago

20. Several chapters within the operative RPS are related to the discharges managed throughout the OTH chapter. The following list identifies a number of objectives and policies that were identified as being relevant to OTH.
21. Chapter 1 provides the context and framework for integrated resource management across Otago and includes objective 1.1 which states that Otago's resources are used sustainably to promote economic, social, and cultural wellbeing for its people and communities. Chapter 2 ensures that Kāi Tahu values and interests are recognised and Kaitiakitaka is expressed, with direction given through Objective 2.2: Kāi Tahu values, interests and customary resources are recognised and provided for. Chapter 3 provides guidance on the quality of natural resources and ecosystems across Otago, with objective 3.1 stating that the values (including intrinsic values) of ecosystems and natural resources are recognised and maintained or enhanced where degraded.
22. Chapter 4 provides context and guidance on the importance of resilient, safe and healthy communities across the region. Objective 4.6 is highly relevant to the OTH chapter and states that hazardous substances, contaminated land and waste materials do not harm human health or the quality of the environment in Otago. Finally, chapter 5 contains provisions which are related to ensuring that people are able to use and enjoy Otago's natural and built environment with two relevant objectives. Objective 5.3 states that sufficient land is managed and protected for economic production whilst objective 5.4 provides direction so that the adverse effects of using and enjoying Otago's natural and physical resources are minimised.

3.3. Overview of the Regional Planning Framework

23. The current regional planning framework for managing many of the discharges captured within the OTH chapter is split across the Waste Plan and Water Plan (see Table 1 below). However, some of the activities or discharges included within the OTH chapter have not been managed under activity-specific provisions in the Water or Waste Plans and are therefore currently being managed by general 'catch-all' rules.

Table 1: Relevant provisions across the Water and Waste Plans

Discharges	Water Plan	Waste Plan
Discharges of hazardous substances and hazardous waste	x	x
Discharges of oil or substances containing oil		x
Discharges of tracer dye	x	
Discharges of water used for holding live organisms	x	
Discharges of water or other contaminants	x	

24. Both the Water and Waste Plans manage the discharge of hazardous substances but in ways that generally seek to achieve similar outcomes.
25. Hazardous substances, as defined in Section 6.1 of the Waste Plan, are "substances which impair human, plant or animal health, or which may adversely affect the health or safety of

any person or the environment, whether or not they are contained in or form part of any substance or thing.” The Waste Plan goes on to recognise that while hazardous substances pose a potential threat to the environment, they also benefit society in a variety of ways as they form the basis of, for example, batteries, cleaners, petrol, oil and paint. The Waste Plan has a clear focus on managing the storage, transportation and disposal of hazardous wastes, as opposed to reducing the use of hazardous substances. As discussed above, the Waste Plan was adopted prior to the HSNO Act and the subsequent RLAA amendments have not been updated to reflect amendments that remove the regional council function to manage the storage, use, disposal and transportation of hazardous substances.

26. There are two relevant objectives in Chapter 6 of the Waste Plan which relate to the management of hazardous substances:
 - a. to avoid, remedy and mitigate the risk to the environment and human health from hazardous substances and hazardous wastes (Objective 6.3.1), and
 - b. to avoid, remedy and mitigate the harmful effects of hazardous substances and hazardous wastes on traditional water, land and mahika kai values of importance to Kai Tahu (Objective 6.3.2).
27. These objectives are very general and largely repeat the requirements of the RMA in terms of avoiding, remedying, and mitigating adverse effects. The objectives are implemented by 12 policies which require:
 - a. promoting or encouraging a range of activities relating to the management of hazardous substances and wastes (Policy 6.4.1, Policies 6.4.4 to 6.4.8) and information collection on these activities (Policies 6.4.2 – 6.4.3),
 - b. developing a coordinated response strategy for hazardous spills (Policy 6.4.9),
 - c. discouraging oil being used as a dust suppressant (Policy 6.4.10),
 - d. special medical waste to be disposed of by high temperature incineration and general medical waste to be treated and disposed of in a manner which minimises risk to people and the environment (Policy 6.4.11), and
 - e. recognising and providing for the relationship Kāi Tahu have with Otago’s natural and physical resources through a series of specific actions (Policy 6.4.12).
28. In addition, the Water Plan also contains provisions that are relevant to managing hazardous substances in Chapters 7 (Water quality) and 12 (Rules). Three objectives are outlined in Chapter 7:
 - a. to maintain water quality in Otago lakes, rivers, wetlands, and groundwater, but enhance water quality where it is degraded (Objective 7.A.1),
 - b. to enable the discharge of water or contaminants to water or land, in a way that maintains water quality and supports natural and human use values, including Kāi Tahu values (Objective 7.A.2), and
 - c. to have individuals and communities manage their discharges to reduce adverse effects, including cumulative effects, on water quality (Objective 7.A.3).
29. These objectives are implemented by a suite of policies in sections 7.B (which apply to all activities affecting water quality) and 7.C (which apply only to discharges of human

sewage, hazardous substances, hazardous wastes, specified contaminants, and stormwater; and discharges from industrial or trade premises and consented dams).

30. Policy 7.B.1 sets out how the quality of water in Otago's lakes, rivers, wetlands, and groundwater will be managed. Policy 7.B.2 necessitates avoiding objectionable discharges of water or contaminants whilst Policy 7.B.3 aims to make discharges of water or contaminants that have minor effects or that are short-term discharges with short-term adverse effects more permissive. Policies 7.B.4 to 7.B.6 provide the matters to be considered when assessing applications for discharges of water or contaminants, whilst Policies 7.C.1 to 7.C.4 outline matters to have regard to when considering resource consent applications for discharges of contaminants that are within scope of section 7.C. Policy 7.C.7 requires all practical alternative locations for the storage of hazardous substances to be considered before locating near lakes, rivers, mean high water springs, and otherwise to require appropriate risk management contingencies. Policies 7.C.8 and 7.C.9 promote the use of contingency plans for the prevention, containment and recovery of the accidental spill of any hazardous substance and support coordinated measures to remedy or mitigate adverse effects associated with accidental spills which could potentially contaminate water.
31. Both the Water Plan and Waste Plan contain a number of activity-specific rules that regulate some of the activities covered by this topic. The Waste Plan rules provide:
 - a. The discharge of dust suppressants onto or into land is permitted if conditions are met (including that the dust suppressant must either not be a hazardous substance or must be approved under the HSNO Act) (Rule 6.6.2).
 - b. The discharge of dust suppressants onto or into land that do not meet Rule 6.6.2 and are not waste oil is a discretionary activity (Rule 6.6.3).
 - c. The discharge of waste oil onto or into land or into water is a prohibited activity (Rule 6.6.4).
 - d. Plan Change (PC) 1 to the Regional Plan: Waste introduced a prohibition on the use of waste oil as a dust suppressant and encouraged the use of other, safer alternatives in order to contribute toward improving water quality across the region.
32. The Water Plan also contains several rules that manage the activities covered by this topic. In the Water Plan the following activities are permitted activities, provided the conditions in the relevant rule are met:
 - a. The discharge of herbicides to water or land, and the discharge of pesticides to land (Rules 12.B.1.1 to 12.B.1.3).
 - b. Discharges of sullage, cooling water, water from any drinking water supply reservoir, water supply pipeline or swimming pool to water (Rule 12.B.1.6).
 - c. Discharges of water used for holding live organisms (Rule 12.B.1.7).
33. The discharge of tracer dyes that are chemically inert, non-radioactive, and non-toxic is a controlled activity (Rule 12.B.2.1). If the conditions in these rules are not met, these activities are discretionary activities under Rule 12.B.4.2, which provides for the discharge of any hazardous substances to water or onto or into land in circumstances which may result in that substance entering water.

34. The Water Plan contains three provisions that manage activities not captured by the rest of the plan:
- a. Rule 12.C.1.1 permits the discharge of water or any contaminant that may result in a contaminant entering water, provided conditions are met that largely manage the adverse effects which may arise from the discharge in the receiving environment or on neighbouring properties.
 - b. Rule 12.C.3.1 requires resource consent as a discretionary activity for discharges that are not permitted by rule 12.C.1.1 or prohibited by rule 12.C.0.1.
 - c. Rule 12.C.0.1 prohibits the discharge of any contaminant that produces an objectionable odour, or a conspicuous oil or grease film, scum, or foam in a range of water bodies.
35. The conditions of Rule 12.C.1.1 are relatively general and largely replicate the narrative water quality standards set out in section 70(1)(c) to (g) of the RMA, except that they apply at the point of discharge rather than after reasonable mixing.
36. Plan Change 8 of the Regional Plan: Water included amendments to policy 7.D.5 which gives stronger direction as to considering consent for discharges under section 12.C in relation to stronger consideration of Kai Tahu values and avoiding significant adverse effects on the environment.

3.4. Issues with status quo approach

37. There are several issues with the current approach to managing all other discharges across the Water and Waste plans. These include:
- a. There are overlapping policies and rules for activities across the Waste and Water Plan.
 - b. The status quo does not give effect to national direction.
 - c. The rules and frameworks are outdated and do not consider contemporary best practice, making it less effective.
38. The issues with the status quo are discussed in more detail in the following sections.

3.4.1. Overlapping policies and rules for activities across the Waste and Water Plan

39. The policies and rules of both the Waste Plan and Water Plan overlap for a number of the activities covered in this topic. Further, many policies in both plans are general in nature and provide little specific direction to decision-makers for resource consent applications. Applicants may need to seek resource consent for the same activity under both the Water and Waste Plans, which as these plans are designed to manage the same effects, is inefficient. Moreover, several of the activities and discharges are not currently managed through a specific rule framework – discharges associated with major hazard facilities, cemeteries, water filtration systems, and firefighter training.

3.4.2. The current approach does not give effect to national direction

40. The current policy framework does not give effect to relevant higher order documents, particularly the NPSFM. The concept of Te Mana o te Wai underpins the NPSFM and must

be given effect to by councils. It will not be implemented in isolation – giving effect to Te Mana o te Wai will require collective and strategic assessment across the LWRP. Updating provisions to reflect societal changes and improvements in scientific knowledge is an essential part of this.

3.4.3. The current approach is outdated and ineffective

41. The management of discharges has evolved considerably over the past 20 years since the status quo approach was designed; discharge activities have intensified and practises changed across Otago, including for the activities included in this topic. The preparation of the LWRP presents an opportunity to ensure that any provisions managing these activities reflect current good management practice, which may contribute to implementing the NPSFM. For the activities covered in this topic, that includes the following:
 - a. Appropriate setback distances from water bodies and other sensitive areas for discharges to land, with consideration of the need to prioritise first the health and well-being of water bodies and freshwater ecosystems.
 - b. Differentiating between substances that are approved under the HSNO Act and being used in accordance with that approval, and other substances.
 - c. Managing ongoing, passive, and diffuse discharges from a cumulative viewpoint, to adopt an integrated management approach, ki uta ki tai, and more actively consider the effects of resource use on other parts of the environment as well as the impacts of cumulative effects.
 - d. Where relevant and appropriate, referencing or incorporating parts of existing standards into the management framework (for example, NZS8409:2021 Management of Agrichemicals).
42. Implementing good management practice is a way of managing the adverse effects of activities, which contributes to achieving better outcomes for the health and well-being of freshwater. This in turn contributes to achieving the purpose of the RMA.

4.0 Objectives

43. Section 32(1)(b) of the RMA requires an examination of whether the provisions in a proposal are the most appropriate way to achieve the objectives.
44. The objectives and environmental outcomes that are particularly relevant for this topic are:
 - a. The following objectives in the IM – Integrated management chapter:
 - i. IO-O1 Te mana o te Wai
 - ii. IO-O2 Relationship of Kāi Tahu to freshwater
 - iii. IO-O3 Long-term visions and environmental outcomes
 - iv. IO-O4 Ki uta ki tai/integrated management
 - v. IO-O5 Manahau āhuarangi/climate change
 - vi. IO-O7 Freshwater species
 - vii. IO-O8 Land and soil resources

- viii. IO-09 Community well-being
- b. All of the environmental outcomes included as objectives in chapters FMU1 to FMU5 (including chapters CAT1 to CAT5).
- c. There are no specific objectives contained in the OTH chapter.

5.0 Overview of sub-topics

- 45. The options below are presented on a topic basis, with four sub-topics defined for the purposes of the OTH chapter. These topics are:
 - a. Agrichemicals
 - b. Activities specifically managed under the operative plans
 - c. Discharges not specifically managed under operative plans
 - d. All other discharges
- 46. These options will be discussed in turn in the following sections, alongside a summary of the clause 3 and clause 4A consultation feedback, and the effectiveness and efficiency assessment. Options were formulated through looking at other regional plans, evaluating the issues across the region, and a range of community feedback and consultation processes.

6.0 Sub-topic: Agrichemicals

- 47. Agrichemicals are defined in the pLWRP as “any substance whether inorganic or organic, man-made or naturally occurring, modified or in its original state, that is used to eradicate, modify, or control flora and fauna. For the purpose of the pLWRP, it includes agricultural compounds, but excludes water, oral nutrition compounds, vertebrate toxic agents, and fertilisers”. Agrichemicals are used widely throughout the region for biosecurity work including pest management, as well as for controlling vegetation for agricultural purposes and riparian management on private properties. These substances are widely used by many organisations and individuals across the region, but there is little to no information available on the prevalence of their use today. (Martine't Mannetje, 2020) identified that the most reliable data on pesticide use, taken from 2005, was some 3400 tonnes of pesticide active ingredients being used in agriculture across New Zealand annually, with 56 different active ingredients identified as suspected carcinogens.
- 48. Zhang et al. (2010) showed that under favourable slope conditions vegetated buffers of up to 30 metres can be highly effective in preventing contaminants, including sediment, from reaching watercourses. Managing the most common agrichemicals used in New Zealand to limit their transportation to waterways can largely be addressed using the same approach as for managing sediment loss to waterways (Button, 2024). In (Button, 2024), the ORC science team provided a technical memorandum on the effectiveness of vegetative buffers and setbacks of varying widths on the removal efficacy of pesticides. Through comparing relevant international and national research on the topic, the technical advice concludes that a setback of 5 metres would likely be sufficient at removing around 80% of pesticides reaching waterways, provided good management practices are followed too. Further, the memorandum highlights that commonly used agrichemicals, such as Glyphosate, adsorb strongly to fine sediment; as such, managing sediment loss could lead to co-benefits in

reducing agrichemical contaminant loads reaching waterbodies. Limiting wide-spread spraying within riparian areas can increase riparian vegetation. With this consideration, a 5-metre setback was shown to provide similar levels of protection as 10-meters, of around 80% efficacy, whilst buffers of up to 20-metres removed around 90%.

49. Four reasonably practicable options were developed to achieve the relevant objectives and environmental outcomes. These options focus on the conditions that would permit some necessary activities, namely pest control, whilst ensuring that agrichemical use that has potential adverse effects on water quality requires a resource consent. Options 1 to 3 were identified prior to clause 3 consultation whilst option 4 was produced in response to the feedback received with technical support from the ORC science team.
50. As with the rest of the OTH chapter, each option requires the agrichemical to be approved for use under HSNO and used in accordance with NZS8409:2021 Management of Agrichemicals, to ensure agrichemical use aligns with current best practice. In addition, each option requires that the mixing of agrichemicals does not occur within a specified setback from water bodies, to minimise the risk of contaminants unintentionally entering waterways (e.g., via spills).

6.1. Discounted options

51. Under the status quo, there is very little direct management of agrichemicals, other than outdated best practice. For this reason and because the current regional planning framework for managing agrichemicals does not give effect to the NPSFM (as discussed in Section 3.4) maintaining the status quo is discounted as an option for further management of these discharges under the pLWRP.

6.2. Reasonably practicable options

52. The four reasonably practicable options that were identified are:
 - a. **Option 1:** Limiting discharges within 20m of a water body to targeted ground application methods.
 - b. **Option 2:** Limiting discharges within 20m of a water body to those applied to manage pest species identified in Otago's Pest Management Plan.
 - c. **Option 3:** No setback from or additional controls within 20m of a water body other than mixing of agrichemicals.
 - d. **Option 4:** Limiting discharges within 5m of a waterbody to pest management and targeted application methods (preferred option)

6.2.1. Option 1: Limiting discharges within 20m of a water body to targeted ground application methods.

53. The first option is to permit the discharge of agrichemicals within riparian zones, defined as a 20-metre setback, using handheld appliances, subject to certain conditions. To discharge an agrichemical within a 20-metre setback from a water body as a permitted activity, only targeted ground application methods are allowed using hand-held appliances. Hand-held appliances would be defined as an application technique or method for agrichemical use where the application system is non-motorised, and where spray is being applied that

spray is directed only at the target species. Mixing of agrichemicals would require a 20-metre setback from waterbodies. Should the use of agrichemicals not meet the requirements of the permitted activity then individuals and organisations would need to apply for discretionary consent.

54. A separate permitted activity pathway for discharges of agrichemicals is also included within this option. Conditions for the discharge of an agrichemical to water would be that the agrichemical is approved for such use under HSNO, used in accordance with all the conditions of the approval, and that the agrichemical is non-hazardous to aquatic environments.
55. This option provides ORC with full discretion regarding the management of indiscriminate, machine powered, or automated spraying within 20 metre setbacks from water bodies. Any discharge carried out without a handheld appliance would trigger a discretionary consent. This option will mean that larger agrichemical spray operations using motorised or automated methods will require consent.

6.2.2.Option 2: Limiting discharges within 20m of a water body to those applied to manage pest species identified in Otago's Pest Management Plan.

56. The second option allows for machine powered or automated spraying within 20 metres of a water body, but only for the purpose of managing pest species set out in ORC's Regional Pest Management Plan 2019. This option provides for permitted activity status for the use of a more indiscriminate agrichemical application technique (compared to option 1) to manage the 35 pest plant species currently being controlled across the region.
57. This option also includes a separate permitted activity rule for discharges of agrichemicals to water. This permitted activity rule permits the discharge of an agrichemical to surface water where they have been approved for such a use under HSNO and are not classified as hazardous to the aquatic environment.
58. If the permitted activity conditions for these rules are not complied with, consent is required as a discretionary activity.

6.2.3.Option 3: No setback from or additional controls within 20m of a water body other than mixing of agrichemicals.

59. This third option takes the least restrictive approach to managing agrichemicals, and only seeks to update the current rules for the discharge of agrichemicals to align with current best practice. The only aspect of the activity that is restricted within the 20-metre setback from a water body is the mixing of agrichemicals. This option seeks to reduce barriers to undertaking any kind of agrichemical application and is similar to the status quo.
60. This option also includes a separate permitted activity rule for discharges of agrichemicals to water. This permitted activity rule permits the discharge of an agrichemical to surface water where they have been approved for such a use under HSNO and are not classified as hazardous to the aquatic environment.
61. If the permitted activity conditions for these rules are not complied with, consent is required as a discretionary activity.

6.2.4.Option 4: Limiting discharges within 5m of a waterbody to pest management and targeted application methods (preferred option).

62. This option is the most complex of all four, incorporating elements of options 1 and 2 in response to feedback received through clause 3 consultations. Option 4 proposes a permitted activity pathway for agrichemical discharges, with a 5-metre setback from waterbodies and sensitive receiving environments. An exemption from the setbacks exists for targeted application methods and/or pest control. For the purposes of this option, a targeted application method is defined in the plan as an agrichemical application system is targeted, and where spray is being applied, that spray is directed only at the target species, allowing for motorised application methods to be incorporated as opposed to option 1 (hand-held, non-motorised). In addition, using agrichemicals to manage pests identified in a National Pest Management Plan, the Regional Pest Management Plan, unwanted organisms, and organisms of interest would be included within the exception of the 5-metre setback. Moreover, as Freshwater Farm Plans are phased in across Otago there will be an option for on-farm agrichemical use to be managed through a Freshwater Farm Plan.
63. Following clause 3 feedback and policy analysis of this option, further technical advice was sought from ORCs science team in the form of a technical memorandum. The technical memorandum provided outlines that common agrichemicals, such as Glyphosate, adsorb strongly to fine sediment; as such, managing sediment loss could lead to co-benefits in reducing agrichemical loads reaching waterbodies. With this consideration, a 5-metre setback was shown to provide similar levels of protection as 10-meters. In combination with clause 3 feedback this option resultingly considers social, environmental, social and economic factors more so than options 1 to 3.
64. This option also includes a separate permitted activity rule for discharges of agrichemicals to water. This permitted activity rule permits the discharge of an agrichemical to surface water where they have been approved for such a use under HSNO and are not classified as hazardous to the aquatic environment unless it is for the purpose of pest control. However, to qualify as a permitted activity the discharge must comply with various conditions, including:
 - a. comply with the receiving water standards in APP[RWS].
 - b. not occur within drinking water protection zones, mātaimai or taiāpure.
 - c. comply with setback requirements for the mixing of agrichemicals as there is a higher risk for accidental discharges.
 - d. ensure that appropriate ratings are held by operators discharging agrichemicals from aircraft.
65. If the permitted activity conditions for these rules are not complied with, consent is required as a discretionary activity.
66. Key aspects of the policy framework proposed under option 4 include the requirement for the substance to be approved under HSNO for the proposed use, application methods to minimise spray drift, contingency measures to minimise accidental discharges, and to avoid adverse effects on non-target species as far as practicable. In addition, the relevant policies for managing the discharge of agrichemicals require that the use of hazardous substances that are not approved under HSNO are, as a first priority, avoided, and, as a second

priority, are contained on-site where there is a residual risk of discharge. This will likely prevent the discharge of any non-approved agrichemicals in Otago.

67. This approach takes a more nuanced and Otago centric approach to implement setbacks, whilst still allowing for pest control activities and discharges using less indiscriminate application methods within setbacks.

6.3. Clause 3 consultation feedback

68. Options 1 to 3 for managing discharges of agrichemicals were included in the draft pLWRP provisions that ORC sought feedback on during the pre-notification consultation under clause 3, Part 1 of the First Schedule of the RMA. A relatively high volume of feedback was received in relation to these options, with some parties expressing multiple preferences, from no controls on discharges, to all discharges requiring consent within 20m setbacks.
69. Despite the wide-ranging feedback received, analysis of the feedback showed that there was more support for some controls on the discharge of agrichemicals near waterways, rather than no controls at all. Clear themes from the feedback outlined the need to consider the following matters in developing provisions for managing agrichemical discharges:
- a. The need to include a pathway for statutory and community-based pest management activities and groups to undertake this work in line with national and regional objectives for biosecurity with minimal financial barriers.
 - b. The need to consider the impacts, including commercial impacts, of 20 metre setbacks on primary productivity activities, including forestry and agriculture, as well as the potential for some unanticipated adverse environmental outcomes to occur in some instances.
 - c. The need to consider the benefits of the use of agrichemicals for riparian planting work undertaken by landowners and community groups.
 - d. The need to allow for current and future technological advances in targeted agrichemical spraying.
 - e. The need to reduce the overall volume of agrichemicals reaching waterways, thereby reducing the risk these contaminant discharges pose to the health of freshwater ecosystems.
 - f. Iwi authorities sought that discharges of agrichemicals to land should consider the effects on the health of water bodies and freshwater ecosystems, and mahika kai and contact recreation activities. Of the three options presented iwi stated a preference for option 1 as described below, they also stated a preference for no discharge of agrichemicals to water, and south that consent should be required where setbacks were not able to separate agrichemical use from waterbodies.

6.4. Clause 4A consultation feedback

70. No further feedback was received on the options presented in this chapter of the pLWRP during clause 4A consultation.

6.5. Effectiveness and efficiency assessment

71. Table 2 below identifies and assesses the environmental, cultural, social, and economic benefits and costs anticipated from implementing the provisions proposed in each of the options above.
72. Providing a more fulsome evaluation of the costs and benefits associated with changes in agrichemical policy across the region is not entirely possible due to the permissive nature of the status quo, and lack on information available on their use – both the application to land, and their prevalence in freshwater across the region, as monitoring is not currently undertaken by the ORC. The options presented here represent more moderate changes in relation to the rest of the OTH chapter, and therefore include greater analysis of the costs and benefits in the corresponding tables.

Table 2: Benefits and costs for OTH chapter – agrichemicals

	BENEFITS	COSTS
Option 1	<ul style="list-style-type: none"> Strong environmental and cultural benefits associated with reduced volume of agrichemicals reaching waterways either directly or through diffuse pathways, aiding in reducing the cumulative effects of contaminants on waterways across the region. Better water quality will lead to healthier waterways for communities, increased access to public recreation areas, and increased amenity values of rivers being restored to natural states. This would also be a cultural benefit for iwi and mahika kai activities. May lead to possible increases in manual labour roles in the region due to a need for handheld application, a more labour-intensive process. Likely to be well received by individuals and community groups with environmental water quality improvements as a key goal. Requiring consent for discharges within setbacks would provide ORC with a greater understanding of agrichemical use across the region and potential impacts of the policy change. Reducing agrichemical use may lead to beneficial outcomes for human health, due to decreased exposure to carcinogenic pesticides (Martine't Mannetje, 2020). Some increased environmental protection afforded through enforcing 	<ul style="list-style-type: none"> Increased cost and time burden for individuals and organisations requiring consent for a widespread activity – likely financially impacting agricultural and biosecurity industries the most, as depicted in <i>Table 7X</i> below for wilding conifer controls. Non-notified and limited-notified consent application deposits are \$1,750, while publicly notified application deposits are \$15,000. Initial economic impacts to resource users would likely be passed on to consumers or potentially make Otago's produce less economically competitive as identified in clause 3 feedback. ORC would likely require new staff to process consents and monitor compliance for an activity which is widely undertaken but its occurrence is unknown. Furthermore, increased costs and resources for ORC in monitoring, compliance, site visits and providing guidance to practitioners. The option may in some circumstances result in unanticipated adverse environmental outcomes with landowners being unable and/or under resourced to effectively manage and replant riparian areas with more labour-intensive methods. Increasing costs and the need for consent for biosecurity/pest control activities may lead to negative perceptions of ORC and may impede

	BENEFITS	COSTS
	<p>setbacks from waterways for agrichemical mixing, lowering the risk of pollution incidents.</p>	<p>relationships in relation to pest management.</p> <ul style="list-style-type: none"> With no pathway for managing pests within waterbodies could create socioeconomic barriers to managing the incursion of pests and weeds. This could further impact environmental conditions for mahika kai species and thus further impact cultural practices (Timms-Dean et al., 2024).
Option 2	<ul style="list-style-type: none"> Allowing for pest management objectives to be met whilst still placing some controls will lead to overall better environmental outcomes. The provisions will reduce the volume of agrichemicals reaching waterways, lowering the burden of cumulative impacts, and unknown consequences, of agrichemical discharges across the region. By reducing unchecked application of agrichemicals in riparian margins through 20m setbacks, the riparian zones will increase with vegetation density in several cases, leading to better water quality. Better water quality will lead to healthier waterways for communities, increased access to public recreation areas, and increased amenity values of rivers being restored to natural vegetation and state through the removal of pest species, both within waterways and in riparian zones (such as willows). Reduced cost and barriers to individuals and organisations seeking to undertake pest control activities, some of which are funded by ORC. Limiting discharges of agrichemical within setbacks to ground application methods would likely make such activities too costly for community groups – see costs for wilding conifer control depicted in Table 3 below. Pest management for wilding conifers has been shown to provide \$96 of benefit to every \$1 of cost for a minimum option of protecting the investment (Peck, Williamson, & 	<ul style="list-style-type: none"> Increased costs to users that are not undertaking pest management activities across the region, requiring consent to undertake what is currently a widespread and common activity, which may in turn lead to negative perceptions of OR. This in turn may potentially deter necessary pest management activities through disincentivising the activity. Increased costs and resources for ORC in monitoring, site visits and providing guidance to practitioners. Initial economic impacts to resource users would likely be passed on to consumers or potentially make Otago's produce less economically competitive. Requiring consent for small scale operations could be a deterrent to some operations, leading to poorer management of riparian zones in the long term. Likely to require a considerable cost in terms of educating and enforcing rules across the region for a permitted activity at present.

	BENEFITS	COSTS
	<p>Rohani, 2022). Enabling pest management for all biosecurity programmes is likely to provide additional benefits too.</p> <ul style="list-style-type: none"> • Requiring consent for discharges within setbacks would provide ORC with a greater understanding of agrichemical use across the region and potential impacts of the policy change. • Some increased protection afforded through enforcing setbacks from waterways for agrichemical mixing, lowering the risk of pollution incidents. • Reducing agrichemical use may lead to beneficial outcomes for human health, due to decreased exposure to carcinogenic pesticides pesticides (Martine't Mannetje, 2020). 	
Option 3	<ul style="list-style-type: none"> • Likely to be more acceptable to landowners and industries as costs to resource users is minimal compared to other options. • Some increased protection afforded through enforcing setbacks from waterways for agrichemical mixing, lowering the risk of pollution incidents. • Lower costs to ORC relating to consenting, compliance, monitoring, and enforcement. • Agrichemical discharges directly to water are required for managing pests in waterbodies such as Lagarosiphon; this work is undertaken via government agencies and environmental externalities are well managed through best practice, adherence to NZS8409:2021 will ensure this is consistent across the region. This will lead to cultural and environmental benefits to iwi (Timms-Dean et al., 2024) and communities through returning habitats to natural states, further benefiting indigenous aquatic ecosystems. 	<ul style="list-style-type: none"> • With relatively little change from the status quo, it is likely that there would be no change in agrichemical discharges near freshwater. • Lower costs to resource users not needing to acquire consent. • There is a continued risk of agrichemicals entering waterways, with this being perhaps the costliest option in terms of environmental effects and not meeting the environmental outcomes.
Option 4: (preferred option)	<ul style="list-style-type: none"> • Many of the benefits set out in both Options 1 and 2 will also apply to this option, as it represents a combined approach of enabling pest control and targeted spraying within riparian 	<ul style="list-style-type: none"> • Many of the costs associated with options 1 and 2 are also relevant to this topic. • Discharges of agrichemicals are still widely permitted, and ORC will not be

	BENEFITS	COSTS
	<p>setbacks.</p> <ul style="list-style-type: none"> • Providing a pathway for pest management will enable co-benefits for meeting biosecurity objectives across the region and remove financial barriers. • By aligning setbacks with direct drilling and cultivation setbacks, this should lead to better environmental outcomes; this should reduce sediment loss to water ways and encourage more responsible management of riparian zones in an agricultural setting. • Freshwater Farm Plan pathway allow for site-specific considerations of agrichemical use, with the potential to manage this in relation to other agricultural pressures from a local perspective, leading to a more holistic management approach. • This option is likely to be the most acceptable option for all stakeholders whilst still affording some increased protection from the status quo. • Agrichemical discharges directly to water are required for managing pests in waterbodies such as Lagarosiphon; this work is undertaken via government agencies and environmental externalities are well managed through best practice, adherence to NZS8409:2021 will ensure this is consistent across the region. This will lead to cultural and environmental benefits to iwi (Timms-Dean et al., 2024) and communities through returning habitats to natural states, further benefiting indigenous aquatic ecosystems. 	<p>afforded additional oversight for activities which are likely the main source of agrichemical discharges across the region.</p> <ul style="list-style-type: none"> • This option will likely have limited additional environmental or human health benefits in comparison to options 1 and 2 but more so than option 3.

73. The table 3 below outlines the approximate costs of control per hectare associated with some of the most common methods for controlling wilding pines as mentioned in the recent Wilding Pine Network report provided to ORC³ (Wilding Pine Network, undated).

³ Wilding Pine Control Guidelines. Wilding Pine Network 2022. <https://www.orc.govt.nz/media/12993/12308a-a5-booklet-wilding-pine-aug-2022-web.pdf>

Table 3: Costs associated with wilding conifer control using agrichemicals application methods.

Control Method	Density of Wilding Conifer	Cost per hectare
Cut stump	Sparse	\$100 – 250
	Moderate	\$500 – 750
Drill and fill	Sparse	\$50
	Moderate	\$500 – 1500
	Dense	\$1500 – 3000
Aerial Basal Bark Application	Sparse	\$30 – 100
Aerial Foliar Spray Application	Dense	\$2000 – 2500

74. Table 4 below assesses the effectiveness and efficiency of the options in achieving the objectives of the pLWRP.

Table 4: Effectiveness and efficiency assessment for OTH chapter – agrichemicals

Effectiveness	
Option 1	This option is likely the most effective option at implementing the objectives of the pLWRP and reaching the FMU environmental outcomes than the following three options. This would be the most effective option in reducing the volume of agrichemicals reaching waterways through both point and diffuse pathways whilst providing ORC with greater oversight of where and when discharges are taking place. By limiting discharges of agrichemicals to handheld appliances this option would reduce indiscriminate spraying applications and prioritise the health of waterways. However, this option may be less effective at implementing wider pest control and biosecurity operations across the region which are essential to returning waterways back to natural states, and lead to several challenges for current agricultural practices across the region.
Option 2	This option is likely to be more effective than Option 1 in relation to implementing pest control operations and managing the spread of pest organisms, which is a regional and national priority. However, option 2 will be likely less effective at reducing the total amount of agrichemical use occurring in setbacks. The cost benefit analysis highlights this, by reducing the widespread permitted use of agrichemicals and requiring consent where standards are not met. There is a need for effective management of pest species for local and national objectives, whilst current technological and financial constraints necessitate the use of agrichemicals. Agrichemicals are required to eradicate some pest species within waterbodies, enabling the objectives and achieving the environmental outcomes of the pLWRP to be met. It is expected that this will still be an effective option for managing agrichemicals reaching waterways. It is likely that it would further the implementation of objectives of the pLWRP, but to a lesser extent than Option 1. This option would likely mean the continued use of agrichemicals for pest control, including the clearance of pest vegetation from riparian margins, but it may also result in the spraying of large areas of non-target (non-pest) vegetation in relation to options 1 and 4.
Option 3	This option is likely to be the least effective option in meeting the objectives of the pLWRP, as it does not contribute to improving the management of agrichemical discharges and their cumulative impacts across Otago's waterways to the same extent of the other options. Although effective in gaining support from the primary sector, it would likely be ineffective at contributing to freshwater improvements and the objectives of the IM chapter and the FMU environmental outcomes. However, it is likely that this option would not lead to the environmental benefits to freshwater and aquatic ecosystems anticipated

	from either of the previous options and is unlikely to achieve the objectives of the pLWRP.
Option 4: (preferred option)	This option is likely to be similarly as effective as option 1 and 2 for managing agrichemical discharges to land and water in the Otago region. Through enabling pest management on land and in freshwater bodies, allowing targeted application within setbacks, and providing a pathway for agricultural use managed through a Freshwater Farm Plan, agrichemical use is enabled while also reducing unintended discharges to water bodies. This is likely to be effective at contributing to freshwater improvements and achieving the objectives of the pLWRP. As with options 1 and 2, this option relies on the use of setbacks for agrichemical discharges, which have been shown to be effective at removing agrichemicals reaching waterways (Button, 2024).
Efficiency	
Option 1	Option 1 is likely to be less efficient than Option 2 and 4 in achieving the pLWRP objectives as it does not allow for pest control spraying to be carried out as a permitted activity, which will necessitate consent for this activity that is largely carried out for biosecurity control.
Option 2	Option 2 is also likely to be less efficient than Option 4 as it only provides exemptions for pest control and not targeted hand-held agrichemical use for other purposes. Requiring resource consent for this method of application is unlikely to result in many additional environmental benefits, while resulting in additional costs for both individuals and Council undertaking riparian management or agricultural practices.
Option 3	Although most activities will not require consent under option 3, this option is likely to be the least efficient option at achieving the relevant objectives including the environmental outcomes in the pLWRP.
Option 4: (preferred option)	Option 4 is likely to be the most efficient option for achieving the objectives of the pLWRP as it enables exemptions for necessary pest control to occur, along with targeted spraying using targeted application techniques within setbacks. In doing so, option 4 creates a lower risk of unintended discharges to water bodies. This option enables these activities to occur without requiring consent. Discharges to water are only permitted where the agrichemical is used in accordance with HSNO approval or for pest control. This option has been developed following considerable feedback from clause 3 parties and is therefore expected to ensure efficient implementation by industry and individuals across Otago.

75. Section 32(2)(c) of the RMA requires the Council to take into account the risk of acting or not acting if there is uncertain or insufficient information. There is limited information about the nature and extent of agrichemical use in Otago, as it largely occurs as a permitted activity under the Water Plan. Furthermore, there is limited information about the implementation of Freshwater Farm Plans in Otago generally, including in relation to agrichemical use. However, there is sufficient information about the current water quality issues and the associated environmental, social and cultural impacts in Otago. This warrants the implementation of a more restrictive regime. Overall, there is suitably certain and sufficient information available that indicates that there is a minimal risk of acting compared to the status quo.

6.6. Conclusion

76. The effectiveness and efficiency assessments have shown that overall, Option 4 (the pLWRP approach) is a more efficient way to achieve the relevant objectives including the environmental outcomes of the pLWRP than the other options. Option 4 is likely to have both the costs and benefits of options 1 and 2 above, whilst providing a more balanced approach to managing environmental, social, cultural and economic impacts across the region. Given the efficiency and effectiveness of this option, it is likely to be the most appropriate way to achieve the relevant objectives including the environmental outcomes of the pLWRP.

7.0 Sub-topic: Activities specifically managed under the operative regional plans

77. This section of the assessment of the OTH chapter considers those activities that are managed by activity-specific rules in the Water Plan and Waste Plan, which includes discharges of vertebrate toxic agents (which fall within the definition of ‘pesticides’ under the Water Plan), dust suppressants, tracer dyes, swimming/spa pool discharges and water used for holding live organisms (see the discussion in the status quo above). A brief description of each of these activities is set out below before considering the options.
78. Vertebrate toxic agents (VTAs) are defined in the pLWRP as “a product or agent used to control, kill, or limit the viability of vertebrate pests (such as rabbits, possums, and rodents), including those that have a negative effect on reproduction but do not include attractant or repellent substances that are not toxic”. VTAs are deployed across the region by government agencies, contractors, and community groups to implement the Regional Pest Management Plan 2019, as well as more local and national objectives for pest management. These aim to reduce the impact of invasive predators on native flora and fauna, with the goal of achieving Predator Free 2050.⁴ Some of the most common VTAs are exempt from controls under the RMA Exemption Regulations as discussed in the status quo Section 3.
79. Dust suppressants are not defined in the pLWRP. They are commonly used throughout the region, and historically examples of dust suppressants include fresh water and waste vegetable oils. They are primarily used on unsealed roads to limit dust from traffic affecting dwellings, as well as during construction on sites to limit dust clouds and sediment being carried by the wind.
80. Tracer dyes are used to trace the movement or flow of water and are normally comprised of a range of different compounds to display a bright colour or UV measurement. They are commonly used in plumbing or water infrastructure investigations, as well as irrigation and spraying infrastructure. There is no definition of tracer dye with the pLWRP due to the range of compounds used and their specific usage.

⁴ Department of Conservation. Predator Free 2050. <https://www.doc.govt.nz/nature/pests-and-threats/predator-free-2050/>

81. Swimming and spa pools contain water which is cleaned using a filtration system as well as chemicals including chlorine. There are likely to be many privately owned swimming and spa pools and several facilities throughout the region, discharging a relatively large volume of water, often with elevated levels of chlorine and other chemicals, into our waterways.
82. Koura (freshwater crayfish), sports fish such as trout and salmon, and potentially several other organisms may be farmed using aquaculture for recreational or conservation purposes across the Otago region. As such, the water held for growing such organisms will require disposal at some point. Controls will need to be in place to ensure that these types of discharges do not introduce any undesired or unwanted species into receiving environments.

7.1. Discounted Options

83. Not managing these activities under activity-specific rules in the pLWRP and relying on general 'catch-all' discharge rules is not a reasonably practicable option, given the specific nature of these activities, and the ability to create a refined and targeted rule framework to manage adverse effects while permitting activities that pose less risk to the environment.
84. An option considered for VTAs was not managing this activity under the pLWRP and instead relying on HSNO. However, the focus of HSNO is to prevent or manage the adverse effects of hazardous substances by regulating the storage, use, disposal and transportation of hazardous substances. HSNO does not directly manage discharges of hazardous substances to land or water, which would still require consent from the Council. Accordingly, this was not considered to be a reasonably practicable option.

7.2. Reasonably practicable options

85. Two reasonably practicable options were identified:
 - a. **Option 1:** Status quo
 - b. **Option 2:** Refined discharge management incorporating current best practice (preferred option)

7.2.1. Option 1: Status quo

86. Option 1 is to carry over the existing activity-specific rule framework in the Water Plan for managing VTAs (which fall within the definition of 'pesticides' under the Water Plan), dust suppressants, tracer dyes, swimming/spa pool discharges, water used for holding live organisms. This is discussed in the status quo section above.

7.2.2. Option 2: Refined discharge management incorporating current best practice (preferred option)

87. Option 2 is to include an updated activity-specific framework in the pLWRP in comparison to the status quo. The rule framework provides for permitted activity pathways for most of these activities (except for tracer dyes, which is a controlled activity) with conditions to ensure the discharge is carried out in accordance with best practice, and which seek to

minimise any potential adverse effects on the environment, particularly in relation to water quality.

88. This option includes the two policies, OTH-P1 (approved substances) and OTH-P2 (unapproved substances).

7.2.2.1. Vertebrate Toxic Agents

89. Option 2 permits the discharge of VTAs to land or to water provided a number of conditions are met. These conditions include the following:
- a. The VTA must be approved under HSNO and must not be classified as hazardous to the aquatic environment,
 - b. the discharge must be carried out in accordance with the approval conditions, and any manufacturers' directions,
 - c. the discharge must not occur within a drinking water protection zone,
 - d. any discharge to water must comply with the receiving water standards in APP[RWS],
 - e. the discharger must give notice to ORC 10 working days before the discharge occurs, including the type of VTA, location, and timing,
 - f. the discharger must give notice of the location and timing to ORC 20 working days after the discharge,
90. Non-compliance with the permitted activity rule results in the discharge of a VTA being a discretionary activity. As discussed in the status quo, the pLWRP does not manage those VTAs managed under the Resource Management (Exemption) Regulations 2017.

7.2.2.2. Dust suppressants

91. The discharge of dust suppressants to land (where they may enter water) is a permitted activity under option 2, provided the dust suppressant is either water, not a hazardous substance, or approved under HSNO and not hazardous to the aquatic environment. The rule also prevents the discharge of waste oil as a dust suppressant. The dust suppressant cannot be discharged within 5 metres of specified water bodies, within a drinking water protection zone, or to contaminated land. The permitted activity conditions also provide that the discharge must not result in overland flow, ponding, erosion, sedimentation, or property damage, and it must comply with the receiving water standards in APP[RWS] if the discharge were to lead to runoff entering waterways. If the permitted activity threshold cannot be met, then discharges of dust suppressants to land and all discharges of dust suppressants (other than waste oil) to water require resource consent as a discretionary activity; the discharge of waste oil to land or to water is prohibited.

7.2.2.3. Tracer Dye

92. The discharge of a tracer dye to water requires consent under this option. A controlled activity pathway for the discharge of a tracer dye to water is provided where the tracer dye is not a hazardous substance or where it is approved under HSNO. The discharge also needs to meet several standard conditions that include that the discharge does not occur

within a drinking water protection zone, mātaihai or taiāpure, and any discharge to water must comply with the receiving water standards in APP[RWS]. Given the nature of this type of discharge a controlled activity ensures that Council retains some oversight about the way in which the discharge occurs, while providing operators with certainty that consent will be granted. The matters of control for ORC when imposing conditions on the consent relate to the nature of the tracer dye and timing of the discharge, the lapse, duration, bond and review conditions, and notification and information requirements. Other discharges of tracer dyes to water are a discretionary activity.

7.2.2.4. Swimming and spa pool discharges

93. Discharges of swimming or spa pool water to land (where it may enter water) are a permitted activity under option 2 provided several conditions are met that relate to the contents of the water (i.e., contaminant concentration levels and temperature) and setbacks from waterbodies and other sensitive areas. Other permitted activity conditions include a requirement that the discharge does not result in overland flow, ponding, erosion, sedimentation, or property damage and complies with the receiving water standards in APP[RWS] should the discharge enter water. Non-compliance with the permitted activity conditions results in the discharge of a swimming or spa pool water to land being a discretionary activity. Any discharge of swimming or spa pool water directly to water is also a discretionary activity under option 2. These conditions were chosen following amendments to the existing Regional Plan: Water conditions and comparing with best practice and conditions of other regions rules (e.g., Rule 5.10 of the Canterbury LWRP, E4 in the Auckland Unitary Plan).

7.2.2.5. Water used for holding live organisms

94. The discharge of water used for holding live organisms to land or water is a permitted activity under option 2, subject to various conditions, including:
- a. the discharge does not contain hazardous substances or pests;
 - b. the discharge will not introduce organisms to a water body that are not already present or increase the population of an undesirable fish species;
 - c. the discharge does not occur to a range of sensitive areas (e.g., drinking water protection zones);
 - d. where the discharge is to land, setbacks must be met and where the discharge is to water the receiving water quality standard in APP[RWS] must be met; and
 - e. the discharge must not result in overland flow, ponding, erosion, sedimentation, or property damage.
95. Non-compliance with the permitted activity conditions results in the discharge water used for holding live organisms being a discretionary activity.

7.3. Clause 3 consultation feedback

96. There was limited substantive feedback received on the draft pLWRP provisions for managing these types of activities during the pre-notification consultation undertaken

under clause 3, Part 1 of the First Schedule of the RMA. The key themes in the feedback received are summarised below:

- a. NZAAA, DoC and Fish and Game supported the VTA provisions, while Aukaha sought that these discharges should be avoided in Mahika kai areas. Given no agreed Mahika kai area mapping is available it was deemed too uncertain to include this as a condition of a permitted activity rule.
- b. The dust suppressant provisions were opposed by QLDC, on the basis that the proposed 20 metre setback from waterbodies for a permitted activity should be reduced. In response, the rule was amended to provide for a reduced setback of 5 metres.
- c. The tracer dye rule was partially supported by LINZ, but the organisation sought to remove the condition that the discharge is not hazardous to the aquatic environment.
- d. The discharge of water used for holding live organism was generally supported by Kāi Tahu, DoC, and Fish and Game subject to amendments to allow for restocking mahika kai, avoiding threatened fish habitats, and removing undesirable fish restrictions, respectively. In response, avoiding the habitat of threatened fish habitats was added as a permitted activity condition.

7.4. Clause 4A consultation feedback

97. No feedback in direct relation to the options

7.5. Effectiveness and efficiency assessment

98. Table 5 below identifies and assesses the environmental, cultural, social, and economic benefits and costs anticipated from implementing the provisions proposed in options 1 and 2 above. Option 1 is to carry over the status quo, so most of the costs and benefits of this option are already occurring and would not change under this option. Option 2 seeks to tighten the existing rule conditions to ensure the discharge is carried out in accordance with best practice and seek and streamline the policy framework. Accordingly, many of the costs and benefits of Option 2 are also the same as Option 1/the status quo. The benefits and costs identified are from the level of change between the status quo and each option. For this sub-topic, the level of change is generally minor.

Table 5: Benefits and costs for OTH chapter – activities managed by activity-specific rules

	BENEFITS	COSTS
Option 1	<ul style="list-style-type: none"> The existing framework is well known to plan users, which will likely save time and effort in implementing and navigating the rules compared to Option 2. This is a potential cost-saving for ratepayers. Retaining the existing rule 	<ul style="list-style-type: none"> Retaining the existing rule framework would not result in any direct additional costs in the short-term. However, there may be costs in the future where best practice is not followed. These costs can be substantial for resources users and society where they concern

	BENEFITS	COSTS
	<p>framework would not result in any additional benefits.</p>	<p>biosecurity issues.</p> <ul style="list-style-type: none"> Continuing with the status quo approach would not lead to the same environmental and cultural benefits as option 2, which, is a cost in itself. For instance, less environmental benefit to threatened fish habitats. There would likely be greater cultural costs for iwi, as stronger policy direction and permitted activity conditions provide greater protection of these values in option 2. This option would likely have greater costs to Kai Tahu in related to exercising kaitiakitaka in relation to discharges which have an impact on water quality, resulting in less resources being available for other matters.
Option 2 (preferred option)	<ul style="list-style-type: none"> More stringent permitted activity conditions will contribute to achieving the environmental outcomes, particularly in relation to water quality. The benefits are largely around the reduction in risk from updating to best practice. Consented discharges are monitored by ORC's compliance team, meaning there would be improved information about how and when discharges are occurring and opportunities to address any non-compliance with consent conditions. This also provides an opportunity for cost recovery. Introducing setbacks for these activities will contribute to achieving the objectives, including the environmental outcomes of 	<ul style="list-style-type: none"> Requiring compliance with more stringent conditions to carry out these activities as a permitted activity will likely mean more costs for people carrying out these activities as they update their practices in accordance with best practice. There will be increased costs for resource users who currently rely on the permitted activity rules in the Water Plan to authorise their discharge but may not meet the conditions in the pLWRP permitted activity rules, for instance dust suppressants which are not approved under HSNO. As these activities are currently permitted, there is no information available on how many discharges may be occurring or where. The deposit fee for these types of applications is \$1,750. Additional fees may be charged at

	BENEFITS	COSTS
	<p>the pLWRP.</p> <ul style="list-style-type: none"> Setting acceptable thresholds for permitted activity discharges may assist in reducing the cumulative impact of contaminants reaching waterways, leading to cleaner water. Greater cultural benefits, particularly for iwi in relation to protecting recreation and mahika kai areas from permitted discharges of unacceptable levels of contaminants through stronger policy direction. This will likely lead to more opportunity for iwi to exercise kaitiakitaka in more pressing areas, leading to better socioeconomic outcomes (Timms-Dean et al., 2024). Providing a permitted activity pathway for pest management through VTAs will have multiple environmental, economic and cultural co-benefits. For instance, managing pest species will lead to benefits for indigenous species of flora and fauna, returning ecosystems to natural states, and reduce the risk of spreading disease such as bovine TB which will have a positive economic impact on the primary sector. 	<p>cost above the deposit amount depending on the application and how long it takes to process.</p> <ul style="list-style-type: none"> If discharges that are currently permitted require consent, there will be ongoing compliance costs for resource users, particularly for monitoring. Increased costs for resource users may lead to unintended negative outcomes, e.g., reduced pest control (using VTAs). Having permitted activity status for these activities in the pLWRP may lead to a perception that controls are inadequate, for instance for vertebrate toxic agents.

99. Table 6 below assesses the effectiveness and efficiency of the proposed provisions in achieving the objectives.

Table 6: Effectiveness and efficiency assessment for OTH chapter – activities managed by activity-specific rules

Effectiveness	
Option 1	Current constraints in monitoring mean the contaminants associated with these discharges are poorly understood; it is therefore difficult to quantify how effective the status quo approach is at managing these discharges and their environmental

	effects. However, water quality across Otago is degraded in several areas, and reducing pressure on aquatic ecosystems through the approach offered in option 2 would likely be more effective than the status quo. Accordingly, this option is likely to be less effective than option 2 in achieving the objectives of the pLWRP including the relevant objectives in the FMU chapters.
Option 2 (preferred option)	This option seeks to improve the way in which permitted activity discharges are carried out, to reduce potential adverse effects on the environment, particularly in relation to water quality. By updating the permitted activity discharges to reflect changes in best practice combined with directive policies, this option will likely be more effective at achieving environmental and cultural benefits associated with implementing the objectives of the pLWRP as opposed to the status quo. Stricter discharge controls, such as setbacks from sensitive receiving environments and being classified as non-hazardous to the aquatic environment will ensure better environmental outcomes. Accordingly, this option is likely to be more effective in achieving the objectives of the pLWRP, compared to Option 1.
Efficiency	
Option 1	Under the status quo, many policies for these activities are general in nature and provide little specific direction to decision-makers for resource consent applications. Option 1 is likely to be less efficient in achieving the objectives of the pLWRP, compared to Option 2.
Option 2 (preferred option)	This approach retains a permitted activity pathway for these activities and also provides a more streamlined and directive policy framework for consented activities. The more stringent permitted activity conditions will likely reduce the impacts of these discharges on the environment, with costs being borne by those carrying out the activities. Updating best practice, alignment with HSNO, and employment of iwi and clause 3 feedback will ensure these provisions are better received by the community and those impacted by the provisions. Given the low-level change and increased clarity around the discharges effected by these provisions, this option is considered to be the most efficient at achieving the objectives of the pLWRP.

100. Section 32(2)(c) of the RMA requires the Council to take into account the risk of acting or not acting if there is uncertain or insufficient information. There is limited information about the nature and extent of these discharges in Otago, as they largely occur as a permitted activity under the Water Plan. However, there is sufficient information about the current water quality issues and the associated environmental, social and cultural impacts in Otago. This warrants the implementation of a more restrictive regime. Overall, there is suitably certain and sufficient information available that indicates that there is a minimal risk of acting compared to the status quo.

7.6. Conclusion

101. Overall, Option 2 (the pLWRP approach) is a more effective and efficient way to achieve the objectives of the pLWRP than option 1 (the status quo). Given the efficiency and

effectiveness of this option, it is likely to be the most appropriate way to achieve the relevant objectives and environmental outcomes of the pLWRP.

8.0 Sub-topic: Discharges not specifically managed under the operative regional plans

102. Some of the discharges included within the OTH chapter are currently not managed under activity-specific provisions in the Water or Waste Plans and are therefore currently being managed by general 'catch-all' rules. This section of the assessment of the OTH chapter considers the regulation of discharges from the activities that fall into this category, being filter treatment backwash, emergency firefighting training, cemeteries, and major hazard facilities. A brief description of each of these activities is set out below before considering the options.
103. Water filtering systems will require cleaning from time to time. This is essential for ensuring water is filtered and is achieved through backwashing water or cleaning solutions to flush out accumulated debris. For larger systems the cleaning process may result in large amounts of sediment and other materials being flushed and may include residual flocculants, chemicals or be of unnatural character.
104. There are numerous emergency firefighter facilities and stations across the Otago region, including professional, voluntary, and private high-risk locations (e.g., airports). Firefighting training and activities require a large volume of water to be discharged in combination, sometimes with other chemicals, with training exercises taking place on a regular basis.
105. Cemeteries are perhaps one of the most culturally significant areas to manage, requiring utmost respect and dignity when planning and devising objectives, policies, and rules for their management. Burial of human remains has been shown to lead to "the production of ions, in the form of organic and heavy metals, bacteria, fungi, and viruses..." which are able to be transported through soil and groundwater, leading to negative ecosystem impacts (Franco, et al., 2022). At present there has been no direction from ORC for the management of potentially harmful discharges from cemeteries.
106. Major hazard facilities are defined in the pLWRP as "a facility that WorkSafe has designated as a lower tier major hazard facility or an upper tier major hazard facility under regulation 19 or 20, aligned with clause 4 of the Health and Safety at Work (Major Hazard Facilities) Regulations 2016". Such facilities store or process large volumes of certain hazardous substances that have potential to cause significant harm or environmental damage. Examples include oil refineries, chemical plants, or large fuel storage sites.

8.1. Reasonably practicable options

107. Two reasonably practicable options for these activities were identified:
 - a. **Option 1:** Status quo
 - b. **Option 2:** Activity specific discharge management framework

8.1.1.Option 1: status quo

108. Option 1 is to carry over the status quo, which is to rely on the general 'catch-all' discharge rules to manage these activities, which are outlined in the status quo above.

8.1.2.Option 2: Specific activity related discharge management framework (preferred option)

109. Option 2 seeks to include an activity-specific rule framework for these activities in the pLWRP, supported by policies that provide guidance for the management of approved and unapproved substances, major hazard facilities and cemeteries.

8.1.2.1. Filter backwash

110. Discharges to land from the purging of instruments used in water treatment, the use of portable potable water treatment units, or filter backwash, are a permitted activity under this option, subject to a number of conditions including:
- a. a maximum volume of 3m³ per day;
 - b. a maximum chlorine concentration of 2mg/l and pH of between 6-8;
 - c. a requirement to comply with specific setback requirements from water bodies and other sensitive areas; and
 - d. a requirement that the discharge must not contain hazardous substances and must not result in overland flow, ponding, erosion, sedimentation, or property damage.
111. These conditions were created through reviewing other regional plans' rules (e.g., rule 18 of the Proposed Southland Water and Land Plan), applying standardised conditions for discharges, and iterative internal feedback processes. Any discharges that fail to comply with the conditions of the permitted activity rule and any discharges directly to water are discretionary activities.

8.1.2.2. Cemeteries

112. For cemeteries, the policy framework proposed under option 2 provides direction for decision-making on resource consent applications for cemeteries and seeks to manage potential adverse effects by assessing and monitoring effects on water bodies, protecting drinking water supplies, and considering mana whenua values and protecting specified values. In relation to the creation of new cemeteries and extensions to existing cemeteries the policy framework stipulates that these activities are to be avoided on land with significant erosion or flooding risks, or where groundwater is less than 3 metres below the ground surface.
113. Existing and closed lawfully established cemeteries are permitted activities under option 2, with no conditions to be met (this includes the use of land and any associated discharge to land or water), whereas the creation of new cemeteries or the operation of those not lawfully established are permitted activities, provided certain conditions are met. These conditions include the following requirements:
- a. Setbacks of 100 metres from specified water bodies, 50 metres from a bore, and 3 metres above groundwater,

- b. the cemetery is not within sensitive areas such as drinking water protection zones, or on land that is contaminated or subject to significant natural hazard risks,
 - c. The discharge must not result in overland flow, ponding, erosion, sedimentation, or property damage.
114. New cemeteries or those not lawfully established that do not comply with the permitted activity conditions require consent as a discretionary activity.

8.1.2.3. Major hazard facilities

115. Under the pLWRP rule framework proposed under option 2, it is proposed that all major hazard facilities require resource consent. This option also proposes to include in the pLWRP a specific policy that seeks to provide for new and existing hazard facilities, while ensuring that new facilities are not located where they may pose health risks to water bodies and ecosystems, and that all facilities implement measures to prevent unauthorised discharges, including by preparing a management plan. Option 2 also provides for the inclusion in the plan of two appendices. One that sets out the requirements for a management plan for major hazard facilities for the purpose of preventing the unauthorised discharge of contaminants, and a second one that requires the operator or agent to prepare a management plan, which must be reviewed at least once every 12 months, and provided to ORC on request. The content that is required to be included in this management plan includes information on:
- a. the location and ownership of the facilities (including maps),
 - b. the relevant resource consents,
 - c. the hazardous substances stored or used, and
 - d. contingency measures to prevent accidental discharges, as well as responses to system failures or emergencies.
116. Major hazard facilities are designated by WorkSafe as lower or higher tier depending on the complexity of the facility. The matters of control relate to the location of the facility and the management plan. Under option 2 major hazard facilities as a controlled activity are provided for if the facility is classified as a 'lower tier' major hazard facility, setback 100 metres from water bodies and 50 metres from bores used for drinking water supply, not within a drinking water protection zone, and a management plan is prepared and implemented in accordance with the aforementioned appendix, as well as several standard matters on the lapse date, duration, bond, information and monitoring requirements, and mana whenua freshwater outcomes. Other major hazard facilities require consent as a discretionary activity under this option.

8.1.2.4. Discharges from firefighter training

117. For the purposes of firefighter training activities, discharges of water or contaminants to land, or in instances where water or a contaminant may enter water, are a permitted activity under this option. To meet the permitted activity conditions, discharges must be from activities undertaken by an employee or volunteer of Fire and Emergency New Zealand, Dunedin Airport, or New Zealand Defence Force. Several other conditions are provided, for instance the discharge must not:

- a. contain any hazardous substance, pest, pest agent, unwanted organism or organism of interest.
 - b. occur for more than two continuous hours within a 24-hour period
 - c. occur within 20 meters of sensitive receiving environments, or a bore, or within a drinking water protection zone, or be to contaminated land,
 - d. the discharge must not result in overland flow, ponding, erosion, sedimentation, or property damage.
118. Finally, each organisation undertaking discharges should keep a record of the location and dates of discharges which would be made available to ORC upon request. Any firefighter training related discharge which would not meet the permitted activity requirements would become a restricted discretionary activity, with discretion afforded on the following matters:
- a. the volume, type, and concentration of the substance to be discharges; and
 - b. the timing, duration, and method of the discharge; and
 - c. any requirements for notification of the discharge occurring; and
 - d. the lapsing period and duration of the resource consent; and
 - e. review of the conditions of the resource consent; and
 - f. the need for a bond; and
 - g. the collection, recording, monitoring, and provision of information about the exercise of the resource consent; and
 - h. the extent to which the activity contributes to achieving mana whenua aspirations for land and freshwater as set out in APP9.

8.2. Clause 3 consultation feedback

119. Limited substantive feedback was received on the draft provisions for managing discharges not specifically provided for under the current operative regional plans in the prenotification consultation under clause 3, Part 1 of the First schedule of the RMA. The feedback is summarised below:
- a. Aukaha sought that the permitted activity rule conditions for cemeteries near coastal water do not impact existing Urupā reservations (Māori burial grounds). Given these sites already lawfully exist no change to provisions was deemed necessary.
 - b. For major hazard facilities, supportive feedback was received from Aukaha in relation to the controlled activity conditions, stating that they were appropriate for managing activities on these sites and any potential related discharges. No changes were made because of this feedback.

8.3. Clause 4A consultation feedback

120. No feedback directly related to the options discussed in this section was provided during clause 4A consultation.

8.4. Effectiveness and efficiency assessment

121. Table 7 below identifies and assesses the environmental, cultural, social, and economic benefits and costs anticipated from implementing the provisions proposed in the options above. Option 1 is to carry over the status quo, so most of the costs and benefits of this option are already occurring and would not change under this option. Further, Option 2 seeks to provide activity-specific rules for these activities and ensure the discharge is carried out in accordance with best practice. Accordingly, many of the costs and benefits of Option 2 are also the same as Option 1/the status quo. These existing costs/benefits are not set out in the table below, with the changes from the preferred option expected to be minor.

Table 7: Benefits and costs for OTH chapter - activities not specifically managed.

	BENEFITS	COSTS
Option 1	<p>The existing framework is well known to plan users, which will likely save time and resources in navigating and implementing the rules compared to option 2. It would likely not lead to any additional economic costs and allow the community of Otago to manage these activities through other national regulations or non-regulatory approaches.</p> <p>Retaining the existing rule framework would not result in any additional benefits.</p>	<p>Retaining the existing rule framework would not result in any additional costs. Continuing with the current approach may lead to a perception that the discharges managed under option 2 pose less of a risk to the environment as opposed to other discharges across the pLWRP.</p> <p>Continuing with the status quo could lead to inadequate siting of major hazard facilities or cemeteries in relation to natural hazards and climate change risks, which could lead to greater costs in the future should monitoring, compliance or remediation action need to be taken.</p> <p>There would likely be greater cultural costs for iwi, as stronger policy direction and permitted activity conditions provide greater protection of these values in relation to option 2.</p>
Option 2 (preferred option)	<p>Managing these activities via activity-specific rules means that more targeted conditions can be applied, compared to relying on the general rules. This will ensure the effectiveness of the rule framework for managing these activities in achieving the relevant environmental outcomes, while ensuring only activities that meet determined thresholds can occur as a permitted activity.</p> <p>This option provides policy direction to incorporate mana whenua values leading to greater cultural benefits for Otago. Iwi are likely to benefit from</p>	<p>Requiring compliance with the more stringent conditions to carry out these activities as a permitted activity will likely increase the costs for individuals and organisations carrying out these activities as they may need to update practices in accordance with best practice.</p> <p>There will be increased costs for resource users who currently rely on the permitted activity rules in the Water Plan to authorise their discharge, and who cannot meet the conditions in the pLWRP permitted activity rules and will need to apply for a consent. As many of these activities are currently</p>

	<p>better environmental conditions for mahika kai species through improved discharge management (Timms-Dean et al., 2024).</p> <p>More targeted conditions should mean that activities do not need to meet conditions that are part of the general rules, which would be inappropriate or ineffective for that activity. Having more targeted conditions will also contribute to reducing the costs associated with carrying out these activities.</p> <p>A specific rule framework for these activities should increase efficiency for plan users and the regulatory authority when assessing compliance with the pLWRP rules.</p> <p>Consented discharges are monitored by ORC's Compliance team, meaning there would be improved information about how and when discharges are occurring and opportunities to address any non-compliance with consent conditions.</p> <p>Updating to best practices or improving the quality of acceptable discharges will result in economic and efficiency gains in the longer term even if greater economic investment at this stage; future generations will benefit from better resource management today through better protection of Otago's natural resources.</p> <p>This may lead to opportunities for economic growth and employment through increased management of these sites, for instance consenting, monitoring and research.</p>	<p>permitted, there is no information on how many discharges may be occurring or where.</p> <p>The deposit fee for these types of applications is currently \$1,750. Additional fees may be charged at cost above the deposit amount depending on the application and how long it takes to process. Resource users will also incur costs involved in the preparation of an application.</p> <p>If discharges that are currently permitted require consent, there will be ongoing compliance costs, particularly for compliance monitoring.</p>
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122. Table 8 below assesses the effectiveness and efficiency of the options in achieving the objectives.

Table 8: Effectiveness and efficiency assessment for OTH chapter - activities not specifically managed

Effectiveness

Option 1	Current constraints in monitoring mean the contaminants associated with these discharges are poorly understood; it is therefore difficult to quantify how effective the status quo approach is at managing these discharges and their environmental effects. However, water quality across Otago is degraded in several areas, and reducing pressure on aquatic ecosystems through the approach offered in option 2 would likely be more effective than the status quo. As evidenced by the cost and benefit analysis, this option is likely to be less effective than option 2 in achieving the objectives of the pLWRP including the relevant objectives in the FMU chapters.
Option 2 (preferred option)	This option seeks to improve the way in which permitted activity discharges are carried out, to reduce potential adverse effects on the environment, particularly in relation to water quality. The specific nature of these activities, and the ability to create a refined and targeted rule framework to manage adverse effects, would likely be more effective at contributing to achieving the environmental outcomes in comparison to Option 1. Accordingly, Option 2 is likely to be more effective in achieving the objectives of the pLWRP, compared to Option 1.
Efficiency	
Option 1	Under the status quo, these activities fail to be regulated by the general catch-all rules. This may result in these activities needing to comply with conditions that are either inappropriate or do not provide much additional environmental benefit by complying with them. This results in increased costs for little gain. Further, many policies that should guide decision-making for these activities are general in nature and provide little specific direction to decision-makers for resource consent applications. Accordingly, Option 1 is likely to be less efficient in achieving the objectives of the pLWRP, compared to Option 2.
Option 2 (preferred option)	Given that these activities are not currently captured by rule frameworks or managed through directive policy in the Water Plan, providing this through option 2 will ensure decision-making regarding unpermitted discharges will be more efficient for both ORC and those discharging. Permitting activities that pose less risk to the environment is likely to incentivise meeting permitted activity conditions rather than seeking consent in most cases; this approach allocates more resources in an efficient manner to managing discharges outside of these thresholds, whilst those undertaking higher risk discharges (unpermitted) will bear the costs associated with the activity. The specific nature of these activities, and the ability to create a refined and targeted rule framework to manage adverse effects, while permitting activities that pose less risk to the environment means that Option 2 is likely to be more efficient than Option 1.

123. Section 32(2)(c) of the RMA requires the Council to take into account the risk of acting or not acting if there is uncertain or insufficient information. There is limited information about the nature and extent of these discharges in Otago, as they largely occur as a permitted activity under the Water Plan. However, there is sufficient information about the potential risks and associated effects which could arise from these discharges and activities to take a more precautionary approach to safeguard against unintended environmental, social, and cultural impacts in Otago. This warrants the implementation of

a more targeted regime. Overall, there is suitably certain and sufficient information available that indicates that there is a minimal risk of acting compared to the status quo.

8.5. Conclusion

124. On balance, it is deemed that option 2, an activity specific discharge management approach, is a more effective and efficient way to achieve the objectives of the pLWRP than option 1, the status quo. Given the efficiency and effectiveness of this option, it is likely to be the most appropriate way to achieve the objectives of the pLWRP.

9.0 Sub-topic: All other discharges

125. Section 15 of the RMA prevents discharges to water and land where contaminants may enter water (section 15(1)(a) to (b)) and discharges to land from industrial and trade premises (section 15(1)(d)) unless the discharge is expressly allowed by a national environmental standard, regulations, a rule in a regional plan (including a proposed plan) or a resource consent. The pLWRP contains several rules that manage specific types of discharges. However, it is not practical to have activity-specific rules for every type of discharge.
126. Analysis of ORC consenting information indicates that there are a range of discharges currently consented under Rule 12.C.3.1 of the Water Plan, with the most common being discharges associated with dams. Under the pLWRP, those discharges will be managed under the DAM provisions as part of the damming activity rather than under separate discharge rules as currently occurs. That is expected to reduce the number of activities captured by the non-specific discharge rules. As outlined previously, there are additional activity-specific discharge rules proposed to be included in the pLWRP, most of which are currently managed under the 'other discharges' rules in the Water Plan, reducing the number of activities managed under these provisions further.

9.1. Discounted option

127. Rolling over the current Water Plan rules for non-specific discharges was not considered to be a reasonably practicable option due to three issues with the content of Rule 12.C.1.1, which permits un-specified discharges subject to conditions:
128. Firstly, most of the conditions relate to physical effects arising in particular receiving environments. Those receiving environments vary and are accompanied by a series of figures highlighting where the point of compliance is for each condition. These conditions are very complicated and ORC Compliance staff have advised that they have significant difficulty implementing them in practice.
129. Secondly, condition (g) of Rule 12.C.1.1 requires discharges to also comply with Rule 12.C.1.1A from 1 April 2026. This rule is part of the suite of provisions introduced by Plan Change 6A. As discussed in Section 3 of this chapter, that plan change is not implementable, in part due to its reliance on water quality standards that do not specify how they are to be measured. Plan Change 6AA delayed the implementation of these provisions until 2026 on the understanding that the LWRP would be notified before then, replacing the provisions with a more certain and transparent framework.

130. Thirdly, the conditions in Rule 12.C.1.1 are primarily based on the restrictions on permitted discharges set out in s70 of the RMA. For these reasons, the status quo was discounted.

9.2. Reasonably practicable options

131. Three reasonably practicable options were identified to achieve the objectives:
- a. **Option 1:** Revised permitted + discretionary + prohibited (preferred option).
 - b. **Option 2:** Discretionary.
 - c. **Option 3:** Discretionary + prohibited.

9.2.1.Option 1: Revised permitted, discretionary, and prohibited activities (preferred option)

132. This option would retain the overall approach in the Water Plan of having three activity classifications for discharges not managed elsewhere: permitted, discretionary, and prohibited. However, the current permitted activity conditions would be updated to strengthen minimum standards and improve the practical application of the rule. Instead of relying on the water quality standards in s70, this option would include a permitted activity rule with conditions that:
- a. Restrict the content of the discharges, such as by excluding discharges containing hazardous substances, pests, or those from contaminated land,
 - b. Restrict where the discharge can occur to manage effects on sensitive receptors, such as within drinking water protection zones,
 - c. Manage the way the discharge occurs, for example by requiring that it is not directly to groundwater and does not result in ponding or overland flow, and
 - d. For discharges directly to water, require the discharge to comply with receiving water standards that, if complied with, will not result in the adverse effects listed in s70 arising.

9.2.2.Option 2: Discretionary

133. If the RMA requires resource consent for an activity (for example, a discharge under s15 for a discharge not otherwise managed by an NES or regulations), and there is no relevant rule in a plan, the activity is to be treated as a discretionary activity. Under this option, all discharges not managed under other rules would require resource consent as a discretionary activity.
134. This option reflects what is essentially the regulatory 'backstop' in the RMA for discharges that are not otherwise managed in the plan. Compared to the RPW, this would be less restrictive for some discharges (i.e. those currently prohibited by rule 12.C.0.1) but increase the stringency for others (i.e. those currently permitted by rule 12.C.1.1).

9.2.3.Option 3: Discretionary + prohibited

135. This option would carry over the existing RPW prohibited activity rule (with minor wording clarifications only) for certain types of discharges. All other discharges not prohibited by

this rule would require resource consent as a discretionary activity. There would be no permitted activity pathway.

9.3. Clause 3 consultation feedback

136. Clause 3 feedback was received from four parties and included:
- Opposition from the Southern Wood Council about the rule overriding the NES-CF regulations. As a result, this part of the advice note was deleted and incorporated into the PP chapter with the forestry rules. This party also opposed full discretionary activity status for discharges not managed elsewhere, and instead sought restricted discretionary activity status.
 - Aukaha sought that the catch-all discharge rules do not provide a permitted activity pathway for unspecified discharges to water.
 - Other parties also sought amendments to the rule conditions, including providing for horticulture activities, and removing restrictions on undesirable fish species.
137. This feedback was considered and where possible integrated into the final provisions in option 1, the preferred option. Although iwi sought to remove permitted activity for an unspecified discharge, the controls put in place provide for discharges outside the scope of this plan to continue, within a restrictive permitted activity framework which should eliminate the possibility of any environmental impacts. Prohibited discharge rules should eliminate any perverse outcomes further and provide strong impetus for compliance and remediation if necessary.

9.4. Clause 4A consultation feedback

138. No further feedback that was directly related to the provisions provided in this option was received during clause 4A consultation.

9.5. Effectiveness and efficiency assessment

139. Table 9 below identifies and assesses the environmental, cultural, social, and economic benefits and costs anticipated from implementing the provisions proposed in the options above. For this sub-topic, there is significant uncertainty about the activities that would be managed by the provisions, as well as their frequency, which means there is also significant uncertainty about the potential benefits and costs arising. The benefits and costs identified are from the level of change between the status quo and each option. For this sub-topic, the level of change is generally minor.

Table 9: Benefits and costs for OTH – All other discharges

	BENEFITS	COSTS
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<p>Option 1 (preferred option)</p>	<p>Retaining the three existing activity classifications means the difference between the status quo and Option 3 is limited to the conditions imposed on the permitted activity rule and the additional prohibitions in the prohibited activity rule. This would provide less change from the status quo and be more beneficial to plan users.</p> <p>Strengthened, more enforceable permitted activity conditions are likely to result in either improved management of these discharges (leading to benefits for water quality) or more discharges requiring consent (potentially also leading to benefits for water quality).</p> <p>There will likely be decreased compliance costs for both plan users and ORC through more straightforward and effective thresholds on permitted discharges. Whilst there is clearer direction for polluters to bear the costs should discharges fall outside of the permitted activity thresholds.</p> <p>Providing a permitted activity pathway will mean ORC are able to focus resources on higher risk discharges. Requiring consent for all unspecified discharges would likely require a large investment in staffing for monitoring, consenting and compliance for ORC.</p> <p>Providing a permitted activity pathway will provide for any discharges which have been missed by provisions in the pLWRP but are within acceptable environmental standards. This may provide economic benefits to smaller or emerging industries and assist with economic growth without placing unnecessary economic burdens on businesses.</p> <p>This option provides policy direction to incorporate mana whenua values leading to greater cultural benefits for</p>	<p>Continuing to permit some discharges means they are unlikely to be subject to monitoring and there is no opportunity for ORC to assess whether the discharge is appropriate in each instance. This may increase the risk of negative impacts on water quality occurring.</p> <p>Some activities currently permitted may require consent as a result of the more stringent conditions in the LWRP. It is not possible to quantify this potential cost. The deposit fee for these types of applications is \$1,750. Additional fees may be charged at cost above the deposit amount depending on the application and how long it takes to process.</p> <p>Requiring compliance with the more stringent conditions to carry out these activities as a permitted activity will likely mean more costs for people carrying out these activities as they may need to update current practices in accordance with best practice.</p>
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	Otago. Iwi are likely to benefit from better environmental conditions for mahika kai species through improved discharge management (Timms-Dean et al., 2024).	
Option 2	<p>Removing existing prohibitions on some discharges may reduce the existing opportunity costs associated with being unable to undertake those discharges.</p> <p>Consenting all discharges that are currently permitted is a more restrictive approach to managing these discharges and may result in environmental benefits, particularly in water quality.</p> <p>Consented discharges are monitored by ORC's Compliance team, meaning there would be improved information about how and when discharges are occurring and greater opportunities to address any non-compliance with consent conditions.</p>	<p>Removing the existing prohibitions may lead to an increase in these discharges occurring. This may have negative impacts on water quality.</p> <p>Consenting all discharges would increase costs for resource users who currently rely on the permitted activity rule in the Water Plan to authorise their discharge. As these activities are currently permitted, there is no information on how many discharges may be occurring or where. The deposit fee for these types of applications is \$1,750. Additional fees may be charged at cost above the deposit amount depending on the application and how long it takes to process.</p> <p>If discharges that are currently permitted are consented, there will be ongoing compliance costs, particularly for monitoring.</p>
Option 3	<p>Retaining the existing prohibition would not result in any additional benefits.</p> <p>Consenting all non-prohibited discharges is a more restrictive approach to managing these discharges compared to the status quo and may result in environmental benefits, particularly in water quality.</p> <p>Consented discharges are monitored by ORC's Compliance team, meaning there would be improved information about how and when discharges are occurring and opportunities to address any non-compliance with consent conditions.</p>	<p>Retaining the existing prohibition would not result in any additional costs.</p> <p>Consenting all non-prohibited discharges would increase costs for resource users who currently rely on the permitted activity rule in the Water Plan to authorise their discharge. As these activities are currently permitted, there is no information on how many discharges may be occurring or where. The deposit fee for these types of applications is \$1,750. Additional fees may be charged at cost above the deposit amount depending on the application and how long it takes to process.</p> <p>If discharges that are currently permitted are consented, there will be ongoing compliance costs, particularly for</p>

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140. Table 10 below assesses the effectiveness and efficiency of the proposed provisions in achieving the objectives.

Table 10: Effectiveness and efficiency assessment for OTH – All other discharges

Effectiveness	
Option 1 (preferred option)	This option has the highest degree of risk because it is the only option that provides a permitted activity pathway, which allows certain discharges to occur without oversight for ORC and transparency around the location or content of the discharge. While the risk of adverse effects on the environment from permitted discharges can be mitigated to some extent through permitted activity conditions that are designed to ensure that these discharges will not give rise to more than minor adverse effects on the receiving environment, there is still a degree of uncertainty around the different types of discharges that could be permitted under this option. This creates a risk of unanticipated adverse effects on the environment. Given the level of risk and uncertainty in this option, it is considered the least effective of the three options in achieving the objectives and outcomes sought by the pLWRP.
Option 2	This option is likely to be effective at achieving the relevant objectives including the environmental outcomes of the plan because it allows oversight of all proposed discharges through a resource consent process. This option would lift the current prohibition on some discharges, which could in turn reduce the effectiveness of the option. As these discharges are currently prohibited and no consent can be applied for, there is no information on how prevalent they may be.
Option 3	This option is the most restrictive of the three and is likely to be the most effective at achieving the relevant objectives and environmental outcomes of the plan because it will prohibit discharges known to be detrimental to the health and well-being of water bodies and require consent for all other non-specified discharges. The consent process provides ORC oversight of the activity and the ability to either decline consent if necessary or to grant consent with conditions to manage the particular adverse effects arising from that discharge.
Efficiency	
Option 1 (preferred option)	This option is considered to have the highest technical efficiency because it provides a permitted activity pathway for discharges that are unlikely to have more than minor adverse effects, thereby avoiding the costs of applying for a resource consent. In this way, Option 1 matches the costs on resource users to the potential level of impact of the discharge – discharges that meet the permitted activity conditions do not need any further oversight, while those that do not (and therefore may have more significant adverse effects) are either consented and subject to ORC oversight or prohibited if they are known to result in particular effects. A permitted activity pathway may incentivise users to alter their practices to comply with the permitted activity rule to avoid the resource consent

	processes; as such this could assist with allocating the assimilative capacity of Otago's land and water bodies.
Option 2	Requiring resource consent for all non-specified discharges is not as efficient as Option 1 because it requires all discharges to be authorised through a resource consent, regardless their potential for environmental harm. There is uncertainty about how many applications this option would result in. However, for some discharges the costs associated with applying for resource consent may be more significant than the potential for harm to the environment as a result of the discharge. In comparison to the status quo, some discharges currently prohibited could be consented. That is more efficient in some respects because it means that the individual circumstances of each case can be assessed, and either granted or declined. However, in other respects it may be less efficient in because it may mean resource users attempt to seek consent for activities that are unlikely to be supported by the plan. In comparison to the status quo, where there is a high level of certainty about the activities that are prohibited, there is less certainty in a consenting framework about which discharges may be approved or not.
Option 3	This option is considered more technically efficient than Option 2 because it retains the existing prohibition, ensuring that any resource user wanting to undertake this type of discharge has certainty about the plan's expectations. For non-prohibited discharges, the efficiency is the same as Option 2.

141. Section 32(2)(c) of the RMA requires the Council to take into account the risk of acting or not acting if there is uncertain or insufficient information. For this topic, there is very little information about the types of discharges the provisions would manage, the extent to which they are already occurring (as they largely occur as a permitted activity under the Water Plan), and how many activities the catch-all provisions would manage. However, there is sufficient information about the current water quality issues and the associated environmental, social, and cultural impacts in Otago. This warrants the implementation of a more restrictive regime to manage discharges, compared to the status quo. Overall, there is suitably certain and sufficient information available that indicates that there is a minimal risk of acting compared to the status quo.

9.6. Conclusion

142. All three options are more restrictive than the status quo. Although options 2 and 3 are likely to be more effective options at achieving the relevant objectives including the environmental outcomes sought by the plan due to the lower uncertainty associated with the management framework, they are not the most efficient options. On balance, Option 1 is considered the most appropriate way to achieve the relevant objectives including the environmental outcomes of the plan because it is more efficient than the other options but still effective in achieving these objectives.