

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

Chapter 7: Assessment of Provisions

**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
NESF	National Environmental Standards for Freshwater 2020
NPS	National Policy Statement
ORC	Otago Regional Council
pLWRP	Proposed Otago Land and Water Regional Plan 2024
RPS	Regional Policy Statement
RMA	Resource Management Act 1991

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Assessment of Provisions

1. Introduction

1. Chapters 8 – 21 of the Section 32 Evaluation Report set out the assessments that have occurred under section 32 of the RMA in relation to the provisions of the proposed Otago Land and Water Regional Plan (pLWRP). The structure of these section 32 reports largely match the structure of the pLWRP, aside from 1) the strategic provisions that have been addressed collectively in one sub-section, and 2) the provisions relating to threatened species and outstanding waterbodies have been addressed separately. The structure is as follows:

- Plan-wide direction: IM – Integrated management:
 - Plan integration and implementation
 - Relationship of Kāi Tahu to freshwater
 - Environmental practice and resource use
 - Natural form and character
 - Outstanding water bodies
 - Threatened species
 - Fish passage
 - Natural hazards
 - Discharges
 - Drinking water protection zones
 - Consent duration
- BED – Beds of lakes and rivers
- CL – Contaminated Land
- DAM – Damming and diversion
- EARTH – Earthworks and land disturbance
- EFL – Environmental flows, levels, and allocation
- FF – Farming and forestry
- FLOOD – Flood protection
- OTH – Other discharges
- SW – Stormwater
- WASTE – Waste and landfills
- WW – Wastewater
- WET – Wetlands

- Area specific matters: FMU and rohe chapters
2. Chapter 1, section 1.3 of this report sets out the requirements of section 32 evaluation reports. In doing so it was noted that 1) efficiency and effectiveness are not defined in the RMA, and 2) effectiveness and efficiency are closely interconnected even though they are assessing different things. Efficiency, in particular, is a commonly misunderstood term. For example, it is often confused with cost-effectiveness, which is simply a cost per unit measure.
 3. Efficiency has three main dimensions that are based on society's values and preferences (Australian Government Productivity Commission, 2013). In general terms, these dimensions are:
 - a. how well the available resources are used in producing a particular good or service (i.e., productive efficiency),
 - b. how well the available resources are shared between the different goods and services that are produced (i.e., allocative efficiency), and
 - c. how well resources are used (or saved) to produce goods and services over time or from one generation to the next (i.e., dynamic efficiency).
 4. This part of the report draws on those requirements to examine whether the provisions in the proposal (i.e. the policies and rules) are the most appropriate way to achieve the objectives. In doing so, each main topic within this part outlines specific resource management issues, describes the 'status quo' from a planning perspective, identifies relevant objectives, and describes the proposed provisions and identifies other reasonably practicable options for achieving the objectives. Any options that were considered but discounted as not reasonably practicable are also identified where relevant. The consultation on the options is also summarised.
 5. The efficiency and effectiveness of the provisions in achieving the objectives is then assessed. This assessment identifies and assesses the benefits and costs of the environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions. This assessment is relative to the status quo and, where practicable, the benefits and costs are quantified. The risks of acting or not acting where information on the topic is uncertain or insufficient have also been considered as part of the efficiency and effectiveness assessment. Each topic concludes by summarising the reasons for deciding on the provisions in the pLWRP.
 6. Some sections contain additional sub-sections as part of these evaluations to ensure the assessments contain an appropriate level of detail.
 7. In assessing the benefits and costs in the efficiency and effectiveness assessment described above, opportunities for economic growth and employment that are anticipated to be provided or reduced must also be considered. Anticipating changes in economic growth and employment opportunities across the multiple topics in a regional plan is an exceedingly complex and challenging task. Such changes depend on the nature of the provision itself, its interactions with other provisions, their relevance within a particular locality, how resource users are likely to respond, and what else is happening at the time.
 8. The task of assessing benefits and costs must be done in a way that is consistent with the wider context of promoting the sustainable management of natural and physical resources

(i.e., the purpose of the Act). This consistency is achieved by recognising the full meaning of efficiency, including its dynamic or temporal component and the need to account for environmental externalities in production.

9. Economic growth focuses on how the levels of activity in an economy change over time. It is a measure of the flows or 'income' generated from the economy's stocks of capital: human, social, natural, and financial/physical. These different forms of capital are a society's assets that underpin their wealth and wellbeing now and in the future¹. Employment is also a measure of economic activity, and it is particularly meaningful for local communities.
10. Improvements and declines in the capital stocks may provide and/or reduce opportunities for economic growth and employment. However, these capitals are not always readily 'substitutable' (i.e., the degree to which one can be swapped for another in our economic activities), particularly when matters of national importance, other matters, and the principles of the Treaty of Waitangi (i.e., those in sections 6, 7, and 8 of the RMA) are appropriately considered. For example, particular regard is required to be given to the intrinsic values of ecosystems when managing the use, development, and protection of natural and physical resources.
11. Economic growth and employment are relevant to both the 'market' and 'non-market' components of any economy, and they each have quality and quantity aspects to them. Importantly, they are measures of output rather than being outcomes in themselves. What we usually think of as economic growth is driven by resource use that is 'priced' (i.e., resources are exchanged via a monetary price mechanism) but underpinned by uses that are often 'unpriced', particularly where they involve natural capital. Consequently, if resource use occurs at the expense of stocks of natural capital, then short-term measures of economic growth and employment that tend to focus solely on the market component of an economy, may over-report growth in the economy as a whole in the medium to long-term. It is here that the environmental 'externalities' (or the effects) of activities are relevant to decision-making.
12. Being 'employed' can be either paid or voluntary and is ideally measured as an amount and its value (e.g., one job at minimum wage). Once an environmental issue is created, it can take a great deal of effort (paid and voluntary) to resolve and often this effort is diverted from other activities. It may also involve different skill sets from those that are readily available within a local economy, meaning that there may be changes in employment patterns.
13. Two indicators commonly used for quantifying the market component of an economy are 'value-added'² for economic growth and 'employment counts' for employment (but it does not necessarily include owner-operators of businesses, of which there are many in New Zealand). However, like many individual economic indicators, they typically do not directly capture an economy's non-market component, especially the flows from its stocks of natural capital. Consequently, they provide (at best) a partial view of reality.

¹ The four capitals are central to the Treasury's Living Standards Framework, which the Government has described as "providing a shared understanding of what helps achieve higher living standards to support intergenerational wellbeing". A summary of the Living Standards Framework is available at: <https://www.treasury.govt.nz/sites/default/files/2019-12/lst-as-poster.pdf>

² 'Value added' is the value (or income) that is gained or added to intermediate inputs from the use of capital and labour in a production system.

14. In general terms, the new plan provisions in a proposal fall into two basic situations. In the first, the provisions may be implementing national and regional policy direction (e.g., via NPSs and the RPS) and their design largely relates to how and when this occurs. In the second, the provisions are designed to address local issues that introduce a change in policy. In both situations, it is entirely possible that provisions will both provide and reduce opportunities – as change often creates new activity alongside constraining existing activity. Such shifts in opportunities tend to occur during the transition phase, as people adjust to meet the new provisions.
15. Overall, it is reasonable to anticipate that, if a regional plan promotes improvements in the sustainable management of natural and physical resources, then the net benefit across present and future generations will be greater than not doing so. While the focus on ‘net benefits’ is appropriate in this context, it can only be meaningfully indicated by a complex mix of considerations. As well, it does not necessarily say anything about their distribution, which is likely to vary both within and between communities, as well as from one generation to the next³.

2. Otago’s economies

16. Economies occur at different geographical scales (e.g., a district economy, a regional economy, and a national economy) and are usually highly interconnected. Scale is important when considering the possible benefits and costs of provisions, as a change that does not register impacts at a district or regional scale can still be keenly felt for a time within a local community.
17. In Otago there are two regional-scale economies. One consists of the economies based around its five districts, but it is more spatially disaggregated than some other regional economies because of the nature of the landscape (i.e., the district economies do not tend to service each other easily). The other is the Kāi Tahu economy, which is based around whānau and rūnaka, and has gone through a long period of contraction and transition. Both economies intersect as they sit within, and are dependent on, the same wider system.
18. The current situation for each regional economy is described in detail in two supporting reports to this s32 report from ORC’s Economic Work Programme (described in section 4 of chapter 4): *Otago Region Economic Profile for Land and Water* (Yang & Cardwell, 2023), and *The Kāi Tahu Economy of Otago* (Timms-Dean, McIntyre, Duncan, & Moran, 2024). Section 3 below includes excerpts from the second report that Aukaha considered most relevant to the s32 assessment contained in this report.
19. While the descriptions for each regional economy represent the present, they are limited in any outlook for the future because economies are continually adapting to changing conditions, which create both opportunities and constraints. Such changes occur for a multitude of reasons (e.g., climatic conditions, resource use, government budgets, taxation, migration, inflation, natural hazards, technology, international events, market access) that will influence the costs and benefits of provisions.

³ In other words, the assessment considers ‘Kaldor-Hicks optimality’ rather than ‘Pareto optimality’. In economic theory, a change in resource allocation is Kaldor-Hicks efficient when it produces more benefits than costs (i.e., it has a net benefit). In contrast, Pareto efficiency arises when at least one person is made better off and no-one is made worse off, which is far more challenging to achieve <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803100028833>.

20. The district-based regional economy varies in size, character, and complexity across both its market and non-market components. This circumstance means that any shifts in the opportunities for economic growth and employment as a result of the provisions in the pLWRP will differ markedly across the Otago regional economy. For example, the market component of Clutha District's economy is relatively small and narrow-based (being largely focused on primary production and associated processing and manufacturing) while that of Dunedin is larger and broad-based (its primary production being of lesser importance while health and education are more present).
21. Figure 1 shows the main industry linkages between the district economies within Otago and with other regions for the market component of the Otago regional economy. While trade within each territorial authority is substantial, there is limited trade between districts in Otago compared to that which occurs within some other regions. As well, relatively small numbers of people travel between districts for paid work. The linkages indicate how impacts on one industry may flow through the rest of the economy.
22. Importantly, Figure 1 shows the major trade flows between Otago, Southland and Canterbury in 2020, and some of the value gained from the resource use in Otago accrues outside of the region. For example, the sheep, beef cattle, and grain farming industry in Clutha supplied the meat and meat product manufacturing industry in the Waitaki District (within Otago) with output to the value of \$45 million and the same industry in Canterbury with output to the value of \$248 million⁴. Similarly, some of the output from dairy cattle farming in Clutha flows south to Southland and dairy product manufacturing in Clutha is partly supplied by dairy cattle farming from Southland.

⁴ Analysis is based on the Statistics New Zealand 2020 input-output table (pre-Covid 19).

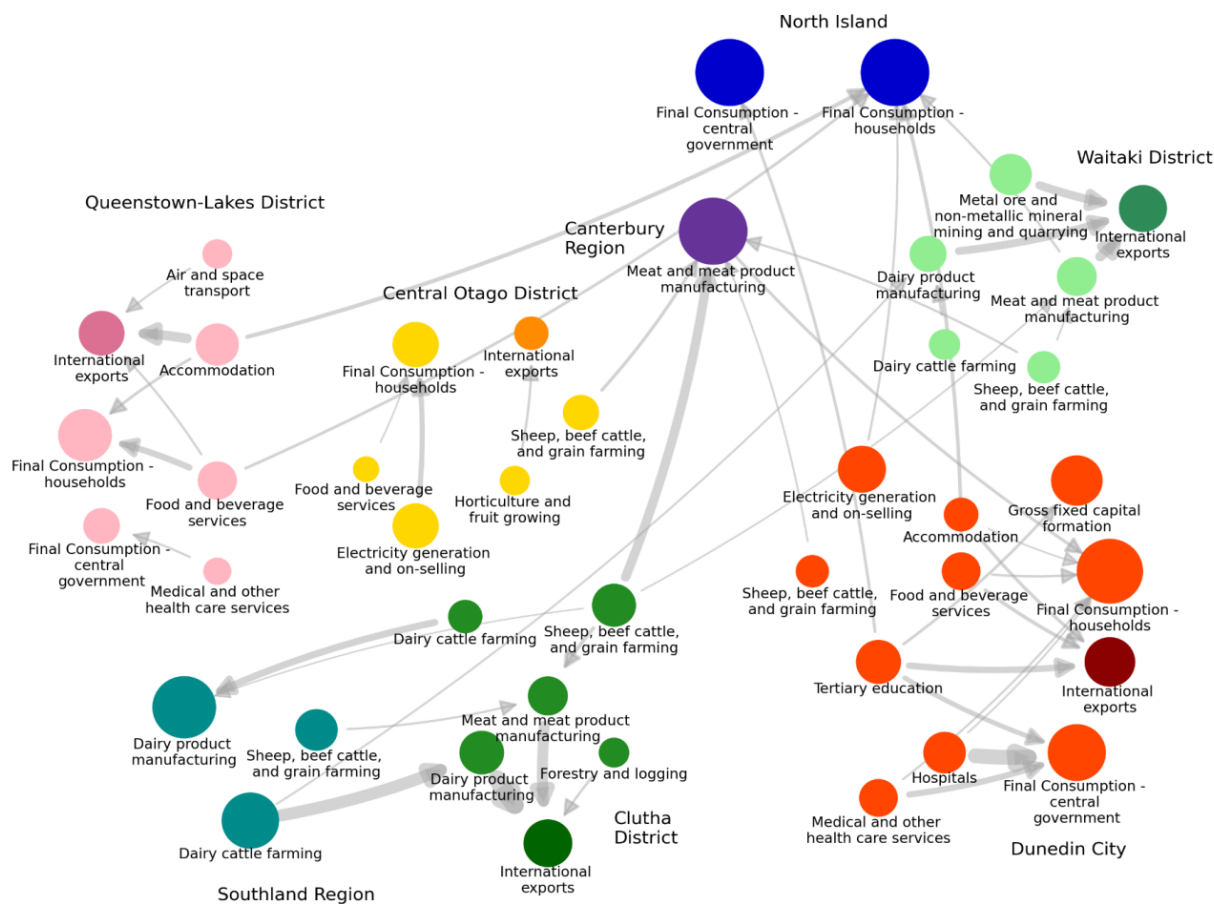


Figure 1: Main economic linkages for Otago's five district economies within the region and beyond in 2020
Source: Otago Region Economic Profile for Land and Water (Yang & Cardwell, 2023)⁵

23. The level and nature of economic activity within Otago's district-based economy reflects where people live and work. Table 1 and Figure 2 show how the usual resident population is distributed across Otago and how it has changed over the decade since 2013. In 2023, the total population of the region was just under 241,000 people and around 20,000 people (or 8.7% of those who chose to state their ethnicity) identified as Māori.

Table 1: Changes in Otago's usual resident population from 2013 to 2023
Source data: StatsNZ Census of population and dwellings 2023

Administrative area	Total in 2013	Change 2013-18		Change 2018-23		Total in 2023	Share of region
		Absolute	Relative	Absolute	Relative		
Waitaki District (in Otago)	19,212	+1,341	+7.0%	+1,017	+4.9%	21,570	9%

⁵ Notes: (1) The size of circles corresponds to square root of industry output, smallest circle = \$58 million, largest circle = \$3,900 million; (2) The circles are grouped by colour to distinguish between TAs and regions; (3) The darker shaded circles indicate international exports; and (4) The arrow width corresponds to trade value, smallest width arrow = \$40 million, largest width arrow = \$490 million.

Administrative area	Total in 2013	Change 2013-18		Change 2018-23		Total in 2023	Share of region
		Absolute	Relative	Absolute	Relative		
Dunedin City District	120,249	+6,006	+5.0%	+2,646	+2.1%	128,901	54%
Queenstown Lakes District	28,224	+10,929	+38.7%	+8,655	+22.1%	47,808	20%
Central Otago District	17,895	+3,663	+20.5%	+2,748	+12.7%	24,306	10%
Clutha District	16,890	+777	+4.6%	+648	+3.7%	18,315	8%
Otago Region	202,470	+22,716	+11.2%	+15,714	+7.0%	240,900	100%

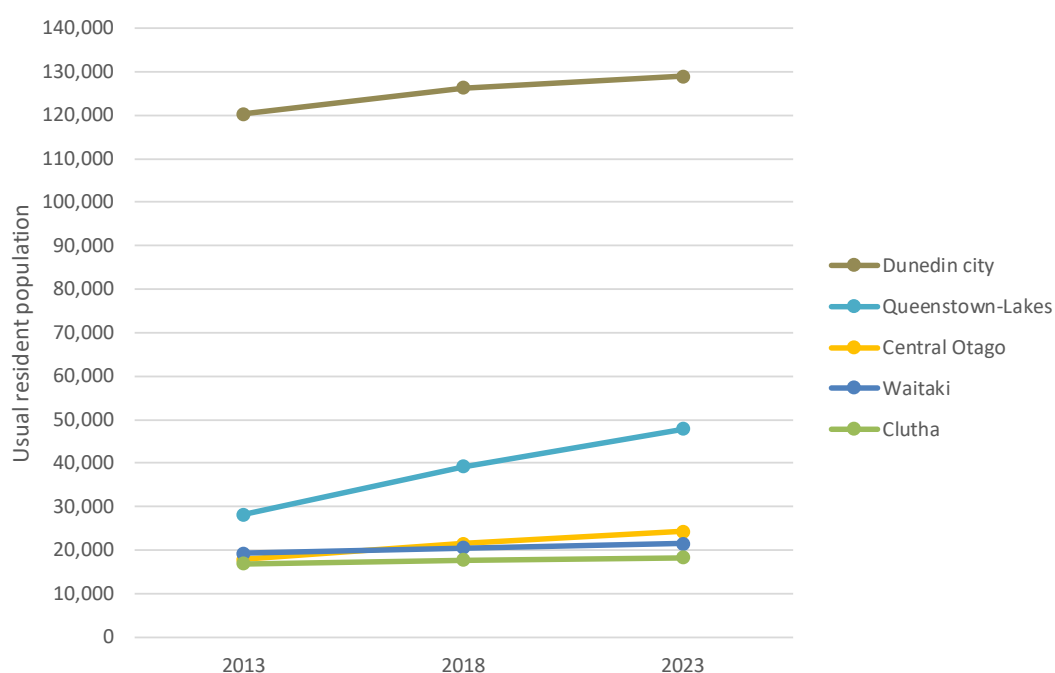


Figure 2: Usual resident population by district in Otago
Source data: StatsNZ Census of population and dwellings 2023

24. The median age for the total population was 38.4 years of age (slightly higher than 38.1 years for New Zealand), and 24.8 years for Māori. However, there is considerable variability between the district, with the median age ranging from 35.5 years in Queenstown Lakes to 46.7 years in Central Otago and 46.1 years in Waitaki (as a whole). The median age in Dunedin City was 37.0 years and in Clutha it was 42.7 years. Clutha has the highest proportion of children (i.e., below 15 years of age) with 19%, while Queenstown Lakes the highest proportion of people aged between 15 and 65 years (i.e., largely of working age) with 56% (Figure 3).

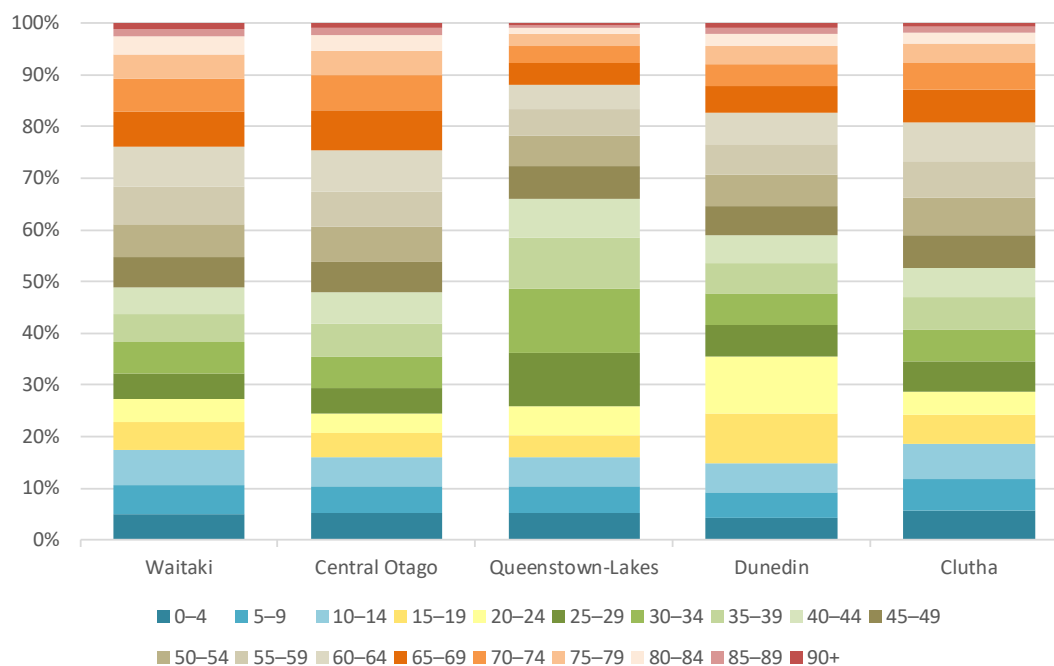


Figure 3: Proportional distribution of age groups by district in Otago in 2023
Source data: StatsNZ Census of population and dwellings 2023

25. The total number of dwellings in Otago in 2023 was 112,473, an increase of 8,859 (8.6%) from 2018. Around 60% of this regional growth in dwellings occurred in Queenstown Lakes District, 17% in Dunedin City, 15% in Central Otago, 5% in Waitaki District, and 2% in Clutha District. The level and distribution of urban growth across the region is one of many indicators of resource use (i.e., potential pressure) and is relevant to the benefits and costs of provisions.
26. As previously mentioned in this section, a policy option's costs and benefits for an individual or community usually depend on multiple factors. Some of these factors are within the control of decision-makers while other factors are either external to their decisions and some act as constraints. Figure 4 below identifies eight of these factors and, in doing so, it highlights some of the complexity involved in any assessment. Of note is that 1) impacts will depend on how a policy option is implemented in addition to its design, and 2) impacts will vary by the nature of the current situation and future outlook. The current situation and future outlook is the context for the proposed Land and Water Regional Plan, which varies by community across the region.
27. In addition to Yang & Cardwell (2023) and Timms-Dean et al. (2024), Otago's current situation is outlined in a series of FMU and rohe socio-economic snapshots (Yang, 2022 a-f). Additional aspects are covered in three other reports from ORC's Economic Work Programme: *Catchment Stories* (Reilly, 2023), and *Farmers and Growers in Otago* (Moran (Ed.), 2022), and *Otago's Rural Businesses and Environmental Actions for Fresh Water* (Moran (Ed.), 2023). The *Catchment Stories* report describes what many local communities are already doing to manage land and water across the region, along with identifying many of the challenges they face.

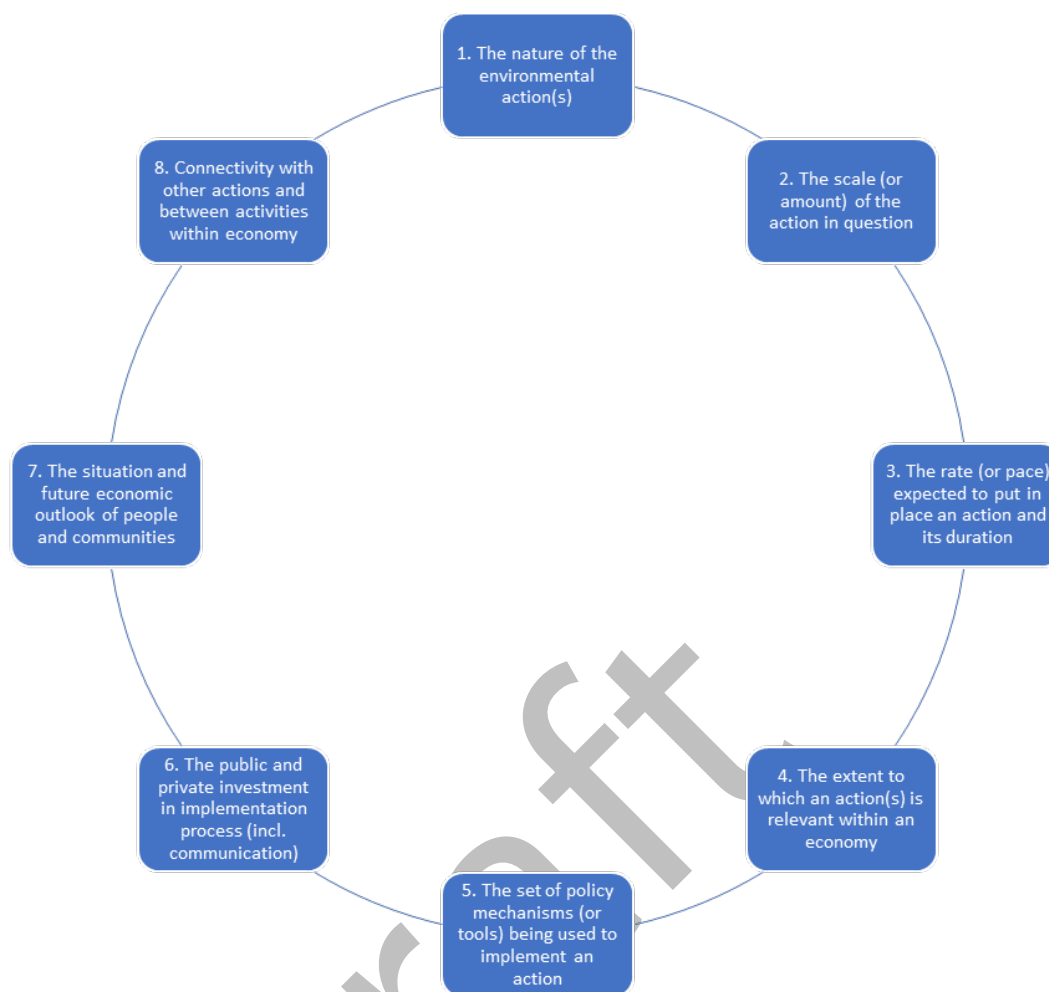


Figure 4: Factors that influence the impacts of a policy option for resource users
Source: Moran, McDonald, and McKay (2024)

28. The pLWRP will have differing benefits and costs for individuals and communities in Otago. Assessing costs is challenging, the benefits are often even more so. One reason is that while costs start to occur as a provision is implemented, there can be quite a timelag to the benefits. Another reason it is that some benefits are found in the counterfactual (i.e., what did not happen). In other words, there will be costs of action but the costs of inaction are not zero (Ministry for the Environment, 2019a). Generally environmental interventions are cheaper and more cost-effective the sooner they are implemented (Ministry for the Environment, 2019a).
29. Despite the challenges, the benefit-side of the equation is no less real than the costs and there are generally two types: 1) gains we are looking to realise, and 2) losses that we seek to avoid (Moran (Ed.), 2019). Losses can arise from a deteriorated environment (i.e. damage costs), such as those resulting from a contaminated drinking water supply. They are also related to fixing this environment so that the damage does not continue to occur (i.e. remediation costs). The latter are described here as remediation costs rather than restoration costs because once an environment has been altered then returning it to a former state can be all but impossible, particularly if ecological thresholds have been crossed. New Zealand and international examples of damage and remediation costs are included in Moran (Ed.), 2019).

30. While ORC has undertaken to identify and assess the costs and benefits that are anticipated from the pLWRP, individuals and local communities will each have varying experiences of different provisions resulting in a unique set of impacts. Therefore, the specific nature of benefits and costs can realistically only be explained by the resource users themselves and those affected by that resource use. The submissions and hearing process will provide opportunity for people to explain these impacts and for ORC to further consider the costs and benefits arising from the pLWRP.

3. Freshwater management and the Kāi Tahu Economy – Benefits and Costs

31. This section is information provided by Aukaha on behalf of the seven papatipu rūnaka of Kāi Tahu with shared authority in Otago. It is based on the Kāi Tahu Economy Report (Timms-Dean et al., 2024). The seven papatipu rūnaka of Kāi Tahu are:
- Te Rūnanga o Moeraki, (Kāi Tahu ki Otago)
 - Kāti Huirapa Rūnaka ki Puketeraki and (Kāi Tahu ki Otago)
 - Te Rūnanga o Ōtākou (Kāi Tahu ki Otago)
 - Hokonui Rūnanga (Kāi Tahu ki Otago, Southland)
 - Awarua Rūnanga (Ngāi Tahu ki Murihiku Rūnaka, Southland)
 - Waihopai Rūnanga (Ngāi Tahu ki Murihiku Rūnaka, Southland)
 - Ōraka-Aparima Rūnanga (Ngāi Tahu ki Murihiku Rūnaka, Southland)
32. The Kāi Tahu Deed of Settlement with the Crown recognised the rakatirataka of Kāi Tahu in their takiwā, particularly related to taoka. Wai māori is a significant taoka to Kāi Tahu, affording it protection under the exercise of mana and rakatirataka, and through kaitiakitaka practices. Prior to colonisation, Kāi Tahu economic activities focused on diverse economies that were controlled collectively for collective benefit.⁶ For Kāi Tahu in Otago, the success of economic development over many centuries prioritised the health of the land and water as prerequisites for economic activity.
33. Since 1840, freshwater management policy and practices have not protected the health and well-being of waterways, contributing to their modification, degradation and a loss of indigenous biodiversity. At the same time, other practices that occurred in the context of colonisation have contributed to Kāi Tahu losing access to many of these diverse economies. Throughout this history, the degradation of both the waterways and the impact on economic activity of whānau has occurred side-by-side, with each contributing to each other in a downward spiral.
34. For decades, mana whenua have fought to protect the mauri of freshwater systems in their takiwā, including through the mechanisms under the 1997 Settlement with the Crown. The cost of financing and resourcing these processes is significant, and also imposes opportunity costs. As people and money are tied up in reactive, complex and costly resource management processes, they are not available to support proactive economic development activities.

⁶ Diverse economic activities relevant to the Kāi Tahu economy include unpaid labour, self-employment, and volunteer work; barter, fair trade, and gift exchange; cooperatives, family firms, social enterprises, and communal forms of labour; and communal and common property arrangements. Gibson-Graham, 2009, Amoamo, Ruckstuhl, & Ruwhiu, 2018.

35. Moreover, despite these significant efforts, waterbodies in Otago continue to face a multitude of threats related to over-allocation, waterway modification, and discharges of waste. Against this backdrop, in 2019, the Minister for the Environment described Otago's freshwater bodies as being at a "critical juncture" due to existing planning provisions for freshwater management being "inadequate" (Skelton, 2019, p. 7).
36. The Kāi Tahu economy is underpinned by an ethical framework that guides decision-making and economic activity. This is founded in a belief system that sees people as an integral part of te taiao, and the health and the success of the people as being dependent on the health of te taiao.
37. Within this context, the impacts of freshwater management on the Kāi Tahu economy can be categorised under the following headings:
 - a. Impacts on mahika kai
 - b. Impacts associated with kaitiakitaka obligations
 - c. Impacts on the ability to take part in the mainstream economy
 - d. Broader socio-economic impacts.

3.1. Impacts on mahika kai

Even in my father's childhood, for example, tuna was a kai that would be eaten up to three or four times weekly for breakfast. The cost to individual whānau is that they are not accessing that kai, with all the benefits that go along with it, such as the physical work and the ability to share the kai – manaakitaka – has been impacted upon, simply because when you go through a period of restoration, you have to restrict your taking the resource/ taoka. The resource will not now sustain whānau –if even one whānau took eels for their breakfasts, we know that the population would be gone pretty soon, and that's just one species.

Interview, He Pātaka Wai Ora case study
(Timms-Dean, McIntyre, Duncan, & Moran, 2024)

38. Mahika kai practices are a central part of the Kāi Tahu economy, providing food and other resources for sustenance and trade and also serving wider social, economic, and political needs including:
 - a. development and transfer of knowledge
 - b. opportunities for trade and for building alliances and relationships
 - c. the ongoing expression of mana and connection to place, supporting cultural identity.
39. For Kāi Tahu, an environment with an intact mauri is a prerequisite of mahika kai; if a taoka is not healthy, sustainable and abundant, collection of the resource may be restricted or suspended until it recovers. Sustaining mahika kai requires more than just protecting habitat at harvest sites – it requires a holistic approach that recognises and takes account of the interconnections between different parts of the environment and the contribution of these to healthy habitat conditions.
40. Degradation and modification of water bodies has led to devastating loss of mahika kai resources across Otago. Contributors to loss of mahika kai are identified in Table 2.
41. Costs associated with the loss of mahika kai include:

- a. Direct costs: loss of access to food sources for whānau, for manaakitaka and for trade. Staple foods have become unavailable or only rarely available and must be substituted by purchase of other foods.
- b. Indirect costs:
 - i. The loss of healthy food sources and the reduction of physical activity through not being engaged in harvest activities are considered likely to contribute to overall impacts on the health of Kāi Tahu whānui, with associated health costs.
 - ii. Inability to carry out mahika kai activities leads to the loss of the knowledge base relating to these practices. The cost of this is lost opportunity for future generations to apply and develop this knowledge for economic benefit.
 - iii. Socio-economic costs associated with loss of connection with place and with cultural practices are discussed below.

3.2. Impacts associated with kaitiakitaka obligations

Whai-rawa-a-lwi, our tribal economy, extends beyond GDP; our taoka constitute our economy, and without them, our tribal economy cannot flourish.

Comment, Waiwhakaata case study

(Timms-Dean, McIntyre, Duncan, & Moran, 2024)

- 42. An integral part of the relationship of Kāi Tahu with te taiao is the kaitiakitaka obligation to ensure the environment is sustained for future generations. This obligation is deeply held, and there is an understanding that if something is taken from the natural environment, there must also be something given back to ensure that the natural systems continue to function well. The implication of this is that the Kāi Tahu economy can only function without constraint if the environment is healthy.
- 43. If the environment is degraded and there is no management framework in place to address this, the burden of responding to the degradation falls on mana whenua. The effort expended in meeting kaitiakitaka obligations in these circumstances represents an opportunity cost of the policy approach, because the time and resources required for advocacy, education and catchment restoration is not available for other economic, social and cultural activities, including time with whānau and opportunities to earn income or to pursue careers or economic development.
- 44. Case studies and other interviews emphasise the significant amounts of time and resources that have been spent to fulfil kaitiakitaka obligations with respect to freshwater over many years. Costs include:
 - a. Catchment restoration costs:
 - i. These include costs of both time (project management and labour) and material (such as plant materials). Such costs are often unfunded – for example Kāti Huirapa ki Puketeraki carried out restoration work on the Waikouaiti River and estuary for 20 years before receiving any funding to assist. As well as time spent on restoration activities, costs included the establishment and management of a nursery to supply plants for revegetation.

- ii. Costs associated with not being able to practise mahika kai while the focus is on restoration.
- b. Advocacy and education costs: To address concerns about continuing degradation of water bodies and freshwater habitats, Kai Tahu in Otago have spent substantial amounts of time and money over many years engaging in planning processes to advocate for greater priority to be given to the health of water bodies and better management of the effects of land and water use on freshwater environments. Because much of this work has been unfunded, it is not easily quantifiable, but costs include:
 - i. Time costs of mana whenua representatives in preparation of cultural evidence and attendance at meetings, hearings and mediation. Most of this involvement has been voluntary.
 - ii. Time spent on educating landowners, councils and others.
 - iii. Costs of obtaining planning, legal and other specialist assistance, including through the establishment and funding of Kāi Tahu ki Otago Ltd (now Aukaha)⁷.
- c. Opportunity costs: Time put into restoration, education and advocacy is time lost to other activities, including time with whānau and loss of opportunities to earn income or to pursue careers or economic development.

3.3. Impacts on involvement in the mainstream economy

Our businesses are going to have much more of a conscience and a commitment to improving practices because our models are not just for profit of this generation. It's got to be a focus on us and our future generations after us.

Interview, Te Nukuroa o Matamata case study

(Timms-Dean, McIntyre, Duncan, & Moran, 2024)

45. Since the days of first contact with the pākehā economy, Kāi Tahu have actively taken up opportunities for new economic enterprise. However these opportunities have been constrained as a result of environmental degradation. In addition to the loss of mahika kai as an economic base, constraints have arisen because of the following:
- a. Economic activities are restricted by environmental constraints imposed by the obligation to sustain te taiao. If other resource users are not subject to the same constraint, the cost of doing business is greater for Kāi Tahu enterprises. An example of this is that Ngāi Tahu Holdings companies are accountable to mana whenua and are

⁷ While Aukaha is partially funded through providing professional services to councils, government agencies and other clients, involvement in formal RMA submission, hearing and appeal processes is funded by papatipu rūnaka with assistance from Te Rūnanga o Ngāi Tahu. Although this work is not limited to advocacy for freshwater environments, this has always been a significant focus.

required to report against a quadruple bottom line – economic, environmental, social, cultural.⁸

- b. The need for a focus on advocacy through regulatory processes, as discussed above, has been a barrier to building economic partnerships with resource users.

3.4. Broader socio-economic impacts

46. As discussed above, the degradation of freshwater environments and ecosystems has had devastating impacts on mahika kai. The modification of rivers and wetlands has also contributed to a loss of connection with ancestral landscapes and associated traditions and practices. This has a range of socio-economic impacts, including:

- a. The health impacts associated with loss of mahika kai (see discussion above) loss of knowledge base
- b. The impacts associated with loss of an economic base. Loss of mahika kai has contributed to loss of industry, employment, income sources, and has contributed to outward migration.⁹
- c. The social costs associated with loss of connection with place and with cultural practices

3.5. Benefits of a policy approach focusing on the health and wellbeing of water bodies and freshwater ecosystems

We do want to convert from ... all of this work that we do to eventually having some benefit in the natural environment by being in it, functioning on it, working with it commercially in a way that sustains our involvement and builds that knowledge base that allows us to increase our influence by having that connection as well. ... So ngā rūnaka/papatipu rūnaka ... when they look to be building opportunity, bringing their people home, building their own economy within the takiwā, their rohe, it would be good if it could have a strong base on activity around water, wai māori.

Interview, papatipu rūnaka representative
(Timms-Dean, McIntyre, Duncan, & Moran, 2024)

47. The benefits are as follows:
 - a. Creates a level playing field for Kāi Tahu enterprises in the mainstream economy
 - b. Enables effort to be put into broader outcomes and partnerships

⁸ For example, as part of meeting 2030 environmental goals, Ngāi Tahu Holdings companies have (Te Rūnanga o Ngāi Tahu, 2023):

- In Canterbury, begun one of New Zealand's largest regenerative farming trials to reduce water requirements, greenhouse gas emissions and nitrate leaching and to significantly increase soil carbon
- Created water management plans for Ngāi Tahu Farming operations and upgraded several Ngāi Tahu Farming sites to variable rate irrigation with soil sensors
- Reduced synthetic fertiliser use
- Surveyed aquatic biodiversity of waterways in forestry operations
- Developed guidelines to reduce environmental impacts of property construction projects.

⁹ A vivid example of this is the impacts of draining of Lake Tatawai in the Lower Taiari Plain near Momona. The resources available in this wetland supported a thriving Kāi Tahu community in the Henley area. Loss of the wetland led quickly to the break-up of that community as residents had to go elsewhere to seek income.

- c. Opportunities for innovation – mahika kai-based economic activities, economic opportunities supporting restoration
- d. Integration of science and mātauraka
- e. Reduced costs of advocacy
- f. Frees up money and time
- g. Gives space for aspirational internally focused development activities
- h. Opportunities for reconnection, community development, economic growth – employment
- i. Health and wellbeing – identity
- j. Potential to become involved in getting commercial benefit from use of water – can only do this if the wai is healthy, because of kaitiakitaka obligation. Getting involved in this way will also build understanding of how the waterway works

The stewardship of Waiwhakaata is a foundation for economic development within our communities. It promotes opportunity for reciprocity with our community and connection to people and place. It allows for the development of businesses, agriculture, forestry, tourism, and other ventures that contribute to the fostering of tribal economic multipliers for the benefit of the Iwi as a whole.

Waiwhakaata case study

(Timms-Dean, McIntyre, Duncan, & Moran, 2024)

Table 2: Activities / effects contributing to costs to the Kāi Tahu economy

Area of cost	Cause	Examples of contributing activities/ effects
1. Costs associated with loss of mahika kai: Loss of food source Costs of health impacts Loss of knowledge base Socio-economic costs of loss of connection	(a) Loss of physical habitat for mahika kai species	Wetland drainage Modification of wetland vegetation Abstraction resulting in extended periods of reduced river flows Diversion of water bodies Barriers to passage – dams and weirs Physical modifications to spawning/ nesting or feeding habitat
	(b) Degradation in habitat for mahika kai species	Discharges in flow resulting in water quality degradation Bed disturbance that alters bed conditions (e.g. change from gravel to silt bed) Abstraction resulting in extended periods of reduced river flows or loss of flushing flows Obstacles to flow Weed incursion Loss of riparian vegetation
	(c) Reduction in macroinvertebrate food sources	Discharges in flow resulting in water quality degradation Bed disturbance that alters bed conditions Abstraction resulting in slowing of flow Obstacles to flow Loss of riparian vegetation
	(d) Competition and predation	Introduction/ prioritisation of exotic species
	(e) Loss of safe access to harvest	Discharges resulting in water quality degradation - particularly bacterial and algal contamination Sediment discharges resulting in deep sediment layer on bed Structures impeding access along river
	(f) Contamination of mahika kai species	Discharges of food contaminants (e.g. faecal matter, heavy metals, toxic substances)
	(g) Environmental conditions that discourage harvest	Discharges of human or animal effluent Discharges of unsightly or smelly substances Discharges resulting in algal growth Weed and pest incursion

Area of cost	Cause	Examples of contributing activities/ effects
		Sediment discharges resulting in deep sediment layer on bed Loss of riparian vegetation Modification of channel resulting in loss of naturalness
2. Cost of exercising kaitiakitaka Costs of restoration – time and materials Advocacy costs Opportunity costs – time and financial capital lost to other economic and social activities; foregoing harvest of mahika kai species	(a) Habitat degradation and loss	See 1(a), (b) and (c) above
	(b) Water quality degradation	Discharges resulting in water quality degradation
	(c) Modification of wāhi tūpuna	Wetland drainage Modification of water bodies and introduction of structures that result in alteration of natural form and function Discharges resulting in water quality degradation Weed and pest incursion Loss of riparian vegetation Effects on populations of indigenous species as for 1(a), (b), (c) and (d) above
	(d) Poor understanding and recognition of mana whenua values in resource management decision-making	Objectives, policies and rules that do not provide for mana whenua values or that lack clarity about these
	(e) Regulatory settings that do not require resource users to manage their effects on the health of water bodies and freshwater ecosystems	
3. Constraints on involvement in the mainstream economy Higher relative costs associated with compliance with environmental goals Barriers to building economic partnerships	(a) Regulatory settings that do not require resource users to manage their effects on the health of water bodies and freshwater ecosystems	
4. Broader socio-economic costs Health costs Loss of employment Loss of social cohesion/ cultural identity and wellbeing	All matters above	

4. Resource consents

48. Many of the assessments in the following chapters of this report include discussion of resource consents for specific topics, particularly the costs of applying for a resource consent to undertake an activity. This section provides an overview of ORC's consent processing and current consents in Otago, as well as information on the costs of processing different types of resource consents. It is intended to provide helpful context for the topic-specific discussions involving resource consents.

4.1. Overview of ORC's consent processing

49. ORC is responsible for issuing coastal permits, discharge permits, water permits, and some types of land use consents. Since the 2014/15 financial year, information about resource processing by all local authorities has been collected and reported in the Ministry for the Environment's National Monitoring System. As shown in Figure 5, between the 2014/15 and 2020/21 years, ORC processed between 312 and 440 resource consent applications per year. In 2021/21, the applications processed per year increased to 647 and in 2022/23 it increased again to 1,297, which was the largest number that year out of all regional councils in New Zealand.

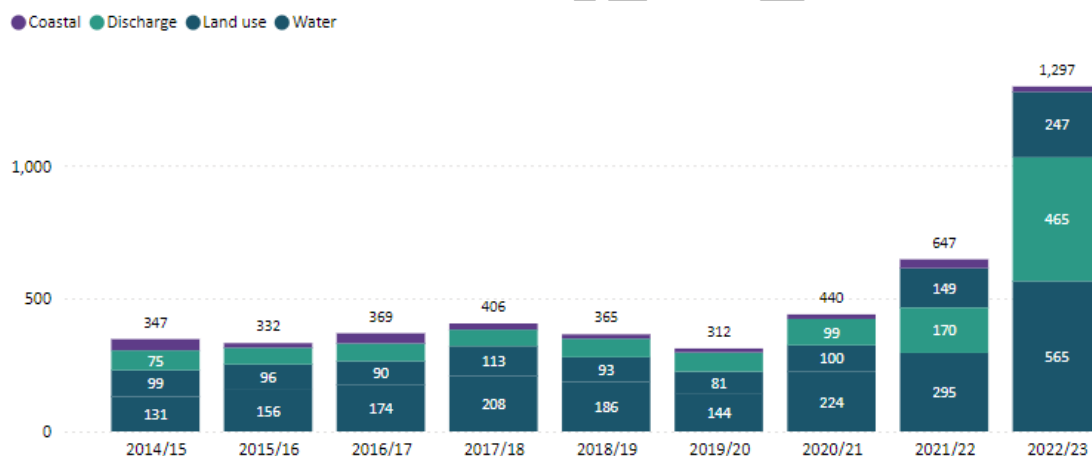


Figure 5: Resource consents issued by ORC 2014/15 to 2022/23

50. These increases were driven by a large number of deemed permits expiring in 2021 and needing to be replaced by water permits, as well as significant changes in the planning framework which required resource consents for activities that were, largely, permitted under the Water Plan. These changes were:
- Plan Changes 7 and 8 to the Water Plan (notified in 2020 and made operative in 2022), and
 - The Government's introduction of the NESF (3 September 2020).
51. There have also been shifts in the type of applications received. Prior to 2022/23, the majority of applications processed by ORC were water permits and land use consents. In 2022/23, land use consents and discharge permits were the largest categories. Again, these shifts reflects the changes to the planning framework, particularly Plan Change 8, which

introduced land use and discharge rules for animal effluent storage and application, as well as residential earthworks.

52. According to the National Monitoring System, in the 2022/23 year ORC processed 96% of applications on time, notified 2% of all applications, and had a median processing time per application of 11.5 days. The median processing time was the lowest of the regional councils (as set out in Figure 6).

Council	Median processing time of consents
Environment Canterbury	46.00
Waikato Regional	23.00
Horizons Regional	22.00
Northland Regional	20.00
Taranaki Regional	20.00
Greater Wellington Regional	18.00
Hawke's Bay Regional	16.50
Bay of Plenty Regional	16.00
Environment Southland	16.00
West Coast Regional	14.50
Otago Regional	11.50

Figure 6: Median consent processing time of consents (regional councils only)

53. For non-notified applications where no hearing was held, ORC also had one of the lowest average consent fees, as set out in Figure 7.

Council	Average consent fee
Environment Southland	\$4,566
Waikato Regional	\$4,202
Bay of Plenty Regional	\$4,006
Environment Canterbury	\$3,870
Greater Wellington Regional	\$3,305
Horizons Regional	\$2,626
Hawke's Bay Regional	\$2,529
Taranaki Regional	\$2,468
West Coast Regional	\$1,706
Otago Regional	\$1,450
Northland Regional	\$1,188

Figure 7: Average consent fee (regional councils only)

4.2. Overview of current consents in Otago

54. The information contained in this section is based on resource consent data provided by ORC's Consents team in August 2024 on all current consents in Otago issued from 1991 to 2024. The numbers reported in this section differ from those discussed above because a different measure is being used. This section discusses consents (i.e. the end of the consenting process), whereas the section above discusses applications (i.e. the start of the consenting process). For example, one application can result in three different consents.
55. As at 23 August 2024, there were 7,051 active consents in Otago. ORC records the type of each consent, as shown in Figure 8. The type with the most consents in Otago is bore

construction consents (1,154 consents), followed by discharges to land (1,091) and surface water takes (982).

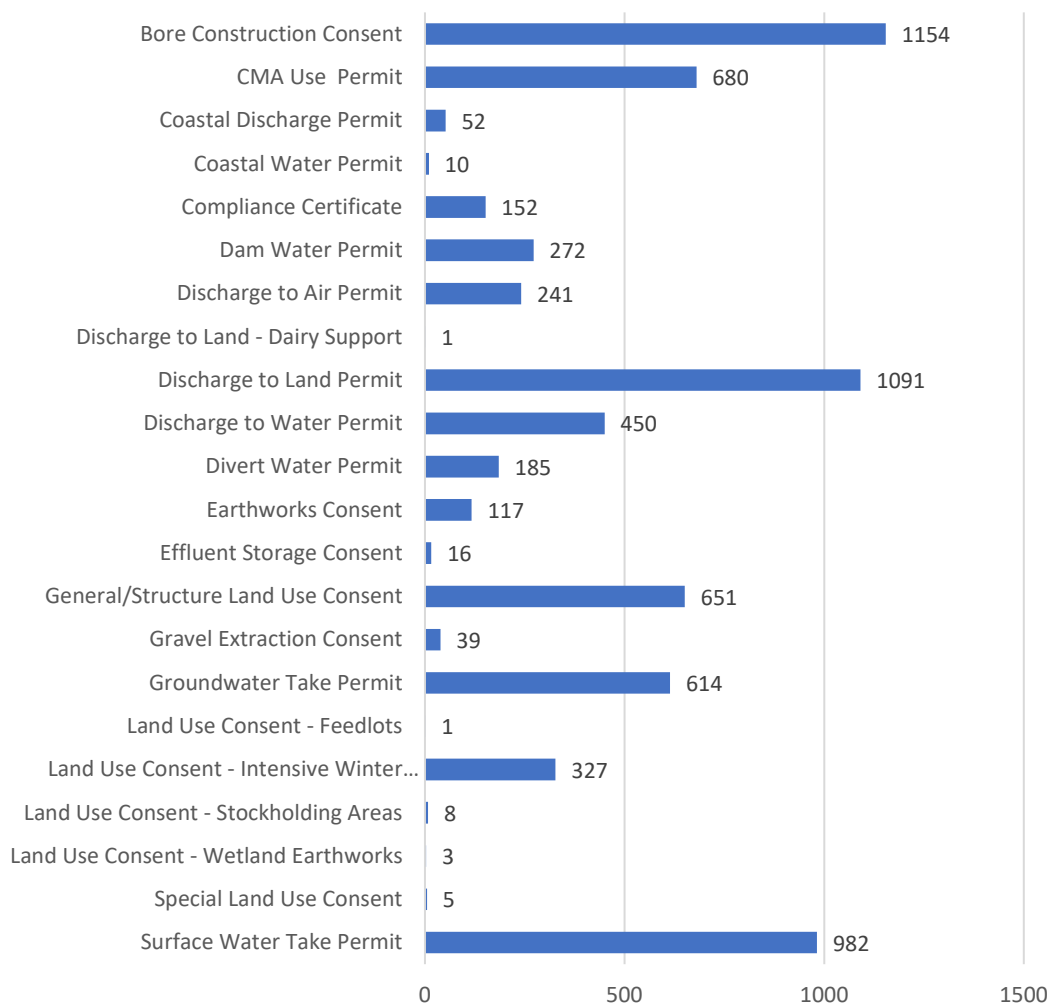


Figure 8: Distribution of current consents by type (as at 23 August 2024)

56. When the categories above are combined, water takes (1,596)¹⁰ and discharges to land and water (1,542 consents)¹¹ make up 45% of all current consents in Otago.
57. The number of consents issued each year varies considerably, as shown in Figure 9.
58. There has been a marked increase in the number of consents issued by ORC after 2020. As explained above in relation to the information on applications lodged, this increase is due to the expiry of deemed permits, the provisions of Plan Changes 7 and 8 to Water Plan becoming operative, and the introduction of the NESF.

¹⁰ Comprised of: surface water take permit (982), and groundwater take permit (614).

¹¹ Comprised of: discharge to land – dairy support (1), discharge to land permit (1,091), discharge to water permit (450).

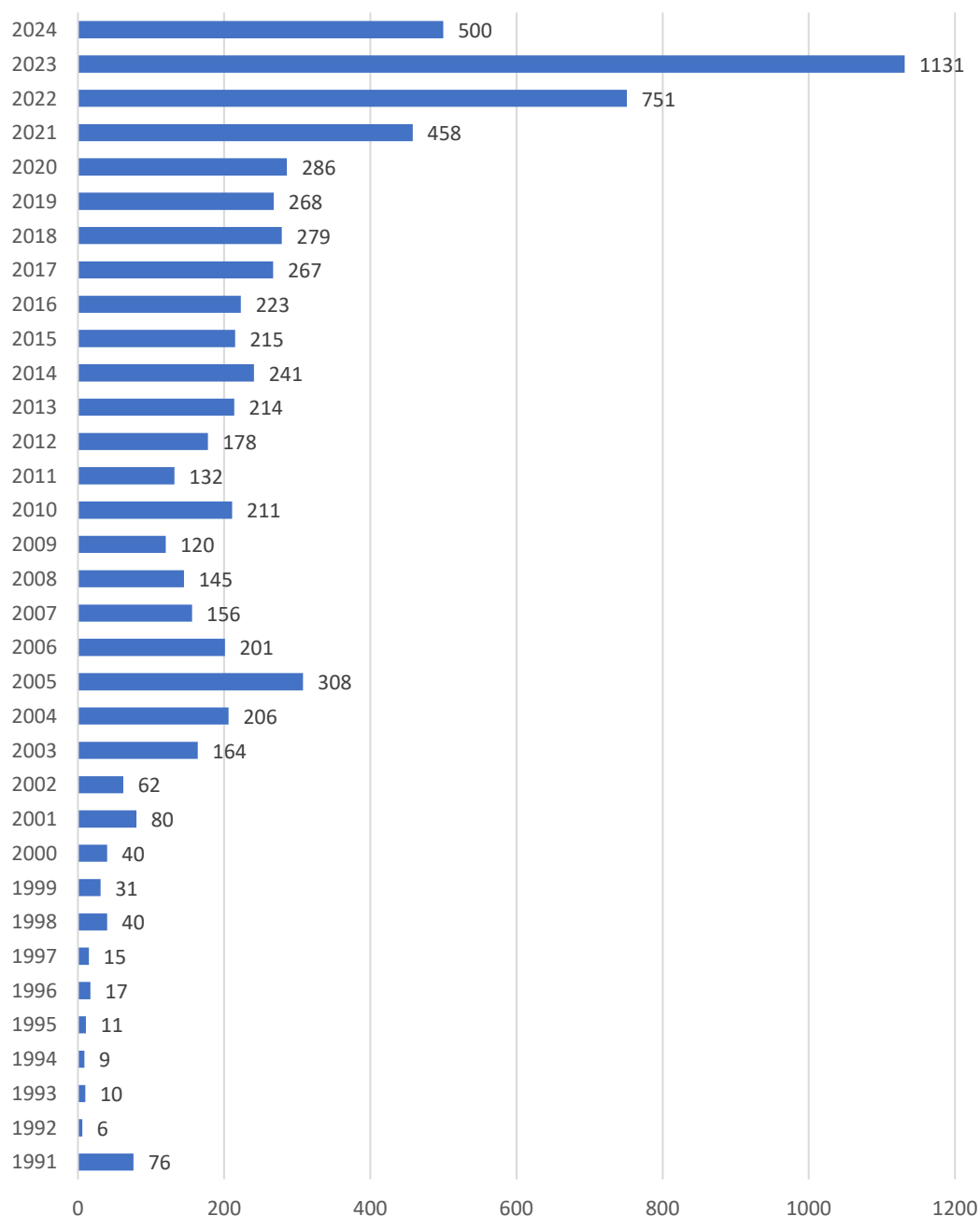


Figure 9: Number of consents issued per year (as at 23 August 2024)

59. Some of the consent types categorised above are directly relevant to a topic evaluated in Chapters 8 – 20 of this report (e.g., earthworks). Where relevant, those chapters include more detailed information about the current consents for such an activity.

4.3. Costs of resource consents

60. One of the main ways costs of regional plans are experienced is through resource consents. Some activities may require resource consent for the first time under the pLWRP, whereas others continue to require resource consent, but the information requirements and policy direction relevant for those applications may change, imposing greater or lesser costs

compared to the status quo. There are three categories of costs associated with resource consents:

- a. Preparing the application and supporting information,
- b. Processing of the application by ORC,
- c. Implementing the conditions of the consent.

61. These cost categories are discussed further below.

4.3.1. Preparing the application and supporting information

62. The first category of costs is incurred prior to applications being received by ORC. In a report prepared for the Ministry for the Environment, Castalia (2021) estimated that user costs of applying for resource consents is the largest cost category across the entire resource management system in New Zealand. Costs will depend on the scale and significance of the activity, the complexity of the proposal and/or the management framework, and the extent to which an applicant engages experts to assist them with preparing the application. ORC does not hold information on the costs to applicants of preparing applications.

63. ORC provides a pre-application service which involves administration, research, meeting with potential applicants, taking and distributing minutes, and providing follow-up advice. The first 30 minutes of this service is provided free of charge. The remaining work is charged at the relevant staff member's hourly rate in accordance with the fees and charges schedule.¹²

4.3.2. Processing of the application by ORC

64. There are two main ways that costs of processing resource consent applications are recovered from applicants. The first way is as a fixed fee (where there is one charge to the applicant). The second is through an initial deposit fee (which generally does not cover the full costs of processing) plus any additional actual and reasonable costs incurred by ORC to process the application to completion. Processing costs are charged whether an application is granted or declined. These costs will vary considerably depending on:

- a. the potential environmental effects of the activity,
- b. the quality and completeness of the application submitted, and
- c. the amount of staff time needed to process and assess the application.

4.3.2.1. Fixed fees

65. In Otago, some types of applications for a consent from the regional council are subject to a fixed fee. Fixed fees are generally used where the costs of processing a particular type of application are reasonably predictable and do not vary significantly. Currently, under ORC's Fees and Charges Schedule, the following activities are subject to a fixed fee:

- a. Single bore: \$1,365,

¹² Information on ORC's fees and charges for resource consent applications is available from: <https://www.orc.govt.nz/consents-and-compliance/apply-for-a-consent/fees-and-charges/>

- b. Intensive winter grazing: \$1,600,
 - c. Exemption under regulation 7A of the Water Metering Regulations: \$250,
 - d. Exemption under regulations 9 or 10 of the Water Metering Regulations: \$600,
 - e. Transfer consent holder and certificate: \$200
 - f. Preparing a priority table for deemed permits where some takes have priority over others: \$200.
66. Where a consent has a fixed fee there are no additional charges to users, even if processing exceeds the cost stated above.

4.3.2.2. Initial deposit

67. Most activities are subject to an initial deposit followed by additional processing costs. As set out in ORC's Fees and Charges Schedule, there are different initial deposits for different types of applications. In summary:
- a. For publicly notified applications: \$25,000.
 - b. For non-notified and limited notified applications:
 - i. the first consent is \$3,000 and each additional consent applied for is \$200,
 - ii. a variation of the conditions of an existing consent is \$3,000, and
 - iii. a certificate of compliance is \$2,000.
68. These deposits must be paid before processing begins and are payable whether or not the application is granted or refused. If the processing costs are less than the initial deposit then the balance is refunded to the applicant.

4.3.2.3. Processing costs

69. The most uncertain cost for applicants is the processing cost charged by ORC. After the initial deposit has been used up, additional costs are charged to the applicant for the time spent processing the application based on the hourly rates of the staff involved. These rates are set out in full in ORC's Fees and Charges Schedule. To assist prospective applicants, ORC records information on processing costs so that staff can provide estimates of potential costs for processing applications for different types of activities. This task is routine process for staff, with regular cost updates provided to the applicant.
70. Recording processing costs for different types of resource consents is not a simple exercise. This circumstance is largely because one application does not necessarily result in one consent being issued. For example, an application to construct a new dam in a river would, if granted, result in several consents being issued (e.g., a water permit to dam water, a land use consent to disturb the bed of the river and erect the dam, and a discharge permit for the release of water from the dam). Consent planners do not separately record their time on the different parts of the same application. As a result, it is generally not possible to identify the processing costs for a particular type of consent (for example, a water permit for damming) unless an application only results in one consent.
71. To address this issue, the cost information recorded by ORC differentiates the costs of processing an application by the number of consents issued as an output. For example, there

will be different minimum, maximum, and median processing costs recorded for applications that result in one consent being issued compared to those for applications that resulted in two consents being issued, and so on.

72. For the 2022/23 and 2023/24 financial years, ORC has recorded processing costs for the application types listed below. Some are directly relevant to a topic in this report and are therefore discussed within the context of that part of the report, rather than here:
- a. General/structure land use consent: discussed in Chapter 9 (BED)
 - b. Gravel extraction consent: discussed in Chapter 9 (BED)
 - c. Discharge to land permit – contaminated: discussed in Chapter 10 (CL)
 - d. Dam water permit: discussed in Chapter 11 (DAM)
 - e. Divert water permit: discussed in Chapter 11 (DAM)
 - f. Discharge to land permit: discussed in Chapter 12 (EARTH)
 - g. Earthworks consent: discussed in Chapter 12 (EARTH)
 - h. Groundwater take permit: discussed in Chapter 13 (EFL)
 - i. Surface water take permit: discussed in Chapter 13 (EFL)
 - j. Discharge to land permit – effluent: discussed in Chapter 14 (FF)
 - k. Effluent storage consent: discussed in Chapter 14 (FF)
 - l. Land use consent – stockholding areas: discussed Chapter 14 (FF)
 - m. Discharge to land permit – commercial wastewater: discussed in Chapter 19 (WW)
 - n. Discharge to land permit – residential wastewater: discussed in Chapter 19 (WW)
73. Information is also collected on the processing costs of applications for discharges to water, however the information has not been included in this report because there is no further information available on what types of activities these discharges relate to.

4.3.3. Implementing the consent

74. A third category of costs occurs once a consent has been granted and the consent holder is implementing its conditions. For replacement consents, these costs may be a continuation of those imposed by a previous consent (e.g., water metering) or they may be new costs (e.g., additional monitoring).