Proposed Otago Regional Policy Statement

Parts considered to be a Freshwater Planning Instrument under section 80A of the Resource Management Act 1991

Otago Regional Council

15 September 2022

Key

Appearance	Explanation
Black text with no shading	Parts of the Proposed Otago Regional Policy Statement notified on 26 June 2021 that **are not** a freshwater planning instrument.
Black text with blue shading	Parts of the Proposed Otago Regional Policy Statement notified on 26 June 2021 that **are** a freshwater planning instrument.

PART 1 – INTRODUCTION AND GENERAL PROVISIONS

Foreword or mihi

Regional policy statements are significant planning tools; overarching documents that identifyour most pressing environmental issues and provide direction to district plans and other resource management plans on how we will manage them. Developing this new Regional Policy Statement has provided an opportunity for renewed partnership between Kāi Tahu inOtago and Southland, and the ORC. We present this foreword to the notified version together, in recognition of that partnership and in anticipation of the work to come.

ORC didn't expect to find itself writing another Regional Policy Statement so soon. The ink ishardly dry on the 2019 Partially Operative Regional Policy Statement (in fact, as the name suggests, all the ink isn't even there yet), and here is the notification for the next. Nonetheless, a 2019 review of ORC's water management framework and a slew of new national regulation meant a new RPS was needed to set the scene for work on a new Land and Water RegionalPlan.

Having this new RPS developed so soon after the last has allowed it to build directly on the previous process. With issues and concerns still fresh, more refinement has been possible, building better processes and driving rapid progress on significant issues facing the region, including resilience to climate change and natural hazards, managing urban development, improving freshwater and coastal environmental management, and supporting biodiversity. Mana whenua and ORC have faced this planning challenge together. We have placed the environment at the centre of all we do in our long-term vision:

> *The management of natural and physical resources in Otago, by and for the people of Otago, including Kāi Tahu, and as expressed in all resource management plans and decision-making, achieves healthy, resilient, and safeguarded natural systems, and the ecosystem services they offer, and supports the well-being of present and future generations, mō tātou, ā, mō kā uri ā muri ake nei.*

This statement reflects that a healthy, flourishing environment is fundamental to our well-being. Integration is the central tenet, seeing the environment as a single connected system, ki uta ki tai, and weaving this in to the RPS fabric.

Our long-term vision takes its cue from the holistic perspective of Te Mana o te Wai in the National Policy Statement for Freshwater Management 2020. Guided by the need to give effect to Te Mana o te Wai we have worked with mana whenua and the wider community to develop long-term visions for Otago's water bodies. The purpose of these visions is to protect the mauri of water bodies in Otago, a responsibility shared by all. The aim is to achieve positive outcomes for water and habitat that also address the community's needs and interests.

A broad section of people from all walks of life have contributed to developing the Regional Policy Statement. Through a variety of means, including in-person public workshops, community reference groups, online surveys, and reports, people have helped shape policy development in its earliest stages and fed into the long-term freshwater visions for their own parts of Otago.

Thank you to all who have been involved in bringing this RPS to notification: mana whenua; staff from ORC, Aukaha, and Te Ao Marama Inc; councillors; stakeholders; and community members.

The objectives and policies in this RPS signal a significant step change in Otago, mindful of the need to consider the environment that will be inherited by future generations. We are asking our communities to join us in that change, to create a future of opportunity and security for all of us.

Contents

Purpose

As a community, we in Otago are moving into an age that requires solutions to both entrenched legacy issues and significant emerging issues in order to promote positive sustainable change while also enabling the Otago community to flourish, and to enjoy all that the region has to offer.

The Otago Regional Policy Statement (ORPS) provides a policy framework that aims to achieve long-term environmental sustainability by integrating the protection, restoration, enhancement, and use of Otago's natural and physical resources.

The ORPS responds to identified significant regional values and resource management issues relating to Otago's *environment*, historic heritage, economy, recreational opportunities and communities. The ORPS sets out objectives, policies, and methods to resolve, over time, the identified issues as effectively and efficiently as possible. The ORPS gives effect to the statutory requirements set out in the Resource Management Act 1991 (RMA 1991), as well as relevant national direction instruments and iwi authority planning documents. *Regional* and *district plans* must give effect to the ORPS.

Description of the Region

At 32,000 km^2, the Otago region is the second largest region in New Zealand, making up 12% of New Zealand's land mass.

The region's eastern edge is entirely marine, extending 12 nautical miles out to sea from a scenic and varied coastline. Otago meets Canterbury at the southern bank of the Waitaki River, its northern border following the river upstream then branching off along Awamoko Stream, following the north branch of the Kakanui River before heading inland once again along the Hawkdun Range, following catchment boundaries and ridgelines into the Southern Alps at Otago's westernmost border. In the south, beginning at Brother's Point in the scenic Catlins, the border with Southland tends northeasterly, taking in the Pomohaka River catchment, and Umbrella and Kopuwai Ranges to encompass the headwaters of the glacial alpine lakes, Whakatipu-wai-māori (Lake Wakatipu), Wanaka, and Hāwea.

Otago is made up of five *territorial authorities*: Dunedin City Council, and Queenstown Lakes, Waitaki, Central Otago, and Clutha District Councils.

Otago's population at the 2018 Census was 225,186[1]. Dunedin City has the largest population of the Otago *territorial authorities* at 126,255, followed by Queenstown Lakes District at 39,153, Waitaki District at 22,308, Central Otago District at 21,558, and Clutha District at 17,667. Growth is not evenly distributed across the region, with the fastest growing district being Queenstown Lakes.

Otago's economy centres around agriculture, tourism, *mineral* mining, and education. The University of Otago enrols approximately 20,000 students each year from around New Zealand and internationally, contributing to annual population spikes in Dunedin and significantly boosting the economy. Tourism has also had a significant impact on the regional economy, contributing about a quarter of the region's total gross domestic product. This is the highest of any region in New Zealand, and primarily concentrated in the Queenstown Lakes District.

Renewable energy generation facilities[2] meet a large portion of regional and national energy requirements. Significant hydroelectric generation facilities in Otago are located in the Central Otago, Clutha, and Queenstown Lakes Districts. Additionally, Otago has two wind farms, located in the Clutha District.

Climate

The Otago region experiences two distinct climates due to the geographic variety between the temperate coastal areas, and the almost continental inland areas. The coastal settlements experience a cyclic weather pattern that alternates frequently between a warmer and drier climate, and a cooler, damper climate. Central Otago's climate is characterised by hot, dry summers and contrastingly cold, frosty winters.

General temperature ranges for the region fall between 18°C and 24°C on summer afternoons, and -2°C and 3°C during winter nights.[3] The mean daily temperatures in summer in Central Otago range

[1] 2018 Census place summaries: Stats NZ. (n.d.). https://www.stats.govt.nz/tools/2018-census-place-summaries/otago-region (accessed 26 May 2021)
[2] Fitzgerald, W. (2019). *Dunedin Energy Study 2017-2018*. University of Otago.
[3] Macara, G. R. (2015). The Climate and Weather of Otago, Second Edition. *NIWA SCIENCE AND TECHNOLOGY SERIES,* 67th ser.

between approximately 10°C and 25°C, while the mean daily temperatures in winter range between approximately -1°C and 10°C.[4] Central Otago has held national records for both the hottest and coldest temperature readings in New Zealand. Ophir, a small settlement in Central Otago, has recorded temperatures of 35.2°C in 1959 and -21.6°C in 1995. Significant rises in the use of heating sources occur during the drastically colder winter periods. The highest regional rainfalls, averaging 2000mm per year, occur typically over western areas of Otago such as around the Lakes District and Southern Alps. In contrast, the average rainfall in Central Otago is the lowest in New Zealand averaging around 400-500mm per year.

Coast

The Otago coastline stretches for 480 km and is extremely diverse, encompassing pebble and sandy beaches, basalt formations, dune systems, eelgrass and saltmarshes, estuaries, rolling downlands, and striking cliff heads. Significant coastal settlements include Dunedin and Oamaru, with the Otago port based in Port Chalmers. Otago Harbor is the region's only commercial freight handling harbor, however commercial fishing ramps are present in Oamaru, Moeraki, Karitane, and Taieri Mouth. Coastal erosion and the decline of the regional coastline is well documented, posing a long-term threat to residential and commercial coastal developments.

Otago's benthic and marine ecosystems are varied and diverse including rocky reef systems, sponge gardens, bryozoan and horse mussel beds, biogenic reefs, kelp forests and submarine canyons within 12 nautical miles of the shore. More than thirty species of seabird are regularly found off the coast of Otago. Rare sea birds such as the Royal Albatross and hoiho (Yellow-eyed penguin) can be found along the landward coastal environment. Surfing is a significant recreational activity, in Dunedin particularly, and there are four *surf breaks* of national significance along the Otago coastline.

Water bodies

The Otago region has significant *freshwater* resources in the form of surface water, natural and artificial *lakes*, *groundwater*, and *wetlands*. Otago's communities are reliant on the use of these *water* resources for their social, cultural and economic well-being. *Rivers* and *lakes* make up most of the regional surface *water*. The big *lakes*, such as Wanaka, Whakatipu-wai-māori (Lake Wakatipu) and Hāwea and including artificial *lakes* Dunstan, Roxburgh and Onslow, constitute about 23% of New Zealand's total *lake* surface area. The primary catchments are Lakes Wanaka, Whakatipu-wai-māori (Lake Wakatipu) and Hāwea, which feed into Otago's largest *river*, the Clutha River/Mata-Au. Otago also has many *groundwater* sources. *Wetlands* make up many significant landscape and ecosystem elements in Otago, including blanket and string bogs, saline areas, swamp forest remnants, shallow *lake* complexes, estuarine saltmarshes, and valley floor swamps.

Natural character and landscapes

Otago's landscapes are diverse. Moving inland from Otago's diverse and varied coastline, the landscapes change dramatically. Rolling plains separated by mountain ranges, steep hillsides of tussock, and deep gorges make up a lot of South and Central Otago. This *land* is dissected by flowing bodies of water, towering mountainscapes, and fascinating geological formations. Modified

[4] Central Otago Climate. (n.d.). https://centralotagonz.com/opportunities/working-here (accessed 26 May 2021)

landscapes encompassing farmland and remnants of the region's early gold mining activity are ever-present, creating a rich sense of heritage and regional identity.

Urban form

Urbanised areas in Otago occupy only about 1% of total *land* area, however 87% of people live in urban settlements. Dunedin is Otago's largest urban area, surrounded by hills and harbor, and has a large suburban area and commuter catchment especially to the south, with more recent expansion moving out to connect with an expanding Mosgiel. The Queenstown Lakes District population is approximately 91% urban. Its outstanding landscape has historically determined, and will continue to determine, how urban form develops.

In the remainder of the region, smaller urban settlements are geographically scattered, maintaining clear distinctions between rural and urban forms, and with significant variability in growth pressures and infrastructure capacity. Growth in overall numbers of people is not the only driver of urban change pressures in Otago; many areas face low or no growth, and all areas are expected to have an aging population.

How the policy statement works

Statutory context

Resource Management Act 1991

The Resource Management Act 1991 (RMA 1991) is the primary resource management statute in New Zealand and sets out the related responsibilities and powers of national, regional, and city/district government.

The RMA 1991 requires regional councils to have a regional policy statement (RPS) under Section 60, prepared in accordance with the process set out in Schedule 1. The purpose of the RPS, as set out in Section 59 of the RMA, is to provide an overview of the specific resource management issues for the region and establish policies and methods to achieve the integrated management of both the *natural and physical resources* of the region. The RPS must be prepared in accordance with and contain the matters set out in Sections 30, 60, 61, and 62 of the RMA 1991.

The regional policy statement must give effect to higher order national direction instruments, including National Environmental Standards (NES), National Policy Statements (NPS), the New Zealand Coastal Policy Statement (NZCPS) and be written to comply with the National Planning Standards. The RPS sets out requirements that *regional plans, district plans*, and regional coastal plans must give effect to. More information about the relevant national direction instruments can be found in the 'national direction instruments' section of this Regional Policy Statement.

Figure 1 - Statutory framework

Partnership, Te Tiriti o Waitangi and Kāi Tahu[5]

The Otago Regional Policy Statement has been developed in partnership with Kāi Tahu, the iwi and *tangata whenua* of Otago. The partnership between the Otago Regional Council and Kāi Tahu is an important and valuable relationship, evident throughout the ORPS and woven into its provisions. The RMA 1991 requires Regional and Local Councils to address matters of National Importance, including matters associated with Te Tiriti o Waitangi (The Treaty of Waitangi) and key issues and concerns of iwi.[6]

The ORC has also considered the Kāi Tahu ki Otago 2005 Resource Management Plan and Te Tangi a Tauira: Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008. ORPS chapters on Significant Resource Management Issues for Iwi and on *Mana Whenua* provide an in-depth discussion of iwi issues and set a basis for the remaining policy framework.

The key issues identified by Kāi Tahu include:

- recognising the rights and interests of Kāi Tahu in natural and resource management processes;
- recognising the important role of mātauraka in natural resource management;
- recognising the integral relationship of Kāi Tahu with *natural and physical resources*, including the coast, waterways, *lakes*, *wetlands* and indigenous flora and fauna, protecting these resources from degradation, improving them where they have been degraded, and sustaining them for future generations;
- protecting and restoring the abundance of mahika kai and restoring access to mahika kai areas;
- protecting the values of *wāhi tūpuna* and the ability for Kāi Tahu to maintain their relationship with these areas;
- enabling development of *land* and resources within native reserves, including *papakāika* housing; and
- the need for integrated management that recognises the interconnections between resources and across different parts of the environment.

Cross-boundary matters

Ecosystems and human activities cross jurisdictional boundaries. When different jurisdictions manage similar activities or resources in different ways there is potential for inconsistent outcomes, resulting in inefficient and ineffective management.

To achieve integration, those involved in resource management need to coordinate their policies, plans and actions. This is encompassed by the philosophy "ki uta ki tai" – from the mountains to the sea. Accordingly, section 62 of the RMA 1991 requires regional councils to include in the RPS the

[5] In the South Island, the local Māori dialect uses a 'k' interchangeably with 'ng'. The preference in Otago is to use a 'k' so southern Māori are known as Kāi Tahu, rather than Ngāi Tahu. In this RPS, the 'ng' is used for iwi in general or where there is reference to Ngāi Tahu ki Murihiku (Southland).

[6] These matters are addressed throughout the Resource Management Act 1991, see in particular sections 6, 8 and 62.

processes to be used to deal with issues that cross *local authority* boundaries, and issues between *territorial authorities* or between regions.

Cross-boundary issues can arise in several ways, and generally manifest in issues for either plan preparation and review, or plan administration and the processing of applications for *resource consents*. Otago's cross-boundary matters include:

- adverse *effects* in one jurisdiction due to the activities in another, particularly where *territorial authority* boundaries do not match catchment boundaries, as with the Clutha Mata-au, or the Waitaki River catchment over which Otago and Canterbury Regional Councils share jurisdiction, or Otago's coastal environment, which covers three *territorial authorities'* jurisdictions, and may be affected by *land uses* in the other two (through sediment flowing down the Clutha Mata-au, for instance);
- Kāi Tahu interests, which span Otago as a whole, across *local authority* boundaries;
- resources that cross local authority boundaries which must be managed in a uniform manner, such as outstanding natural features, outstanding natural landscapes and significant natural areas;
- differences in policies or methods across plans, particularly where *district* and *regional plans* are at different planning stages and may be out of step with current regulation;
- local, *regionally* or *nationally significant infrastructure* operating across *local authority* boundaries, as with transport and electricity supply networks, and potentially shared services such as waste disposal; and
- duplicated effort for *local authorities* and increased cost for people seeking consents for activities that occur across *local authority* boundaries or require *resource consent* from two or more consent authorities.

Processes that will be used to address these matters are described in the sections below.

Clear direction in the ORPS

The ORPS provides a vision and broad policy framework for all resource management in Otago, including various methods that require *local authorities* to work together to achieve good outcomes and, in some cases, set implementation timeframes. *Regional* and *district plans* as they develop over the next 10 years and beyond, are required to give effect to the ORPS. In doing so one result should be consistency between them. The ORPS has been drafted using direct language and clarity of outcomes sought.

ORPS methods also indicate actions that fall outside the RMA 1991 framework. This recognises that only *district* and *regional plans* are required to give effect to a regional policy statement, and non-regulatory methods may sometimes be useful to help address cross-boundary matters and achieve desired outcomes.

Cooperation and partnerships with stakeholders

Stakeholders, from industry representatives to community-based volunteer groups, provide valuable strategic input to planning and decision-making. Inter-agency groups, such as Te Roopu Taiao, can assist with managing cross-boundary issues and issues affecting people across Otago strategically and collaboratively.

ORC will seek to establish and build upon working relationships with other resource management stakeholders. This will help ensure that the processes it undertakes are efficient and, wherever possible, reduce duplication of effort. As new issues emerge in the region and work on existing issues continues, they are best managed through collaboration, which will improve effectiveness and deliver better outcomes. This is particularly important for enhancing and managing *regionally significant infrastructure* and *significant natural areas*.

Cooperation and partnerships with other *local authorities*

There are many opportunities to work more closely with other *local authorities* to achieve a consistent and integrated approach to managing *natural and physical resources*.

Local authorities together can:

- share information, for instance to understand the long-term growth and economic development opportunities and threats and the spatial pattern of *land use* and development, or to ensure natural resources are not artificially fragmented;
- hold joint processes for processing *resource consents* and associated hearings where activities or *effects* cross jurisdictional boundaries. This allows all *effects* of new activities to be considered holistically at the same time, including any cumulative *effects*. Joint processes could also reduce the processing cost (in both money and time) for the applicant;
- work collaboratively on plan changes and develop combined planning documents for shared areas of responsibility;
- clearly define their resource management roles and responsibilities to reduce duplication of effort and streamline processes for Otago's communities; and
- cooperate and budget for joint processes and major projects through Annual and Long-term Planning processes under the Local Government Act 2002 (LGA 2002). This allows pooling resources, reducing inefficiency and integrating management approaches through time, to ensure that cooperation between agencies is budgeted for, including setting up structures and processes for joint management.

These approaches are more likely to properly address cross-boundary issues and *effects* than *local authorities* working alone.

Triennial agreement

Triennial agreements under the LGA 2002 are an opportunity for *local authorities* within a region to set out processes for consultation, protocols and processes for resolving cross-boundary issues.

Cooperation at a national level

Cross-boundary issues may arise that are significant at a national level. This is particularly likely when addressing nationally important infrastructure such as the electricity transmission grid or *land* transport infrastructure.

In such cases, ORC will advise and work with the Minister for the Environment, the Minister of Conservation in the *coastal marine area* and any other relevant agency to identify and resolve cross boundary issues or proposals, to ensure that consideration of the matter occurs in a transparent and timely manner. ORC will endeavor to represent its communities' interests in such situations.

Transferring and delegating functions, powers and duties to other authorities

The RMA 1991 enables ORC to transfer or delegate its powers to another public authority, community boards, commissioners or employees. ORC can also enter joint management agreements with other statutory bodies (such as Te Rūnanga o Ngāi Tahu).

These tools can be used to achieve integrated management and to reduce duplication of effort by local and public authorities. Joint management agreements enable important stakeholders to have an active role in the management of specific resources, and for specific purposes. They can also be used to build community capacity and share understanding in resource management.

Helping to build capacity for, and improve, *takata whenua* involvement

Takata whenua have the prerogative to express and explain how their tikaka and mātauraka should be realised in resource management. Councils have a vital role in assisting this process through finding ways to partner, resource, and upskill rūnaka so they can be fully involved in the resource management partnership.

Interpretation

Definitions

Term	Definition
1990 mean sea level (Otago Metric Datum)	means the fixed level for basing subsequent level measurements on. In this case Otago Metric Datum is the Dunedin Vertical Datum (DVD 1958) plus 100 metres.
Active transport	has the same meaning as in clause 1.3 of the National Policy Statement on Urban Development 2020 (as set out in the box below) means forms of transport that involve physical exercise, such as walking or cycling, and includes transport that may use a mobility aid such as a wheelchair
Additional infrastructure	has the same meaning as in clause 1.3 of the National Policy Statement on Urban Development 2020 (as set out in the box below) means: (a) public open space (b) community infrastructure as defined in section 197 of the Local Government Act 2002 (c) land transport (as defined in the Land Transport Management Act 2003) that is not controlled by local authorities (d) social infrastructure, such as schools and healthcare facilities (e) a network operated for the purpose of telecommunications (as defined in section 5 of the Telecommunications Act 2001) (f) a network operated for the purpose of transmitting or distributing electricity or gas
Airshed	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) airshed means— (a) the region of a regional council excluding any area specified in a notice under paragraph (b): (b) a part of the region of a regional council specified by the Minister by notice in the Gazette to be a separate airshed
Afforestation	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 (as set out in the box below) (a) means planting and growing plantation forestry trees on land where there is no plantation forestry and where plantation forestry harvesting has not occurred within the last 5 years; but (b) does not include vegetation clearance from the land before planting

Term	Definition
Ambient air quality standards	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) means the standard prescribed by regulation 13(1)
Amenity values	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes
Ancillary activity	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means an activity that supports and is subsidiary to a primary activity
Aquaculture activities	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) (a) means any activity described in section 12 done for the purpose of the breeding, hatching, cultivating, rearing, or ongrowing of fish, aquatic life, or seaweed for harvest if the breeding, hatching, cultivating, rearing, or ongrowing involves the occupation of a coastal marine area; and (b) includes the taking of harvestable spat if the taking involves the occupation of a coastal marine area; but (c) does not include an activity specified in paragraph (a) if the fish, aquatic life, or seaweed— (i) are not in the exclusive and continuous possession or control of the person undertaking the activity; or (ii) cannot be distinguished or kept separate from naturally occurring fish, aquatic life, or seaweed; and (d) does not include an activity specified in paragraph (a) or (b) if the activity is carried out solely for the purpose of monitoring the environment
Aquatic compensation	has the same meaning as in clause 3.21(1) of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means a conservation outcome resulting from actions that are intended to compensate for any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, remediation, and aquatic offset measures have been sequentially applied
Aquatic offset	has the same meaning as in clause 3.21(1) of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	means a measurable conservation outcome resulting from actions that are intended to: (a) redress any more than minor residual adverse effects on a wetland or river after all appropriate avoidance, minimisation, and remediation, measures have been sequentially applied; and (b) achieve no net loss, and preferably a net gain, in the extent and values of the wetland or river, where: (i) **no net loss** means that the measurable positive effects of actions match any loss of extent or values over space and time, taking into account the type and location of the wetland or river, and (ii) **net gain** means that the measurable positive effects of actions exceed the point of no net loss
Attribute	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means a measurable characteristic (numeric, narrative, or both) that can be used to assess the extent to which a particular value is provided for
Bed	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means,— (a) in relation to any river— (i) for the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks: (ii) in all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks; and (b) in relation to any lake, except a lake controlled by artificial means,— (i) for the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the lake cover at its annual highest level without exceeding its margin: (ii) in all other cases, the space of land which the waters of the lake cover at its highest level without exceeding its margin; and (c) in relation to any lake controlled by artificial means, the space of land which the waters of the lake cover at its maximum permitted operating level; and (d) in relation to the sea, the submarine areas covered by the internal waters and the territorial sea
Biodiversity	see *biological diversity*

Term	Definition
Biological diversity	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means the variability among living organisms, and the ecological complexes of which they are a part, including diversity within species, between species, and of ecosystems
Building	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means a temporary or permanent movable or immovable physical construction that is: (a) partially or fully roofed; and (b) fixed or located on or in land; but excludes any motorised vehicle or other mode of transport that could be moved under its own power
Business land	has the same meaning as in clause 1.3 of the National Policy Statement on Urban Development 2020 (as set out in the box below) means land that is zoned, or identified in an FDS or similar strategy or plan, for business uses in urban environments, including but not limited to land in the following: (a) any industrial zone (b) the commercial zone (c) the large format retail zone (d) any centre zone, to the extent it allows business uses (e) the mixed use zone, to the extent it allows business uses (f) any special purpose zone, to the extent it allows business uses
Cascading hazards	means where the occurrence of one natural hazard is likely to trigger another natural hazard event e.g. an earthquake triggering a landslide which dams a river causing flooding.
Certified freshwater farm plan	has the same meaning as section 217B of the Resource Management Act 1991 (as set out in the box below) means a freshwater farm plan certified under section 217G, as amended from time to time in accordance with section 217E(2) or (3)
Climate change	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods
Coastal marine area	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	means the foreshore, seabed, and coastal water, and the air space above the water— (a) of which the seaward boundary is the outer limits of the territorial sea: (b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of— (i) 1 kilometre upstream from the mouth of the river; or (ii) the point upstream that is calculated by multiplying the width of the river mouth by 5
Coastal water	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means seawater within the outer limits of the territorial sea and includes— (a) seawater with a substantial fresh water component; and (b) seawater in estuaries, fiords, inlets, harbours, or embayments
Commercial activity	has the same meaning as in the Standard 14 of the National Planning Standards 2019 (as set out in the box below) means any activity trading in goods, equipment or services. It includes any ancillary activity to the commercial activity (for example administrative or head offices)
Commercial port activity	means commercial shipping operations associated with the Otago Harbor and the activities carried out at the ports at Port Chalmers and Dunedin, which include: (a) Operation of commercial ships in Otago Harbor; (b) Loading and unloading of goods and passengers carried by sea; (c) Facilities for the storage of goods carried by sea; (d) Buildings, installations, other structures or equipment at or adjacent to a port and used in connection with the ports' operation or administration; (e) Structures, facilities and pipelines for fuel storage, and refuelling of ships; (f) Provision, maintenance and development of shipping channels and swing basins; (g) Disposal of dredged materials at AO, Heyward Point, Aramoana and Shelly Beach; (h) Installation and maintenance of beacons and markers for navigation safety; and (i) Provision and maintenance of the mole at Aramoana.
Competitiveness margin	has the same meaning as in clause 3.22 of the National Policy Statement on Urban Development 2020 (as set out in the box below)

Term	Definition
	means a margin of development capacity, over and above the expected demand that tier 1 and tier 2 local authorities are required to provide, that is required in order to support choice and competitiveness in housing and business land markets
Contaminant	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) includes any substance (including gases, odorous compounds, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat— (a) when discharged into water, changes or is likely to change the physical, chemical, or biological condition of water; or (b) when discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged
Contaminated land	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means land that has a hazardous substance in or on it that— (a) has significant adverse effects on the environment; or (b) is reasonably likely to have significant adverse effects on the environment
Critical buildings	for the purposes of the consequence table within APP6, these are buildings which have a post-disaster function. These include: (a) Buildings and facilities designed as essential facilities; (b) Buildings and facilities with special post-disaster function; (c) Medical emergency or surgical facilities; (d) Emergency service facilities such as fire and police stations; (e) Designated emergency shelters; (f) Designated emergency centres and ancillary facilities; and (g) Buildings and facilities containing hazardous materials capable of causing hazardous conditions that extends beyond the property boundaries.
Degraded	where it is used in the *LF – Land and freshwater* chapter, has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	in relation to an FMU or part of an FMU, means that as a result of something other than a naturally occurring process: (a) a site or sites in the FMU or part of the FMU to which a target attribute state applies: (i) is below a national bottom line; or (ii) is not achieving or is not likely to achieve a target attribute state; or (b) the FMU or part of the FMU is not achieving or is not likely to achieve an environmental flow and level set for it; or (c) the FMU or part of the FMU is less able (when compared to 7 September 2017) to provide for any value identified for it under the NOF
Development capacity	has the same meaning as in clause 1.4 of the National Policy Statement for Urban Development 2020 (as set out in the box below) means the capacity of the land to be developed for housing or for business use, based on: (a) the zoning, objectives, policies, rules, and overlays that apply in the relevant proposed and operative RMA planning documents; and (b) the provision of adequate development infrastructure to support the development of land for housing or business use
Development infrastructure	has the same meaning as in clause 1.4 of the National Policy Statement for Urban Development 2020 (as set out in the box below) means the following, to the extent that they are controlled by a local authority or council controlled organisation (as defined in section 6 of the Local Government Act 2002): (a) network infrastructure for water supply, wastewater, or stormwater (b) land transport (as defined in section 5 of the Land Transport Management Act 2003)
Discharge	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) includes emit, deposit, and allow to escape
Distribution network	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (as set out in the box below) (a) means lines and associated equipment that are used for conveying electricity and are operated by a business engaged in the distribution of electricity; but (b) does not include lines and associated equipment that are part of the national grid
District plan	has the same meaning as in section 43AA of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	(a) means an operative plan approved by a territorial authority under Schedule 1; and (b) includes all operative changes to the plan (whether arising from a review or otherwise)
Drinking water	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means water intended to be used for human consumption; and includes water intended to be used for food preparation, utensil washing, and oral or other personal hygiene
Dwelling	has the same meaning as that given for dwellinghouse in section 2 of the Resource Management Act 1991 (as set out in the box below) means any building, whether permanent or temporary, that is occupied, in whole or in part, as a residence; and includes any structure or outdoor living area that is accessory to, and used wholly or principally for the purposes of, the residence; but does not include the land upon which the residence is sited
Earthworks	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means the alteration or disturbance of land, including by moving, removing, placing, blading, cutting, contouring, filling or excavation of earth (or any matter constituting the land including soil, clay, sand and rock); but excludes gardening, cultivation, and disturbance of land for the installation of fence posts
Effect	has the same meaning as in section 3 of the Resource Management Act 1991 (as set out in the box below) In this Act, unless the context otherwise requires, the term effect includes— (a) any positive or adverse effect; and (b) any temporary or permanent effect; and (c) any past, present, or future effect; and (d) any cumulative effect which arises over time or in combination with other effects— regardless of the scale, intensity, duration, or frequency of the effect, and also includes— (e) any potential effect of high probability; and (f) any potential effect of low probability which has a high potential impact
Effects management hierarchy	has the same meaning as in clause 3.21 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) and in this RPS also applies to natural wetlands

Term	Definition
	in relation to natural inland wetlands and rivers, means an approach to managing the adverse effects of an activity on the extent or values of a wetland or river (including cumulative effects and loss of potential value) that requires that: (a) adverse effects are avoided where practicable, (b) where adverse effects cannot be avoided, they are minimised where practicable, (c) where adverse effects cannot be minimised, they are remedied where practicable, (d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, aquatic offsetting is provided, and (e) if aquatic compensation is not appropriate, the activity itself is avoided
Electricity sub-transmission infrastructure	means electricity infrastructure which conveys electricity between energy generation sources, the National Grid and zone substations and between zone substations.
Environment	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) includes— (a) ecosystems and their constituent parts, including people and communities; and (b) all natural and physical resources; and (c) amenity values; and (d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters
Environmental outcome	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means, in relation to a value that applies to an FMU or part of an FMU, a desired outcome that a regional council identifies and then includes as an objective in its regional plan(s)
Esplanade reserve	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	means a reserve within the meaning of the Reserves Act 1977— (a) which is either— (i) a local purpose reserve within the meaning of section 23 of that Act, if vested in the territorial authority under section 239; or (ii) a reserve vested in the Crown or a regional council under section 237D; and (b) which is vested in the territorial authority, regional council, or the Crown for a purpose or purposes set out in section 229
Esplanade strip	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means a strip of land created by the registration of an instrument in accordance with section 232 for a purpose or purposes set out in section 229
Exceedance	has the same meaning as in regulation 13 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) for a contaminant, means an instance where the contaminant exceeds its threshold concentration in an airshed
Freshwater or fresh water	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means all water except coastal water and geothermal water
Freshwater management unit or FMU	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means all or any part of a water body or water bodies, and their related catchments, that a regional council determines under clause 3.8 is an appropriate unit for freshwater management and accounting purposes; and part of an FMU means any part of an FMU including, but not limited to, a specific site, river reach, water body, or part of a water body
Functional need	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment
Future development strategy	has the same meaning as in the National Policy Statement for Urban Development 2020 (as set out in the box below) means the Future Development Strategy required by subpart 4 of Part 3
Greenhouse gas	has the same meaning as in section 4(1) of the Climate Change Response Act 2002 (as set in in the box below)

Term	Definition
	means— (a) carbon dioxide (CO2): (b) methane (CH4): (c) nitrous oxide (N2O): (d) any hydrofluorocarbon: (e) any perfluorocarbon: (f) sulphur hexafluoride (SF6)
Groundwater	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means water occupying openings, cavities, or spaces in soils or rocks beneath the surface of the ground
Hard protection structure	within the coastal environment, has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below) includes a seawall, rock revetment, groyne, breakwater, stop bank, retaining wall or comparable structure or modification to the seabed, foreshore or coastal land that has the primary purpose or effect of protecting an activity from a coastal hazard, including erosion and outside the coastal environment, means any dam, weir, stopbank, carriageway, groyne, or reservoir, and any structure or appliance of any kind which is specifically established for the purpose of natural hazard risk mitigation.
Highly valued natural features and landscapes	highly valued natural features, landscapes and seascapes are areas which contain attributes and values of significance under Sections 7(c) and 7(f) of the RMA 1991, which have been identified in accordance with APP9.
Historic heritage	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	(a) means those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities: (i) archaeological: (ii) architectural: (iii) cultural: (iv) historic: (v) scientific: (vi) technological; and (b) includes— (i) historic sites, structures, places, and areas; and (ii) archaeological sites; and (iii) sites of significance to Māori, including wāhi tapu; and (iv) surroundings associated with the natural and physical resources
Housing and Business Development Capacity Assessment	has the same meaning as in the National Policy Statement for Urban Development Capacity 2020 (as set out in the box below) means the Housing and Business Development Capacity Assessment (HBA) required by subpart 5 of Part 3
Indigenous vegetation	means vascular and non-vascular plants that, in relation to a particular area, are native to the ecological district in which that area is located.
Industrial activities	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means an activity that manufactures, fabricates, processes, packages, distributes, repairs, stores, or disposes of materials (including raw, processed, or partly processed materials) or goods. It includes any ancillary activity to the industrial activity
Infrastructure	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	means— (a) pipelines that distribute or transmit natural or manufactured gas, petroleum, biofuel, or geothermal energy: (b) a network for the purpose of telecommunication as defined in section 5 of the Telecommunications Act 2001: (c) a network for the purpose of radiocommunication as defined in section 2(1) of the Radiocommunications Act 1989: (d) facilities for the generation of electricity, lines used or intended to be used to convey electricity, and support structures for lines used or intended to be used to convey electricity, excluding facilities, lines, and support structures if a person— (i) uses them in connection with the generation of electricity for the person's use; and (ii) does not use them to generate any electricity for supply to any other person: (e) a water supply distribution system, including a system for irrigation: (f) a drainage or sewerage system: (g) structures for transport on land by cycleways, rail, roads, walkways, or any other means: (h) facilities for the loading or unloading of cargo or passengers transported on land by any means: (i) an airport as defined in section 2 of the Airport Authorities Act 1966: (j) a navigation installation as defined in section 2 of the Civil Aviation Act 1990: (k) facilities for the loading or unloading of cargo or passengers carried by sea, including a port related commercial undertaking as defined in section 2(1) of the Port Companies Act 1988: (l) anything described as a network utility operation in regulations made for the purposes of the definition of network utility operator in section 166
Intrinsic values	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) In relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including – (a) their biological and genetic diversity; and (b) the essential characteristics that determine an ecosystem's integrity, form, functioning and resilience
Kāika	means a settlement of Kāi Tahu or their tūpuna.
Kaitiakitanga or kaitiakitaka	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	means the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Māori in relation to natural and physical resources; and includes the ethic of stewardship
Key civic public spaces	are publicly owned and accessible public spaces identified by local authorities where the public use and enjoyment of the space is strongly influenced by sun and daylight access to the extent that loss of sun and daylight may diminish this use and enjoyment.
Lake	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means a body of fresh water which is entirely or nearly surrounded by land
Land	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) (a) includes land covered by water and the airspace above land; and (b) in a national environmental standard dealing with a regional council function under section 30 or a regional rule, does not include the bed of a lake or river; and (c) in a national environmental standard dealing with a territorial authority function under section 31 or a district rule, includes the surface of water in a lake or river
Landfill	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means an area used for, or previously used for, the disposal of solid waste. It excludes cleanfill areas
Lifeline utilities	means utilities provided by those entities listed in Schedule 1 of the Civil Defence Emergency Management Act 2002
Local authority	has the same meaning as in section 5 of the Local Government Act 2002 (as set out in the box below) means a regional council or territorial authority
Loss of values	has the same meaning as in clause 3.21(1) of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) and in this RPS also refers to *natural wetlands*

Term	Definition
	in relation to a natural inland *wetland* or *river*, means the *wetland* or *river* is less able to provide for the following existing or potential values: (a) any value identified for it under the NOF process; or (b) any of the following, whether or not they are identified under the NOF process: (i) ecosystem health (ii) indigenous biodiversity (iii) hydrological functioning (iv) Māori freshwater values (v) amenity
Mana whenua	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) and in this RPS also refers to the people who hold customary authority means customary authority exercised by an iwi or hapu in an identified area
Mineral	has the same meaning as in section 2(1) of the Crown Minerals Act 1991 (as set out in the box below) means a naturally occurring inorganic substance beneath or at the surface of the earth, whether or not under water; and includes all metallic minerals, non-metallic minerals, fuel minerals, precious stones, industrial rocks and building stones, and a prescribed substance within the meaning of the Atomic Energy Act 1945
Mixing zone	has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below) the area within which 'reasonable mixing' of contaminants from discharges occurs in receiving waters and within which the relevant water quality standards do not apply
Multiple hazards	means where two or more unrelated natural hazard events may occur.
National grid	has the same meaning as in the Interpretation section of the National Policy Statement for Renewable Electricity Generation 2011 (as set out in the box below) means the lines and associated equipment used or owned by Transpower to convey electricity
National Objectives Framework	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means the framework for managing freshwater as described in subpart 2 of Part 3
Nationally significant infrastructure	has, to the extent applicable to the Otago Region, the same meaning as in clause 1.4(1) of the National Policy Statement for Urban Development 2020 (as set out in the box below)

Term	Definition
	means all of the following: (a) State highways (b) the national grid electricity transmission network (c) renewable electricity generation facilities that connect with the national grid (d) the high-pressure gas transmission pipeline network operating in the North Island (e) the refinery pipeline between Marsden Point and Wiri (f) the New Zealand rail network (including light rail) (g) rapid transit services (as defined in this clause) (h) any airport (but not its ancillary commercial activities) used for regular air transport services by aeroplanes capable of carrying more than 30 passengers (j) the port facilities (but not the facilities of any ancillary commercial activities) of each port company referred to in item 6 of Part A of Schedule 1 of the Civil Defence Emergency Management Act 2002
Natural and physical resources	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) includes land, water, air, soil, minerals, and energy, all forms of plants and animals (whether native to New Zealand or introduced), and all structures
Natural hazard	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire, or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment
Natural hazard works	has the same meaning as in regulation 51(1) of the National Environmental Standard for Freshwater 2020 (as set out in the box below) means works for the purpose of removing material, such as trees, debris, and sediment, that— (a) is deposited as the result of a natural hazard, and (b) is causing, or is likely to cause, an immediate hazard to people or property
Naturally rare	has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below) originally rare: Rare before the arrival of humans in New Zealand
Natural wetland	has the same meaning as in clause 3.21 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	means a wetland (as defined in the Act) that is not: (a) a wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, an existing or former natural wetland); or (b) a geothermal wetland; or (c) any area of improved pasture that, at the commencement date, is dominated by (that is more than 50% of) exotic pasture species and is subject to temporary rain-derived water pooling
Nohoaka or nohoanga	means a site occupied by Kāi Tahu on a seasonal and temporary basis for mahika kai or other customary purposes.
Operational need	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means the need for a proposal or activity to traverse, locate or operate in a particular environment because of technical, logistical or operational characteristics or constraints
Other infrastructure	has the same meaning as in regulation 3 of the National Environmental Standard for Freshwater 2020 (as set out in the box below) means infrastructure, other than specified infrastructure, that was lawfully established before, and in place at, the close of 2 September 2020
Outstanding water body	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) means a water body, or part of a water body, identified in a regional policy statement, a regional plan, or a water conservation order as having one or more outstanding values
Over-allocation	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) in relation to both the quantity and quality of freshwater, is the situation where: (a) resource use exceeds a limit; or (b) if limits have not been set, an FMU or part of an FMU is degraded or degrading
Papakāika or papakāinga	means use and development by *mana whenua* of ancestral or tribal lands to sustain themselves in accordance with tikanga Māori, which may include residential activities and non-residential activities for cultural, social, recreational, environmental or limited commercial purposes.
Plantation forestry	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 (as set out in the box below)

Term	Definition
	means a forest deliberately established for commercial purposes, being— (a) at least 1 ha of continuous forest cover of forest species that has been planted and has or will be harvested or replanted; and (b) includes all associated forestry infrastructure; but (c) does not include— (i) a shelter belt of forest species, where the tree crown cover has, or is likely to have, an average width of less than 30 m; or (ii) forest species in urban areas; or (iii) nurseries and seed orchards; or (iv) trees grown for fruit or nuts; or (v) long-term ecological restoration planting of forest species; or (vi) willows and poplars space planted for soil conservation purposes
PM_{10}	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) means particulate matter that is— (a) less than 10 micrometres in aerodynamic diameter; and (b) measured in accordance with the United States Code of Federal Regulations, Title 40—Protection of Environment, Volume 2, Part 50, Appendix J — Reference method for the determination of particulate matter as PM_{10} in the atmosphere
$PM_{2.5}$	means particulate matter that is less than 2.5 micrometres in aerodynamic diameter.
Polluted airshed	has the same meaning as in regulation 17(4) of the National Environmental Standards for Air Quality 2004 (as set out in the box below) (a) an airshed becomes a polluted airshed on and from 1 September 2012 or any later day if, for the immediately prior 5-year period— (i) the airshed has meaningful PM10 data for at least a 12-month period; and (ii) the airshed's average exceedances of PM10 (as calculated under regulation 16D) was more than 1 per year; and (b) an airshed stops being a polluted airshed on and from any day if the PM10 standard was not breached in the airshed in the immediately prior 5-year period
Primary contact site	has the same meaning as in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	in relation to both the quantity and quality of freshwater, is the means a site identified by a regional council that it considers is regularly used, or would be regularly used but for existing freshwater quality, for recreational activities such as swimming, paddling, boating, or watersports, and particularly for activities where there is a high likelihood of water or water vapour being ingested or inhaled
Primary production	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means: (a) an aquaculture, agricultural, pastoral, horticultural, mining, quarrying or forestry activities; and (b) includes initial processing, as an ancillary activity, of commodities that result from the listed activities in a); (c) includes any land and buildings used for the production of the commodities from a) and used for the initial processing of the commodities in b); but (d) excludes further processing of those commodities into a different product
Public transport	has the same meaning as in clause 1.4 of the National Policy Statement for Urban Development 2020 (as set out in the box below) means any existing or planned service for the carriage of passengers (other than an aeroplane) that is available to the public generally by means of: (a) a vehicle designed or adapted to carry more than 12 persons (including the driver), or (b) a rail vehicle, or (c) a ferry
Receiving environment	has the same meaning as in in clause 1.4 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below) includes, but is not limited to, any water body (such as a river, lake, wetland or aquifer) and the coastal marine area (including estuaries)
Reclamation	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means the manmade formation of permanent dry land by the positioning of material into or onto any part of a waterbody, bed of a lake or river or the coastal marine area, and: (a) includes the construction of any causeway; but (b) excludes the construction of natural hazard protection structures such as seawalls, breakwaters or groynes except where the purpose of those structures is to form dry land

Term	Definition
Regional plan	has the same meaning as in section 43AA of the Resource Management Act 1991 (as set out in the box below) (a) means an operative plan approved by a regional council under Schedule 1 (including all operative changes to the plan (whether arising from a review or otherwise)); and (b) includes a regional coastal plan
Regionally significant infrastructure	means: (1) roads classified as being of regional importance in accordance with the One Network Road Classification,[7] (2) electricity sub-transmission infrastructure, (3) renewable electricity generation facilities that connect with the local distribution network but not including renewable electricity generation facilities designed and operated principally for supplying a single premise or facility, (4) telecommunication and radiocommunication facilities, (5) facilities for public transport, including terminals and stations, (6) the following airports: Dunedin, Queenstown, Wanaka, Alexandra, Balclutha, Cromwell, Oamaru, Taieri. (7) navigation infrastructure associated with airports and commercial ports which are nationally or regionally significant, (8) defence facilities, (9) community drinking water abstraction, supply treatment and distribution infrastructure that provides no fewer than 25 households with drinking water for not less than 90 days each calendar year, and community water supply abstraction, treatment and distribution infrastructure (excluding delivery systems or infrastructure primarily deployed for the delivery of water for irrigation of land or rural agricultural drinking-water supplies) (10) community stormwater infrastructure, (11) wastewater and sewage collection, treatment and disposal infrastructure serving no fewer than 25 households, and (12) Otago Regional Council's hazard mitigation works including flood protection infrastructure and drainage schemes.
Renewable electricity generation	has the same meaning as in the Interpretation section of the National Policy Statement for Renewable Electricity Generation 2011 (as set out in the box below) means generation of electricity from solar, wind, hydroelectricity, geothermal, biomass, tidal, wave, or ocean current energy sources
Renewable electricity generation activities	has the same meaning as in the Interpretation section of the National Policy Statement for Renewable Electricity Generation 2011 (as set out in the box below)

[7] https://www.nzta.govt.nz/roads-and-rail/road-efficiency-group/projects/onrc (accessed 26 May 2021)

Term	Definition
	means the construction, operation and maintenance of structures associated with renewable electricity generation. This includes small and community-scale distributed renewable generation activities and the system of electricity conveyance required to convey electricity to the distribution network and/or the national grid and electricity storage technologies associated with renewable electricity
Replanting	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 (as set out in the box below) means the planting and growing of plantation forestry trees on land less than 5 years after plantation forestry harvesting has occurred
Residual risk	means the risk remaining after the implementation or undertaking of all available and practicable risk management measures.
Resilient or resilience	means the capacity and ability to withstand or recover quickly from adverse conditions.
Resource consent	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) has the meaning set out in section 87; and includes all conditions to which the consent is subject
Risk	has the same meaning as in the Glossary in the New Zealand Coastal Policy Statement 2010 (as set out in the box below) Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likelihood of occurrence (AS/NZS ISO 31000:2009 *Risk management – Principles and guidelines*, November 2009)
River	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)
Road	has the same meaning as in section 315 of the Local Government Act 1974; and includes a motorway as defined in section 2(1) of the Government Roading Powers Act 1989 (as set out in the boxes below)

Term	Definition
	road means the whole of any land which is within a district, and which— (a) immediately before the commencement of this Part was a road or street or public highway; or (b) immediately before the inclusion of any area in the district was a public highway within that area; or (c) is laid out by the council as a road or street after the commencement of this Part; or (d) is vested in the council for the purpose of a road as shown on a deposited survey plan; or (e) is vested in the council as a road or street pursuant to any other enactment;— and includes— (f) except where elsewhere provided in this Part, any access way or service lane which before the commencement of this Part was under the control of any council or is laid out or constructed by or vested in any council as an access way or service lane or is declared by the Minister of Works and Development as an access way or service lane after the commencement of this Part or is declared by the Minister of Lands as an access way or service lane on or after 1 April 1988: (g) every square or place intended for use of the public generally, and every bridge, culvert, drain, ford, gate, building, or other thing belonging thereto or lying upon the line or within the limits thereof;— but, except as provided in the Public Works Act 1981 or in any regulations under that Act, does not include a motorway within the meaning of that Act or the Government Roading Powers Act 1989
	motorway— (a) means a motorway declared as such by the Governor-General in Council under section 138 of the Public Works Act 1981 or under section 71 of this Act; and (b) includes all bridges, drains, culverts, or other structures or works forming part of any motorway so declared; but (c) does not include any local road, access way, or service lane (or the supports of any such road, way, or lane) that crosses over or under a motorway on a different level
Rural area	means any area of land that is not an *urban area*
Sensitive activities	has the same meaning as in the Interpretation section of the National Policy Statement on Electricity Transmission 2008 (as set out in the box below) includes schools, residential buildings and hospitals
Specified infrastructure	has the same meaning as in clause 3.21 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	means any of the following: (a) infrastructure that delivers a service operated by a lifeline utility (as defined in the Civil Defence Emergency Management Act 2002), (b) regionally significant infrastructure identified as such in a regional policy statement or regional plan, (c) any public flood control, flood protection, or drainage works carried out: (i) by or on behalf of a local authority, including works carried out for the purposes set out in section 133 of the Soil Conservation and Rivers Control Act 1951, or (ii) for the purpose of drainage by drainage districts under the Land Drainage Act 1908
Sewage	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means human excrement and urine
Ship	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) has the same meaning as in section 2(1) of the Maritime Transport Act 1994
Significant natural area	means areas of significant indigenous vegetation and significant habitats of indigenous fauna that are located outside the coastal environment.
Small and community scale distributed electricity generation	has the same meaning as in the Interpretation section of the National Policy Statement for Renewable Electricity Generation 2011 (as set out in the box below) means renewable electricity generation for the purpose of using electricity on a particular site, or supplying an immediate community, or connecting into the distribution network
Social and cultural buildings	For the purposes of the consequence table within APP6, these are buildings that are of social and cultural importance. These include: (a) Places of worship; (b) Museums; (c) Art galleries; (d) Marae; and (e) Educational facilities
Solid fuel	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) means a solid substance that releases useable energy when burnt (for example, wood and coal)
Specified rivers and lakes	has the same meaning as in Appendix 3 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	means: (a) rivers that are fourth order or greater, using the methods outlined in the River Environment Classification System, National Institute of Water and Atmospheric Research, Version 1, and (b) lakes with a perimeter of 1.5km or more
Stormwater	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means run-off that has been intercepted, channelled, diverted, intensified or accelerated by human modification of a land surface, or run-off from the surface of any structure, as a result of precipitation and includes any contaminants contained within
Structure	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft
Structure plan	means a framework to prescribe development of an area, including land use patterns, infrastructure, linkages and other key features and constraints that affect the development.
Subdivision	has the same meaning as "subdivision of land" in section 218 of the Resource Management Act 1991 (as set out in the box below) (1) In this Act, the term subdivision of land means— (a) the division of an allotment— (i) by an application to the Registrar-General of Land for the issue of a separate record of title for any part of the allotment; or (ii) by the disposition by way of sale or offer for sale of the fee simple to part of the allotment; or (iii) by a lease of part of the allotment which, including renewals, is or could be for a term of more than 35 years; or (iv) by the grant of a company lease or cross lease in respect of any part of the allotment; or (v) by the deposit of a unit plan, or an application to the Registrar-General of Land for the issue of a separate record of title for any part of a unit on a unit plan; or (b) an application to the Registrar-General of Land for the issue of a separate record of title in circumstances where the issue of that record of title is prohibited by section 226,— and the term subdivide land has a corresponding meaning
Surf break	has the same meaning as in the Glossary in the New Zealand Coastal Policy Statement 2010 (as set out in the box below)

Term	Definition
	A natural feature that is comprised of swell, currents, water levels, seabed morphology, and wind. The hydrodynamic character of the ocean (swell, currents and water levels) combines with seabed morphology and winds to give rise to a 'surfable wave'. A surf break includes the 'swell corridor' through which the swell travels, and the morphology of the seabed of that wave corridor, through to the point where waves created by the swell dissipate and become non-surfable. 'Swell corridor' means the region offshore of a surf break where ocean swell travels and transforms to a 'surfable wave'. 'Surfable wave' means a wave that can be caught and ridden by a surfer. Surfable waves have a wave breaking point that peels along the unbroken wave crest so that the surfer is propelled laterally along the wave crest
Takata whenua or tangata whenua	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) in relation to a particular area, means the iwi, or hapu, that holds mana whenua over that area
Taxa	has the same meaning as in the Glossary of the New Zealand Coastal Policy Statement 2010 (as set out in the box below) Named biological classification units assigned to individuals or sets of species (eg species, subspecies, genus, order, variety)
Te Mana o te Wai	has the same meaning as in clause 1.3 of the National Policy Statement for Freshwater Management 2020 (as set out in the box below)

Term	Definition
	Concept (1) Te Mana o te Wai is a concept that refers to the fundamental importance of water and recognises that protecting the health of freshwater protects the health and well-being of the wider environment. It protects the mauri of the wai. Te Mana o te Wai is about restoring and preserving the balance between the water, the wider environment, and the community. (2) Te Mana o te Wai is relevant to all freshwater management and not just to the specific aspects of freshwater management referred to in this National Policy Statement. *Framework* (3) Te Mana o te Wai encompasses 6 principles relating to the roles of tangata whenua and other New Zealanders in the management of freshwater, and these principles inform this National Policy Statement and its implementation. (4) The 6 principles are: (a) *Mana whakahaere*: the power, authority, and obligations of tangata whenua to make decisions that maintain, protect, and sustain the health and well-being of, and their relationship with, freshwater (b) *Kaitiakitanga*: the obligation of tangata whenua to preserve, restore, enhance, and sustainably use freshwater for the benefit of present and future generations (c) *Manaakitanga*: the process by which tangata whenua show respect, generosity, and care for freshwater and for others (d) *Governance*: the responsibility of those with authority for making decisions about freshwater to do so in a way that prioritises the health and well-being of freshwater now and into the future (e) *Stewardship:* the obligation of all New Zealanders to manage freshwater in a way that ensures it sustains present and future generations (f) *Care and respect*: the responsibility of all New Zealanders to care for freshwater in providing for the health of the nation. (5) There is a hierarchy of obligations in Te Mana o te Wai 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
Territorial authority	has the same meaning as in section 5 of the Local Government Act 2002 (as set out in the box below) means a city council or a district council named in Part 2 of Schedule 2

Term	Definition
Te Ture Whenua Maori land	means land with the following status: (a) Māori communal land gazetted as Māori reservation under s338 Te Ture Whenua Maori Act 1993; and (b) Māori customary land and Māori freehold land as defined in s4 and s129 Te Ture Whenua Maori Act 1993.
Threatened species	means any indigenous species of flora or fauna that meets the criteria for nationally critical, nationally endangered, or nationally vulnerable species in the New Zealand Threat Classification System Manual (Townsend et al, 2008).
Urban area	means any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that is, or is intended to be, predominantly urban in character. This includes but is not limited to any land identified in District Plans as being within any urban growth boundary or equivalent however described, any residential zone, commercial and mixed use zone, industrial zone and future urban zone as listed in the National Planning Standards or its present District Plan zone equivalent. *Urban environments* are a subset of *urban areas.*
Urban environment	has the same meaning as in clause 1.4 of the National Policy Statement on Urban Development 2020 (as set out in the box below) means any area of land (regardless of size, and irrespective of local authority or statistical boundaries) that: (a) is, or is intended to be, predominantly urban in character; and (b) is, or is intended to be, part of a housing and labour market of at least 10,000 people
Vulnerability	means the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.
Wāhi tūpuna	means landscapes and places that embody the relationship of manawhenua and their culture and traditions with their ancestral lands, water, sites. wāhi tapu and other taoka.
Waste	has the same meaning as in regulation 3 of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (as set out in the box below) means substances or objects that are disposed of or intended to be disposed of
Wastewater	has the same meaning as in Standard 14 of the National Planning Standards 2019 (as set out in the box below) means any combination of two or more the following wastes: sewage, greywater or industrial and trade waste
Water	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below)

Term	Definition
	(a) means water in all its physical forms whether flowing or not and whether over or under the ground: (b) includes fresh water, coastal water, and geothermal water: (c) does not include water in any form while in any pipe, tank, or cistern
Water body	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) means fresh water or geothermal water in a river, lake, stream, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area
Well-functioning urban environments	has the same meaning as in Policy 1 of the National Policy Statement on Urban Development 2020 (as set out in the box below) well-functioning urban environments are urban environments that, as a minimum: (a) Have or enable a variety of homes that: (i) meet the needs, in terms of type, price, and location, of different households; and (ii) enable Māori to express their cultural traditions and norms; and (b) have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and (c) have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and (d) support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and (e) support reductions in greenhouse gas emissions; and (f) are resilient to the likely current and future effects of climate change
Wetland	has the same meaning as in section 2 of the Resource Management Act 1991 (as set out in the box below) includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions
Wetland utility structure	has the same meaning as in regulation 3 of the National Environmental Standard for Freshwater 2020 (as set out in the box below)

Term	Definition
	(a) means a structure placed in or adjacent to a wetland whose purpose, in relation to the wetland, is recreation, education, conservation, restoration, or monitoring, and (b) for example, includes the following structures that are placed in or adjacent to a wetland for a purpose described in paragraph (a): (i) jetties (ii) boardwalks and bridges connecting them, (iii) walking tracks and bridges connecting them, (iv) signs, (v) bird-watching hides, (vi) monitoring devices, (vii) maimai
Wilding conifer	has the same meaning as in regulation 3 of the National Environmental Standard for Plantation Forestry 2017 (as set out in the box below) means a self-established conifer species tree resulting from seed spread from plantation forestry, shelter belts, amenity planting, or an already established wilding conifer species tree population

Abbreviations

Abbreviation	Full Terms
CDC	Clutha District Council
CODC	Central Otago District Council
DCC	Dunedin City Council
FMU	Freshwater Management Unit
HAIL	Hazardous Activities and Industries List
LGA	Local Government Act 2002
NES	National Environmental Standard
NESAQ	National Environmental Standards for Air Quality 2004
NESCS	National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health 2011
NESETA	National Environmental Standard for Electricity Transmission Activities 2009
NESF	National Environmental Standards for Freshwater 2020
NESMA	National Environmental Standards for Marine Aquaculture 2020
NESPF	National Environmental Standards for Plantation Forestry 2017
NESHDW	National Environmental Standard for Sources of Human Drinking Water 2007
NESTF	National Environmental Standards for Telecommunication Facilities 2016
NOF	National Objectives Framework
NPS	National Policy Statement
NPSET	National Policy Statement on Electricity Transmission 2008
NPSFM	National Policy Statement for Freshwater Management 2020
NPSREG	National Policy Statement for Renewable Electricity Generation 2011
NPSUD	National Policy Statement on Urban Development 2020
NTCSA	Ngāi Tahu Claims Settlement Act 1998
NZCPS	New Zealand Coastal Policy Statement 2010
OCCRA	Otago Climate Change Risk Assessment Phase 1 report
ORC	Otago Regional Council
PORPS 2016	Proposed Otago Regional Policy Statement 2016 – Decisions version
PORPS 2019	Partially Operative Regional Policy Statement 2019
PORPS 2021	Proposed Otago Regional Policy Statement 2021
QLDC	Queenstown Lakes District Council

Abbreviation	Full Terms
RPS	Regional Policy Statement
RPS 1998	Regional Policy Statement for Otago 1998
RMA	Resource Management Act 1991
RMS	Regional Monitoring Strategy
TAs	Territorial authorities: Central Otago District Council, Clutha District Council, Dunedin City Council, Queenstown-Lakes District Council and Waitaki District Council
Waste Plan	Regional Plan: Waste for Otago
Water Plan	Regional Plan: Water for Otago
WDC	Waitaki District Council

National direction instruments

National policy statements and New Zealand Coastal Policy Statement

National Policy Statements	
National policy statements (NPSs) and the New Zealand Coastal Policy Statement (NZCPS) form part of the Resource Management Act's policy framework and are prepared by central government. NPSs and the NZCPS contain objectives, polices and methods that must be given effect to by policy statements and plans. NPSs and the NZCPS must also be given regard to by consent authorities when making decisions on *resource consent* applications, alongside other considerations. The following table provides an overview of whether any relevant review/s of the Otago Regional Policy Statement has been undertaken in relation to NPSs and the NZCPS.	
National Policy Statement on Electricity Transmission 2008	The policy statement has been reviewed in May 2021
New Zealand Coastal Policy Statement 2010	The policy statement has been reviewed in May 2021
National Policy Statement for Renewable Electricity Generation 2011	The policy statement has been reviewed in May 2021
National Policy Statement for Freshwater Management 2020	The policy statement has been reviewed in May 2021
National Policy Statement on Urban Development (2020)	The policy statement has been reviewed in May 2021

National environmental standards

National Environmental Standards
National environmental standards (NESs) are prepared by central government and can prescribe technical standards, methods (including rules) and/or other requirements for environmental matters throughout the whole country or specific areas. If an activity doesn't comply with an NES, it is likely to require a *resource consent*. NESs must be observed and enforced by *local authorities*. The following relevant NESs are currently in force: • Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (amended 2011) • Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 • Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 • Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 • Resource Management (National Environmental Standards for Telecommunications Facilities) Regulations 2016

- Resource Management (National Environmental Standard for Plantation Forestry) Regulations 2017
- Resource Management (National Environmental Standards for Freshwater) Regulations 2020
- Resource Management (National Environmental Standards for Marine Aquaculture) Regulations 2020

Regulations

Regulations
The regulations included in this chapter come under the Resource Management Act 1991 (excluding the national environmental standards listed above). These regulations are: • Resource Management (Transitional, Fees, Rents, and Royalties) Regulations 1991 • Resource Management (Exemption) Regulations 1996 • Resource Management (Marine Pollution) Regulations 1998 • Resource Management (Infringement Offences) Regulations 1999 • Resource Management (Forms, Fees, and Procedure) Regulations 2003 • Resource Management (Discount on Administrative Charges) Regulations 2010 • Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 • Resource Management (Network Utility Operations) Regulations 2016 • Resource Management (Exemption) Regulations 2017. • Resource Management (Stock Exclusion) Regulations 2020

Water conservation orders

Water Conservation Orders	
Regional policy statements, *regional plans* and *district plans* cannot be inconsistent with the provisions of a water conservation order. A water conservation order can prohibit or restrict a regional council issuing new water and discharge permits, although it cannot affect existing permits. The following table provides an overview of whether any relevant review/s of the Otago Regional Policy Statement have been undertaken in relation to relevant water conservation orders.	
Water Conservation (Kawarau) Order 1997	The policy statement has been reviewed in May 2021

MW – *Mana whenua*

Recognition of hapū and iwi

Kāi Tahu[8]

Kāi Tahu are *takata whenua* of the Otago region. Waitaha were the first people of Te Waipounamu, the South Island. Led by Rākaihautū, they explored and settled Te Waipounamu, and their exploits are reflected in enduring place names and histories across the motu. Waitaha were followed by the arrival of Kāti Māmoe and finally Kāi Tahu. Through warfare, intermarriage and political alliances a common allegiance to Kāi Tahu was forged. Kāi Tahu means the 'people of Tahu', linking them by name to their common ancestor Tahu Pōtiki.

The Kāi Tahu tribal area extends from the sub Antarctic islands in the south to Te Parinuiowhiti (White Cliffs, Blenheim) in the north and to Kahurangi Point on Te Tai o Poutini (the West Coast).

Relationship of Kāi Tahu with their rohe

Te Rūnanga o Ngāi Tahu (the iwi authority) is made up of 18 Papatipu Rūnaka, of which seven have interests in the Otago region. Papatipu Rūnaka are a focus for whānau and hapū (extended family groups) who have *mana whenua* status within their area. *Mana whenua* hold traditional customary authority and maintain contemporary relationships within an area determined by whakapapa (genealogical ties), resource use and ahikāroa (the long burning fires of occupation). Te Rūnaka o Ngāi Tahu encourages consultation with the Papatipu Rūnaka and takes into account the views of kā Rūnaka when determining its own position.

Four Kāi Tahu ki Otago Papatipu Rūnaka are based in Otago. These are Te Rūnanga o Moeraki, Kāti Huirapa Rūnaka ki Puketeraki, Te Rūnanga o Ōtākou, and Hokonui Rūnanga. Three Ngāi Tahu ki Murihiku Rūnaka – Awarua Rūnanga, Waihopai Rūnanga and Ōraka-Aparima Rūnanga – are based in Southland but also share interests with Kāi Tahu ki Otago in South Otago, the Mata-au Clutha River, and the inland *lakes* and mountains. The areas of shared interest originate from the seasonal hunting and gathering economy that was a distinctive feature of the southern Kāi Tahu lifestyle. Seasonal mobility was an important means by which hāpu and whānau maintained customary rights to the resources of the interior and ahi kā.

Te Rūnanga o Moeraki

The takiwā of Te Rūnanga o Moeraki is centred on Moeraki and extends from the Waitaki River to the Waihemo Shag River and inland to the Main Divide. The coastal interests of Te Rūnanga o Moeraki are concentrated in the Moeraki Peninsula area and surrounds, including Te Raka-a-Hineatea Pā, Koekohe Hampden Beach, and Te Kai Hinaki with its famed boulders.

https://www.terunangaomoeraki.org/

[8] In the south of the South Island, the local Māori dialect uses a 'k' interchangeably with 'ng'. The preference of Kāi Tahu ki Otago is to use a 'k' so southern Māori are known as Kāi Tahu, rather than Ngāi Tahu. In this document, the "ng" is used for the iwi in general, and the "k" for southern Māori in particular.

Te Rūnanga o Moeraki Marae, Moeraki

Kāti Huirapa ki Puketeraki

The takiwā of Kāti Huirapa ki Puketeraki centres on Karitāne and extends from the Waihemo, Shag River to Purehurehu Heyward Point, and includes an interest in Ōtepoti and the greater harbor of Ōtākou. The takiwā extends inland to the Main Divide sharing an interest in the *lakes* and mountains to Whakatipu-Waitai with kā Rūnaka to the south. The kaimoana resources of the coast from Karitāne to Okahau Blueskin Bay and Pūrākaunui, and the kai awa of the Waikouaiti River and estuary are treasured and well utilised mahika kai for Kāti Huirapa ki Puketeraki.

http://www.puketeraki.nz/

Puketeraki Marae

Te Rūnanga o Ōtākou

The takiwā of Te Rūnaka o Ōtākou centres on Muaūpoko Otago Peninsula, and extends from Purehurehu Heyward Point, to Te Mata-au Clutha River, and inland, sharing an interest in the *lakes* and mountains to the western coast with kā Rūnaka to the north and south. The Otago Harbor has a pivotal role in the well-being of Ōtākou people. The harbor is a source of identity, a bountiful provider of kaimoana, and it is the pathway to the fishing grounds beyond. Traditionally it was the mode for other hapū to visit, and in today's world it is the lifeline to the international trade that benefits the

region. The ebb and flow of the harbor tides is a valued certainty in a world of change, a taoka to be treasured and protected for the benefit of current and future generations.

http://www.otakourunaka.co.nz/

Ōtākou Marae, Otago Peninsula

Hokonui Rūnanga

The takiwā of Hokonui Rūnaka centres on the Hokonui region and includes a shared interest in the *lakes* and mountains between Whakatipu-Waitai and Tawhitarere with other Murihiku Rūnanga and those located from Waihemo southwards. Although Hokonui Rūnanga is based in Gore, their interests in the Otago area, especially South Otago, are significant. They hold this in common with other Otago Rūnaka through whakapapa, history and tradition.

https://www.hokonuirunanga.org.nz/

Hokonui Marae

Te Rūnanga o Awarua

The takiwa of Te Rūnanga o Awarua centres on Awarua and extends to the coasts and estuaries adjoining Waihopai sharing an interest in the *lakes* and mountains between Whakatipu-Waitai and Tawhititarere with other Murihiku Rūnanga and those located from Waihemo southwards.

Waihopai Rūnaka

The takiwa of Waihopai Rūnaka centres on Waihopai and extends northwards to Te Mata-au Clutha River, sharing an interest in the *lakes* and mountains to the western coast with other Murihiku Rūnaka and those located from Waihemo southwards.

Te Rūnanga o Ōraka Aparima

The takiwa of Te Rūnanga o Ōraka Aparima centres on Ōraka and extends from Waimatuku to Tawhititarere sharing an interest in the *lakes* and mountains from Whakatipu-Waitai to Tawhititarere with other Murihiku Rūnaka and those located from Waihemo southwards.

Environmental management perspectives and values of Kāi Tahu

He taura whiri kotahi mai anō te kōpunga tai nō ī te pū au

"From the source to the mouth of the sea, all things are joined together as one"

Te Tiriti o Waitangi establishes a partnership between Kāi Tahu and the Crown. The RMA 1991 requires that the relationship of Māori and their culture and traditions with their ancestral *lands*, *water*, sites, wāhi tapu, and other taoka, is recognised and provided for[9] and that the principles of the Treaty of Waitangi are taken into account.[10] In the spirit of this partnership and the Treaty principles the ORPS seeks to facilitate Kāi Tahu engagement in resource management in Otago.

This chapter acknowledges the principles of Te Tiriti o Waitangi and sets out general considerations for the incorporation of Kāi Tahu values and interests into resource management planning, consenting, and implementation processes. These are integrated throughout this document, and this chapter serves to tie the strands together. It reflects the philosophy embraced by Kāi Tahu of holistic resource management, ki uta ki tai – often described as "from the mountains to the sea".

Kāi Tahu values

The following description is a guide to assist in understanding Kāi Tahu values. It is not a complete list of all the values held by Kāi Tahu.

Kāi Tahu do not see their existence as separate from Te Ao Tūroa, the natural world, but as an integral part of it through whakapapa (genealogy). Whakapapa is central to Te Ao Māori world view, connecting the origins of everything, past and present. It is the foundation upon which all things are built, the web that connects all things together, the anchor which holds all things in place and the means by which all things link back to the beginning of time. It is through whakapapa that all things are intricately linked, as well as having their individual place in the world. Whakapapa binds Kāi Tahu to the mountains, forests and waters and the life supported by them, and this is reflected in attitudes towards the natural world and resource management.

Whakawhanaukataka, the process of maintaining relationships, embraces whakapapa through the relationship between people, and between people and the *environment*. The nature of these

[9] Section 6 of the Resource Management Act (1991).
[10] Section 8 of the Resource Management Act (1991).

relationships defines people's rights and responsibilities in relation to the use and management of resources.

All things have the qualities of wairua (spiritual dimension) and mauri (life force), and have a genealogical relationship with each other. Mauri is found in all things organic and inorganic. The nurturing of all taoka and protection of their mauri is a prime concern and a kaitiakitaka obligation for Kāi Tahu.

Each Papatipu Rūnaka has its own takiwā determined by whakapapa and its ahi-kā-roa (historical use and occupation). Takiwā are often defined by natural boundaries such as heads, mountain ranges and *rivers*. This political and operational authority over an area is undertaken by *mana whenua* and encompasses *kaitiakitaka* and rakatirataka. An integral element of the concepts of *kaitiakitaka* and rakatirataka is the recognition that Kāi Tahu have their own traditional means of managing and maintaining resources and the *environment*. This system of rights and responsibilities (encompassing tikaka and kawa) is inherited from previous generations and has evolved over time.

The resources in any given area are a source of prestige for *mana whenua* of that area and are a statement of their identity. Traditionally, the abundance or lack of resources directly determines the welfare of every hapū, and so affects their mana.

Ki uta ki tai

Ki uta ki tai is a philosophy that has become synonymous with the way Kāi Tahu think about natural resource management. Ki uta ki tai is the concept used to describe holistic natural resource management, recognising all environmental elements are interconnected and must be managed as a whole. It is a way of understanding the natural environment, including how it functions, how people relate to it and how it can be looked after appropriately.

Rakatirataka

Rakatirataka is about having the mana or authority to give effect to Kāi Tahu culture and traditions in the management of the natural world. Recognition of the relationship of Kāi Tahu and their culture and traditions with their ancestral lands, *water*, sites, wāhi tapu, and other taoka are embedded in the RMA 1991 and the Treaty of Waitangi.

Kaitiakitaka

Kaitiakitaka means the exercise of guardianship over *natural and physical resources* and includes the ethic of stewardship. This statutory definition of *kaitiakitaka* is only a starting point for Kāi Tahu, as *kaitiakitaka* is a much wider cultural concept than guardianship.

Kaitiakitaka is fundamental to the relationship between Kāi Tahu and the *environment*. The objectives of *kaitiakitaka* are to protect the mauri and life supporting capacity of the *environment* and to pass the *environment* on to future generations in an enhanced state. For Kāi Tahu, *kaitiakitaka* is not passive custodianship, nor is it simply the exercise of traditional property rights, but it entails an active exercise of responsibility in a manner beneficial to the resource.

Tikaka

Tikaka Māori encompasses the beliefs, values, practices, and procedures that guide appropriate codes of conduct, or ways of behaving. In the context of natural resource management, observing tikaka is part of the ethic and exercise of *kaitiakitaka*. It is underpinned by a body of mātauraka (traditional

knowledge) and is based on a general understanding that people belong to the land and have a responsibility to care for and manage the land. It incorporates forms of social control to manage the relationship of people and the *environment*, including concepts such as tapu, noa and rāhui.

Tikaka is based on traditional practices but is dynamic and continues to evolve in response to different situations.

Taoka

All natural resources - air, *land*, *water*, and indigenous *biological diversity* - are taoka. Taoka are treasured resources that are highly valued by Kāi Tahu, derived from the atua (gods), and left by the tūpuna (ancestors) to provide and sustain life. In the management of natural resources, it is important that the habitats and wider needs of taoka species are sustainably managed and enhanced.

Mahika kai

Mahika kai is one of the cornerstones of Kāi Tahu cultural identity. Mahika kai is a term that literally means "food workings" and refers to the customary gathering of food and natural materials and the places where those resources are gathered or produced. The term also embodies the traditions, customs and collection methods, and the gathering of natural resources for cultural use, including raraka (weaving) and rokoā (traditional medicines). Maintaining mahika kai sites, gathering resources, and continuing to practice the tikaka that governs each resource, is an important means of passing on cultural values and mātauraka to the next generation.

Resources of significance to Kāi Tahu

Wai Maori

Like all things, *water* has a whakapapa. All *water* is seen to have originated from the separation of Rakinui and Papatūānuku and their continuing tears for one another. Rain is Rakinui's tears for his beloved Papatūānuku and mist is regarded as Papatūānuku's tears for Rakinui.

From Rakinui and Papatūānuku came the offspring who were responsible for creating the elements that constitute our total world today, both animate and inanimate - the mountains, *rivers*, forests and seas, and all fish, bird and animal life. The realm of atua such as Rakinui and his many wives and offspring overarches and informs the Kāi Tahu whānui world view, values and beliefs.

Water plays a significant role in Kāi Tahu spiritual beliefs and cultural traditions. Kāi Tahu have an obligation through whakapapa to protect wai and all the life it supports, as *ko te wai te ora o kā mea katoa (water is the life giver of all things)*. The condition of *water* is seen as a reflection of the condition of the people. *Toitū te Marae o Tane, toitū te Marae o Takaroa, toitū te Iwi (Protect and strengthen the realms of the land and sea, and they will protect and strengthen the people).* When the natural environment is strong and healthy, the people are strong and healthy and so too is their mana.

Taoka species and habitats

Taoka species and habitats are those that are treasured by Kāi Tahu, and Kāi Tahu regard all indigenous species as taoka. In many cases taoka species are also mahika kai, treasured for their use as a resource. The Ngāi Tahu Claims Settlement Act 1998 (NTCSA 1998) recognises the relationship Kāi Tahu has with some of these species through the Statutory Acknowledgement for Taonga Species. However, Kāi

Tahu do not consider this list to be comprehensive as important taoka species such as tuna are not included.

Wāhi tūpuna

The value Kāi Tahu attached to land is evident from the fact that every part of the landscape is known and named. *Wāhi tūpuna* (ancestral landscapes) are made up of interconnected sites and areas reflecting the history and traditions associated with the long settlement of Kāi Tahu in Otago. The landscape of Otago includes many *wāhi tūpuna* and areas of significance, reflecting the relationship of Kāi Tahu with the land across the region. These places should not be seen in isolation from one another but are part of a wider cultural setting. For example, an archaeological site adjacent to a *wetland* is likely to be associated with mahika kai resources in the *wetland*. The character of *wāhi tūpuna* in past times is retained in tribal memory, for example through songs, place names and proverbs. When these references to the character of the *wāhi tūpuna* become incorrect due to modification of the *environment*, it negatively affects the Kāi Tahu relationship with that landscape. For example, a waterway named Kaituna would be expected to contain many tuna. A waterway with this name used to exist in central Dunedin, but no longer exists because there is now a city where the waterway once was.

Air and atmosphere (kōhauhau)

In Kāi Tahu traditions, air and atmosphere emerged through the creation traditions and the movement from Te Kore through Te Pō to Te Ao Marama. Following the separation of Raki and Papatūānuku, one of their many children, Tāwhirimātea, fled with Raki into the sky. From there he controls the wind and weather. The air and atmosphere are integral parts of the *environment* that must be valued, used with respect, and passed on intact to the next generation. Pollution of the air and atmosphere adversely affects the mauri of this taoka and other taoka such as plants and animals.

Coastal environment (taku tai moana me te wai māori)

The tūpuna of Kāi Tahu were great ocean travellers. Like many other Pacific peoples, Kāi Tahu are connected by whakapapa to those people who spread across Te-Moana-Nui-a-Kiwa, the Pacific Ocean. Takaroa is the atua who is central to these beliefs, which influence the way Kāi Tahu relate to and manage marine resources. The marine environment is a moving force, a reminder of the power of Takaroa. The coastal environment is particularly significant for Kāi Tahu in the southern South Island. Most of the permanent settlements were established on the coast due, in part, to the moderating influence of the sea on temperature, making the winters less bitter. The coast also had a bounty of kaimoana resources to support coastal settlements.

The *coastal waters* and processes were integral to the way of life tūpuna enjoyed, and the coastal environment continues to support significant mahika kai resources. The *coastal waters* are a *receiving environment* for fresh *water*, gravels and sediment from the terrestrial landscape, which are important to maintaining natural processes and the domain of Takaroa. Recognising the interconnection of the *land* and sea environments is consistent with the ki uta ki tai philosophy.

Pounamu

Kāi Tahu customs are intricately linked to this special taoka. The practice of gathering, using and trading pounamu bind Kāi Tahu identity to the landscape. Pounamu conveys mana and mauri from ages past, and is reflected in its exalted whakapapa lineage, an uri (descendant) of Takaroa.

As an interim measure, until a Regional Pounamu Management Plan is developed for Otago and Murihiku, a rāhui pounamu has been in place in the Otago region since the passing of the Ngāi Tahu (Pounamu Vesting) Act 1997. This is subject to review by the collective Kaitiaki Rūnaka who will determine appropriate protection, access and use policies applicable to their membership and Ngāi Tahu whānui.

Ngāi Tahu Claims Settlement Act 1998 (NTCSA 1998)

The NTCSA 1998 was enacted to settle historical Ngāi Tahu claims against the Crown. The NTCSA 1998 provides redress for breaches of Te Tiriti o Waitangi and to signal a new age of co-operation of the Crown and its agencies with Kāi Tahu. The Crown apology recorded in section 4 of the NTCSA 1998 explicitly recognises the rakatirataka of Kāi Tahu within its takiwā, and the Act includes specific provisions that provide for exercise of rakatirataka and *kaitiakitaka* by *mana whenua* in respect to mahika kai, taoka species and other resource management matters. These include rights in relation to the management of specified significant areas (statutory acknowledgement areas, tōpuni and *nohoaka*) and customary fisheries.

Statutory acknowledgement areas

Statutory acknowledgements are recorded in the NTCSA 1998 for several *water bodies*, mountains and coastal features in the Otago Region. These acknowledgements are statements by Te Rūnanga o Ngāi Tahu of the particular cultural, spiritual, historic and traditional association of Kāi Tahu with these areas.

Part 12 of the NTCSA 1998 provides details of statutory acknowledgements, and the responsibilities relating to them. Section 208 of the NTCSA 1998 requires that *local authorities* have regard to these statutory acknowledgements in *resource consent* processing under Section 95 of the RMA in deciding whether Te Rūnanga o Ngāi Tahu may be adversely affected by the granting of a *resource consent* for activities within, adjacent to or impacting directly on the area.

Statutory acknowledgements were intended as a measure to improve opportunities for *mana whenua* engagement in resource management processes, pending broader provision for areas of significance to Kāi Tahu being incorporated into resource management plans in order to protect and restore associated rights, interests and values. The statutory acknowledgements are *wāhi tūpuna,* but *wāhi tūpuna* are not confined to these areas.

The following statutory acknowledgement areas in Otago are recognised in the NTCSA 1998, and their values are described in Schedules to that Act:

- Ka Moana Haehae (Lake Roxburgh) - Schedule 22
- Kakaunui River - Schedule 23
- Kuramea (Lake Catlins) - Schedule 28
- Lake Hāwea - Schedule 30
- Lake Wānaka - Schedule 36

- Mata-Au (Clutha River) - Schedule 40
- Matakaea (Shag Point) - Schedule 41
- Pikirakatahi (Mount Earnslaw) - Schedule 51
- Pomahaka River - Schedule 52
- Te Tauraka Poti (Merton Tidal Arm) - Schedule 60
- Te Wairere (Lake Dunstan) - Schedule 61
- Tititea (Mount Aspiring) - Schedule 62
- Tokatā (The Nuggets) - Schedule 64
- Waihola/Waipori Wetland - Schedule 70
- Waitaki River – Schedule 72[11]
- Whakatipu Wai Māori (Lake Wakatipu) - Schedule 75
- Te Tai O Arai Te Uru (Otago Coastal Marine Area) - Schedule 103.

Tōpuni

The concept of tōpuni derives from the traditional Kāi Tahu custom of persons of rakatira status extending their mana and protection over a person or area by placing their cloak over them or it. A number of areas on public conservation land that have significant values to Kāi Tahu because of their cultural, spiritual, historic and traditional associations are recognised in the NTCSA 1998 as tōpuni. Sections 240 to 246 of the NTCSA 1998 provide for Kāi Tahu consultation on management of these areas, to protect their values. Although the specific provisions in the NTCSA 1998 relate only to management of conservation land, the interests of Kāi Tahu should be recognised and provided for when considering activities in nearby areas that may impact on the values of tōpuni or *waters* flowing from them.

Tōpuni recognised in Otago are:

- Matakaea (Shag Point) – Schedule 83
- Maukaatua Scenic Reserve – Schedule 84
- Pikirakatahi (Mount Earnslaw) – Schedule 87
- Te Koroka (Dart/Slipstream) – Schedule 91
- Tititea (Mount Aspiring) – Schedule 92.

Nohoaka

Nohoanga (or *nohoaka*) entitlements provide a right of seasonal occupation and use for Kāi Tahu whānui on specified areas of Crown-owned land near *water bodies* for harvest of natural resources (sections 255 to 268 of the NTCSA 1998). These rights are intended as partial redress for the loss of mahika kai through alienation of land.

Kāi Tahu interests in these areas should be recognised and provided for when considering management of associated *water bodies* or activities on nearby land. The ability of Kāi Tahu whānui to access and use *nohoaka* as intended is reliant upon protection and restoration of mahika kai values associated with them.

[11] The Waitaki River lies within both the Otago and Canterbury regions.

Nohoaka entitlements are listed in Schedule 95 of the NTCSA 1998. In Otago, sites are identified adjacent to the following *water bodies*:

- Waitaki River (two sites)
- Waianakarua River
- Taieri River (three sites)
- Lake Hāwea (three sites)
- Hāwea River
- Lake Wānaka (two sites)
- Lake Wakatipu
- Shotover River (two sites)
- Mata-au Clutha River (four sites).

Customary fisheries

Sections 297 to 311 of the NTCSA 1998 include provisions recognising Kāi Tahu rights and interests in customary fisheries, and provide for involvement in management of these resources through the Conservation Act 1987 and the Fisheries Acts 1983 and 1996.

The interests of Kāi Tahu should be recognised and provided for when considering activities under the RMA 1991 that may impact on customary fisheries, to enable protection and restoration of fisheries habitat. Mātaitai and taiāpure are mechanisms under the Fisheries Act that provide for management of customary fisheries areas and are applicable to both coastal and *freshwater* fisheries environments.

The East Otago Taiāpure is constituted by the Fisheries (East Otago Taiāpure) Order 1999. It includes the estuarine and inshore marine waters between Cornish Head and Potato Point.

There are also four mātaitai in Otago:

- Moeraki Mātaitai Reserve includes areas of *coastal waters* at Moeraki and Katiki (https://www.mpi.govt.nz/dmsdocument/15220-Moeraki-North-Otago-Mataitai-Reserve)
- Waikouaiti Mātaitai Reserve includes *freshwater* and estuarine waters of the Waikouati River (https://www.mpi.govt.nz/dmsdocument/12954-Waikouaiti-South-Canterbury-Mataitai-Reserve-)
- Ōtākou Mātaitai Reserve includes most of the Otago Harbor north of a line from Harwood to Pulling Point (https://www.mpi.govt.nz/dmsdocument/14077-Otakou-mataitai-reserve)
- Puna-wai-Tōriki (Hays Gap) Mātaitai Reserve includes an area of *coastal waters* north of Nugget Point (https://www.mpi.govt.nz/dmsdocument/15223-Puna-wai-Toriki-Hays-Gap-South-Otago-Mataitai-Reserve)

Māori land reserves

A Native Reserve is any property or site that is a:

- Native Reserve excluded from the Ōtākou Land Purchases (1844)
- Native Reserve excluded from the Kemps Land Purchases (1848)
- Reserve granted by the Native Land Court (1868)
- Half Caste Reserve (1881)

- Landless Native Reserve (1896)
- Other reserve (1890 and 1900)

A number of Māori reserves exist that were excluded from the land sales of the 1840s. These reserves are steeped in history and association and are places of belonging. Remaining reserves are located at Moeraki, Waikouaiti, Ōtākou, Onumia, Taieri Mouth, and Te Karoro, Kaka Point. Other categories of Māori land exist at Koputai, Port Chalmers, and Ōtepoti, Dunedin, where tauraka waka,landing sites, were recognised. In addition, land was held at Manuhaea, Lake Hāwea, Aramoana, Clarendon, Taieri Mouth, Tautuku-Waikawa and Glenomaru amongst others. Landing reserves were allocated at Matainaka, Waikouaiti, and the former Lake Tatawai on the Taieri Plains.

The following table lists the reserves in Otago. Many of the sections within these Native Reserves now have the status of general land. While some of this general land is still in Māori ownership, many of the general titled sections have been sold to non-Māori or taken under various pieces of legislation such as the Public Works Act 1981. Although these sections are no longer in whānau ownership, descendants of the original owners retain an ancestral relationship with these lands.

Table 1: Native reserves located within the Otago region

Location	Comments	Reserve Type
Tautuku	Southern block of Tautuku sections	South Island Landless Natives Act
	Northern sections are Reserved lands	Native Reserve
Glenomaru	Located south of Kaka Point	South Island Landless Natives Act
Maranuku	Granted in 1844 as part of the Otakou Purchase. Originally called Te Karoro, split into two reserves	Native Reserve
Clarendon	Located inland from Taieri Mouth	Clarendon Half Caste Reserve
Taieri	Granted in 1844 as part of the Otakou Purchase Deed. Split into three reserves; A, B and C	Native Reserve
Lake Tatawai	Located on the Taieri Plain, south of the Dunedin	Native Reserve
Lake Tatawai	Lake that is now drained	Landing Reserve
Otago Heads Native Reserve	Granted in 1844 as part of the Ōtākou Purchase Deed. Split into four reserves	Native Reserve
Port Chalmers	Granted in 1848 as part of the Ōtākou Purchase Deed. A further grant adjacent to the Reserve was made in approximately 1888	Native Reserve
Aramoana	This reserve resulted from the Purakaunui Half Caste grant	Half Caste Reserve
Purakanui	Granted in 1848 as part of Kemp's Purchase Deed. Further allocations were made in 1868 at Wharauwerawera	Native Reserve
Brinns Point	Granted in the latter part of the nineteenth century	Half Caste Reserve
Karitane (Waikouaiti Native Reserve)	Granted in 1848 as part of Kemp's Purchase Deed	Native Reserve

Matainaka and Hawksbury Fishing Easement	Two fishing easements fall under this reserve, Matainaka, located at Hawkesbury Lagoon at Waikouaiti and the Forks Reserve located inland from Karitane. The legal description for the latter reserve is Section 1N Town of Hawksbury	Fishing Easement
Hawksbury	Located north of Waikouaiti, in the vicinity of Goodwood	Hawksbury Half Caste Reserve
Moeraki	Granted in 1848 as part of Kemp's Purchase Deed. Further awards were made in 1868	Native Reserve
Kuri Bush	10 acre reserve of timber	Native Reserve
Kakanui	Granted in 1848 as part of Kemp's Purchase Deed. By 1853, this Reserve was noted as being abandoned and the 75 acre allocation was added to the southern edge of the Moeraki Native Reserve	Native Reserve
Korotuaheka	Located south of the Waitaki River mouth. Now Reserved as an urupa. It appears this originated as an occupational reserve and Fishing Easement	Partitioned in 1895 Possibly awarded as part of the 1868 awards
Punaomaru	376 acre reserve located approximately 14 miles from the Waitaki River mouth on the south bank of the river	Native Reserve
Lake Hāwea	Reserve of 100 acres situated in the western extremity of the middle arm of Lake Hāwea near a Lagoon. Part of the Reserve was taken for power development in 1962 and the balance of the land was alienated by the Māori Trustee in 1970	Fishing Easement

Mana whenua – local authority relationships

Kāi Tahu relationships with local authorities

There are a number of relationship agreements between Kāi Tahu Ki Otago and *local authorities* in Otago. These include:

- Memorandum of Understanding and Protocol between Otago Regional Council, Te Rūnanga Ngāi Tahu and Kāi Tahu ki Otago for Effective Consultation and Liaison (2003)
- Te Roopū Taiao Otago Charter and Hui (ORC, QLDC, DCC, WDC, CDC, CODC)
- Charter of Understanding signed with Te Ao Marama Inc. and Southland Rūnanga (2016)

Kāi Tahu and Otago Regional Council use the Mana to Mana forum as a means to build a strengthened relationship between the two entities.

He Huarahi mō Ngā Uri Whakatupu[12] is the Charter of Understanding between Ngāi Tahu ki Murihiku (Awarua Rūnanga, Waihopai Rūnanga, Ōraka-Aparima Rūnanga and Hokonui Rūnanga) and the *local*

[12] Available from https://www.es.govt.nz/repository/libraries/id:26gi9ayo517q9stt81sd/hierarchy/about-us/plans-and-strategies/regional-plans/iwi-management-plan/documents/The%20Charter%20of%20Understanding.pdf (accessed 26 May 2021)

authorities. Otago Regional Council and Queenstown Lakes District Council are signatories to He Huarahi mō Ngā Uri Whakatupu as it applies to their areas of jurisdiction.

Hapu and iwi planning documents

There are four iwi planning documents lodged with the *local authorities* in the Otago Region:

- Te Rūnanga o Ngāi Tahu Freshwater Policy 1999
- Kāi Tahu ki Otago Natural Resources Management Plan 2005
- Te Tangi a Tauira: Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008
- Waitaki Iwi Management Plan 2019

How the iwi planning documents have been taken into account in this Regional Policy Statement

Objectives and policies of the iwi management plans are reflected in the Resource Management Issues of Significance to Kāi Tahu and have been taken into account in the development of provisions across the whole of this Regional Policy Statement.

How iwi planning documents are used in Otago

The iwi management plans are used to provide cultural context and guidance as to the natural resource values, concerns and issues of Kāi Tahu ki Otago and Ngāi Tahu ki Murihiku.

The iwi planning documents are to be used in the development of planning policy and assist decision-makers to make informed decisions, recognising the local knowledge of the *environment* held by Papatipu Rūnaka and the significance of the natural resource values to Kāi Tahu.

The iwi planning documents are also used to guide consultation with Rūnaka and set out the expectations for consultation. The iwi management plans are not a substitute for direct communication with Papatipu Rūnaka.

Involvement and participation with *mana whenua*

ORC and the *local authorities* will establish and maintain effective resource management relationships with Kāi Tahu based on a mutual obligation to act reasonably and in good faith. The *local authorities* and Otago Regional Council will consult Kāi Tahu at an early stage in resource management processes and implementation, and facilitate efficient and effective processes for applicants to consult Kāi Tahu on *resource consent* applications and private plan change requests.

Local authorities may also delegate and transfer any one or more of their functions, powers or duties to an iwi authority in accordance with section 33 of the RMA, and where this provides an effective service.

Mana whenua consultancy services

The Papatipu Rūnaka consultancy services, Aukaha, representing Kāi Tahu ki Otago, and Te Ao Marama Inc, representing Ngāi Tahu ki Murihiku, facilitate Kāi Tahu engagement in resource management processes and provide a first point of contact for the public seeking to engage with Papatipu Rūnaka.

Other iwi, hapū and mātāwaka

Otago is also home to Māori from other iwi, hapū, and mātāwaka. The Araiteuru marae in Dunedin and Te Whare Koa in Oamaru are important pan-tribal cultural centres for mātāwaka and sit within the manaakitaka of *takata whenua*.

Provisions

Objectives

MW–O1 – Principles of Te Tiriti o Waitangi

The principles of Te Tiriti o Waitangi are given effect in resource management processes and decisions, utilising a partnership approach between councils and Papatipu Rūnaka to ensure that what is valued by *mana whenua* is actively protected in the region.

Policies

MW–P1 – Treaty obligations

Promote awareness and understanding of the obligations of *local authorities* in regard to the principles of Te Tiriti o Waitangi, tikaka Māori and kaupapa Māori.

MW–P2 – Treaty principles

Local authorities exercise their functions and powers in accordance with Treaty principles, by:

(1) recognising the status of Kāi Tahu and facilitating Kāi Tahu involvement in decision-making as a Treaty partner,

(2) including Kāi Tahu in resource management processes and implementation to the extent desired by mana whenua,

(3) recognising and providing for Kāi Tahu values and resource management issues, as identified by *mana whenua*, in resource management decision-making processes and plan implementation,

(4) recognising and providing for the relationship of Kāi Tahu culture and traditions with their ancestral lands, *water*, sites, wāhi tapu, and other taoka by ensuring that Kāi Tahu have the ability to identify these relationships and determine how best to express them,

(5) ensuring that *regional* and *district plans* recognise and provide for Kāi Tahu relationships with Statutory Acknowledgement Areas, tōpuni, *nohoaka* and customary fisheries identified in the NTCSA 1998, including by actively protecting the mauri of these areas,

(6) having particular regard to the ability of Kāi Tahu to exercise kaitiakitaka,

(7) actively pursuing opportunities for:

  (a) delegation or transfer of functions to Kāi Tahu, and

  (b) partnership or joint management arrangements, and

(8) taking into account iwi management plans when making resource management decisions.

MW–P3 – Supporting Kāi Tahu well-being

The natural environment is managed to support Kāi Tahu well-being by:

(1) protecting customary uses, Kāi Tahu values and relationships of Kāi Tahu to resources and areas of significance, and restoring these uses and values where they have been degraded by human activities,

(2) safeguarding the mauri and life-supporting capacity of natural resources, and

(3) working with Kāi Tahu to incorporate mātauraka in resource management.

MW–P4 – Sustainable use of Māori land

Kāi Tahu are able to protect, develop and use *land* and resources within native reserves and *land* held under Te Ture Whenua Māori Act 1993 in a way consistent with their culture and traditions and economic, cultural and social aspirations, including for *papakāika*, marae and marae related activities, while:

(1) avoiding adverse *effects* on the health and safety of people,

(2) avoiding significant adverse *effects* on matters of national importance, and

(3) avoiding, remedying, or mitigating other adverse *effects*.

Methods

MW–M1 – Collaboration with Kāi Tahu

Local authorities must collaborate with Kāi Tahu to:

(1) identify and map places, areas or landscapes of cultural, spiritual or traditional significance to them,

(2) protect such places, areas, or landscapes, and the values that contribute to their significance,

(3) identify indigenous species and ecosystems that are taoka in accordance with ECO–M3, and

(4) identify and map outstanding natural features, landscapes and seascapes, and highly valued natural features, landscapes and seascapes and record their values.

MW–M2 – Work with Kāi Tahu

Local authorities must consult with Kāi Tahu to:

(1) determine appropriate naming for places of significance in Otago,

(2) share information relevant to Kāi Tahu interests, and

(3) develop research and monitoring programmes that incorporate mātauraka and are led by *mana whenua*.

MW–M3 – Kāi Tahu relationships

Local authorities must develop processes to:

(1) establish and maintain effective resource management relationships with Kāi Tahu based on a mutual obligation to act reasonably and in good faith,

(2) involve Kāi Tahu at an early stage and throughout resource management processes and implementation, and

(3) facilitate efficient and effective processes for applicants to consult Kāi Tahu on *resource consent* applications, private plan change requests, notices of requirement, and notices of requirement for heritage orders.

MW–M4 – Kāi Tahu involvement in resource management

Local authorities must facilitate Kāi Tahu involvement in resource management (including decision making) by:

(1) including accredited Kāi Tahu commissioners on hearing panels for *resource consent* applications, notices of requirements, plan changes or plans where Kāi Tahu values may be affected,

(2) resourcing Kāi Tahu participation in resource management decision making, including funding,

(3) joint management agreements and full or partial transfers of functions, duties or powers from *local authorities* to iwi authorities in accordance with section 33 of the RMA 1991, and

(4) entering into a Mana Whakahono ā Rohe with one or more iwi authorities.

MW–M5 – *Regional* and *district plans*

Local authorities must amend their *regional* and *district plans* to:

(1) take Iwi Management Plans and resource management issues of significance to Kāi Tahu (RMIA) into account,

(2) provide for the use of native reserves and *land* held under Te Ture Whenua Māori Act 1993 in accordance with MW–P4, and

(3) incorporate active protection of areas and resources recognised in the NTCSA 1998.

MW–M6 – Incentives and education

Local authorities are encouraged to use other mechanisms or incentives to assist in achieving Policies MW–P1 to MW–P4, promoting awareness and improving knowledge of tikaka and the principles of Te Tiriti o Waitangi among staff and stakeholders, including through hiring practices, induction programmes, key performance indicators and training activities.

MW–M7 – Advocacy and facilitation

Local authorities may facilitate negotiations with landowners to provide Kāi Tahu access to sites of significance to Kāi Tahu that do not have suitable access.

Explanation

MW–E1 – Explanation

The policies in this section are designed to achieve MW–O1 by setting out the actions that must be undertaken by *local authorities* to ensure the principles of Te Tiriti o Waitangi are given effect in resource management processes and decisions. The policies also require the development and implementation of planning tools which recognise the role of Kāi Tahu in resource management and ensure their engagement with and participation in resource management.

Principal reasons

MW–PR1 – Principal reasons

Te Tiriti o Waitangi creates a special relationship between *takata whenua* and the Crown. Section 8 of the RMA 1991 requires *local authorities* to take the principles of Te Tiriti o Waitangi into account. These principles include kāwanataka, rakatirataka, partnership, participatory decision making and active protection of Kāi Tahu resources. Section 7(a) of the RMA 1991 requires decision makers to have particular regard to *kaitiakitaka*. Effective *kaitiakitaka* is dependent upon the extent to which Kāi Tahu can exercise rakatirataka, which requires the authority and ability to make decisions relating to management of resources.

Local authorities need to incorporate Treaty principles into their decision making and ensure they are properly applied, to account for the *effects* of resource management decisions on Kāi Tahu values, including those described in iwi resource management plans. Deliberate measures need to be taken to ensure the principles are well understood. The principles are broadly expressed, so a measure of flexibility is needed in applying them.

The provisions in this chapter assist in implementing sections 6(e), 7(a) and 8 of the RMA 1991 by requiring a partnership approach which involves Kāi Tahu and considers *mana whenua* rights, interests and values in decision making processes, and enables Treaty principles to be taken into account in an appropriate way.

Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions. However *local authorities* may also adopt additional non-regulatory methods to implement the policies and support achievement of the objective.

Anticipated environmental results

MW–AER1 Resource management processes and decisions reflect the principles of Te Tiriti o Waitangi.

MW–AER2 Strong relationships between Kāi Tahu and *local authorities* facilitate the exercise of rakatirataka and *kaitiakitaka* by *mana whenua* in relation to their taoka tuku iho.

PART 2 – RESOURCE MANAGEMENT OVERVIEW

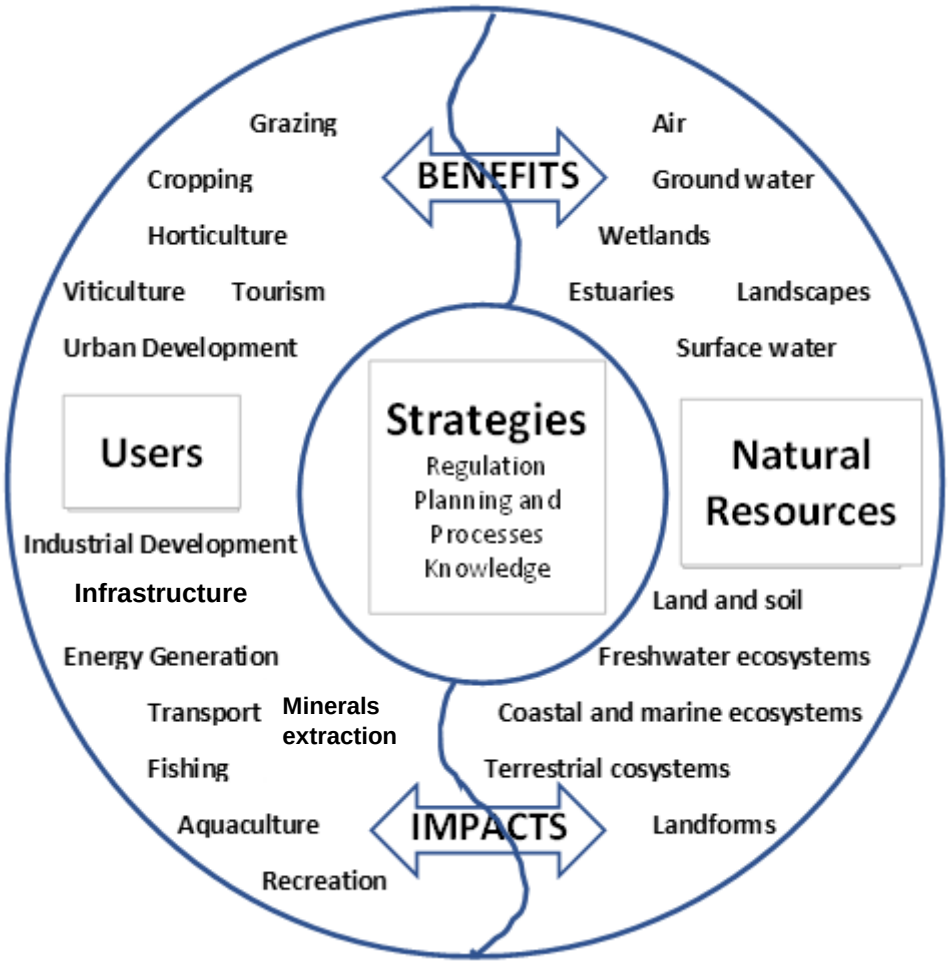
SRMR – Significant resource management issues for the region

Introduction

Otago's people and communities rely on the natural resources that Otago's *environment* provides to enable their social, economic, and cultural well-being. Natural resources include *freshwater* (i.e. surface and *groundwater*, *wetlands*, estuaries), *land*, terrestrial and *freshwater* ecosystems, coastal and marine ecosystems, and air, landscapes, vegetation and natural landforms.

From an economic perspective natural resources support, and are impacted by, agricultural industries (e.g. grazing, cropping, horticulture, viticulture), urban development, industrial development, *infrastructure*, energy generation, transport, marine industries (fishing and aquaculture), tourism and mineral extraction. From a social and cultural perspective natural resources support and are impacted by recreation, housing, and cultural activities (Refer Figure 2).

Figure 2 - Relationships between natural resources, resource use and strategies



This RPS identifies the eleven most significant issues impacting the Otago region. Issues firstly considered include *natural hazards*, *climate change*, pest species, *water* quantity and quality, and biodiversity loss, collectively the "natural asset-based issues". Two "place-based issues" of regional significance are then addressed - being Otago's coast and Otago's *lake* areas. Finally, issues of economic and domestic pressures, cumulative impacts and *resilience* are considered.

While the issues in this section are considered individually, this RPS considers and responds to them in a joined-up manner as part of a complex system with biophysical limits, inherent uncertainty, potentially irreversible and sometimes catastrophic impacts, and interdependent behaviours.

Each issue is considered in the following manner:

- an issue statement
- context
- impacts on the *environment*, economy, and society

SRMR–I1 – *Natural hazards* pose a *risk* to many Otago communities

Statement

An earthquake on the Alpine Fault would cause potentially catastrophic impacts on the entire region. Particular areas in Otago are prone to flooding. A major hazard event could isolate all or parts of Otago for an extended time.

Context

The Otago region is exposed to a wide variety of *natural hazards* that impact on people, property, *infrastructure*, historic heritage and the wider *environment*. When a *natural hazard* event occurs, it is usually difficult and costly for a community to recover. The *natural hazard* threats range from coastal erosion and flooding in lowland coastal areas to alluvial fan deposition, landslip, rock fall, seismic events (earthquake and tsunami), wind, snow, drought and riverbank breaches.

Frequent heavy rainstorms, the steep gradients of many *river* catchments and human occupation of floodplains combine to make flooding the most frequently occurring *natural hazard* event in the Otago region. For example, flooding can affect Otago's main urban centres causing damage to housing and business disruption, and agriculture can be disrupted in Otago's floodplains (lower Clutha and Taieri).

Seismic *risks* are widespread in Otago as evidenced by the region's active faults, being the Cardrona, Dunstan, Rough Ridge, Hyde, Taieri Ridge, Waihemo and Akatore faults. The Alpine Fault in the Queenstown Lakes District has an estimated 75% probability of causing a major earthquake in the next 50 years with associated large-scale destruction.

Otago's coastline is exposed to tsunamis, from local offshore faults and nearby subduction zones, such as the Puysegur Trench (south of the South Island). The stretch of the Otago coastline north of the Otago Peninsula has a greater level of exposure to tsunamis generated from South America.

Natural hazards may be exacerbated by the *effects* of *climate change*, which include sea level rise, and greater frequency and intensity of extreme weather events. Elevated sea levels resulting in flooding can occur as a result of a combination of tides, storm surge, and waves. There are several low-lying areas in relatively close proximity to the coast that have been identified as being at *risk*, such as South Dunedin.

Parts of the Otago coastline (which is a soft coast formed by material such as sand or gravel) are also prone to significant coastal erosion. Coastal erosion is a *risk* in Waitaki District, Dunedin City and along the Clutha River Delta, potentially affecting communities and *infrastructure* near the coast.

Impact snapshot

Environmental

Ecosystems (from the mountains to the coast), *water bodies* and *water* quality (*rivers, lakes, wetlands* and *ground water*) are variously at *risk* of increased frequency and intensity of flooding and landslides. Seismic events result in liquefaction of land and associated soil disturbance, elevated sea levels and associated flooding, potential permanent inundation and coast erosion. While *effects* are localised, *natural hazard* impacts can be significant where threatened ecosystems or species are involved.

Economic

Otago's primary industries, *infrastructure*, energy and transport systems, and urban areas are exposed to the full range of hazards noted above, with potential for major-to-catastrophic economic consequences, including damage to production, *infrastructure* such as transport routes (highways, bridges), the built environment and communications, and often resulting in supply chain disruptions. Natural hazards could also impact on renewable electricity generation in the region with subsequent impact on electricity generation capacity.

For individuals and households this can result in changes to employment, income, assets and consumption patterns, disruption to social protection, services, social safety net mechanisms and institutions.

For industry, hazards can damage production assets and *infrastructure* with associated costs, disrupt service delivery and limit availability and access to goods and services, and cause decline in sales and increased costs. Loss or changes in production flows can be either temporary or permanent depending on financial *resilience* of businesses, which is a function of their existing loan commitments, credit worthiness and insurance cover. Food security can also be affected.

Social

Social impacts can be direct (e.g. physical destruction of housing or transport route, human physical harm) but equally important are indirect and secondary impacts of disasters, including the destruction of communities and the negative impacts on people. Physical impacts and community dislocation can also cause long term psychological stresses affecting people’s coping mechanisms, recovery sources and capacity which can test the *resilience* of a community.

Social impacts of events can result in immediate impacts on livelihoods for individuals and families, particularly for lower socio-economic groups. Health services disruptions can occur, including access to and changes in demand for services. Similarly, there can be disruptions to education service delivery. Housing impacts may require urgent provision for basic human needs including replacement shelter and housing, and food and *water* immediately following an event.

Damage to *infrastructure* and assets may have varying impacts on different groups, for example those with less resources may have less capacity to respond to hazard events and be more impacted as a result. The relationship between affected people and their cultural assets may also be affected, for example customs and traditions related to housing, health, livelihoods, and nutrition.

SRMR–I2 – *Climate change* is likely to impact our economy and *environment*

Statement

Otago's climate is changing, and these changes will continue for the foreseeable future. Central Otago is likely to see more varied precipitation, leading to increased flooding and reduced *water* reliability. This will be compounded by stronger winds, increased temperatures and longer dry periods, which may affect the number and types of crops and animals that the land can sustain. On the coast, low lying areas like South Dunedin are at *risk* of inundation from rising sea levels. This will also exacerbate coastal erosion, which could damage coastal *infrastructure* (including *roads*), damage historic heritage, particularly *wāhi tūpuna*, and expose old waste dumps (e.g. at Middle Beach). *Climate change* will also affect native animals and plants, compounding the impacts of existing pests and stresses and providing opportunities for new pests to establish themselves due to changed conditions. The impact of other *climate change* threats is unpredictable.

Context

The rate of future *climate change* depends on how fast *greenhouse gas* concentrations increase. These changes are expected to result in higher temperatures, changes in precipitation, drought, fire weather, extreme weather events, inland and coastal flooding, landslides and soil erosion, salinity, sea level rise, erosion, reduced snow and ice, and marine heatwaves.

It is expected temperatures will increase across Otago, and by 2090, Otago is projected to have from 4 to 25 extra days per year where maximum temperatures exceed 25˚C, with around 13 to 45 fewer frosts per year (and consequently less snow). Precipitation overall will increase slightly (by up to 10%), more so in the western part of the region, with less precipitation in central and eastern Otago. There will be an increase in average annual flows across the region, apart from the Taieri and North Otago, and flooding will be more severe – there will be an increase in the mean annual flood by 100% in some locations by the end of the century.

Impact snapshot

Climate change impacts arising from changes in temperature, rainfall, *river* flows and flooding have been assessed in the Otago Regional Council's commissioned report: Otago Climate Change Risk Assessment Phase 1 report (OCCRA report).[13] The following discussion is based on potential *climate change* impacts at 2050.

Environment

For terrestrial native ecosystems and species, higher frequency of severe events (e.g. high/low temperatures, intense rainfall, drought, fire weather) could reduce *resilience* of native terrestrial ecosystems and species over time with adverse impacts on biodiversity. Native species (including *threatened species*) and ecosystems are also likely to be affected by increased competition with invasive species/pests favoured by warmer temperatures, particularly with milder winters. This could be a contributory *risk* factor (but not sole cause) for native species that are threatened or close to extinction.

For marine and coastal ecosystems and species, potential climate impacts include lower ocean productivity and impacts on feeding grounds (e.g. decreasing the population of yellow-eyed

[13] Tonkin+Taylor, 2020, Otago Climate Change Risk Assessment (Commissioned by the Otago Regional Council)

penguins); ocean acidification; and changes in species diversity/distribution (e.g. reducing kelp forests). Increased intensity of flooding would result in an increase in sediment which will change the physical composition of *freshwater* and marine waters and, for example, may reduce light availability, smother fragile habitats, or impact on the foraging ability of some species, particular those that rely on vision (e.g. yellow-eyed penguins). New pests and disease threats may arise from marine heatwaves/warmer ocean temperatures. Warmer temperatures could also reduce oxygen and cause stratification in shallow bays (resulting in *water* quality impacts). Sea level rise will also affect coastal habitats and ecosystems (inter-tidal zones, sand dunes). *Groundwater* impacts will include coastal aquifers being affected by salinisation, and reduced rainfall in some areas will affect *groundwater* recharge, flow and surface *water discharges*, with potential adverse impacts on ecosystems and species dependent on *groundwater*.

By 2090, the time spent in drought ranges from minimal change through to more than double, depending on the climate model and emissions scenario considered. More frequent droughts are likely to lead to *water* shortages, increased demand for irrigation and increased *risk* of wildfires. Reduced snowfalls may affect *water* availability since snow acts as a storage mechanism until the *water* is required in summer.[14] As a result, *river* ecosystems could be altered through reduced flows during drought periods with associated declining *water* quality, reduced food resources, and availability of habitats. This would affect ecosystems for key species, such as *river* nesting birds and endemic *freshwater* fish species.

Lakes could be subject to temperature increases. This can impact on the health of *lake* ecosystems, for example algal blooms. *Wetland* plant species and *wetland* habitats, and other species reliant on *wetlands* (including threatened bird species) are at *risk* of being negatively impacted. There are also likely to be cascading impacts on surrounding *environments* and ecosystems from hydrological changes (e.g. increased flood *risk*/changing *water* flows due to *wetland* loss). Coastal *wetlands* are particularly at *risk* due to salinisation from sea level rise and coastal flooding.

Economy

Regional industry

Climate change impacts will result in both impacts and opportunities for regional industry in terms of jobs, business income and profitability. Key industries likely to be impacted include sheep, beef, dairy and deer farming, cropping and viticulture, forestry, fisheries and aquaculture, as well as tourism. For example, agriculture may benefit from warmer temperatures, longer growing seasons and elevated carbon dioxide concentrations leading to better pasture and crop growth. *Climate change* may also result in shifting land-use activities to adapt to altered climate conditions, which will incur costs, and potentially enable resources previously unviable to come into production.

However, these benefits may be limited by negative *effects* of *climate change* such as prolonged drought and increased flood *risk*. Some of these impacts can be mitigated by adaptation, for example, planting new crops that are better suited to new climatic conditions or through changes in crop intensification, or *water* harvesting practices. Pests and diseases could spread in range and severity, and pasture composition is likely to change with uncertain impacts on animal productivity and nutrient balances.

For tourism, there will be negative impacts on skiing where the number of snow days experienced annually could decrease by as much as 30-40 days in some parts of the region. The duration of snow

[14] https://www.mfe.govt.nz/climate-change/likely-impacts-of-climate-change/how-could-climate-change-affect-my-region/otago (Accessed 26 May 2021)

cover is also likely to decrease, particularly at lower elevations. This will also lead to reduced summer waterflows.

Built environment

For Otago, by 2050, the built environment will experience high to extreme impact *risks* to *wastewater* and *stormwater infrastructure*, *roads* and bridges, airports, stop banks and flood management schemes, and rural drainage. Medium to extreme impact *risks* are expected to affect urban and rural housing, *water* supply, *landfill* areas; and medium level *risks* are likely for commercial and public *buildings*, open space, rail, and ports.

The main threat to the *urban environment* comes from possible increases in heavy rainfall, which would put pressure on drainage and *stormwater* systems and increase the *risk* of flooding in some areas. Erosion could also increase *road* maintenance costs. There is greater risk of wastewater network overflows, and wastewater treatment plants being compromised.

Warmer conditions will substantially reduce home heating costs, leading to reduced electricity demand during the peak winter season, but possibly increase demand for air conditioning during summer. A reduced winter demand for electricity, combined with an increased availability of *water* in hydroelectric storage *lakes* from projected rainfall increases over the Main Divide, would provide the opportunity for a more balanced annual cycle in electricity supply and demand.[15]

Areas of particular concern include inland areas of flooding *risk* including South Dunedin, Mosgiel, and Milton; coastal erosion *risk* areas including St Kilda, St Clair, Clutha Delta, Moeraki, and Oamaru; sea level rise and salinity *risk* areas including South Dunedin, Harbor Basin, Aramoana, and Kaka Point.

Social

Changes to the economy generally and in relation to local shift in economic activity because of *climate change* may impact on community cohesion and *resilience*, and mental well-being and health. Higher temperatures could reduce illness in winter but can increase heat stress in summer. Higher levels and duration of ultraviolet radiation could increase skin cancer *risks*. Insect pests could increase, adversely impacting outdoor recreation experiences.

Differentiation may occur between highly *resilient* (high social capital, high income and politically empowered) and non-*resilient* communities (especially those with low adaptive capacity, such as low-income and marginalised groups) which has the potential to increase socio-economic and intergeneration and intrageneration inequality.

SRMR–I3 – Pest species pose an ongoing threat to indigenous biodiversity, economic activities and landscapes

Statement

Pest species can be found throughout Otago, from alpine to marine environments. Rabbits are changing Central Otago's landscape, eroding soils and affecting agriculture. *Wilding conifers* threaten high country and tussock grassland, changing the landscape and impacting on recreational, hydrological and conservation values. Aquatic pests and weeds such as didymo, lake snow and *lagarosiphon* affect our *lakes* and *rivers.* Invasive marine species affect our marine waters. Native

[15] https://environment.govt.nz/assets/Publications/Files/impacts-report-jun01.pdf (Accessed 28 May 2021)

aquatic plants are displaced, impacting ecosystem and indigenous biodiversity health and recreation activities.

Context

Otago's landscape and climate support many plants and animals considered to be pests. This includes weeds, vertebrate pests (e.g. rabbits), invertebrate pests (e.g. pathogenic pest diseases (e.g. foot and mouth disease, pine needle diseases)), and *freshwater* and marine pests which are all biosecurity threats in the Otago region.

There are 35 listed weed species in Otago, and 11 listed animal pests. Pest management approaches include exclusion and surveillance (e.g. African feather grass), attempted eradication (e.g. wallabies and rooks), containment (e.g. *bomarea*) and sustained control (e.g. rabbits, gorse and broom). The approach deployed depends on the degree to which species are entrenched.

The Otago Pest Management Plan 2019-2029[16] seeks to meet ORC's responsibilities under Part 2 of the Biosecurity Act 1992 to provide regional leadership through activities that prevent, reduce, or eliminate adverse *effects* resulting from harmful species that are present in the region. That plan details which approaches are to be used for which pest species, and the methods to be used for control.

In conjunction with that Plan, ORC has also established a Biosecurity Strategy (the Strategy) which sets out ORC's objectives for biosecurity management in the region using the full range of statutory and non-statutory tools available. Strategy priorities provide for protection of indigenous biodiversity, protection of landscape, recreation, cultural and *amenity values* and minimising the impact on agricultural production. The Strategy also supports pest management and seeks to integrate the regulatory and non-regulatory programmes. Collaborative partnership models of pest management are increasingly being developed and adopted in conjunction with community groups and land holders.

Impact snapshot

Environmental

Otago is one of the most biodiverse regions in New Zealand, with high levels of endemism. It is also one of the most modified regions in New Zealand. Both plant and animal species pests have significant impacts on biodiversity. Pests can also adversely impact natural features and landscapes.

Vertebrate browsing pests such as rabbits and wallabies cause erosion and damage to land in both introduced pastures and native tussock communities. Severe erosion can have adverse *effects* on *water* quality. Rats and stoats predate on native birds, while deer destroy native vegetation, and possums compete with native birds for hollows and have also been known to predate on chicks. Possums spread viruses and diseases such as bovine tuberculosis, which can have severe impacts on stock.

Weeds smother and compete with native vegetation, taking up available nutrients, *water*, space and sunlight. They reduce natural diversity and prevent native plants growing back after clearing, fire and other disturbance. Nationally, weeds will potentially affect 7% of the conservation estate within a decade, corresponding to a loss of native biodiversity equivalent to $1.3 billion.[17] For example, wilding

[16] https://www.orc.govt.nz/media/8029/orc-pest-management-plan-2019_final_digital.pdf (accessed 26 May 2021)
[17] https://www.royalsociety.org.nz/news/pests-costing-economy-and-environment-billions (accessed 26 May 2021)

pines are a significant issue for the Otago region as well as nationally, where they threaten high country and tussock grassland, increase fire *risk*, and reduce *water* yield in *water* short catchments, change the landscape and negatively impact recreational, hydrological and conservation values.

Pest species destabilise aquatic habitats and negatively modify *water* flow with consequences for drainage, irrigation, power generation and recreational activities. The introduction of the *freshwater* diatom didymo (*Didymosphenia geminata*) in South Island streams is an example.[18]

Economic

Pests can cause economic losses because of reduction in production, quality, efficiency and or functionality. This can include lost crop production, higher *water* requirements and reductions in animal health. Weeds can affect wool quality, taint meat and milk, damage the feet of stock and, in some instances, be toxic.

Costs to agriculture, business and government to control pests and mitigate impacts are considerable, as are biosecurity costs to prevent pest incursion which are reflected in biosecurity fees and taxes. Biosecurity failure can have serious economic impacts on existing industries e.g. through the importation of fruit infected with fruitfly in a traveller's bag. Pests also adversely affect tourism through loss of landscape values (e.g. wilding pines) and *amenity values* (e.g. didymo compromising fishing) which lead to reduced visitor experiences.

Weeds, for example, are conservatively estimated to cost the New Zealand economy $1.6 billion per annum[19] in terms of loss of economic production, management and control costs. They also affect landscape amenity value and tourism experiences relied upon by the tourism sector. Weeds can also adversely impact *infrastructure*, for example, *water* systems including irrigation, dams, and levies; power systems (e.g. generation penstock, gates, valves, surge tanks, transmission lines); and transportation systems (e.g. *road* beds, *lake* and *river* transportation, airstrips).

Social

Recreation values can be impacted through loss of amenity, access or landscape values. Pests can also cause human health problems. For example, some weed pollens can induce asthma and cause allergies (e.g. hay fever).[20] Zoonoses (bacterium, viruses, parasites, prions) can result in diseases being transferred from animals to humans and include, for example, leptospirosis and campylobacter.

SRMR–I4 – Poorly managed urban and residential growth affects productive *land*, treasured natural assets, *infrastructure* and community well-being

Statement

Natural resources used for urban development are permanently transformed – with the opportunity cost of removing urban activity being too high for land to revert to productive uses. Frequently, places that are attractive for urban growth also have landscape and productive values all of which must be balanced and where possible protected. The growth of Wanaka and Queenstown is changing the natural landscape. Mosgiel's growth is occurring on some of Otago's most highly productive soil, which

[18] SL Goldson, GW Bourdôt, EG Brockerhoff, AE Byrom, MN Clout, MS McGlone, WA Nelson, AJ Popay, DM Suckling & MD Templeton (2015) New Zealand pest management: current and future challenges, Journal of the Royal Society of New Zealand, 45:1, 31-58, DOI: 10.1080/03036758.2014.1000343

[19] https://www.tandfonline.com/doi/abs/10.1080/14735903.2017.1334179?journalCode=tags20 (accessed 26 May 2021)

[20] http://www.allergy.org.nz/site/allergynz/files/Annual%20Pollen%20Calendar.pdf (accessed 26 May 2021)

removes the option for agriculture. Towns like Arrowtown, Clyde and Milton experience poor air quality in winter, while experiencing pressure to grow.

Context

How urban areas function and grow now and in the future can directly impact on a significant proportion of the current and future urban population and correspondingly future environmental, economic, social and cultural outcomes and well-being. Most of Otago's population (87% or 225,186[21] in 2018) live in urban areas, while non-urban areas comprise 99% of the region.[22] Otago's total population under a medium scenario is projected to increase by 20% between 2018 and 2048, with Queenstown-Lakes population projected to grow by 60%, Central Otago by 42%, Dunedin and Waitaki by 8%, and Clutha by 4% over the same period.[23]

Otago's urban areas, like its people and landscapes, are also diverse. The attraction of urban areas results from the benefits of proximity and access to a variety of other people, experiences, goods, services (e.g. shopping, education, specialist service providers, recreation and leisure facilities and *infrastructure* (usually described as agglomeration effect)). These are generally considered to exceed the inconveniences such as congestion, pollution, and noise. Growth in some urban areas and demand for living in and visiting Otago can also be driven by proximity and access to highly valued natural features, such as the coast, mountains, *lakes,* and *rivers*. The open space and landscapes provided in rural areas also drives demand for rural residential living, particularly in areas with these qualities that are also in relative proximity to urban services.

Well-functioning urban places need to be dynamic and efficient, enable human social interactions and provide a wide variety of housing, employment, service and recreational opportunities that meet changing needs and preferences, in a way that maximises the well-being of all its present and future inhabitants, and respects its history and historic heritage, its setting and the *environment*. This requires well located development, supported by the necessary infrastructure.

Urban growth, especially if it exceeds *infrastructure* capacity (either through sheer pace and scale or by lack of planning) or if it occurs in a way or at a rate that mean that appropriate *infrastructure* is not provided, is lagging or is inefficient, can result in adverse impacts on the *environment*, existing residents, business and wider society. Quality urban environments are those that maximise the positive aspects of urban areas and minimise the negative.

Impact snapshot

Environmental

Urban areas and associated concentration of human activity result in adverse impacts on the natural environment, as a result of land consumption, landscape, waterway and vegetation modification for housing, industry, transport of goods and people and recreation areas, the diversion and use of *water*, and waste disposal and effluent and pollution *discharges* to air, *land* and *water*. All of these can also impact *mana whenua* values. These impacts can also result in loss or impediment of access to important resources including significant biodiversity or natural features and landscapes.

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[21] 2018 Census place summaries: Stats NZ. (n.d.). Retrieved June 29, 2020, from https://www.stats.govt.nz/tools/2018-census-place-summaries/otago-region (accessed 26 May 2021)

[22] The rural/urban area definitions in this paragraph are taken from Statistics New Zealand Urban/Rural Classification at the SA2 geographic level using usually resident population data from the 2018 Census

[23] Statistics New Zealand Subnational Population Projections, 2018 base, published 31 March 2021 . (accessed 26 May 2021)

Urban development can also lead to reverse-sensitivity *effects* whereby traditional methods of pest management or the undertaking of rural production activities cannot be deployed due the proximity of urban populations and the potential for adverse impacts on those populations. Urban growth can also impact air quality, through increased vehicle use, but also particularly where *solid fuel* burners are used, noting they are the heating of choice in Otago. Urban areas such as Arrowtown, Cromwell, Alexandra, Clyde, Milton, and Mosgiel already do not meet National Environment Standards for Air Quality (NESAQ), for example. Emissions from existing domestic fuel burners account for more than 95% of winter PM_{10} emissions in all of these towns but Milton.[24] Air quality in urban areas in Otago therefore needs to be addressed from two perspectives, dealing with existing problems and, in areas where further development is planned, addressing the additional impact that development may have.

Economic

While potentially providing short term commercial returns, poorly managed urban growth and development may result in long term impacts including:

- the loss of productive land (either directly though building on it, or indirectly though reverse sensitivity effects);
- the consequences of previous decisions (low density development, including rural residential, in the short term can preclude higher density development in the medium to longer term);
- increased capital and operational costs for *infrastructure* which can foreclose other more suitable investments or spending, increased costs from less efficient spatial arrangements (such as increased transportation and *infrastructure* costs to both users and operators), and loss of valued natural capital and future opportunities; and
- housing affordability can be negatively affected by urban growth where demand outpaces supply.

In Otago, housing has been more affordable for homeowners than the NZ average in recent years, however house value growth has been higher in Otago (12.6% per annum) than the NZ average (7%) since 2017.

The costs and negative impacts from 'over planning' for growth are much lower than the direct and wider costs and risks of under-planning, and largely relate to the provision of infrastructure ahead of demand. While this can cause financial and operational issues for infrastructure providers, undersized or delayed infrastructure also generates impacts for those providers, and the wider economy, through delayed, foregone, or less appropriate or efficient development, and contributes to rising housing and land costs.

Social

Adverse impacts from inefficient or poorly planned urban development affect the well-being of both individuals and communities. This shows up as health risks as a result of increased air pollution and *water* pollution, decreased social capital and mental health in fragmented, disconnected and dispersed communities and inequality impacts arising from less-competitive land and house markets and reduced housing choice and access to affordable housing.

Changes in the overall number of people and changes in preferences can alter the relative balance between supply and demand for housing and where supply is unable to respond in a timely way to demand, this can impact on prices for housing, including rent. These impacts can disproportionately

[24] "Alexandra, Arrowtown, Mosgiel and Milton Air Emission Inventory – 2016" & "Wanaka, Cromwell and Clyde Air Emission Inventory - 2019", prepared by Emily Wilton, Environet Ltd, for Otago Regional Council.

affect people on lower incomes who may already face affordability issues, and accordingly have less options. While Otago has traditionally been relatively affordable, house prices have risen rapidly across almost all districts, at a rate higher than the national average.

Transportation of goods and people between and within urban areas can also generate impacts on humans. For example, increased traffic congestion and lack of safe and attractive alternatives within urban areas impacts people and businesses living near to high volume traffic routes, resulting in lost time for family and other activities for those who use them, and *road* fatalities on rural highways.

Urban growth has the potential, through good development planning and provision of appropriate infrastructure, to improve well-being by providing an increased range of housing types in more locations, resulting in greater range of prices. Well planned subdivisions provide opportunities to increase public access to natural environments, including to the coast (e.g. via esplanades, *lakes*, *rivers* and their margins), to protect areas of cultural or historic significance and to provide means or other measures for their protection, such as through restrictive covenants. Poorly managed growth can compromise both access to and protection of natural and cultural environments, and as subdivision and development is effectively permanent and irreversible, it is important that it is done well with an eye to the longer term.

SRMR–I5 – *Freshwater* demand exceeds capacity in some places

Statement

In *water*-short catchments, *freshwater* availability may not be able to meet competing demands from the health and well-being needs of the *environment*, the health and well-being needs of people, and the ability of people and communities to provide for their social, economic and cultural well-being. Many of these catchments are also experiencing urban growth, changes in rural *land* uses, and increased demand for hydro-electric generation. Individually and cumulatively these can alter demand including further increases in demand on *freshwater* supply. Some catchments are complex, making it challenging to identify or mitigate these *effects*.

Context

Freshwater, including *rivers* and streams, *lakes, groundwater* systems, and *wetlands*, is a finite resource, critical to the environment, society and the economy. In Otago, access to, allocation, and *use* of *freshwater* reflects current demands and historical development associated with "deemed permits" (water permits under the RMA 1991) and a permissive water resource management regime. The deemed permits originated from mining licences issued under historic mining legislation and which enable water to continue to be used for a range of uses until October 2021.

Population growth and land-use intensification in urban and rural environments can create increased demand for *freshwater* for human consumption, irrigation and other economic uses. *Freshwater* resources in some places are reaching, or are beyond, their sustainable abstraction limits. However, there continues to be debate in the community about how historical *freshwater* allocations can be adjusted to achieve a balance of economic, environmental, social and cultural needs.

On 3 September 2020, new National Environmental Standards for Freshwater (NESF) and a new National Policy Statement for Freshwater Management (NPSFM)[25]came into force. They have a goal

[25] https://www.mfe.govt.nz/fresh-water/freshwater-acts-and-regulations/national-policy-statement-freshwater-management (accessed 26 May 2021)

of improving *freshwater* quality within five years, reversing past damage and bringing New Zealand's *freshwater* resources, waterways and ecosystems to a healthy state within a generation. The NPS-FM also clarified the need to provide first for the health and well-being of *water bodies* and *freshwater* ecosystems; then health and needs of people (such as *drinking water*); and finally the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

Impact snapshot

Environmental

Freshwater abstraction can reduce *water* level or flow and connections between different *water bodies*. This can negatively impact ecosystems by affecting[26] *freshwater* habitat size and the shape and condition of the *water body*, including *bed*, banks, margin, riparian vegetation, connections to *groundwater*, *water* chemistry (for example by increasing concentrations of pollutants), and interaction between species and their habitat. How much an ecosystem is affected by taking *freshwater* is determined by departure from natural flow regimes, taking into account magnitude, frequency, timing, duration and rate of change, and ecosystem capacity to recover.

Economic

Freshwater in the Otago region is a factor of production that directly contributes to human needs (urban *water* supply), agriculture (including irrigation), hydro-electric power supply, and mineral extraction. *Freshwater* also indirectly contributes to the tourism industry through maintenance of *freshwater* assets for aesthetic and commercial recreational purposes. Lack of *freshwater* can negatively impact economic output of those industries that rely on *water* in the production process. To varying degrees these impacts can be mitigated through *water* efficiency measures and innovation. At the same time other industries, such as tourism that rely on the aesthetic characteristic of *rivers* and *lakes,* do not have such opportunities available to them and instead rely on management regimes that sustain flows and *water* levels suitable for their activities.

Social

Ensuring appropriate *freshwater* supply for human *use* is available as part of planned urban growth is essential. It is possible this may require consideration of additional *freshwater* storage in the future. The region's *freshwater* assets also support a range of recreation uses, for example camping, fishing, *water* sports, and swimming. These values are strongly linked to environmental values and as such, reduced environmental flows have a corresponding negative impact on social and cultural values.

SRMR–I6 – Declining *water* quality has adverse *effects* on the *environment*, our communities, and the economy

Statement

While the pristine areas of Otago generally maintain good *water* quality, some areas of Otago demonstrate poorer quality and declining trends in *water* quality which can be attributed to *discharges* from *land use* intensification (both rural and urban) and *land* management practices.

[26] Clapcott, 2018, Our Freshwater 2020

Erosion, run-off and soil loss can lead to sediment and nutrients being deposited into *freshwater* bodies resulting in declining *water* quality.

Context

The health of *water* is vital for the health of the *environment*, people and the economy. It is at the heart of culture and identity. Nationally, and in parts of Otago, *freshwater* is facing significant pressure. Population growth and land-use intensification in urban and rural environments has impacted the quality of *water*, increasing contamination from nutrients and sediment.

Water quality affects a wide range of environmental health factors, human survival needs, and cultural, social, recreational, and economic uses. Some of the biggest impacts on *water* quality in Otago are considered to come from agriculture and urbanisation, through diffuse *discharges* and point source *discharges*.

On 3 September 2020, new National Environmental Standards (NESF) and a new National Policy Statement (NPSFM)[27] came into force to improve *water* quality within five years; and reverse past damage and bring New Zealand's *freshwater* resources, waterways and ecosystems to a healthy state within a generation.

Impact snapshot

Environmental

Despite the region's *lakes* and *rivers* being highly valued by Otago communities, reports indicate there are reasons for concern about *water* quality and its trends with consequent potential impact on ecosystems and people.

Water quality across Otago is variable. *River water* quality is best at *river* and stream reaches located at high or mountainous elevations under predominantly native vegetation cover, and mostly good in the upper areas of large river catchment and outlets from large *lakes*. *Water* quality is generally poorer in smaller low-elevation streams and coastal shallow lakes where they receive water from upstream pastoral areas or urban catchments. For example, catchments such as the Waiareka Creek, Kaikorai Stream, and the lower Clutha catchment, have some of the worst *water* quality in the region; Otago's central lakes are impacted by increased population, urban development and tourism demand; other areas, such as urban streams in Dunedin, intensified catchments in North Otago and some tributaries, also have poor *water* quality.[28] Between 2006 and 2017, trends in a number of *water* quality parameters were worsening.[29]

For *E. coli,* for example, 30% of sites had a probable or significant worsening trend compared to 7% of sites that had either stable or improving trends. In urban streams in Dunedin, intensified catchments in North Otago and some tributaries of the Pomahaka, *E. coli* was the worst performing variable[30]. In many cases, the specific source of contamination is unknown.

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[27] https://www.mfe.govt.nz/fresh-water/freshwater-acts-and-regulations/national-policy-statement-freshwater-management (accessed 26 May 2021)

[28] Rachel Ozanne and Adam Uytendaal (2017) *State of the Environment Surface Water Quality in Otago 2006 to 2017*: Otago Regional Council p ii

[29] Ibid.

[30] Ibid.

There are many different types and sizes of *lakes* in Otago. ORC monitors *water* quality in *lakes*, of which eight have generally shown good *water* quality. There have been concerns within the community about the quality of *water* in Lakes Wānaka, Wakatipu and Hayes.

Groundwater quality also varies across the region, with some areas having elevated *E. coli* and nitrate concentrations above the NZ Drinking Water Standards. The main areas with elevated nitrate concentrations are North Otago and the Lower Clutha. Some bores across the region have exceeded the drinking water standards for *E. coli*; highlighting localized problems, likely due to inadequate bore head security. In addition to human sources of poorer groundwater quality, low groundwater quality from natural or geologic sources may also affect the potability of bore water throughout Otago (e.g. naturally occurring arsenic or boron concentrations found in bores associated with particularly geologies).

Stock entering *water bodies* can lead to pugging and destruction of riparian soils and *beds* that play an important role in filtering *contaminants*, as well as excreting directly in waterways. The growing practice of wintering cattle in Otago can exacerbate leaching *effects*, which may not connect to surface *water* until spring, creating spikes in nutrient loads.[31]

Sediment is a key issue for *freshwater* quality throughout Otago, including coastal estuaries where it can significantly impact the life supporting capacity of waterways. Urban development is a key generator of sediment input to *lakes* and *rivers* in Central Otago, from *building* platforms and from *stormwater* contamination. Activities such as agricultural intensification, mining, and forestry also contribute.

Agricultural intensification also contributes to nutrients (nitrogen and phosphorus) leaching into underlying *groundwater* or running off into surface *water bodies*, and can also increase the risk of *E.coli* contamination from animal waste.

Urban environmental *contaminants* include hydrocarbons, and metals from *roads* and *structures*. They often wash into urban *stormwater* systems and pass unfiltered into *water bodies*, or the *coastal marine area*. *Stormwater effects,* particularly in urban areas, are poorly understood. *Wastewater* and *stormwater* systems may not be adequate in some places due to aging *infrastructure*, rapid growth pressure, or insufficient investment in replacement or upgrades. Overflows of *wastewater* (*sewage* and waste products) create significant *risks* for *water* quality. These can enter the *environment* either directly or through *stormwater* systems, particularly in flood events.

Economic

Water pollution (from nutrients, chemicals, pathogens and sediment) can have far-reaching *effects* potentially impacting tourism, property values, commercial fishing, recreational businesses, and many other sectors that depend on clean *water*.[32]

These impacts can be direct (varying the quality of primary production outputs such as fish); increasing costs of production through mitigation or remediation costs (*drinking water* treatment cost, riparian restoration); loss of enjoyment and benefit from tourism uses, and indirect such as cost to human health and associated medical costs, or reduction in brand value (e.g. Brand New Zealand).

[31] Science Staff Survey, June 2020.
[32] https://www.epa.gov/nutrientpollution/effects-economy (accessed 26 May 2021)

Social

For the wider community, *water* is a source of kai and of recreation, including swimming, fishing and *water* sports. Otago's *rivers, lakes*, estuaries and bays are important destinations for recreational *use* including swimming, fishing and *water* sports. Eighty-two per cent of Otago's *rivers* and *lakes* are swimmable.[33] Where *water* quality cannot support these activities, the lifestyle of those living in Otago is impacted.

Degraded *water* quality reduces the mauri of the *water* and the habitats and species it supports, therefore also negatively affecting mahika kai and taoka species and places. This constitutes a loss of Kāi Tahu culture, affecting the intergenerational transfer of knowledge handed down from tūpuna over hundreds of years; and it culminates in a loss of rakatirataka and mana.

SRMR–I7 – Rich and varied *biodiversity* has been lost or degraded due to human activities and the presence of pests and predators

Statement

Fragmentation, loss and isolation of populations and communities of indigenous species has been ongoing across New Zealand, and Otago is no exception. *Biodiversity* mapping indicates Otago is one of the most modified regions in New Zealand. This can be attributed to habitat loss, land use changes, vegetation clearance and the presence of pests and predators. Further, many of these *effects* are a result of the cumulative changes of past and current development. These cumulative *effects* have often not been identified, managed or measured. Leadership and coordination of the various initiatives to address *biodiversity* loss has also been lacking.

Context

Otago is notable for the diversity of its landscapes, ecosystems, and climatic conditions. With that comes a diverse range of important *biodiversity* values which are at *risk*. These include rare ecosystems such as inland saline habitats, nationally rare *lake* and *river* systems, endemic and threatened lizard and fish species and important and diverse marine and coastal habitats.

Ecosystems are an interacting system of living and non-living parts such as sunlight, air, *water*, *minerals* and nutrients. *Biological diversity* (hereafter called *biodiversity*) describes the variety of all living things, including the range of species living in our *environments*, their genetics, and the ecosystems where they live. New Zealand's high level of indigenous *biodiversity* makes a unique contribution to the world's *biodiversity*. Otago is a good example of the enormous diversity in New Zealand's natural environment from toroa (albatross) and hoiho (yellow-eyed penguins) on the Otago Peninsula to the endangered species (for example, skinks) of Central Otago, the kea of the Southern Alps, galaxias species as well as the internationally significant braided *rivers* and their ecosystems.

The health of New Zealand's *biodiversity* has declined significantly since the arrival of humans. Environment Aotearoa 2019[34] found that our indigenous *biodiversity* is under significant pressure from introduced species, pollution, physical changes to our *environment* and harvesting of wild species.

[33] This estimate applies to larger rivers and lakes, defined as "rivers that are fourth order in the River Environment Classification system and lakes with a perimeter of 1.5km or more" – ORC Policy Committee Report – 29 Nov 2018 - PPRM1843

[34] https://environment.govt.nz/assets/Publications/Files/environment-aotearoa-2019.pdf (accessed 26 May 2021)

Almost 4,000 native species are currently threatened with, or at *risk* of, extinction. The information available indicates Otago's *biodiversity* faces the same challenges.

Impact snapshot

Environmental

Threats to *biodiversity* in Otago include invasive species (weeds and predators), vegetation clearing, land fragmentation and grassland "improvement", poor *water* quality (nutrients and sediments), dredging and overfishing.

There are 62 ecosystems in the Otago region.[35] Whilst the average ecosystem extent compared to pre-European settlement is 62%, over 17 communities have been reduced to less than 40% extent. Forest communities have declined substantially, for example kahikatea forests have been reduced to 3.9% of pre-European extent. Matai, totara, broadleaved forest (6.5%) and Kirk's scurvy grass herbfield/loamfield (7.1%) have also been significantly reduced. There are six ecosystems with less than 10 hectares remaining.

Impacts of human activities are evident both in terms of species and ecosystems. Some 44% of Otago's bird species are threatened or at *risk*; 88% of lizard species; and 72% of indigenous fish species. Inland Otago has degraded native fish communities, due to the presence of the Clutha dams and their *effects* on eel populations and trout predation on native galaxiids. This is illustrated by the low scores for Otago's *rivers* in the *freshwater* fish index of biotic integrity.

The extent of impacts on marine species and environments is not well understood. Sedimentation is known to have contributed to the loss of kelp forests.[36] In addition to sedimentation, other human impacts on kelp forests include rising sea surface temperatures associated with climate change and trophic cascades from fishing pressure; together with downward trends in fish and crayfish catches. There has been a 70% decline in the abundance of hoiho (yellow-eyed penguin) on the Otago coast since 2008[37] and downward trends in ngohi (fish) and koura (crayfish) catches. The effects of *climate change* will add significantly to *risks* of continuing *biodiversity* decline.

Economic

Biodiversity and ecosystem services underpin agriculture (ecosystem services such as *water*, soil *biodiversity*, pest protection, pollination) and tourism (the "clean green" image of "pure New Zealand" is related to a public perception of Otago's healthy *environment* and biodiversity).

Short-term impacts of loss of productivity or increased costs of pest management occur and longer-term impacts of net loss of natural capital in the region over time are also of concern. The economic costs of lost productivity due to pests, erosion and damage to land, are likely to be significant and there is potential for loss of *biodiversity* to adversely impact on the economy.

Social

Biodiversity is a significant contributor to the community's recreational experiences and intrinsic values. *Biodiversity* loss will adversely impact those values and experiences. Some introduced species

[35] Wildlands (2020). Unpublished Consultancy Report to Otago Regional Council R5015a. Mapping of potential natural ecosystems and current ecosystems in Otago region.
[36] Schiel et al. 2006, Sediment on rocky intertidal reefs: Effects on early post-settlement stages of habitat-forming seaweeds, Journal of Experimental Marine Biology and Ecology 331(2):158-172 (reference provided by Department of Conservation)
[37] Department of Conservation, 2008, Unpublished data.

such as trout, deer and pigs have social and recreation values but may also have impacts on native ecosystems and species.

SRMR–I8 – Otago's coast is a rich natural, cultural and economic resource that is under threat from a range of terrestrial and marine activities

Statement

Otago's coast provides habitat for rare species (including toroa and hoiho), comprises some of the region's outstanding landscapes, is a rich food source, provides many recreation opportunities, is the location for some industries, and has potential for further economic use (aquaculture). Threats to it are not always well understood and not always well managed. From the sedimentation *effects* of inland development to waste disposal, human activity puts stress on the marine and coastal environment. Some of those activities, like port activities and tourism, are also vital to the region's economic well-being.

Context

Otago's coastal environment is generally considered to extend from the land that forms the first significant ridgeline out to the twelve nautical mile seaward limit. The coastal environment is a finite resource which is sensitive to change. Recent rapid expansion of some types of coastal development is a significant issue for the sustainable management of the coastal environment of Otago.

Activities occurring within or affecting the coastal environment include urban development, recreational activities, transport *infrastructure*, energy generation and transmission, land and marine based (e.g. aquaculture) food production industries and other rural industry activities, *plantation forestry*, fishing, tourism, and *mineral* extraction. Such activities can be important contributors to the existing and future health and well-being of communities, when they are located and managed appropriately. A number of these activities provide a significant contribution to the regional economy.

Dunedin is a major coastal city with increasing urban development. It also hosts *infrastructure* of national significance such as Port Otago and associated *road* transport networks servicing the Otago region and beyond which contribute to and facilitate regional economic and social development.

The community values the coast for its landscapes, natural character, recreational uses and associated habitat for biodiversity. Recreational activities such as boating, fishing, swimming and general beach access are interconnected with coastal values. Conserving coastal biodiversity and marine reserves are associated with coastal values.[38] A key challenge is the protection of the coast's natural and cultural assets while enabling economic and social development opportunities to be realised.

Impact snapshot

Impacts of hazards, climate change, pests, water, and biodiversity loss, which have been discussed above, all impact the coast. Urban development and population pressure can amplify these effects.

Environmental

[38] ORC Committee Report, *RPS Consultation Summary*, ORC Agenda 27 May 2020

These impacts can affect natural processes. For example, poor water quality can result in degradation of estuarine and ocean chemistry with adverse impacts on ecosystems, including coastal *wetlands* and marshes, benthic muds, subtidal and inter-tidal area muds/sands, reefs, and marine vegetation areas (e.g. sea grasses, kelp). Ecosystems and indigenous biodiversity, and their flora and fauna (from zooplankton to whales) can be impacted by urban and industrial development, pests, and climate change leading to biodiversity loss.

Natural features, landscapes, seascapes, and *surf breaks* of national significance can be affected by human activity, climate change, and natural hazards. Vulnerability to these impacts is determined by susceptibility, spatial scale, frequency, functional impact/consequence, recovery capacity/time, and likelihood of the impact's occurrence. Around Dunedin, for example, impacts include nutrients and contaminants from Dunedin stormwater which impact on coastal waters and estuaries; declining hoiho (yellow-eyed penguins) numbers due to introduced predators and domestic pets; whilst recovering seal and sealion numbers can create conflict with recreational *uses* on the coast; and beach erosion at St. Clair in Dunedin can impact social values and beach recreation *use*.

Economic

Deterioration of coastal assets and values causes loss of production and income, increases *infrastructure* costs and costs of production, and loss of property values. There are also costs associated with mitigation, for example in the case of coastal erosion. Other economic impacts include recreation and tourism industries being adversely impacted by degraded coastal environments; marine industry production suffering because of poor *water* quality; dredging of sedimentation; and costs of mitigating adverse impacts, e.g. combatting invasive pests.

Social

Impacts on the coastal environment and its associated unique values include those on its landscapes and landforms, those on it as a place to live and work and for recreation activities, those on access, and those which give rise to coastal deterioration and which compromise general enjoyment and amenity for communities.

SRMR–I9 – Otago lakes are subject to pressures from tourism and population growth

Statement

The beauty, recreational opportunities and regional climate of Lakes Wanaka, Wakatipu, Hāwea and Dunstan and their environs attract visitors and residents from around the region, the country and the world. This influx brings economic opportunity, but the activities and services created to take advantage of it can degrade the *environment* and undermine the experience that underpins their attractiveness.

Context

Healthy *lakes* are one of Otago's most valued natural resources and for the most part *water* quality is good. The values assigned to *lakes* include the natural features and landscapes, the quality and quantity of *water* accessible to the Otago communities, the accessibility of these resources for recreation, the health of native flora and fauna associated with Otago's *rivers* and *lakes*, and renewable energy production.

Urban growth is adversely affecting the natural features and landscapes around the lakes. The amount of growth is demonstrated in the Queenstown Lakes District, including Queenstown and Wanaka, where the population tripled in the last 20 years from 16,750 in 1999 to 47,400 in 2020.[39] Continued growth is projected over the 30 years from 2020 to 2050 (by 63%)[40].

This desire of New Zealanders and international visitors to enjoy the outstanding natural environments of the Otago *lakes* has placed significant pressures on the *environment*, transport, energy and other *infrastructure*, health services and social structures. At the same time the economy of the Otago lakes area is heavily dependent on tourism. For example in 2020, tourism employment accounted for an estimated 56% (or 17,758) of the jobs in the Queenstown-Lakes district; tourism GDP accounted for 43.7% (or NZ $1.7 billion) of the district's GDP and international tourism contributed 64% (or NZ $1.89 billion).[41] The Otago-Lakes area also supplies significant renewable energy for *use* in Otago and beyond.

Impact snapshot

Environmental

Population pressures arising from urban development, and tourism population pressures are impacting on the *environment*. Lake Wanaka, Lake Hāwea, and Lake Wakatipu, as well as the Kawarau River and upper reaches of the Clutha Mata-au and Taieri Rivers all have good *water* quality which equates to the "A" band (being top/best level) for the *National Objectives Framework*.[42]

However, *water* quality is being adversely impacted by increased population, urban development and tourism demand which is straining existing waste management infrastructure. In addition, localised degradation of some areas is occurring due to overuse and unregulated use (e.g. freedom camping). The amenity of these areas is being compromised in some places by over-crowding.

Recreation *use* impacts on the *environment* can be a *risk*, for example the distribution of pest species can be accelerated as has occurred for lake snow and *Lagarosiphon* weeds being spread by recreation boating movements. Natural features and landscape values are also adversely impacted by tourism and urban growth, and energy production.

Economic

The economic benefits of urban development, tourism, agriculture, energy production and *water* supply can be positive for the Otago-Lakes' communities and visitors. It also impacts on the region's natural assets with a growing cost to the region that puts at *risk* the *environment* highly prized by residents and visitors. There are also impacts between industry sectors.

For example, the clean green image of New Zealand, of which the Otago Lakes area is symbolic, is at *risk* of being compromised because of over-crowding in peak tourism seasons. This has the potential to adversely affect the existing regional economy and future economic development; and the tourism industry's social licence to operate. At the same time tourism can negatively impact on how agriculture can operate, potentially limiting its contribution to the regional economy.

[39] Infometrics online database (February 2021)
[40] Queenstown-Lakes District Council demand projections by Utility
[41] Infometrics online database; (February 2021)
[42] Land, Air, Water, Aotearoa: https://www.lawa.org.nz/explore-data/otago-region/ (accessed 26 May 2021).

Urban development brings economic development and improved opportunities and standards of living to the Otago lakes area but can adversely impact on both the *environment* and how agriculture can operate.

Social

Over-crowding impacts adversely affect recreation experiences of both tourists and residents, such as fishing and *water* sports, and urban amenity. *Infrastructure* capacity limits can, for example, result in an increased number of wastewater overflows to the environment when demand on the network exceeds capacity. These can have significant adverse impacts on human health as well as recreational amenity.

SRMR–I10 – Economic and domestic activities in Otago use natural resources but do not always properly account for the environmental stresses or the future impacts they cause

Statement

Sediment from development and forestry activities flow into streams and builds up in the coastal environment, smothering kelp forests and affecting rich underwater habitats. *Water* abstraction and wastewater and stormwater discharges adversely affect the natural environment, cultural and amenity values, and recreation. Agriculture, fishing and minerals extraction support employment and economic well-being but also change landscapes and habitats. Otago's port moves freight to and from Otago and Southland, but operates alongside sensitive environments, including the Aramoana saltmarsh. Tourism, which relies on the environment, can also put pressure on natural environments.

Context

The Otago regional economy GDP totals $13.2 billion and supports a population of 236,200 residents (over half of which are in Dunedin). A significant part of the economy relies on the region's natural resources (air, vegetation, biodiversity, *water, land*, marine and *minerals*). This supports agriculture, forestry, fishing (6.9% of GDP), mining (4.5% of GDP), electricity, gas, *water* and waste services (4.4% of GDP), as well as conservation activities and hunting. Tourism (18.1% of GDP) also partially relies on the natural values of the region.[43]

However, economic activity needs to more effectively account for and manage its impacts on the region's natural resources.[44] Where business and social activity does not account for its impacts on natural resources in the long term, not only is the sustainability of the region's natural resources threatened, but equally the associated long term economic, social and cultural values are also threatened.

Impact snapshot

Environmental

[43] Infometrics, August 2020.
[44] https://www.orc.govt.nz/media/8882/community-consultation-summary-report-draft.pdf (accessed 26 May 2021)

Economic activities can lead to, for example, biodiversity loss, poor *water* quality, coastal and marine degradation, and loss of natural features and landscapes. These and other matters are considered in further detail elsewhere in this chapter.

Negative impacts on the *environment* can also compromise the ecosystems and the services economic activities depend on (ecosystem services), for example loss of *wetlands* which provide flood attenuation services, loss of biodiversity which provide pest control and pollination services, and loss of soil biodiversity. Economic activity also has the potential to compromise or destroy natural features and landscapes. Such impacts are both immediate and cumulative. Cumulative impacts that are not addressed have the potential to lead to tipping points beyond which systems can no longer properly function.

Economic

The costs of production can rise because of poor quality natural resources, for example, through higher input costs (e.g. fertiliser, weed and pest control); and remediation requirements (e.g. riverbank restoration, erosion control). Some land management practices can compromise productive capacity of agricultural land, for example, loss of soil through erosion or soil structure through compaction. Marine industries (e.g. fishing and aquaculture) can also be adversely affected.

Business environmental performance is becoming increasingly important in terms of providing access to investment. Poor business environmental performance can also lead to increased regulatory requirements and associated higher costs of doing business.

Social

Damage to or loss of natural features and landscapes compromises *amenity values.* Failure of business to sustainably manage natural resources compromises the social licence of a business sector to operate. This adversely impacts social capital (trust) and can create community division. In extreme cases it can lead to calls for reduced access to resources.

SRMR–I11 – Cumulative impacts and *resilience* – the environmental costs of our activities in Otago are adding up with tipping points potentially being reached

Statement

How and where we currently live is likely to change significantly in coming years. To respond to all the issues identified in this RPS, it is essential to consider changes to how we travel, the industries our economy relies on, the use we currently make of the *natural and physical resources* of the region, and how we provide for personal and community well-being, all while protecting our natural environment.

Context

The long term environmental, economic, and social well-being of the Otago region requires anticipating and minimising cumulative environmental impacts before they reach a tipping point, beyond which systems can no longer properly function. This requires *resilient* frameworks that take account of the dynamic relationship between the *environment*, economy and people while acknowledging that the future is always uncertain, and knowledge is imperfect. Should a tipping point

be reached a *resilient* Otago society will have the ability to absorb, respond to, adapt to, and recover from disruptive events.[45]

Impact snapshot

Environmental

While many ecosystems have a degree of *resilience*, increasing pressures on the *environment*, typically as a result of human activities (for example economic development), can have an adverse cumulative *effect*. *Climate change* also has the potential to seriously challenge ecosystem adaptive capacity. Much work is being undertaken to address this challenge, but it is still possible that permanent changes may occur (tipping point).

The first and best response is to ensure sustainable management of our natural resources and avoid immediate and long-term cumulative *effects* that degrade the *environment*. At the same time a *resilience* approach is needed that identifies thresholds and sets limits on the use of natural resources to avoid permanent and potentially catastrophic changes occurring, as would occur if a tipping point is reached.

Indicators and tools for measuring *resilience* and tipping points remain in the early stages of understanding and development. Even though regulatory agencies and proponents for natural resource development and environmental rehabilitation projects have difficulties interpreting and verifying the potential for environmental recovery and *resilience* (particularly in relation to the regulatory context of impact assessment in order to provide consenting decisions for regulated activities)[46] that should not be taken as a reason to delay acting.

Social and economic

The well-being of Otago's people and communities in the long term will be sustained by the enduring ecological health and *resilience* of the *environment* and by human activity providing for the *environment* in equal or greater measure than is taken from it (in other words, net impact determines net well-being). It will also be sustained through community *resilience* so that it can adapt and nimbly respond to future challenges.

[45] https://www.civildefence.govt.nz/cdem-sector/plans-and-strategies/national-disaster-resilience-strategy/national-disaster-resilience-strategy-summary-version/ (accessed 26 May 2021)
[46] https://par.nsf.gov/servlets/purl/10047476 (accessed 26 May 2021)

RMIA – Resource management issues of significance to iwi authorities in the region

Introduction

The MW – *Mana Whenua* chapter describes the integral relationship between Kāi Tahu and the natural world, including the relationship with particular resources, and the values that influence the Kāi Tahu approach to resource management. The issues and concerns described in this chapter should be read and understood in the context of the explanations in the MW – *Mana Whenua* chapter.

RMIA–WAI – Wai Māori

Context

Water plays a significant role in Kāi Tahu spiritual beliefs and cultural traditions. Kāi Tahu have an obligation through whakapapa to protect wai and all the life it supports. Whānau have observed the health of *water* degrade through time and consider it is crucial that this degradation is reversed.

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

The drainage of *wetlands*, *water* abstraction, degraded *water* quality, barriers to fish passage and changes to flow regimes as a result of damming have had significant negative impacts on Kāi Tahu. These activities degrade the mauri of the *water* and the habitats and species it supports, therefore also degrading mahika kai and taoka species and places.

These changes to the *environment* have meant that Kāi Tahu have had to adapt and change their *use* of the *environment*. As traditional mahika kai places and species have declined, mahika kai must now be carried out in artificial habitats such as reservoirs, and whānau have had to switch to exotic species such as trout and salmon. The mātauraka associated with traditional mahika kai species and places cannot be passed on, and the intergenerational transfer of knowledge that has occurred for over 800 years is broken. Place names that carry tribal history are no longer reflective of their places – for example no one would now claim that the Waiareka is ‘sweet water’ to drink.

RMIA–WAI–I2 – Current *water* management does not adequately address Kāi Tahu cultural values and interests

Kāi Tahu values and interests are not properly considered in current *land* and *water* resource management. The well-being of mahika kai and taoka and protection of other cultural values is rarely given effect to in environmental policy or decision-making processes and these considerations are often compromised in favour of other values, including economic values. The mana of *mana whenua* and of the *water* is not recognised because *water* quality and quantity have been allowed to be degraded. Resource management in Otago has failed to meet its obligation to recognise Kāi Tahu values and provide for the relationship of Kāi Tahu with the *water bodies* within their rohe. The understanding of cultural values by many is still developing and, as a result, Kāi Tahu values and interests are often not well represented in plans and decision-making.

RMIA–WAI–I3 – The *effects* of *land* and *water use* activities on *freshwater* habitats have resulted in adverse *effects* on the diversity and abundance of mahika kai resources and harvesting activity

Mahika kai is the gathering of foods and other resources, the places where they are gathered, and the practices used in doing so. Mahika kai is an intrinsic part of Kāi Tahu identity and economic well-being. Kāi Tahu fishing rights were explicitly protected by the Treaty of Waitangi. Not only was the right to engage in mahika kai activity confirmed, so too was the expectation that such activity will continue to be successful as measured by reference to past practice. However, as described in evidence provided to the Waitangi Tribunal in the Ngāi Tahu claim, there has been a dramatic loss of mahika kai resources and places of procurement since the Treaty was signed. This loss is greater than the loss of kai. It is a loss of Kāi Tahu culture, as it affects the intergenerational transfer of mātauraka handed down from tūpuna over hundreds of years. It represents a loss of rakatirataka and of mana. Mahika kai continues to be degraded through the *effects* of *land* and *water use* activities on *freshwater* habitats. Activities such as the construction of barriers to fish passage, drainage, altered flow regimes, reduced *water* quality and removal of riparian vegetation all impact on access to and use of resources.

RMIA–WAI–I4 – Effective participation of Kāi Tahu in *freshwater* management is hampered by poor recognition of mātauraka

The term 'mātauraka Māori' includes all branches of Māori knowledge, past, present, and still developing. It involves observing, experiencing, studying, and understanding the world from an indigenous cultural perspective. It is a tool for thinking, organising information, considering the ethics of knowledge, and informing us about our world and our place in it. Incorporation of mātauraka in resource management decision-making is important to ensure that cultural interests are appropriately recognised and provided for. Resource managers do not always appreciate the depth and value of mātauraka held by members of Kāi Tahu Whānui. Even where mātauraka is valued there may be difficulty in determining how best to apply the knowledge.

RMIA–WAI–I5 – Poor integration of *water* management, across agencies and across a catchment, hinders effective and holistic *freshwater* management

Kāi Tahu place emphasis on the holistic management of resources. Cultural values such as whakapapa and concepts such as ki uta ki tai recognise the interconnectedness of all things, and that *effects* on one part of the whole will be felt throughout the whole. Management of *water* in Otago is not holistic. Catchments are often managed by multiple councils, and the Waitaki (a most significant *river* to Kāi Tahu) is managed by two regional councils with policies and management approaches that include some significant differences. Regional councils are responsible for managing *land use effects* on *land* and at sea up to 12 nautical miles offshore, but beyond that the Environmental Protection Authority manages *effects* through a separate piece of legislation. District councils, although not specifically responsible for managing *freshwater*, are responsible for managing activities that affect *freshwater*.

In Otago there are separate plans for *freshwater* and the coastal area, and they are not consistent with each other. These divisions in the management of the *environment* fail to recognise that all *water*, in *rivers*, underground, in the air and in the ocean is connected, and what occurs in the headwaters and on *land* will have an impact in the ocean. This lack of holistic *freshwater* management also makes it difficult to understand and address the cumulative *effects* of different activities and decisions on cultural values.

Specific concerns related to RMIA-WAI-I1 to RMIA-WAI-I5 are interrelated, and include:

- *Water* quality concerns:

- Deterioration in *water* quality resulting from poor *land* management practices.
- The cultural and *water* quality impacts of point and non-point source *discharge* of human waste and other *contaminants* to *water*. Whānau cannot gather kai from places where human waste (whether treated or not) has been *discharged*, or where herbicides and pesticides have been used. Reliance on dilution rates to mitigate the *effects* of *discharges* is culturally inappropriate.
- The *water* quality impacts of *discharges* from mining activities.

- *Water* allocation concerns:
  - Kāi Tahu consider that many of the waterways in the region are over-allocated from a cultural perspective.
  - Abstractions of greater volumes of *water* than are required, lack of *water* harvesting and continuation of inefficient methods of *water* use.
  - The implications of increased *water* demand for domestic use which will put additional pressure on the already scarce *water* resource.
  - The *effects* of long durations for *water* take consents which lock in a pattern of resource *use* for a long time, limiting the ability for Kāi Tahu to exercise kaitiakitaka responsibilities.
  - The impact of cross mixing of *water* from different catchments on the distinctive mauri of the *water bodies*.
  - The lack of understanding of the interactions between *groundwater* and surface *water*.

- Concerns about channel modification and *river* works:
  - The *effects* of damming on disruption of natural flow patterns, loss of *freshwater* habitats and migration of indigenous fish species.
  - The *effects* on the mauri of the water body from diversion of watercourses upstream and downstream of mines.
  - Impacts of activities such as channel maintenance and channel cleaning on *water* quality and on disruption of species living in the channel and their habitat.
  - Impacts of channel reshaping, in particular straightening, on *river* flow and habitats, and the mauri of the *water body*.
  - The *effects* of *bed* disturbance, including suction dredging and gravel extraction, on stream morphology and habitats.
  - Impacts of willow removal on *water* quality, *water* temperature and mahika kai habitat.
  - Introduction of exotic weeds through poorly cleaned machinery, and the subsequent impact on bank habitat and *water* ecosystems.
  - The *effects* of changes in vegetation cover, including clearance of *indigenous vegetation* and exotic *afforestation,* on the *water* retention capacity of *land* and consequent flow patterns, which can negatively affect mahika kai and taoka species through a reduction in their habitat.

RMIA–MKB – Mahika kai and biodiversity

Context

The cold climate in southern Te Waipounamu, and the consequent difficulty of growing crops, made it difficult for tūpuna to establish permanent settlements and as a result Kāi Tahu in this area traditionally had a hunter-gatherer lifestyle, and went where the mahika kai was abundant and in season. This lifestyle was unique to southern Kāi Tahu and mahika kai retains a central place in Kāi Tahu cultural identity. All indigenous species and habitats are treasured by Kāi Tahu as taoka in their own right, as well as for the mahika kai values associated with some species.

RMIA–MKB–I1 – The diversity and abundance of terrestrial and aquatic indigenous species has been reduced due to adverse *effects* of resource *use* and development

Resource *use* and development in Otago has led to degradation of taoka and mahika kai places. This has occurred in a myriad of ways, contributing to a significant negative cumulative *effect* on many species and habitats. The decrease in diversity and abundance of indigenous species causes a negative impact on the mauri and health of the natural environment.

The Kāi Tahu perspective recognises that species within ecosystems are connected, and effects on one species will be felt throughout the rest of the system. Effects on mahika kai and taoka species diversity and abundance affect the relationship of Kāi Tahu with these species. Whānau are unable to access traditional mahika kai and taoka species and places because in many cases they no longer exist, or no longer provide resources that were once abundant there.

Specific concerns include:

- Degradation of mahika kai due to the impacts of *contaminants* from both point and non-point source *discharges*, including human waste disposal to mahika kai areas.
- The effects of soil contamination from poorly managed landfills, industrial sites and waste disposal sites.
- Continued urban spread encroaching on mahika kai sites.
- Genetic modification of indigenous flora and fauna, which represents deliberate alteration of whakapapa.
- The impact on mahika kai and indigenous *biodiversity* from weed and pest invasion.
- Loss of indigenous fish species, many of which are taoka and mahika kai, through displacement and predation.
- Loss of indigenous flora and fauna remnants and lack of co-ordinated management of habitat corridors.
- Impacts on mahika kai and aquatic ecosystems from a lack of effective catchment-wide riparian management.
- Loss of recruitment of indigenous flora in remnant bush areas due to continuous stock grazing.
- The impact of inappropriate forestry developments, conversion of tussock lands and other intensification of farming on indigenous flora and fauna values, including ecological disturbance and displacement of species.

RMIA–MKB–I2 – Regulatory and physical barriers have impeded the ability of Kāi Tahu to access mahika kai and to undertake customary harvest

The ability for Kāi Tahu to exercise customary rights to mahika kai has been impeded by obstacles to accessing mahika kai sites. Obstacles include lack of physical access and the sites no longer being safe to access due to the site becoming polluted, or a change in the flow velocity and/or depth.

RMIA–MKB–I3 – Impacts of *climate change* on both species/habitat viability and increasing pest (flora/fauna) encroachments

Climate change is now affecting and will continue to affect habitat availability and suitability for species in Otago. In some cases, this will mean that species will be able to increase their distribution, which will encourage spread of pest/weed species. *Climate change* will also reduce habitat and distributions for some species and affect habitat quality. These *effects* may also accumulate; for example, a native species may have worse and less habitat and its pest/predator's distribution and

population may increase due to *climate change effects*. Where possible, these *effects* should be planned for in environmental management.

RMIA–MKB–I4 – Shortage of protected and secure areas for biodiversity

Currently there are not enough protected and secure areas for biodiversity in Otago. To ensure the long-term survival of our region's most *threatened species*, a series of protected areas must be established, ideally in a network connected by corridors so that each individual population is more *resilient* as well as the species' overall population.

RMIA–MKB–I5 – Inconsistent approaches to biodiversity protection amongst regulatory authorities

Biodiversity is managed by several entities who have different approaches and powers through their separate governing legislation. For example, regional and district councils have obligations under the Resource Management Act and the Department of Conservation has obligations under the Conservation Act. Different pieces of legislation are not always consistent with each other. There can also be confusion about who is responsible for different aspects of biodiversity management as it is not managed by one entity.

RMIA–MKB–I6 – Lack of information on species health and viability

In many instances there is a lack of information on species. This absence of information on matters such as life histories, current and previous distributions and habitat preferences makes it difficult to make decisions about how best to manage these species.

RMIA–WTU – *Wāhi tūpuna*

Context

Wāhi tūpuna (ancestral landscapes) across Otago are made up of interconnected sites and areas reflecting the history and traditions associated with the long settlement of Kāi Tahu in Otago. Areas of significance that form part of *wāhi tūpuna* include, but are not limited to:

- Wāhi tapu
- Kāika *nohoaka* (settlements)
- Wāhi kohātu and wāhi mahi kohātu (quarry sites)
- Wāhi ikoa (place names)
- Ara tawhito (traditional travel routes)
- Mauka (mountains)

It is important that resource management recognises the wider cultural setting by considering effects of activities on the broader *wāhi tūpuna* rather than just on discrete sites.

RMIA–WTU–I1 – The values of *wāhi tūpuna* are poorly recognised in resource management in Otago

Land management regimes have failed to adequately provide for Kāi Tahu interests in *wāhi tūpuna*. Attention has been too narrowly focused on the cultural redress components of the Ngāi Tahu Claims Settlement Act 1998 (statutory acknowledgements, place names, tōpuni areas and *nohoaka* sites),

whereas *wāhi tūpuna* are considerably broader than the areas described in the legislation. The values of these areas can be adversely affected by inappropriate *land* use and development.

Specific concerns include:

- Changes to the recognisable character of *wāhi tūpuna* resulting from intensified *land use*, spread of exotic wilding trees and other woody weeds, forestry, subdivision, development of *buildings* and *structures*.
- Impacts on the integrity of *wāhi tūpuna* from extension and maintenance of *infrastructure* such as transport, telecommunications and other utility networks.
- Modification of landforms by *earthworks*, particularly on ridgelines and upper slopes and near waterways.
- Impacts on wāhi tapu and archaeological sites from *earthworks*.
- Sedimentation of *water bodies* within *wāhi tupuna* from *earthworks.*
- Poor land management and inappropriate *land use* degrades the whenua itself.
- Failure to recognise Kāi Tahu connections to the land through use of traditional names for landscape features and sites.

RMIA–WTA – Wāhi tapu and wāhi taoka

Context

Tribal land was not just the source of economic well-being. For Māori it was also the burial ground of the placenta and of the bones of ancestors, the abode of tribal atua and a storybook through place names and traditions. This is reflected in Te Reo Māori, as the word 'whenua' means both 'placenta' and 'land'. Ancestral lands were therefore regarded with deep veneration. For Kāi Tahu, wāhi tapu and wāhi taoka refers to the places that hold the respect of the people in accordance with tikaka or history including:

- Mauka (mountains)
- Urupā (burial places)
- Tuhituhi neherā (rock art)
- Umu (ovens)
- *Nohoaka* (seasonal camp sites)

RMIA–WTA–I1 – *Land use* activities have resulted in disturbance and degradation of wāhi tapu and wāhi taoka sites and the cultural and spiritual values associated with these areas

Wāhi tapu and wāhi taoka sites are vulnerable to disturbance or destruction from the direct *effects* of resource *use* and development. This is through activities that require *earthworks* as well as from natural or human-induced changes to biophysical processes such as coastal erosion. Wāhi tapu and wāhi taoka values can also be adversely affected by the encroachment of culturally offensive activities e.g. it is inappropriate to have a *wastewater* treatment plant at or near a wāhi tapu or wāhi taoka.

Specific concerns include:

- Disturbance, modification or destruction of wāhi tapu or wāhi taoka by *earthworks*.
- Degradation of the cultural value and integrity of wāhi tapu or wāhi taoka through contamination by *discharges*, inappropriate development, and culturally inappropriate activities such as mining/quarrying, *landfills* or *wastewater* disposal.

- The resurfacing of kōiwi takata (human remains) through natural and human-induced processes and ensuring that these are kept safe and returned to Kāi Tahu so that they can be reinterred in accordance with tikaka.
- Ineffective management of *effects* due to inappropriate and inaccurate recording of wāhi tapu and wāhi taoka, and misinterpretation of the status and importance of sites.

RMIA–WTA–I2 – Access to wāhi tapu and wāhi taoka and the ability to undertake customary activities on these sites has been impeded

Access to culturally important sites has been impeded in many ways, affecting the ability of *mana whenua* to carry out customary activities. Many sites are privately owned and cannot be accessed. Some sites no longer exist, or the customary activities associated cannot be undertaken – for example, *nohoaka* sites associated with mahika kai gathering cannot be used if the mahika kai is no longer there.

A limited number of *nohoaka* sites were granted to Kāi Tahu through the Ngāi Tahu Claims Settlement Act 1998 as redress for loss of traditional sites. Some of these were traditional sites, but others were in new locations. Some *nohoaka* have also become dissociated from their customary use due to *land* use change and hazard management. For example, if the *river* channel has moved and the *nohoaka* has not, whānau visiting the *nohoaka* are not able to fish there.

RMIA–AA – Air and atmosphere

Context

As discussed in Part 1, the air and atmosphere are resources of significance to Kāi Tahu. In Kāi Tahu traditions, air and atmosphere emerged through the creation traditions and Te Ao Marama. The air is an integral part of the environment that must be valued, used with respect, and passed on intact to the next generation. Pollution of the atmosphere adversely affects the mauri of this taoka and other taoka such as plants and animals.

RMIA–AA–I1 –The cultural impacts of *discharges* to air are poorly recognised in resource management

The cultural impacts of air pollution and *discharges* to air are poorly understood and seldom recognised. *Discharges* to air can adversely affect health and can be culturally offensive. Clean air is important to the health of mahika kai and people, and odour and other emissions impact on the tapu of wāhi tapu sites. Air emissions can also reduce the visibility of cultural landscape features and of the moon, stars and rainbows.

Specific concerns include:

- Potential impacts of *climate change* which could potentially negatively affect wai Māori, mahika kai and biodiversity, *wāhi tūpuna*, wāhi tapu, the coastal environment and the well-being of all people.
- Insufficient data has been collected and distributed about the *effects* of *discharges* to air.
- The *effects* of *discharges* to air on the health of people and mahika kai, including *discharges* from industrial or trade premises, agrichemical spray drift, vehicle emissions and emissions from domestic fires in built up areas prone to inversion layers.
- Culturally offensive *discharges* from crematoriums, if located in close proximity to mahika kai and wāhi taoka.
- Adverse *effects* of vegetation burning on the integrity and the tapu of wāhi tapu sites.

- Impacts of odour on wāhi tapu, mahika kai sites and *nohoaka*.
- Impacts of urban settlement and *discharges* to air on the visibility of the sky and *wāhi tūpuna* features.
- The impact of dust on the integrity of rock art sites.

RMIA–CE – Coastal environment (Taku tai moana me te wai Māori)

Context

The coastal environment is particularly significant for Kāi Tahu in the southern South Island. The spiritual and cultural significance of taku tai moana me te wai māori (saltwater and *freshwater*) and the interconnection between *land* and sea environments are not always well recognised in management of the coastal environment.

RMIA–CE–I1 – Mahika kai and coastal systems are adversely affected by lack of integrated management across the land-water interface

Management of mahika kai species and their habitats varies and is not holistic. Many important indigenous mahika kai fish species are diadromous and move between *freshwater* and the ocean during different parts of their life cycle. The interconnection between *land* and marine environments needs to be carefully considered in order to manage *effects* that cross the *coastal marine area* boundary.

Specific concerns include:

- *Effects* on the coastal environment and natural systems resulting from modifications to waterways, such as damming and artificial openings of *river* mouths, estuary and lagoon systems.
- The *effects* of reductions in *river* flows on ingress of saltwater to *river* systems and conditions for inaka spawning.
- Barriers to species migration, and hence lifecycles, created by changes to *river* mouths from reductions in *river* flow.
- Impacts of changes in sediment transport on coastal ecosystems.
- The *effects* of *land reclamation* on *water* quality and flow in enclosed harbors and estuarine ecosystems.
- *Effects* of *land use* activities and poor management of coastal margins on *coastal water* quality.
- *Climate change effects* occur across the land-water interface and the *freshwater*-saltwater interface, and cause changes to mahika kai species distribution and the quality and locations of mahika kai habitat.

RMIA–CE–I2 – *Discharges* into *coastal waters* and marine dumping of waste degrade mahika kai and the mauri of the *waters*

The practice of using the marine environment as a sink for disposal of waste from both *land* development and marine vessels is culturally offensive and has resulted in degradation of kaimoana resources. Leaching and overland runoff of *contaminants* from activities occurring near the coast have also contributed to the adverse *effects* on the marine area.

Specific concerns include:

- Point source industrial *discharges* to the coastal environment.

- Contamination of *coastal waters* by leachate from inappropriately sited *landfills* and other waste disposal sites and runoff from coastal subdivisions.
- *Discharges* of *sewage* from marine outfalls, poorly designed or inadequate coastal sewerage *infrastructure* and freedom camping.
- The *effects* of *contaminants* such as oil and carbon particles in *discharges* of *stormwater* from urban *roads*.
- *Discharges* of *sewage* and contaminated bilge and ballast *water* from *ships*.
- Proliferation of rubbish in the coastal environment, including materials such as lengths of rope from boats and moorings, plastic packaging strips, discarded and lost fishing gear, glass and plastic bottles as well as other dumped material.
- *Discharge* or disposal of waste products from the processing of marine species.
- Oil and chemical spills negatively affecting the natural environment
- Indiscriminate *discharge* of human ashes in sensitive areas such as kaimoana areas, or without the knowledge of *takata whenua*.

RMIA–CE–I3 – The ability for Kāi Tahu ki Otago to access and harvest kaimoana has been impeded by the *effects* of activities in the coastal and marine environment

Parts of the coastal environment in Otago have been heavily modified since the arrival of settlers. Many parts of the coast around Dunedin have been reclaimed to establish the city, and the harbor has been dredged to enable the growth of the port. This has limited the ability for whānau to carry out customary harvest of kaimoana resources and to access sites of significance for customary fishing. Whānau are often unable to physically access the foreshore and seabed for the collection of kaimoana, or find that kai is no longer safe to eat due to pollution.

Specific concerns include:

- Impacts on kaimoana and associated habitats from the *effects* of waterway modifications on estuarine systems and the *freshwater*/saltwater interface.
- Modification or loss of marine habitats as a result of *reclamation*, dredging and dumping.
- Disturbance of intertidal habitats by vehicle access along beaches.
- Potential for modification and displacement of habitats by *aquaculture activities*.
- The negative *effects* of point and non-point source *discharges* on *water* quality.
- The introduction and spread of exotic species, such as the invasive seaweed *undaria*, through ballast, hull cleaning, and other shipping activities.
- Loss of access due to development of coastal *land*.

RMIA–CE–I4 – Habitat disturbance and modification has contributed to decline in populations of indigenous marine species, including marine mammals

Indigenous marine species, including marine mammals, are regarded as taoka by Kāi Tahu, and in many cases these are recognised through the NTCSA 1998. The health and abundance of marine species populations are threatened by modification and loss of natural habitat as a result of the impacts identified in RMIA–CE–I2 and RMIA–CE–I3.

RMIA–CE–I5 – Wāhi tapu and *wāhi tūpuna* values in the coastal environment are poorly recognised and protected

The coastal environment is the domain of Takaroa and includes the *coastal waters* of Te Tai o Arai Te Uru as well as the adjoining land. Tauraka waka (waka landing places) occur up and down the coast in their hundreds and wherever a tauraka waka is located there is also likely to be a *nohoaka*, fishing

ground, kaimoana resource, or rimurapa (seaweed) with the sea trail linked to a land trail or mahika kai resource. Burial sites and other wāhi tapu are also associated with these *wāhi tūpuna*. Seascapes such as reef systems also form part of *wāhi tūpuna*.

Wāhi tapu and the broader *wāhi tūpuna* can be adversely affected by inappropriate activities and developments on coastal land and in the *coastal marine areas*.

Specific concerns include:

- Damage to and disturbance of wāhi tapu resulting from coastal erosion, earthworks associated with *subdivisions*, and development of coastal walkways.
- The *effects* of *land* fragmentation on access to sites of significance.
- Loss of the integrity of cultural landscapes by *reclamation* and the inappropriate location of *structures* and activities associated with aquaculture, tourism activities, *infrastructure,* and vessel moorings.
- Disturbance from mining of the seabed and foreshore.
- Restriction of access to tauraka waka and associated trails due to *land* development.
- The cumulative *effect* of incremental, uncoordinated *subdivisions, land use* change and building within the coastal environment.
- Failure to recognise and provide for the *effects* of changing sea levels on coastal landscapes.

RMIA–PO – Pounamu

Context

Kāi Tahu customs are intricately linked to this special taoka. There is currently no Regional Pounamu Plan for Otago. Management of this taoka is currently dependent on the provisions of the Ngāi Tahu (Pounamu Vesting) Act 1997 and a rāhui pounamu is in place in the Otago region.

RMIA–PO–I1 – Pounamu resources need protection from the *effects* of *land use* activities

Pounamu is a taoka for Kāi Tahu, but lack of recognition and protection of pounamu resources may lead to these resources being unknowingly degraded, for example by extraction of material for *road* aggregate.

IM – Integrated management

Objectives

IM–O1 – Long term vision

The management of *natural and physical resources* in Otago, by and for the people of Otago, including Kāi Tahu, and as expressed in all resource management plans and decision making, achieves healthy, resilient, and safeguarded natural systems, and the ecosystem services they offer, and supports the well-being of present and future generations, mō tātou, ā, mō kā uri ā muri ake nei.

IM–O2 – Ki uta ki tai

Natural and physical resource management and decision making in Otago embraces ki uta ki tai, recognising that the *environment* is an interconnected system, which depends on its connections to flourish, and must be considered as an interdependent whole.

IM–O3 – Environmentally sustainable impact

Otago's communities carry out their activities in a way that preserves environmental integrity, form, function, and *resilience*, so that the life-supporting capacities of air, *water*, soil, ecosystems, and indigenous *biodiversity* endure for future generations.

IM–O4 – *Climate change*

Otago's communities, including Kāi Tahu, understand what *climate change* means for their future, and *climate change* responses in the region, including adaptation and mitigation actions, are aligned with national level *climate change* responses and are recognised as integral to achieving the outcomes sought by this RPS.

Policies

IM–P1 – Integrated approach

The objectives and policies in this RPS form an integrated package, in which:

(1) all activities are carried out within the environmental constraints of this RPS,

(2) all provisions relevant to an issue or decision must be considered,

(3) if multiple provisions are relevant, they must be considered together and applied according to the terms in which they are expressed, and

(4) notwithstanding the above, all provisions must be interpreted and applied to achieve the integrated management objectives IM–O1 to IM–O4.

IM–P2 – Decision priorities

Unless expressly stated otherwise, all decision making under this RPS shall:

(1) firstly, secure the long-term life-supporting capacity and mauri of the natural environment,

(2) secondly, promote the health needs of people, and

(3) thirdly, safeguard the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

IM–P3 – Providing for *mana whenua* cultural values in achieving integrated management

Recognise and provide for Kāi Tahu's relationship with natural resources by:

(1) enabling *mana whenua* to exercise rakatirataka and *kaitiakitaka*,

(2) facilitating active participation of *mana whenua* in resource management decision making,

(3) incorporating mātauraka Māori in decision making, and

(4) ensuring resource management provides for the connections of Kāi Tahu to *wāhi tūpuna*, *water* and *water bodies*, the coastal environment, mahika kai and habitats of taoka species.

IM–P4 – Setting a strategic approach to ecosystem health

Healthy ecosystems and ecosystem services are achieved through a planning framework that:

(1) protects their *intrinsic values*,

(2) takes a long-term strategic approach that recognises changing *environments*,

(3) recognises and provides for ecosystem complexity and interconnections, and

(4) anticipates, or responds swiftly to, changes in activities, pressures, and trends.

IM–P5 – Managing environmental interconnections

Coordinate the management of interconnected *natural and physical resources* by recognising and providing for:

(1) situations where the value and function of a *natural or physical resource* extends beyond the immediate, or directly adjacent, area of interest,

(2) the effects of activities on a *natural or physical resource* as a whole when that resource is managed as sub-units, and

(3) the impacts of management of one *natural or physical resource* on the values of another, or on the *environment*.

IM–P6 – Acting on best available information

Avoid unreasonable delays in decision-making processes by using the best information available at the time, including but not limited to mātauraka Māori, local knowledge, and reliable partial data.

IM–P7 – Cross boundary management

Coordinate the management of Otago's *natural and physical resources* across jurisdictional boundaries and, whenever possible, between overlapping or related agency responsibilities.

IM–P8 – *Climate change* impacts

Recognise and provide for *climate change* processes and *risks* by identifying *climate change* impacts in Otago, including impacts from a te ao Māori perspective, assessing how the impacts are likely to change over time and anticipating those changes in resource management processes and decisions.

IM–P9 – Community response to c*limate change* impacts

By 2030 Otago's communities have established responses for adapting to the impacts of *climate change*, are adjusting their lifestyles to follow them, and are reducing their *greenhouse gas* emissions to achieve net-zero carbon emissions by 2050.

IM–P10 – *Climate change* adaptation and mitigation

Identify and implement *climate change* adaptation and mitigation methods for Otago that:

(1) minimise the *effects* of *climate change* processes or *risks* to existing activities,

(2) prioritise avoiding the establishment of new activities in areas subject to *risk* from the *effects* of *climate change*, unless those activities reduce, or are resilient to, those *risks*, and

(3) provide Otago's communities, including Kāi Tahu, with the best chance to thrive, even under the most extreme *climate change* scenarios.

IM–P11 – Enhancing environmental *resilience* to *effects* of *climate change*

Enhance environmental *resilience* to the adverse *effects* of *climate change* by facilitating activities that reduce human impacts on the *environment*.

IM–P12 – Contravening environmental bottom lines for *climate change* mitigation

Where a proposed activity provides or will provide enduring regionally or nationally significant mitigation of *climate change* impacts, with commensurate benefits for the well-being of people and communities and the wider *environment*, decision makers may, at their discretion, allow non-compliance with an environmental bottom line set in any policy or method of this RPS only if they are satisfied that:

(1) the activity is designed and carried out to have the smallest possible environmental impact consistent with its purpose and *functional needs*,

(2) the activity is consistent and coordinated with other regional and national *climate change* mitigation activities,

(3) adverse *effects* on the *environment* that cannot be avoided, remedied, or mitigated are offset, or compensated for if an offset is not possible, in accordance with any specific criteria for using offsets or compensation, and ensuring that any offset is:

    (a) undertaken where it will result in the best ecological outcome,

(b) close to the location of the activity, and

(c) within the same ecological district or coastal marine biogeographic region,

(4) the activity will not impede either the achievement of the objectives of this RPS or the objectives of regional policy statements in neighbouring regions, and

(5) the activity will not contravene a bottom line set in a national policy statement or national environmental standard.

IM–P13 – Managing cumulative *effects*

Otago's environmental integrity, form, function, and *resilience*, and opportunities for future generations, are protected by recognising and specifically managing the cumulative *effects* of activities on *natural and physical resources* in plans and explicitly accounting for these *effects* in other resource management decisions.

IM–P14 – Human impact

Preserve opportunities for future generations by:

(1) identifying limits to both growth and adverse *effects* of human activities beyond which the *environment* will be degraded,

(2) requiring that activities are established in places, and carried out in ways, that are within those limits and are compatible with the natural capabilities and capacities of the resources they rely on, and

(3) regularly assessing and adjusting limits and thresholds for activities over time in light of the actual and potential environmental impacts.

IM–P15 – Precautionary approach

Adopt a precautionary approach towards proposed activities whose *effects* are uncertain, unknown or little understood, but could be significantly adverse, particularly where the areas and values within Otago have not been identified in plans as required by this RPS.

Methods

IM–M1 – *Regional* and *district plans*

Local authorities must prepare or amend and maintain their *regional* and *district plans* to:

(1) establish, by December 2030, policy frameworks designed to achieve the objectives for Otago set out in IM–O1 to IM–O4,

(2) give effect to any response to *climate change* developed under this RPS, if applicable,

(3) provide for activities that seek to mitigate or adapt to the effects of *climate change* or reduce greenhouse gas emissions,

(4) ensure cumulative *effects* of activities on *natural and physical resources* are accounted for in resource management decisions by recognising and managing such *effects*, including:

(a) the same *effect* occurring multiple times,

(b) different *effects* occurring at the same time,

(c) different *effects* occurring multiple times,

(d) one *effect* leading to different *effects* occurring over time,

(e) different *effects* occurring sequentially over time,

(f) *effects* occurring in the same place,

(g) *effects* occurring in different places,

(h) *effects* that are spatially or temporally distant from their cause or causes, and,

(i) more than minor cumulative *effects* resulting from minor or transitory *effects*,

(5) adopt a ki uta ki tai approach to resource management by establishing policy and implementation frameworks that treat Otago's *environments* as an integrated system, including collaboration between local authorities to achieve consistent management of resources or *effects* that cross jurisdictional boundaries, and

(6) establish clear thresholds for, and limits on, activities that have the potential to adversely affect healthy ecosystem services and *intrinsic values*.

IM–M2 – Relationships

Starting immediately*, local authorities* must:

(1) partner with Kāi Tahu to ensure *mana whenua* involvement in resource management,

(2) work together and with other agencies to ensure consistent implementation of the objectives, policies and methods of this RPS, and

(3) consult with Otago's communities to ensure policy frameworks adequately respond to the diverse facets of environmental, social, cultural, and economic well-being.

IM–M3 – Identification of *climate change* impacts and community guidance

By December 2025, Otago Regional Council must:

(1) identify the specific types and locations of *climate change* impacts in Otago by undertaking a *climate change risk* assessment, including an assessment that incorporates a Kāi Tahu approach to *climate change risk* identification and evaluation, and

(2) develop guidance to support communities to be prepared and *resilient*.

IM–M4 – *Climate change* response

By January 2027, *local authorities* (led by Otago Regional Council) must together, in partnership with Kāi Tahu and in consultation with Otago's communities, develop *climate change* responses for the region that achieve *climate change* adaptation and mitigation, and that include:

(1) identifying natural and built resources vital to environmental and community *resilience* and well-being,

(2) identifying vulnerable resources and communities and developing adaptation pathways for them where possible, and

(3) developing plans and agreements for implementation.

IM–M5 – Other methods

Local authorities should:

(1) at their next plan review or by December 2030, whichever is sooner, align (to the extent possible) all strategies and management plans prepared under other legislation to contribute to the attainment of the long-term vision for Otago, and

(2) facilitate community involvement in realising the long-term vision for Otago stated in IM–O1 through non-regulatory means,

(3) encourage changes to business practice that will enable businesses to function in a net-zero carbon economy, and

(4) advocate for and incentivise activities that reduce, mitigate, or eliminate risk of environmental degradation.

Explanation

IM–E1 – Explanation

The policies in this chapter provide direction on integrated management across the region, to achieve the revitalisation, *resilience* and safeguarding of Otago's environment and ensure that it supports ka takata and the community's cultural, social, and economic well-being. The policies seek to apply a ki uta ki tai approach and ensure that the *effects* of *climate change* are understood and responded to across the region. Further, they are designed to ensure that environmental integrity, form, function, and *resilience* are at the centre of all resource management decision making and that changes are made where necessary to ensure the environment's life-supporting capacity continues to support people's health and well-being both now and into the future.

The policies in this chapter include direction for resolving issues when multiple Regional Policy Statement provisions need to be applied simultaneously. This direction reinforces the primacy of national legislation and regulation, as some provisions of National Policy Statements and National Environmental Standards are prescriptive enough that they do not need a regional interpretation and are only referred to in the RPS when necessary. Further, some direction in the New Zealand Coastal Policy Statement 2010, such as in Policy 3, is considered appropriate to apply to the management of resources throughout Otago, rather than solely within the coastal environment.

Principal reasons

IM–PR1 – Principal reasons

Integrated management is at the core of the RMA 1991. The provisions in this chapter set out core facets of integration - the interconnections and interdependencies within the environment, involvement of *mana whenua* in resource management, the fundamental importance of

environmental health to human well-being, and holistic assessment of human *effects* on the *environment*. They also address the *effects* of *climate change* as the key threat to environmental stability.

The provisions seek to enshrine an explicit recognition and implementation of these facets into plan making and resource consenting processes. They set an expectation of integrated resource management that flows through to all other provisions of the RPS, and informs the limits and thresholds we set on human activities for protecting environmental health. It sets explicit expectations that local authorities will work with each other and with other agencies to ensure management approaches are clear, coordinated, and able to support Otago's communities into the future.

Anticipated environmental results

IM–AER1 Monitoring shows the limits and thresholds set for human activities are adhered to and are resulting in environmental well-being and resilience.

IM-AER2 Environmental well-being and resilience is resulting in sustainable social, cultural, and economic well-being.

IM–AER3 Communities are aware of the potential impacts of *climate change* and there are observable changes in community behaviour towards more sustainable lifestyles.

IM–AER4 Plan development and decision-making processes demonstrate improved awareness of the interdependencies and interconnectedness of *natural and physical resources* within the region.

PART 3 – DOMAINS AND TOPICS

DOMAINS

AIR – Air

Objectives

AIR–O1 – Ambient air quality

Ambient air quality provides for the health and well-being of the people of Otago, *amenity* and *mana whenua values*, and the life-supporting capacity of ecosystems.

AIR–O2 – Discharges to air

Human health, *amenity* and *mana whenua* values and the life-supporting capacity of ecosystems are protected from the adverse effects of discharges to air.

Policies

AIR–P1 – Maintain good ambient air quality

Good ambient air quality is maintained across Otago by:

(1) ensuring *discharges* to air comply with ambient air quality limits where those limits have been set, and

(2) where limits have not been set, only allowing *discharges* to air if the adverse *effects* on ambient air quality are no more than minor.

AIR–P2 – Improve poor ambient air quality

Poor ambient air quality is improved across Otago by:

(1) establishing, maintaining and enforcing plan provisions that set limits and timeframes for improving ambient air quality, including by managing the spatial distribution of activities and transport, and

(2) prioritising actions to reduce PM_{10} and $PM_{2.5}$ concentrations in *polluted airsheds*, including phasing out existing domestic *solid fuel* burning appliances and preventing any *discharges* from new domestic *solid fuel* burning appliances that do not comply with the standards set in the NESAQ.

AIR–P3 – Providing for discharges to air

Allow discharges to air provided they do not adversely affect human health, amenity and *mana whenua* values and the life supporting capacity of ecosystems.

AIR–P4 – Avoiding certain discharges

Avoid discharges to air that cause offensive, objectionable, noxious or dangerous effects.

AIR–P5 – Managing certain discharges

Manage the *effects* of *discharges* to air beyond the boundary of the property of origin from activities that include but are not limited to:

(1) outdoor burning of organic material,

(2) agrichemical and fertiliser spraying,

(3) farming activities,

(4) activities that produce dust, and

(5) industrial and trade activities.

AIR–P6 – Impacts on *mana whenua* values

Avoid *discharges* to air that adversely affect *mana whenua* values by having particular regard to values and areas of significance to *mana whenua*.

Methods

AIR–M1 – Review *airshed* boundaries

Prior to implementing AIR–M2, and no later than 31 December 2022, the Otago Regional Council must review existing *airshed* boundaries and apply to the Ministry for the Environment to gazette amended boundaries where *airsheds* do not account for:

(1) current or anticipated areas of development,

(2) weather patterns and geography, or

(3) existing areas of poor air quality.

AIR–M2 – *Regional plans*

No later than 31 December 2024, Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) avoid offensive, objectionable, noxious or dangerous *discharges* to air,

(2) include provisions to mitigate the adverse *effects* from *discharges* to air beyond the boundary of the property of origin,

(3) implement the prioritisation of actions set out in AIR–P2,

(4) mitigate the adverse *effects* of *discharges* to air in areas adjacent to *polluted airsheds* where the *discharge* will adversely affect air quality in the *polluted airshed*, and

(5) give effect to the Air Quality Strategy for Otago and any subsequent amendments or updates.

AIR–M3 – *Territorial authorities*

No later than 31 December 2029, *territorial authorities* must prepare or amend and maintain their *district plans* to include provisions that direct an urban form that assists in achieving good air quality by:

(1) reducing reliance on private motor vehicles and enabling the adoption of *active transport*, shared transport and *public transport* options to assist in achieving good air quality, and

(2) managing the spatial distribution of activities.

AIR–M4 – Monitoring and reporting

Otago Regional Council must monitor and report no less frequently than annually on:

(1) air quality in accordance with the NESAQ to identify changes in ambient air quality within *airsheds*, and

(2) progress towards attainment of the *ambient air quality standards*.

AIR–M5 – Incentives and other mechanisms

In collaboration with *territorial authorities*, iwi authorities, key stakeholders and industry, Otago Regional Council must, on an on-going basis, use other mechanisms or incentives to assist with achieving the air quality objectives, including:

(1) improving community awareness of air quality issues in Otago associated with home heating,

(2) educating communities and promoting the use of alternative methods for home heating including the use of new technology (including low emission or ultra-low emission home heating appliances) and cleaner fuels or energy sources,

(3) advocating, promoting and supporting upgrading Otago's housing stock and changes to the Building Act 2004 and Building Code to require houses to create and maintain warmth more efficiently and reduce reliance on non-compliant domestic *solid fuel* burning appliances as described in AIR-P2,

(4) advocating to energy providers to improve the *resilience* of electricity infrastructure so alternative sources of heating are available and reliable,

(5) measures to encourage the use of *active transport,* shared transport and *public transport* over the use of private motor vehicles, and

(6) providing financial incentives (such as funding schemes, subsidies or rates relief) and support to improve home heating efficiency and assist with the transition towards cleaner heating, improved energy efficiency and home insulation, including the replacement of *solid fuel* burners that do not comply with the NESAQ standards.

Explanation

AIR–E1 – Explanation

The policies in this chapter are designed to achieve and maintain good air quality for Otago by requiring improvements where air quality is poor, maintaining it where it is good. Managing air quality does not include emissions from ships which are managed under separate national regulation. The policies in this chapter focus on preventing further decline in air quality by preventing use of new domestic *solid fuel* burning appliances that do not comply with the NESAQ, and phasing out the use of existing domestic *solid fuel* burning appliances that are non-compliant. The policies also require the boundaries of *airsheds* be amended to accurately reflect current and anticipated areas of urban growth. This is required to ensure monitoring of ambient air quality is accurate and that all activities that contribute to poor ambient air quality within an *airshed* are subject to the same measures to improve ambient air quality. This policy framework also directs future reviews of the Regional Plan: Air to manage the adverse effects of discharges to air.

In addition to the objectives and policies in this chapter, the air quality outcomes are also provided for in the objectives and policies listed within the following chapters of the RPS where they provide direction on the management of *environments* and activities that may affect air quality:

- IM – Integrated management
- EIT – Energy, *infrastructure* and transport
- UFD – Urban form and development

Principal reasons

AIR–PR1

Clean air is vital for supporting a healthy population and *environment*. Air quality monitoring shows that for most of the year air quality in the Otago Region is very good. During winter months however, temperatures drop and emissions from home heating increase. This, coupled with the topography of some areas and cold, calm conditions, leads to poor winter air quality in many towns and cities across the region. At times, parts of Otago have some of the poorest air quality in New Zealand. This is intensifying through urban growth.

The provisions in this chapter set out the framework for a review of the Air Plan and supports ORC's obligation to both observe and enforce the NESAQ. Implementation of the provisions in this chapter will occur primarily through regional and *district plan* provisions, however a collaborative approach with central government, other *local authorities*, stakeholders and industry will support the achievement of the objectives over time.

Anticipated environmental results

AIR–AER1 Where air quality is poor, there is a decreasing trend in concentrations of PM_{10} and $PM_{2.5}$.

AIR–AER2 Otago has an urban form that takes into account the *effects* of activities, and any *discharges* to air they create, on Otago's air quality.

AIR–AER3	Homes have cleaner forms of heating and non-compliant burners are no longer in use.
AIR–AER4	There is a decrease in the number of complaints regarding offensive, objectionable, noxious or dangerous *discharges* into air.
AIR–AER5	Where air quality is good it is maintained.
AIR–AER6	Otago is compliant with NESAQ requirements.

CE – Coastal environment

Objectives

CE–O1 – Safeguarding the coastal environment

The integrity, form, functioning and resilience of Otago's coastal environment is safeguarded so that:

(1) the mauri of *coastal water* is protected, and restored where it has *degraded*,

(2) *coastal water* quality supports healthy ecosystems, natural habitats, water-based recreational activities, existing activities, and customary uses, including practices associated with mahika kai and kaimoana,

(3) the dynamic and interdependent natural biological and physical processes in the coastal environment are maintained or enhanced,

(4) representative or significant areas of biodiversity are protected, and

(5) *surf breaks* of national significance are protected.

CE–O2 – Maintaining or enhancing highly valued areas of the coastal environment

Public access, recreation opportunities, and *highly valued natural features and landscapes* in the coastal environment are maintained or enhanced.

CE–O3 – Natural character, features and landscapes

Areas of natural character, natural features, landscapes and seascapes within the coastal environment are protected from inappropriate activities, and restoration is encouraged where the values of these areas have been compromised.

CE–O4 – Kāi Tahu associations with Otago's coastal environment

The enduring cultural association of Kāi Tahu with Otago's coastal environment is recognised and provided for, and *mana whenua* are able to exercise their kaitiaki role within the coastal environment.

CE–O5 – Activities in the coastal environment

Activities in the coastal environment:

(1) make efficient use of space occupied in the *coastal marine area*,

(2) are of a scale, density and design compatible with their location,

(3) are only provided for within appropriate locations and limits, and

(4) maintain or enhance public access to and along the *coastal marine area,* including for customary uses.

Policies

CE–P1 – Links with other chapters

Recognise that:

(1) coastal hazards must be identified in accordance with CE–P2(4) and managed in accordance with the HAZ–NH – Natural hazards section of this RPS;

(2) port activities must be managed in accordance with the TRAN – Transport section of this RPS; and

(3) *historic heritage* must be managed in accordance with the HCV – Historical and cultural values section of this RPS.

CE–P2 – Identification

Identify the following in the coastal environment:

(1) the landward extent of the coastal environment, recognising that the coastal environment includes:

  (a) the *coastal marine area*,

  (b) islands within the *coastal marine area*,

  (c) areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these,

  (d) areas at risk from coastal hazards as identified in CE–P2(4),

  (e) coastal vegetation and the habitat of indigenous coastal species including migratory birds,

  (f) elements and features that contribute to the natural character, landscape, visual qualities or *amenity values*,

  (g) items of cultural and *historic heritage* in the *coastal marine area* or on the coast,

  (h) inter-related coastal marine and terrestrial systems, including the intertidal zone, and

  (i) physical resources and built facilities, including *infrastructure*, that have modified the coastal environment,

(2) areas of *water* quality in the *coastal marine area* that are considered to have deteriorated so that it is having a significant adverse *effect* on ecosystems, natural habitats, or water-based recreational activities, or is restricting existing uses, such as aquaculture, shellfish gathering, and cultural activities such as mahika kai and harvesting of kaimoana,

(3) areas of *coastal water* where *takata whenua* have a particular interest,

(4) areas that are potentially affected by coastal hazards (including tsunami), giving priority to the identification of areas at high *risk* of being affected, and

(5) the nationally significant *surf breaks* at Karitane, Papatowai, The Spit, and Whareakeake and any regionally significant *surf breaks.*

CE–P3 – *Coastal water* quality

Coastal water quality is improved where it is considered to have deteriorated to the extent described within CE-P1(2), and otherwise managed, so that:

(1) healthy coastal ecosystems, indigenous habitats provided by the coastal environment, and the migratory patterns of indigenous *coastal water* species are maintained or enhanced,

(2) Kāi Tahu relationships with and customary uses of *coastal water* are sustained,

(3) recreation opportunities and existing uses of *coastal water* are maintained or enhanced, and

(4) within identified areas where *takata whenua* have a particular interest, adverse *effects* on these areas and values are remedied or where remediation is not practicable, are mitigated.

CE–P4 – Natural character

Identify, preserve and restore the natural character of the coastal environment by:

(1) identifying areas and values of high and outstanding natural character which may include matters such as:

  (a) natural elements, processes and patterns,

  (b) biophysical, ecological, geological and geomorphological aspects,

  (c) natural landforms such as headlands, peninsulas, cliffs, dunes, *wetlands*, estuaries, reefs, *freshwater* springs and *surf breaks*,

  (d) the natural movement of *water* and sediment,

  (e) the natural darkness of the night sky,

  (f) places or areas that are wild or scenic,

  (g) a range of natural character from pristine to modified,

  (h) experiential attributes, including the sounds and smell of the sea, and their context or setting,

(2) avoiding adverse *effects* on natural character in areas identified as having outstanding natural character,

(3) avoiding significant adverse *effects* and avoiding, remedying or mitigating other adverse *effects* on natural character outside the areas in (2) above,

(4) encouraging de-reclamation of redundant reclaimed *land* where it would restore the natural character and resources of the *coastal marine area* and provide for more public open space, and

(5) promoting *activities* and restoration projects that will restore natural character in the coastal environment where it has been reduced or lost.

CE–P5 – Coastal indigenous *biodiversity*

Protect indigenous *biodiversity* in the coastal environment by:

(1) identifying and avoiding adverse effects on the following ecosystems, vegetation types and areas:

(a) indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists,

(b) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened,

(c) indigenous ecosystems and vegetation types in the coastal environment that are threatened or are naturally rare,

(d) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare,

(e) areas containing nationally significant examples of indigenous community types, and

(f) areas set aside for full or partial protection of indigenous *biodiversity* under other legislation, and

(2) identifying and avoiding significant adverse *effects* and avoiding, remedying or mitigating other adverse *effects* on the following ecosystems, vegetation types and areas:

(a) areas of predominantly indigenous vegetation in the coastal environment,

(b) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species,

(c) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable,

(d) areas sensitive to modification, including estuaries, lagoons, coastal *wetlands*, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh,

(e) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes,

(f) habitats, including areas and routes, important to migratory species, and

(g) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.

CE–P6 – Natural features, landscapes and seascapes

Protect natural features, landscapes and seascapes in the coastal environment by:

(1) identifying their areas and values in accordance with APP9,

(2) avoiding adverse *effects* of activities on outstanding natural features, landscapes or seascapes,

(3) avoiding significant adverse *effects* and avoiding, remedying, or mitigating other adverse *effects* of activities on other natural features and natural landscapes or seascapes, and

(4) promoting restoration or enhancement of natural features, landscapes and seascapes where they have been reduced or lost.

CE–P7 – *Surf breaks*

Manage Otago's nationally and regionally significant *surf breaks* so that:

(1) nationally significant *surf breaks* are protected by avoiding adverse *effects* on the *surf breaks*, including on access to and use and enjoyment of them, and

(2) the values of and access to regionally significant *surf breaks* are maintained.

CE–P8 – Public access

Maintain or enhance public access to and along the *coastal marine area,* unless restricting public access is necessary:

(1) to protect public health and safety,

(2) to protect areas of significant indigenous vegetation and significant habitats of indigenous fauna,

(3) to protect dunes, estuaries and other sensitive natural areas or habitats,

(4) to protect places or areas containing *historic heritage* of regional or national significance,

(5) to protect places or areas of significance to *takata whenua*, including wāhi tapu and *wāhi tūpuna*,

(6) for defence purposes in accordance with the Defence Act 1990,

(7) for temporary activities or special events, or

(8) to ensure a level of security consistent with the operational requirements of a lawfully established activity.

CE–P9 – Activities on *land* within the coastal environment

The strategic and co-ordinated use of *land* within the coastal environment is achieved by:

(1) avoiding sprawling or sporadic patterns of *subdivision*, use and development,

(2) considering the rate at which built development should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the values of the coastal environment,

(3) recognising the importance of the provision of *infrastructure* to the social, economic and cultural well-being of people and communities,

(3) maintaining or enhancing public access to the coastal environment, and

(4) considering where activities that maintain the character of the existing built environment should be encouraged, and where activities resulting in a change in character would be acceptable.

CE–P10 – Activities within the *coastal marine area*

Use and development in the *coastal marine area* must:

(1) enable multiple uses of the *coastal marine area* wherever reasonable and practicable,

(2) maintain or improve the integrity, form, function and *resilience* of the *coastal marine area*, and

(3) have a *functional* or *operational need* to be located in the *coastal marine area*, or

(4) have a public benefit or opportunity for public recreation that cannot practicably be located outside the *coastal marine area*.

CE–P11 – Aquaculture

Provide for the development and operation of *aquaculture activities* within appropriate locations and limits, taking into account:

(1) the need for high quality *water* required for an *aquaculture activity*,

(2) the need for *land*-based facilities and infrastructure required to support the operation of *aquaculture activities,* and

(3) the potential social, economic and cultural benefits associated with the operation and development of *aquaculture activities*.

CE–P12 – Reclamation

Avoid reclamation in the *coastal marine area*, unless:

(1) *land* outside the *coastal marine area* is not available for the proposed activity,

(2) the activity to be established on the reclamation can only occur immediately adjacent to the *coastal marine area*,

(3) there are no practicable alternative methods of providing for the activity, and

(4) the reclamation will provide significant regional or national benefit.

CE–P13 – Kaitiakitaka

Recognise and provide for the role of Kāi Tahu as kaitiaki of the coastal environment by:

(1) involving *mana whenua* in decision making and management processes in respect of the coast,

(2) identifying, protecting, and improving where degraded, sites, areas and values of importance to Kāi Tahu within the coastal environment, and managing these in accordance with tikaka,

(3) providing for customary uses, including mahika kai and the harvesting of kaimoana,

(4) incorporating the impact of activities on customary fisheries in decision making, and

(5) incorporating mātauraka Maōri in the management and monitoring of activities in the coastal environment.

Methods

CE–M1 – Identifying the coastal environment

Local authorities must:

(1) no later than 31 May 2023, work collaboratively to:

(a) identify the landward extent of the coastal environment, in accordance with CE-P2(1),

(b) map the landward extent of the coastal environment area in the relevant *regional* and *district plans*.

CE–M2 – Identifying other areas

Local authorities must work collaboratively together to:

(1) identify areas and values of high and outstanding natural character within their jurisdictions in accordance with CE–P4(1), map the areas and describe their values in the relevant *regional* and *district plans*, and identify their capacity to accommodate change through use or development while protecting the values that contribute to the natural character of the area being considered high or outstanding,

(2) identify areas and values of outstanding natural features, landscapes, and seascapes (in the coastal environment) within their jurisdictions in accordance with CE–P6(1), map the areas and describe their values in the relevant *regional* and *district plans*, and identify their capacity to accommodate change through use or development while protecting the values that contribute to the natural features, landscapes, and seascapes being considered outstanding,

(3) identify areas and values of indigenous *biodiversity* within their jurisdictions in accordance with CE–P5, map the areas and describe their values in the relevant *regional* and *district plans*, and

(4) prioritise identification under (1) – (3) in areas that are:

(a) likely to face development or growth pressure over the life of this RPS, or

(b) likely to contain outstanding natural character areas, outstanding natural features or landscapes, and areas of significant indigenous *biodiversity*, including the areas in the table below.

Table 2: Areas likely to contain significant values

Oamaru Harbour Breakwater	Te Whakarekaiwi
Moeraki Beach	Papanui Inlet
Moeraki Peninsula	Hoopers Inlet
Shag Point & Shag River Estuary	Kaikorai Estuary
Stony Creek Estuary	Brighton
Pleasant River Estuary	Akatore Creek Estuary
Hawksbury Inlet	Tokomairiro Estuary
Waikouaiti River Estuary	Wangaloa
Karitane Headland	Clutha River Mata-au, Matau Branch
Puketeraki	Nugget Point
Blueskin Bay	Surat Bay
Orokonui Inlet	Catlins Lake Estuary
Mapoutahi	Jacks Bay
Purakanui Inlet	Waiheke Beach
Aramoana	Tahakopa Estuary
Otago Harbour Historic Walls	Oyster Bay
Otakou & Taiaroa Head	Tautuku Estuary
Pipikaretu Point	Waipati Estuary & Kinakina Island

CE–M3 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* no later than 31 December 2028 to:

(1) map areas of deteriorated *water* quality in the coastal environment*,* in accordance with CE–P2(2) and CE–P2(3),

(2) map the areas and characteristics of, and access to, nationally and regionally significant *surf breaks*,

(3) require development to be set back from the *coastal marine area* where practicable to protect the natural character, open space, public access and *amenity values* of the coastal environment,

(4) manage the *discharge* of *contaminants* into *coastal water* by:

  (a) only enabling the use of small *mixing zones* before the *water* quality standards need to be met in the *receiving environment* and minimising adverse *effects* on the life-supporting capacity of *water* within any mixing zone,

  (b) prohibiting the *discharge* of untreated human *sewage* directly to water in the coastal environment,

  (c) prohibiting the *discharge* of treated human *sewage* directly to water in the coastal environment unless:

    (i) there has been adequate consideration of alternative methods, sites and routes for undertaking the *discharge*, and

    (ii) it can be demonstrated that the proposal has been informed by consultation with *tangata whenua* and the affected community, and

  (d) reducing the *discharge* of sediment by:

    (i) requiring that *subdivision*, use, or development will not increase sedimentation of the *coastal marine area* or other *coastal water*,

    (ii) controlling the impacts of vegetation removal on sedimentation including the impacts of harvesting *plantation forestry*, and

    (iii) reducing sediment loadings in runoff and in *stormwater* systems through controls on *land* use activities, and

  (e) avoiding cross-contamination between *sewage* and *stormwater* systems where new systems are proposed and remedy cross-contamination where they currently exist in established systems, and

  (f) having particular regard to:

    (i) the sensitivity of the receiving environment,

    (ii) the nature of the *contaminants* to be *discharged*, the *contaminant* concentration thresholds not to be exceeded to achieve the required *water* quality in the receiving environment, and the risks if that concentration of *contaminants* is exceeded,

    (iii) the capacity of the receiving environment to assimilate the *contaminants*, and

(iv) avoiding significant adverse *effects* on ecosystems and habitats after reasonable mixing,

(5) control the use and development of the *coastal marine area*, in order to:

(a) preserve the natural character; natural landscapes, features, and seascapes; and indigenous *biodiversity* of the *coastal marine area* in accordance with CE–P4, CE–P5 and CE–P6, and

(b) manage Otago's nationally and regionally significant *surf breaks* in accordance with CE–P7,

(6) include provisions requiring the adoption of a precautionary approach to assessing the *effects* of activities in the coastal environment in accordance with IM–P15 where:

(a) there is scientific uncertainty, or

(b) there are potentially significant or irreversible adverse *effects*,

(7) identify areas appropriate for aquaculture and the forms and limits associated with providing for aquaculture that will enable achievement of objectives CE–O1 to CE–O5,

(8) provide for walking access to and along the *coastal marine area* in accordance with Policy 19 of the NZCPS,

(9) control vehicle access to and along the *coastal marine area* in accordance with Policy 20 of the NZCPS,

(10) manage reclamation activities in accordance with CE–P12, and when *reclamation* is considered suitable in accordance with CE–P12, have particular regard to the matters listed in Policy 10(2) and (3) of the NZCPS,

(11) require stock to be excluded from the *coastal marine area,* adjoining intertidal areas and other *water bodies* and riparian margins in the coastal environment, and

(12) provide for and encourage activities undertaken for the primary purpose of restoring natural character, features, landscapes, or seascapes in accordance with CE–P4 and CE–P6.

CE–M4 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) control the location, density and form of *subdivision* in the coastal environment (outside the *coastal marine area*),

(2) control the location, scale and form of *buildings* and *structures* in the coastal environment (outside the *coastal marine area*),

(3) control the location and scale of *earthworks* and vegetation planting, modification and removal in the coastal environment (outside the *coastal marine area*),

(4) require *resource consent* for uses of *land* on reclamations that have occurred after the date this RPS becomes operative,

(5) provide for the establishment of *esplanade reserves* and *esplanade strips*,

(6) include provisions requiring the adoption of a precautionary approach to assessing the *effects* of activities in the coastal environment in accordance with IM–P15 where:

(a) there is scientific uncertainty, or

(b) there are potentially significant or irreversible adverse *effects*,

(7) provide for walking access to the *coastal marine area* in accordance with Policy 19 of the NZCPS,

(8) control vehicle access to the *coastal marine area* in accordance with Policy 20 of the NZCPS,

(9) recognise *takata whenua* needs for *papakāika*, marae and associated developments within the coastal environment and make appropriate provision for them,

(10) provide access to nationally and regionally significant *surf breaks*, and

(11) provide for and encourage activities undertaken for the primary purpose of restoring natural character, features, or landscapes in accordance with CE–P4 and CE–P6.

CE–M5 – Other incentives and mechanisms

Local authorities are encouraged to consider the use of other mechanisms or incentives to assist in achieving Policies CE–P2 to CE–P12, including:

(1) identifying areas and opportunities within the coastal environment for restoration or rehabilitation,

(2) identifying opportunities to enhance or restore public walking access in accordance with Policy 19(c) of the NZCPS,

(3) promoting the removal of abandoned or redundant structures that have no heritage, amenity or reuse value,

(4) funding assistance for restoration projects (for example, through Otago Regional Council's ECO Fund),

(5) development or design guidelines (for example, colour palettes for *structures* in the coastal environment),

(6) rating differentials for *land* that is protected due to its status as a high or outstanding natural character area,

(7) education and advice,

(8) research relevant to the *effects* of activities on:

(a) coastal network *infrastructure*,

(b) coastal values,

(c) coastal hazards,

(d) riparian vegetation cover or any *land* cover that contributes to supporting coastal values or mitigating coastal hazards, or

(e) areas particularly sensitive to *land* use changes,

(9) facilitating the restoration, rehabilitation or creation of coastal habitats, particularly when it:

(a) encourages the natural regeneration of indigenous species,

(b) buffers or links ecosystems, habitats and areas of significance that contribute to ecological corridors, or

(c) maintains or enhances the provision of indigenous ecosystem services, and

(10) bylaws controlling vehicle access to and along the *coastal marine area* in accordance with Policy 20 of the NZCPS.

Explanation

CE–E1 – Explanation

The provisions in this chapter recognise that the coastal environment is a finite resource with a range of values that need to be preserved. The policies within the chapter are designed to protect the coastal environment from inappropriate activities. The coastal environment is also recognised as dynamic and the policies, in association with others in the ORPS, seek to prevent increasing *risks* to life, *infrastructure* and property.

The policies in this chapter require the identification and management of a range of values within the coastal environment. They also set out a number of environmental bottom lines that give effect to the requirements of the NZCPS. Provided these environmental bottom lines are achieved, the chapter also acknowledges that there are a range of activities including port activities, aquaculture, and appropriately designed and located *subdivision*, use and development that can be undertaken within the coastal environment. The policies also provide specific direction on how activities in the coastal environment are to be undertaken. The balance of protective and enabling policies within this chapter are designed to implement the objectives by requiring that activities in the coastal environment are undertaken in a manner that preserves or restores the values of the coastal environment.

Kāi Tahu tūpuna had an extensive knowledge of the coastal environment and weather patterns, passed from generation to generation. This knowledge continues to be held by whānau and hapū and is regarded as a taoka. The seasonal lifestyle of Kāi Tahu led to their dependence on the resources of the coast. This enduring relationship with the coastal environment, arising from long whakapapa associations and the use of tikaka to guide resource management practices, is manifested in the rakatirataka and *kaitiakitaka* responsibilities that Kāi Tahu hold as *mana whenua*.

Some of the policies in the NZCPS are highly prescriptive and will be most effectively implemented through *regional* and *district plans.* In those cases, the policies in this RPS have included additional region-specific context where that is possible, but have not sought to restate the content of NZCPS policies with the expectation that those policies will be implemented by the *regional* and *district plans*.

In addition to the policies in this chapter, the values of the coastal environment are recognised and provided for in the following chapters of the ORPS where they provide direction on the management of the coastal environment or activities within the coastal environment:

- ECO – Ecosystems and indigenous biodiversity
- LF – Land and freshwater
- EIT – Energy, infrastructure and transport
- HCV – Historical and cultural values
- NFL – Natural features and landscapes
- HAZ – Hazards and risks

Principal reasons

CE–PR1 – Principal reasons

The coastal environment includes the *coastal marine area*, islands within the *coastal marine area* and the area landward of the line of mean high-water springs. The landward extent of the coastal environment is determined by the natural and physical elements, features and processes set out in Policy 1(2) of the NZCPS. The importance of the coastal environment is reflected in the statutory resource management framework, particularly as identified in sections 6 and 7 of the RMA 1991 and as set out in the NZCPS.

A number of activities occur within or affect the coastal environment including urban development, recreational activities, transport infrastructure, port activities, *infrastructure,* energy generation and transmission, food production and other farming activities, *plantation forestry*, rural industry and *mineral* extraction. These activities can be important contributors to the existing and future health and well-being of communities. However, poorly located or managed activities can have adverse *effects* that compromise the values of the coastal environment such as natural character, biophysical processes, *water* quality, *surf breaks*, indigenous *biodiversity* and natural landscapes.

The coastal environment is highly valued by Kāi Tahu *mana whenua*, with a number of areas in the coastal environment recognised in statutory acknowledgments in the NTCSA 1998. The marine environment is a moving force, a reminder of the power of Takaroa. The *coastal waters* and processes were integral to the way of life tūpuna enjoyed, and the coastal environment supports significant mahika kai/kaimoana resources and *wāhi tūpuna*. This environment was traditionally important for settlement and travel and continues to provide for settlement and mahika kai and fisheries resources. Kaimoana is essential to coastal iwi and hapū relationships with the *environment* and in particular as part of the tikaka of food gathering and as indicators of the health of coastal environments.

The *coastal waters* are a *receiving environment* for *freshwater*, gravels, sediment and *contaminants* from the terrestrial landscape - of particular concern are the significant *discharges* of sediments, transported by *rivers* and waterways, that have a smothering effect on the benthic systems of the coastal area, including the important kelp beds. The interconnection of the *land* and sea environments is central to the ki uta ki tai (‘mountains to the sea’) philosophy. This interconnection requires careful consideration in managing the *effects* of *land* use activities.

Other chapters of the Regional Policy Statement are also relevant for managing the coastal environment as land-based activities can have a significant *effect* on the health of the marine environment. Sediment, *contaminants* and litter that are carried by waterways or pipes into the sea affect *water* quality and the ecological health of the coastal environment.

Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions, however *local authorities* may also choose to adopt additional non-regulatory methods to support the achievement of the objectives.

Anticipated environmental results

CE–AER1	The values of the coastal environment are not adversely affected or lost because of inappropriate uses of the *natural and physical resources* in the coastal environment.
CE–AER2	There is no reduction in the extent of identified areas of high and outstanding natural character in the coastal environment.

CE–AER3	Areas where natural character has been reduced or lost are restored.
CE–AER4	There is an improvement in the quality of *water* in areas identified as having deteriorated *water* quality.
CE–AER5	The quality of *coastal water* supports healthy coastal ecosystems and provides for contact recreation and customary uses.
CE–AER6	New building and development in the coastal environment is consistent with the character of the area and avoids or minimises *risks* from *natural hazards* to people and communities.
CE–AER7	The public have improved access to, along, and adjacent to the *coastal marine area.*

LF – *Land* and *freshwater*

LF–WAI – *Te Mana o te Wai*

Objectives

LF–WAI–O1 – *Te Mana o te Wai*

The mauri of Otago's *water bodies* and their health and well-being is protected, and restored where it is *degraded*, and the management of *land* and *water* recognises and reflects that:

(1) *water* is the foundation and source of all life – na te wai ko te hauora o ngā mea katoa,

(2) there is an integral kinship relationship between water and Kāi Tahu whānui, and this relationship endures through time, connecting past, present and future,

(3) each *water body* has a unique whakapapa and characteristics,

(4) *water* and *land* have a connectedness that supports and perpetuates life, and

(5) Kāi Tahu exercise rakatirataka, manaakitaka and their *kaitiakitaka* duty of care and attention over wai and all the life it supports.

Policies

LF–WAI–P1 – Prioritisation

In all management of *fresh water* in Otago, prioritise:

(1) first, the health and well-being of *water bodies* and *freshwater* ecosystems, te hauora o te wai and te hauora o te taiao, and the exercise of *mana whenua* to uphold these,[47]

(2) second, the health and well-being needs of people, te hauora o te tangata; interacting with *water* through ingestion (such as *drinking water* and consuming harvested resources) and immersive activities (such as harvesting resources and bathing), and

(3) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

LF–WAI–P2 – Mana whakahaere

Recognise and give practical effect to Kāi Tahu rakatirataka in respect of *fresh water* by:

(1) facilitating partnership with, and the active involvement of, *mana whenua* in *freshwater* management and decision-making processes,

(2) sustaining the environmental, social, cultural and economic relationships of Kāi Tahu with *water bodies*,

[47] In matters of mana, the associated spiritual and cultural responsibilities connect natural resources and *mana whenua* in a kinship relationship that is reciprocal and stems from the time of creation.

(3) providing for a range of customary uses, including mahika kai, specific to each *water body*, and

(4) incorporating mātauraka into decision making, management and monitoring processes.

LF–WAI–P3 – Integrated management/ki uta ki tai

Manage the use of *fresh water* and *land* in accordance with tikaka and kawa, using an integrated approach that:

(1) recognises and sustains the connections and interactions between *water bodies* (large and small, surface and ground, fresh and coastal, permanently flowing, intermittent and ephemeral),

(2) sustains and, wherever possible, restores the connections and interactions between *land* and *water,* from the mountains to the sea,

(3) sustains and, wherever possible, restores the habitats of mahika kai and indigenous species, including taoka species associated with the *water body*,

(4) manages the *effects* of the use and development of *land* to maintain or enhance the health and well-being of *fresh water* and *coastal water*,

(5) encourages the coordination and sequencing of regional or urban growth to ensure it is sustainable,

(6) has regard to foreseeable *climate change risks*, and

(7) has regard to cumulative *effects* and the need to apply a precautionary approach where there is limited available information or uncertainty about potential adverse *effects*.

LF–WAI–P4 – Giving effect to *Te Mana o te Wai*

All persons exercising functions and powers under this RPS and all persons who use, develop or protect resources to which thisRPS applies must recognise that LF-WAI-O1, LF-WAI-P1, LF-WAI-P2 and LF-WAI-P3 are fundamental to upholding *Te Mana o te Wai*, and must be given effect to when making decisions affecting *fresh water,* including when interpreting and applying the provisions of the LF chapter.

Methods

LF–WAI–M1 – *Mana whenua* involvement

Otago Regional Council must partner with Kāi Tahu in *freshwater* management by:

(1) implementing the actions in MW–M3 and MW–M4,

(2) actively identifying and pursuing opportunities for *mana whenua* to be involved in *freshwater* governance, including through use of available mechanisms such as transfers of functions (under section 33 of the RMA 1991) and supporting the establishment of *freshwater* mātaitai,

(3) implementing actions to foster the development of *mana whenua* capacity to contribute to the Council's decision-making processes, including resourcing,

(4) supporting *mana whenua* initiatives that contribute to maintaining or improving the health and well-being of *water bodies*, and

(5) providing relevant information to *mana whenua* for the purposes of (1), (2), (3) and (4).

LF–WAI–M2 – Other methods

In addition to method LF–WAI–M1, the methods in the LF–VM, LF–FW, and LF–LS sections are also applicable.

Explanation

LF–WAI–E1 – Explanation

Water is a central element in Kāi Tahu creation traditions. It was present very early in the whakapapa of the world: in the beginning there was total darkness, followed by the emergence of light and a great void of nothingness. In time Maku mated with Mahoronuiatea which resulted in great expanses of water, then Papatūanuku and Takaroa met and had children after which Takaroa took a long absence. Papatūanuku met Rakinui and they had many children who conspired to force their parents' coupled bodies apart to let the light in. They were also responsible for creating many of the elements that constitute our world today - the mountains, rivers, forests and seas, and all fish, bird and animal life. The whakapapa and spiritual source of *water* and *land* are connected, and *water bodies* are the central unifying feature that connects our landscapes together. The spiritual essence of *water* derives from the atua and the life it exudes is a reflection of the atua.

The whakapapa of *mana whenua* and water are also integrally connected. There is a close kinship relationship, and *mana whenua* and the wai cannot be separated. The tūpuna relationship with *water*, and the different uses made of the *water*, provide a daily reminder of greater powers – of both the atua and tūpuna. This relationship continues into the present and future and is central to the identity of Kāi Tahu. The mana of wai is sourced from the time of creation and the work of kā Atua, invoking a reciprocal relationship with *mana whenua* based in kawa, tikaka and respect for *water's* life-giving powers and its sanctity.

The kinship connection engenders a range of rights and responsibilities for *mana whenua*, including rakatirataka rights and the responsibility of *kaitiakitaka*. *Kaitiakitaka* encompasses a high duty to uphold and maintain the mauri of the wai. If the mauri is degraded it has an impact not only on the mana of the wai but also on the kinship relationship and on *mana whenua*. The mauri expresses mana and connection, which can only be defined by *mana whenua*. Recognising rakatirataka enables *mana whenua* to enjoy their rights over *water bodies* and fulfil their responsibilities to care for the wai and the communities it sustains.

The condition of *water* is seen as a reflection of the condition of the people - when the wai is healthy, so are the people. Kawa and tikaka have been developed over the generations, based on customs and values associated with the Māori world view that span the generations, recognising and honouring *Te Mana o te Wai* and upholding the mauri of the wai is consistent with this value base.

Each *water body* is unique. This is a reflection of its unique whakapapa and characteristics, and it means that each *water body* has different needs. Management and use must recognise and reflect this.

Principal reasons

LF–WAI–PR1 – Principal reasons

In accordance with the NPSFM, councils are required to implement a framework for managing *freshwater* that gives effect to *Te Mana o te Wai*. This places the mauri (life-force) of the *water* at the forefront of decision making, recognising te hauora o te wai (the health of the *water*) is the first priority, and supports te hauora o te taiao (the health of the environment) and te hauora o te takata (the health of the people). It is only after the health of the *water* is sustained that *water* can be used for economic purposes. Giving

effect to *Te Mana o te Wai* requires actively involving *takata whenua* in *freshwater* planning and management.

The NZCPS also recognises the interconnectedness of *land* and *water*. It notes inland activities can have a significant impact on *coastal water* quality which, in many areas around New Zealand, is in decline. This is a consequence of point and diffuse sources of contamination which can have environmental, social, cultural and economic implications. For example, poor *water* quality adversely effects aquatic life and opportunities for mahika kai gathering and recreational uses such as swimming and kayaking.

Anticipated environmental results

LF–WAI–AER1 Kāi Tahu are actively involved in the management of *fresh water* and able to effectively exercise their rakatirataka, manaakitaka and *kaitiakitaka*.

LF–WAI–AER2 The mauri of Otago's *water bodies* and their health and well-being is protected.

LF-VM – Visions and management

Objectives

LF–VM–O2 – Clutha Mata-au *FMU* vision

In the Clutha Mata-au *FMU*:

(1) management of the *FMU* recognises that:

(a) the Clutha Mata-au is a single connected system ki uta ki tai, and

(b) the source of the wai is pure, coming directly from Tawhirimatea to the top of the mauka and into the awa,

(2) *fresh water* is managed in accordance with the LF–WAI objectives and policies,

(3) the ongoing relationship of Kāi Tahu with *wāhi tūpuna* is sustained,

(4) *water bodies* support thriving mahika kai and Kāi Tahu whānui have access to mahika kai,

(5) indigenous species migrate easily and as naturally as possible along and within the *river* system,

(6) the national significance of the Clutha hydro-electricity generation scheme is recognised,

(7) in addition to (1) to (6) above:

(a) in the Upper Lakes rohe, the high quality *waters* of the *lakes* and their tributaries are protected, recognising the significance of the purity of these *waters* to Kāi Tahu and to the wider community,

(b) in the Dunstan, Manuherekia and Roxburgh rohe:

(i) flows in *water bodies* sustain and, wherever possible, restore the natural form and function of main stems and tributaries to support Kāi Tahu values and practices, and

(ii) innovative and sustainable *land* and *water* management practices support food production in the area and reduce discharges of nutrients and other *contaminants* to *water bodies* so that they are safe for human contact, and

(iii) sustainable abstraction occurs from main stems or *groundwater* in preference to tributaries,

(c) in the Lower Clutha rohe:

(i) there is no further modification of the shape and behaviour of the *water bodies* and opportunities to restore the natural form and function of *water bodies* are promoted wherever possible,

(ii) the ecosystem connections between *freshwater*, *wetlands* and the coastal environment are preserved and, wherever possible, restored,

(iii) *land* management practices reduce discharges of nutrients and other *contaminants* to *water bodies* so that they are safe for human contact, and

(iv) there are no direct *discharges* of *wastewater* to *water bodies*, and

(8) the outcomes sought in (7) are to be achieved within the following timeframes:

(a) by 2030 in the Upper Lakes rohe,

(b) by 2045 in the Dunstan, Roxburgh and Lower Clutha rohe, and

(c) by 2050 in the Manuherekia rohe.

LF–VM–O3 – North Otago *FMU* vision

By 2050 in the North Otago *FMU*:

(1) *fresh water* is managed in accordance with the LF–WAI objectives and policies, while recognising that the Waitaki River is influenced in part by catchment areas within the Canterbury region,

(2) the ongoing relationship of Kāi Tahu with *wāhi tūpuna* is sustained and Kāi Tahu maintain their connection with and use of the *water bodies*,

(3) healthy riparian margins, *wetlands*, estuaries and lagoons support thriving mahika kai, indigenous habitats and downstream coastal ecosystems,

(4) indigenous species can migrate easily and as naturally as possible to and from the coastal environment,

(5) *land* management practices reduce *discharges* of nutrients and other *contaminants* to *water bodies* so that they are safe for human contact, and

(6) innovative and sustainable *land* and *water* management practices support food production in the area and improve resilience to the *effects* of *climate change*.

LF–VM–O4 – Taieri *FMU* vision

By 2050 in the Taieri *FMU*:

(1) *fresh water* is managed in accordance with the LF–WAI objectives and policies,

(2) the ongoing relationship of Kāi Tahu with *wāhi tūpuna* is sustained,

(3) healthy *wetlands* are restored in the upper and lower catchment *wetland* complexes, including the Waipori/Waihola Wetlands, Tunaheketaka/Lake Taieri, scroll plain, and tussock areas,

(4) the gravel *bed* of the lower Taieri is restored and sedimentation of the Waipori/Waihola complex is reduced,

(5) creative ecological approaches contribute to reduced occurrence of didymo,

(6) *water bodies* support healthy populations of *galaxiid* species,

(7) there are no direct *discharges* of *wastewater* to *water bodies*, and

(8) innovative and sustainable *land* and *water* management practices support food production in the area and improve resilience to the *effects* of *climate change*.

LF–VM–O5 – Dunedin & Coast *FMU* vision

By 2040 in the Dunedin & Coast *FMU*:

(1) *fresh water* is managed in accordance with the LF-WAI objectives and policies,

(2) the ongoing relationship of Kāi Tahu with *wāhi tūpuna* is sustained,

(3) healthy estuaries, lagoons and *coastal waters* support thriving mahika kai and downstream coastal ecosystems, and indigenous species can migrate easily and as naturally as possible to and from these areas,

(4) there is no further modification of the shape and behaviour of the *water bodies* and opportunities to restore the natural form and function of *water bodies* are promoted wherever possible, and

(5) *discharges* of *contaminants* from urban environments are reduced so that *water bodies* are safe for human contact.

LF–VM–O6 – Catlins *FMU* vision

By 2030 in the Catlins *FMU*:

(1) *fresh water* is managed in accordance with the LF-WAI objectives and policies,

(2) the ongoing relationship of Kāi Tahu with *wāhi tūpuna* is sustained,

(3) *water bodies* support thriving mahika kai and access of Kāi Tahu whānui to mahika kai,

(4) the high degree of naturalness and ecosystem connections between the forests, *freshwater* and coastal environment are preserved,

(5) *water bodies* and their catchment areas support the health and well-being of *coastal water*, ecosystems and indigenous species, including downstream kaimoana, and

(6) healthy, clear and clean *water* supports opportunities for recreation and sustainable food production for future generations.

LF–VM–O7 – Integrated management

Land and *water* management apply the ethic of ki uta ki tai and are managed as integrated natural resources, recognising the connections and interactions between *fresh water*, *land* and the coastal environment, and between surface water, *groundwater* and *coastal water*.

Policies

LF–VM–P5 – *Freshwater Management Units* (*FMU*s) and rohe

Otago's *fresh water* resources are managed through the following *freshwater management units* or rohe which are shown on MAP1:

Table 3 – Freshwater Management Units and rohe

Freshwater Management Unit	**Rohe**
Clutha Mata-au	Upper Lakes Dunstan Manuherekia Roxburgh Lower Clutha
Taieri	n/a
North Otago	n/a
Dunedin & Coast	n/a
Catlins	n/a

LF–VM–P6 – Relationship between *FMUs* and rohe

Where rohe have been defined within *FMUs*:

(1) *environmental outcomes* must be developed for the *FMU* within which the rohe is located,

(2) if additional *environmental outcomes* are included for rohe, those *environmental outcomes*:

(a) set target *attribute* states that are no less stringent than the parent *FMU environmental outcomes* if the same *attributes* are adopted in both the rohe and the *FMU*, and

(b) may include additional *attributes* and target *attribute* states provided that any additional *environmental outcomes* give effect to the *environmental outcomes* for the *FMU*,

(3) *limits* and action plans to achieve *environmental outcomes* may be developed for the *FMU* or the rohe or a combination of both,

(4) any *limit* or action plan developed to apply within a rohe:

(a) prevails over any *limit* or action plan developed for the *FMU* for the same *attribute*, unless explicitly stated to the contrary, and

(b) must be no less stringent than any *limit* set for the parent *FMU* for the same *attribute*, and

(c) must not conflict with any *limit* set for the underlying *FMU* for *attributes* that are not the same, and

(5) the term "no less stringent" in this policy applies to *attribute states* (numeric and narrative) and any other metrics and timeframes (if applicable).

Methods

LF–VM–M3 – Community involvement

Otago Regional Council must work with communities to achieve the objectives and policies in this chapter, including by:

(1) engaging with communities to identify *environmental outcomes* for Otago's *FMUs* and rohe and the methods to achieve those outcomes,

(2) encouraging community stewardship of *water* resources and programmes to address *freshwater* issues at a local catchment level,

(3) supporting community initiatives that contribute to maintaining or improving the health and well-being of *water bodies*, and

(4) supporting industry-led guidelines, codes of practice and environmental accords where these would contribute to achieving the objectives of this RPS.

LF–VM–M4 – Other methods

In addition to method LF–VM–M3, the methods in the LF–WAI, LF–FW, and LF–LS sections are also applicable.

Explanation

LF–VM–E2 – Explanation

Implementing the NPSFM requires Council to identify *Freshwater Management Units* (*FMUs*) that include all *freshwater bodies* within the region. Policy LF–VM–P5 identifies Otago's five *FMUs*: Clutha Mata-au *FMU*, Taieri *FMU*, North Otago *FMU*, Dunedin & Coast *FMU* and Catlins *FMU*. The Clutha Mata-au *FMU* is divided into five sub-*FMUs* known as 'rohe'. Policy LF–VM–P6 sets out the relationship between *FMUs* and rohe which, broadly, requires rohe provisions to be no less stringent than the parent *FMU* provisions. This is to avoid any potential for rohe to set lower standards than others which would affect the ability of the *FMU* to achieve its stated outcomes.

Principal reasons

LF–VM–PR2 – Principal reasons

To support the implementation of the NPSFM, the Council is required to develop long-term visions for *fresh water* across the Otago region. *Fresh water* visions for each *FMU* and rohe have been developed through engagement with Kāi Tahu and communities. They set out the long-term goals for the *water bodies* (including *groundwater*) and *fresh water* ecosystems in the region that reflect the history of, and environmental pressures on, the *FMU* or rohe. They also establish ambitious but reasonable timeframes for achieving these goals. The Council must assess whether each *FMU* or rohe can provide for its long-term vision, or whether improvement to the health and well-being of *water bodies* (including *groundwater*) and *fresh water* ecosystems is required to achieve the visions. The result of that assessment will then inform the development of *regional plan* provisions in the *FMU*, including *environmental outcomes, attribute* states, target *attribute* states and *limits.*

Anticipated environmental outcomes

LF–VM–AER3 The *fresh water* visions in this section underpin Otago's planning framework and the outcomes they seek are achieved within the timeframes specified.

LF–FW – *Fresh water*

Objectives

LF–FW–O8 – *Fresh water*

In Otago's *water bodies* and their catchments:

(1) the health of the wai supports the health of the people and thriving mahika kai,

(2) *water* flow is continuous throughout the whole system,

(3) the interconnection of *fresh water* (including *groundwater*) and *coastal waters* is recognised,

(4) native fish can migrate easily and as naturally as possible and taoka species and their habitats are protected, and

(5) the significant and outstanding values of Otago's *outstanding water bodies* are identified and protected.

LF–FW–O9 – *Natural wetlands*

Otago's *natural wetlands* are protected or restored so that:

(1) mahika kai and other *mana whenua* values are sustained and enhanced now and for future generations,

(2) there is no decrease in the range and diversity of indigenous ecosystem types and habitats in *natural wetlands*,

(3) there is no reduction in their ecosystem health, hydrological functioning, *amenity values*, extent or *water* quality, and if degraded they are improved, and

(4) their flood attenuation capacity is maintained.

LF–FW–O10 – Natural character

The natural character of *wetlands, lakes* and *rivers* and their margins is preserved and protected from inappropriate subdivision, use and development.

Policies

LF–FW–P7 – *Fresh water*

Environmental outcomes, attribute states (including target *attribute* states) and limits ensure that:

(1) the health and well-being of *water bodies* is maintained or, if *degraded,* improved,

(2) the habitats of indigenous species associated with *water bodies* are protected, including by providing for fish passage,

(3) *specified rivers and lakes* are suitable for primary contact within the following timeframes:

(a) by 2030, 90% of *rivers* and 98% of *lakes*, and

(b) by 2040, 95% of *rivers* and 100% of *lakes*, and

(4) mahika kai and *drinking water* are safe for human consumption,

(5) existing *over-allocation* is phased out and future *over-allocation* is avoided, and

(6) *fresh water* is allocated within environmental limits and used efficiently.

LF–FW–P8 – Identifying *natural wetlands*

Identify and map *natural wetlands* that are:

(1) 0.05 hectares or greater in extent, or

(2) of a type that is naturally less than 0.05 hectares in extent (such as an ephemeral *wetland*) and known to contain threatened species.

LF–FW–P9 – Protecting *natural wetlands*

Protect *natural wetlands* by:

(1) avoiding a reduction in their values or extent unless:

(a) the *loss of values* or extent arises from:

(i) the customary harvest of food or resources undertaken in accordance with tikaka Māori,

(ii) restoration activities,

(iii) scientific research,

(iv) the sustainable harvest of sphagnum moss,

(v) the construction or maintenance of *wetland utility structures*,

(vi) the maintenance of operation of *specific infrastructure*, or *other infrastructure*,

(vii) *natural hazard works*, or

(b) the Regional Council is satisfied that:

(i) the activity is necessary for the construction or upgrade of *specified infrastructure*,

(ii) the *specified infrastructure* will provide significant national or regional benefits,

(iii) there is a *functional need* for the *specified infrastructure* in that location,

(iv) the *effects* of the activity on indigenous *biodiversity* are managed by applying either ECO–P3 or ECO–P6 (whichever is applicable), and

(v) the other *effects* of the activity (excluding those managed under (1)(b)(iv)) are managed by applying the *effects management hierarchy,* and

(2) not granting resource consents for activities under (1)(b) unless the Regional Council is satisfied that:

(a) the application demonstrates how each step of the *effects management hierarchies* in (1)(b)(iv) and (1)(b)(v) will be applied to the *loss of values* or extent of the *natural wetland*, and

(b) any consent is granted subject to conditions that apply the *effects management hierarchies* in (1)(b)(iv) and (1)(b)(v).

LF–FW–P10 – Restoring *natural wetlands*

Improve the ecosystem health, hydrological functioning, *water* quality and extent of *natural wetlands* that have been degraded or lost by requiring, where possible:

(1) an increase in the extent and quality of habitat for indigenous species,

(2) the restoration of hydrological processes,

(3) control of pest species and vegetation clearance, and

(4) the exclusion of stock.

LF–FW–P11 – Identifying *outstanding water bodies*

Otago's *outstanding water bodies* are:

(1) the Kawarau River and tributaries described in the Water Conservation (Kawarau) Order 1997,

(2) Lake Wanaka and the outflow and tributaries described in the Lake Wanaka Preservation Act 1973,

(3) any *water bodies* identified as being wholly or partly within an outstanding natural feature or landscape in accordance with NFL–P1, and

(4) any other *water bodies* identified in accordance with APP1.

LF–FW–P12 – Protecting *outstanding water bodies*

The significant and outstanding values of *outstanding water bodies* are:

(1) identified in the relevant *regional* and *district plans*, and

(2) protected by avoiding adverse *effects* on those values.

LF–FW–P13 – Preserving natural character

Preserve the natural character of *lakes* and *rivers* and their *beds* and margins by:

(1) avoiding the *loss of values* or extent of a *river*, unless:

  (a) there is a *functional need* for the activity in that location, and

  (b) the *effects* of the activity are managed by applying:

    (i) for *effects* on indigenous *biodiversity*, either ECO-P3 or ECO-P6 (whichever is applicable), and

    (ii) for other *effects*, the *effects management hierarchy,*

(2) not granting resource consent for activities in (1) unless Otago Regional Council is satisfied that:

  (a) the application demonstrates how each step of the *effects management hierarchies* in (1)(b) will be applied to the *loss of values* or extent of the *river*, and

  (b) any consent is granted subject to conditions that apply the *effects management hierarchies* in (1)(b),

(3) establishing environmental flow and level regimes and *water* quality standards that support the health and well-being of the *water body,*

(4) wherever possible, sustaining the form and function of a *water body* that reflects its natural behaviours,

(5) recognising and implementing the restrictions in Water Conservation Orders,

(6) preventing the impounding or control of the level of Lake Wanaka,

(7) preventing modification that would reduce the braided character of a *river*, and

(8) controlling the use of *water* and *land* that would adversely affect the natural character of the *water body.*

LF–FW–P14 – Restoring natural character

Where the natural character of *lakes* and *rivers* and their margins has been reduced or lost, promote actions that:

(1) restore a form and function that reflect the natural behaviours of the *water body*,

(2) improve *water* quality or quantity where it is *degraded*,

(3) increase the presence, *resilience* and abundance of indigenous flora and fauna, including by providing for fish passage within *river* systems,

(4) improve *water body* margins by naturalising bank contours and establishing indigenous vegetation and habitat, and

(5) restore *water* pathways and natural connectivity between *water* systems.

LF–FW–P15 – *Stormwater* and *wastewater discharges*

Minimise the adverse *effects* of direct and indirect *discharges* of *stormwater* and *wastewater* to *fresh water* by:

(1) except as required by LF–VM–O2 and LF–VM–O4, preferring *discharges* of *wastewater* to *land* over *discharges* to *water,* unless adverse *effects* associated with a *discharge* to *land* are greater than a *discharge* to *water*, and

(2) requiring:

(a) all sewage, industrial or trade waste to be *discharged* into a reticulated *wastewater* system, where one is available,

(b) all *stormwater* to be *discharged* into a reticulated system, where one is available,

(c) implementation of methods to progressively reduce the frequency and volume of wet weather overflows and minimise the likelihood of dry weather overflows occurring for reticulated *stormwater* and *wastewater* systems,

(d) on-site *wastewater* systems to be designed and operated in accordance with best practice standards,

(e) *stormwater* and *wastewater discharges* to meet any applicable water quality standards set for *FMUs* and/or rohe, and

(f) the use of water sensitive urban design techniques to avoid or mitigate the potential adverse *effects* of *contaminants* on receiving *water bodies* from the *subdivision,* use or development of *land,* wherever practicable, and

(3) promoting the reticulation of *stormwater* and *wastewater* in urban areas.

Methods

LF–FW–M5 – *Outstanding water bodies*

No later than 31 December 2023, Otago Regional Council must:

(1) in partnership with Kāi Tahu, undertake a review based on existing information and develop a list of *water bodies* likely to contain outstanding values, including those *water bodies* listed in LF-VM-P6,

(2) identify the outstanding values of those *water bodies* (if any) in accordance with APP1,

(3) consult with the public during the identification process,

(4) map *outstanding water bodies* and identify their outstanding and significant values in the relevant *regional plan(s),* and

(5) include provisions in *regional plans* to avoid the adverse *effects* of activities on the significant and outstanding values of *outstanding water bodies*.

LF–FW–M6 – *Regional plans*

Otago Regional Council must publicly notify a Land and Water *Regional Plan* no later than 31 December 2023 and, after it is made operative, maintain that *regional plan* to:

(1) identify the compulsory and, if relevant, other values for each *Freshwater Management Unit*,

(2) state *environmental outcomes* as objectives in accordance with clause 3.9 of the NPSFM,

(3) identify *water bodies* that are *over-allocated* in terms of either their *water* quality or quantity,

(4) include environmental flow and level regimes for *water bodies* (including *groundwater*) that give effect to *Te Mana o te Wai* and provide for:

(a) the behaviours of the *water body* including a base flow or level that provides for variability,

(b) healthy and resilient mahika kai,

(c) the needs of indigenous fauna, including taoka species, and aquatic species associated with the *water body*,

(d) the hydrological connection with other *water bodies*, estuaries and coastal margins,

(e) the traditional and contemporary relationship of Kāi Tahu to the *water body*, and

(f) community *drinking water* supplies, and

(5) include limits on resource use that:

(a) differentiate between types of uses, including *drinking water*, and social, cultural and economic uses, in order to provide long-term certainty in relation to those uses of available *water*,

(b) for *water bodies* that have been identified as *over-allocated*, provide methods and timeframes for phasing out that *over-allocation*,

(c) control the *effects* of existing and potential future development on the ability of the *water body* to meet, or continue to meet, *environmental outcomes*,

(d) manage the adverse *effects* on *water bodies* that can arise from the use and development of *land*, and

(6) provide for the off-stream storage of surface *water* where storage will:

(a) support *Te Mana o te Wai*,

(b) give effect to the objectives and policies of the LF chapter of this RPS, and

(c) not prevent a surface *water body* from achieving identified *environmental outcomes* and remaining within any limits on resource use, and

(7) identify and manage *natural wetlands* in accordance with LF–FW–P7, LF–FW–P8 and LF–FW–P9 while recognising that some activities in and around *natural wetlands* are managed under the NESF, and

(8) manage the adverse *effects* of *stormwater* and *wastewater* in accordance with LF–FW–P15.

LF–FW–M7 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* no later than 31 December 2026 to:

(1) map *outstanding water bodies* and identify their outstanding and significant values using the information gathered by Otago Regional Council in LF–FW–M5, and

(2) include provisions to avoid the adverse *effects* of activities on the significant and outstanding values of *outstanding water bodies*,

(3) require, wherever practicable, the adoption of water sensitive urban design techniques when managing the *subdivision,* use or development of *land*, and

(4) reduce the adverse *effects* of *stormwater discharges* by managing the *subdivision,* use and development of *land* to:

(a) minimise the peak volume of *stormwater* needing off-site disposal and the load of *contaminants* carried by it,

(b) minimise adverse *effects* on *fresh water* and *coastal water* as the ultimate receiving environments, and the capacity of the *stormwater* network,

(c) encourage on-site storage of rainfall to detain peak *stormwater* flows, and

(d) promote the use of permeable surfaces.

LF–FW–M8 – Action plans

Otago Regional Council:

(1) must prepare an action plan for achieving any target *attribute* states for *attributes* described in Appendix 2B of the NPSFM,

(2) may prepare an action plan for achieving any target *attribute* states for *attributes* described in Appendix 2A of the NPSFM, and

(3) must prepare any action plan in accordance with clause 3.15 of the NPSFM.

LF–FW–M9 – Monitoring

Otago Regional Council, for every *FMU*, must:

(1) establish a long-term monitoring programme that incorporates cultural health monitoring,

(2) record information (including monitoring data) about the state of *water bodies* and *freshwater* ecosystems and the challenges to their health and well-being, and

(3) regularly prepare reports on the matters in (1) and (2) and publish those reports.

LF–FW–M10 – Other methods

In addition to methods LF–FW–M5 to LF–FW–M9, the methods in the LF–WAI, LF–VM and LF–LS sections are also applicable.

Explanation

LF–FW–E3 – Explanation

This section of the LF chapter outlines how the Council will manage *fresh water* within the region. To give effect to *Te Mana o te Wai*, the *freshwater* visions, and the policies set out the actions required in the development of *regional plan* provisions to implement the NPSFM.

The outcomes sought for *natural wetlands* are implemented by requiring identification, protection and restoration. The first two policies reflect the requirements of the NPSFM for identification and protection but apply that direction to all *natural wetlands*, rather than only inland natural wetlands (those outside the *coastal marine area*) as the NPSFM directs. This reflects the views of *takata whenua* and the community that *fresh* and *coastal water*, including *wetlands*, should be managed holistically and in a consistent way. While the NPSFM requires promotion of the restoration of natural inland wetlands, the policies in this section take a stronger stance, requiring improvement where *natural wetlands* have been *degraded* or lost. This is because of the importance of restoration to Kāi Tahu and in recognition of the historic loss of *wetlands* in Otago.

The policies respond to the NPSFM by identifying a number of *outstanding water bodies* in Otago that have previously been identified for their significance through other processes. Additional *water bodies* can be identified if they are wholly or partly within an outstanding natural feature or landscape or if they meet the criteria in APP1 which lists the types of values which may be considered outstanding: cultural and spiritual, ecology, landscape, natural character, recreation and physical. The significant values of *outstanding water bodies* are to be identified and protected from adverse *effects*.

Preserving the natural character of *lakes* and *rivers*, and their *beds* and margins, is a matter of national importance under section 6 of the RMA 1991. The policies in this section set out how this is to occur in Otago, reflecting the relevant direction from the NPSFM but also a range of additional matters that are important in Otago, such as recognising existing Water Conservation Orders, the Lake Wanaka Act 1973 and the particular character of braided *rivers*. Natural character has been reduced or lost in some *lakes* or *rivers*, so the policies require promoting actions that will restore or otherwise improve natural character.

The impact of *discharges* of *stormwater* and *wastewater* on *freshwater bodies* is a significant issue for *mana whenua* and has contributed to *water* quality issues in some *water bodies*. The policies set out a range of actions to be implemented in order to improve the quality of these *discharges* and reduce their adverse *effects* on receiving environments.

Principal reasons

LF–FW–PR3 – Principal reasons

Otago's *water bodies* are significant features of the region and play an important role in Kāi Tahu beliefs and traditions. A growing population combined with increased *land* use intensification has heightened demand for *water,* and increasing nutrient and sediment contamination impacts *water* quality. The legacy of Otago's historical mining privileges, coupled with contemporary *land* uses, contribute to ongoing *water* quality and quantity issues in some *water bodies*, with significant cultural effects.

This section of the LF chapter contains more specific direction on managing *fresh water* to give effect to *Te Mana o te Wai* and contributes to achieving the long-term *freshwater* visions for each *FMU* and rohe. It also reflects key direction in the NPSFM for managing the health and well-being of *fresh water*, including *wetlands* and *rivers* in particular, and matters of national importance under section 6 of the RMA 1991. The provisions in this section will underpin the development of the Council's *regional plans* and provide a foundation for implementing the requirements of the NPSFM, including the development of *environmental outcomes*, *attribute* states, target *attribute* states and limits.

Anticipated environmental results

LF–FW–AER4	*Fresh water* is allocated within limits that contribute to achieving specified *environmental outcomes* for *water bodies* within timeframes set out in *regional plans* that are no less stringent than the timeframes in the LF–VM section of this chapter.
LF–FW–AER5	*Specified rivers* and *lakes* are suitable for primary contact within the timeframes set out in LF–FW–P7.
LF–FW–AER6	*Degraded water* quality is improved so that it meets specified *environmental outcomes* within timeframes set out in *regional plans* that are no less stringent than the timeframes in the LF–VM section of this chapter.
LF–FW–AER7	*Water* in Otago's aquifers is suitable for human consumption, unless that *water* is naturally unsuitable for consumption.
LF–FW–AER8	Where *water* is not *degraded*, there is no reduction in *water* quality.
LF–FW–AER9	The frequency of *wastewater* overflows is reduced.
LF–FW–AER10	The quality of *stormwater discharges* from existing *urban areas* is improved.
LF–FW–AER11	There is no reduction in the extent or quality of Otago's *natural wetlands*.

LF–LS – *Land* and soil

Objectives

LF–LS–O11 – *Land* and soil

The life-supporting capacity of Otago's soil resources is safeguarded and the availability and productive capacity of highly productive land for *primary production* is maintained now and for future generations.

LF–LS–O12 – Use of *land*

The use of *land* in Otago maintains soil quality and contributes to achieving *environmental outcomes* for *fresh water*.

Policies

LF–LS–P16 – Integrated management

Recognise that maintaining soil quality requires the integrated management of *land* and *freshwater* resources including the interconnections between soil health, vegetative cover and *water* quality and quantity.

LF–LS–P17 – Soil values

Maintain the mauri, health and productive potential of soils by managing the use and development of *land* in a way that is suited to the natural soil characteristics and that sustains healthy:

(1) soil biological activity and *biodiversity*,

(2) soil structure, and

(3) soil fertility.

LF–LS–P18 – Soil erosion

Minimise soil erosion, and the associated risk of sedimentation in water bodies, resulting from *land* use activities by:

(1) implementing effective management practices to retain topsoil in-situ and minimise the potential for soil to be *discharged* to *water bodies*, including by controlling the timing, duration, scale and location of soil exposure,

(2) maintaining vegetative cover on erosion-prone *land*, and

(3) promoting activities that enhance soil retention.

LF–LS–P19 – Highly productive *land*

Maintain the availability and productive capacity of highly productive *land* by:

(1) identifying highly productive *land* based on the following criteria:

  (a) the capability and versatility of the *land* to support primary production based on the Land Use Capability classification system,

  (b) the suitability of the climate for primary production, particularly crop production, and

(c) the size and cohesiveness of the area of *land* for use for primary production, and

(2) prioritising the use of highly productive *land* for primary production ahead of other *land* uses, and

(3) managing urban development in rural areas, including rural lifestyle and rural residential areas, in accordance with UFD–P4, UFD–P7 and UFD–P8.

LF–LS–P20 – *Land* use change

Promote changes in *land* use or *land* management practices that improve:

(1) the sustainability and efficiency of *water* use,

(2) resilience to the impacts of *climate change,* or

(3) the health and quality of soil.

LF–LS–P21 – *Land* use and *fresh water*

Achieve the improvement or maintenance of *fresh water* quantity or quality to meet *environmental outcomes* set for *Freshwater Management Units* and/or rohe by:

(1) reducing direct and indirect *discharges* of *contaminants* to *water* from the use and development of *land*, and

(2) managing *land* uses that may have adverse *effects* on the flow of *water* in surface *water bodies* or the recharge of *groundwater.*

LF–LS–P22 – Public access

Provide for public access to and along *lakes* and *rivers* by:

(1) maintaining existing public access,

(2) seeking opportunities to enhance public access, including by *mana whenua* in their role as kaitiaki and for gathering of mahika kai, and

(3) encouraging landowners to only restrict access where it is necessary to protect:

(a) public health and safety,

(b) *significant natural areas*,

(c) areas of outstanding natural character,

(d) outstanding natural features and landscapes,

(e) places or areas with special or outstanding *historic heritage* values, or

(f) places or areas of significance to *takata whenua*, including wāhi tapu and wāhi tūpuna.

Methods

LF–LS–M11 – *Regional plans*

Otago Regional Council must publicly notify a Land and Water *Regional Plan* no later than 31 December 2023 and then, when it is made operative, maintain that *regional plan* to:

(1) manage *land* uses that may affect the ability of *environmental outcomes* for *water* quality to be achieved by requiring:

(a) the development and implementation of *certified freshwater farm plans* as required by the RMA and any regulations,

(b) the adoption of practices that reduce the *risk* of sediment and nutrient loss to *water*, including by minimising the area and duration of exposed soil, using buffers, and actively managing critical source areas,

(c) effective management of effluent storage and applications systems, and

(d) *earthworks* activities to implement effective sediment and erosion control practices and setbacks from *water bodies* to reduce the *risk* of sediment loss to *water*, and

(2) provide for changes in *land* use that improve the sustainable and efficient allocation and use of *fresh water*, and

(3) implement policies LF–LS–P16 to LF–LF–P22.

LF–LS–M12 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* no later than 31 December 2026 to:

(1) manage *land* use change by:

(a) controlling the establishment of new or any spatial extension of existing *plantation forestry activities* where necessary to give effect to an objective developed under the NPSFM, and

(b) minimising the removal of tall tussock grasslands, and

(2) provide for and encourage the creation and enhancement of vegetated riparian margins and constructed *wetlands*, and maintain these where they already exist, and

(3) facilitate public access to *lakes* and *rivers* by:

(a) requiring the establishment of *esplanade reserves* and *esplanade strips*, and

(b) promoting the use of legal *roads*, including paper *roads*, that connect with *esplanade reserves* and *esplanade strips*.

LF–LS–M13 – Management of *beds* and riparian margins

Local authorities must prepare or amend and maintain their *regional* and *district plans* to manage the condition of the *bed* and banks of *water bodies*, riparian margins and associated *lands*, including vegetative cover, to:

(1) maintain existing *biodiversity* values,

(2) increase the presence, resilience and abundance of indigenous flora and fauna, particularly taoka species, including by providing for *biodiversity* corridors within *river* systems, and requiring riparian buffers that are sufficient to maintain indigenous *biodiversity*,

(3) support improvement in the functioning of catchment processes where these have been adversely affected by changes in margins and connected *lands* over time, and

(4) reduce unnatural sedimentation of *water bodies*.

LF–LS–M14 – Other methods

In addition to methods LF–LS–M11 to LF–LS–M13, the methods in the LF–WAI, LF–VM and LF–FW sections are also applicable.

Explanation

LF–LS–E4 – Explanation

The policies in this section of the LF chapter seek to maintain the health of Otago's soils and manage *land* uses as part of an integrated approach to sustaining soil and *water* health. The connections and interactions between these resources require a holistic approach to management.

Managing soil resources, in particular, cannot be undertaken in isolation. The policies require managing the use and development of *land* and *fresh water* to maintain soil values, recognising that soil can be valued for more than its productive use and those values should be maintained. Soil erosion is problematic for both soil and *water* health. The policies provide direction on managing erosion resulting from *land* use activities to, primarily, retain soil and prevent its *discharge* to *water*.

Highly productive *land* is *land* used for primary production that provides economic and employment benefits. Providing for and managing such *land* types is essential to ensure its sustainability. The policies seek to identify and prioritise *land* used for productive purposes managing urban encroachment into rural environments where appropriate.

Responding to *climate change* and achieving *freshwater* visions is likely to require changes in *land* uses and land management practices in parts of Otago. This is recognised in the policies which seek to promote changes in *land* use or management that improve efficient use of *water*, *resilience* to *climate change* and the health and quality of soil. The policies also require reducing *discharges* to *water* from the use and development of *land* and managing *land* uses that are unsupportive of *environmental outcomes* for *fresh water* as identified by each *FMU*.

Maintaining public access to and along *lakes* and *rivers* is a matter of national importance under section 6 of the RMA 1991. The policies in this section seek to maintain existing and where appropriate promote public access to and along *lakes* and *rivers*. Circumstances which restrict public access are set out where, for example, public health and safety is at *risk* or valued parts of the *environment* may be compromised.

Principal reasons

LF–LS – PR4 – Principal reasons

Population growth and *land* use intensification in urban and rural environments has increased demand for *land* and soil resources. It has also impacted on the quality of our *water*, increasing contamination such as by nutrients and sediment and harming ecosystems. In Otago, historical and contemporary *land* uses have *degraded* some *water bodies*, both in terms of their quantity and quality, leading to adverse effects on the mauri of *water* and the diversity and abundance of mahika kai resources.

Soil health is vital to wider ecological health, human health, and economic *resilience*. Otago has a rich and long history of varied forms of primary production on a wide range of soil types and in variable climatic conditions. Otago's highest quality soils (in terms of suitability for primary production) are mainly on the Taieri Plain, North Otago downlands, South Otago lowlands, parts of Central Otago and the Strath Taieri,

and along some *river* margins. Their extent is limited and use of these soils can be constrained by external factors such as economics, erosion, natural and human induced hazards, animal, and plant pests.

Managing *land* uses is a critical component of implementing the NPSFM due to the effects of *land* use on the health and well-being of *water*. This chapter assists the Council to recognise and provide for the connections and interactions between Otago's *land* and *fresh water*, while managing the use and development of this *land*, and its effects on *fresh water*.

Anticipated environmental results

LF–LS–AER12	The life-supporting capacity of soil is maintained or improved throughout Otago.
LF–LS–AER13	The availability and capability of Otago's highly productive land is maintained.
LF–LS–AER14	The use of *land* supports the achievement of *environmental outcomes* and objectives in Otago's *FMUs* and rohe.

TOPICS

ECO – Ecosystems and indigenous *biodiversity*

Objectives

ECO–O1 – Indigenous *biodiversity*

Otago's indigenous *biodiversity* is healthy and thriving and any decline in quality, quantity and diversity is halted.

ECO–O2 – Restoring or enhancing

A net increase in the extent and occupancy of Otago's indigenous *biodiversity* results from restoration or enhancement.

ECO–O3 – *Kaitiakiaka* and stewardship

Mana whenua are recognised as kaitiaki of Otago's indigenous *biodiversity*, and Otago's communities are recognised as stewards, who are responsible for:

(1) te hauora o te koiora (the health of indigenous *biodiversity*), te hauora o te taoka (the health of species and ecosystems that are taoka), and te hauora o te taiao (the health of the wider *environment*), while

(2) providing for te hauora o te takata (the health of the people).

Policies

ECO–P1 – *Kaitiakitaka*

Recognise the role of Kāi Tahu as kaitiaki of Otago's indigenous *biodiversity* by:

(1) involving Kāi Tahu in the management of indigenous *biodiversity* and the identification of indigenous species and ecosystems that are taoka,

(2) incorporating the use of mātauraka Māori in the management and monitoring of indigenous *biodiversity*, and

(3) providing for access to and use of indigenous *biodiversity* by Kāi Tahu, including mahika kai, according to tikaka.

ECO–P2 – Identifying *significant natural areas* and taoka

Identify:

(1) the areas and values of *significant natural areas* in accordance with APP2, and

(2) indigenous species and ecosystems that are taoka in accordance with ECO–M3.

ECO–P3 – Protecting *significant natural areas* and taoka

Except as provided for by ECO–P4 and ECO–P5, protect *significant natural areas* and indigenous species and ecosystems that are taoka by:

(1) avoiding adverse *effects* that result in:

  (a) any reduction of the area or values (even if those values are not themselves significant) identified under ECO–P2(1), or

  (b) any loss of Kāi Tahu values, and

(2) after (1), applying the *biodiversity effects management hierarchy* in ECO–P6, and

(3) prior to *significant natural areas* and indigenous species and ecosystems that are taoka being identified in accordance with ECO–P2, adopt a precautionary approach towards activities in accordance with IM–P15.

ECO–P4 – Provision for new activities

Maintain Otago's indigenous *biodiversity* by following the sequential steps in the effects management hierarchy set out in ECO–P6 when making decisions on plans, applications for resource consent or notices of requirement for the following activities in *significant natural areas*, or where they may adversely affect indigenous species and ecosystems that are taoka:

(1) the development or upgrade of *nationally* and *regionally significant infrastructure* that has a *functional* or *operational need* to locate within the relevant *significant natural area(s)* or where they may adversely affect indigenous species or ecosystems that are taoka,

(2) the development of *papakāika*, marae and ancillary facilities associated with customary activities on Māori land,

(3) the use of Māori land in a way that will make a significant contribution to enhancing the social, cultural or economic well-being of *takata whenua*,

(4) activities that are for the purpose of protecting, restoring or enhancing a *significant natural area* or indigenous species or ecosystems that are taoka, or

(5) activities that are for the purpose of addressing a severe and immediate *risk* to public health or safety.

ECO–P5 – Existing activities in *significant natural areas*

Except as provided for by ECO–P4, provide for existing activities within *significant natural areas* and that may adversely affect indigenous species and ecosystems that are taoka, if:

(1) the continuation of an existing activity will not lead to the loss (including through cumulative loss) of extent or *degradation* of the ecological integrity of any *significant natural area* or indigenous species or ecosystems that are taoka, and

(2) the adverse *effects* of an existing activity are no greater in character, spatial extent, intensity or scale than they were before this RPS became operative.

ECO–P6 – Maintaining indigenous *biodiversity*

Maintain Otago's indigenous *biodiversity* (excluding the coastal environment and areas managed under ECO–P3) by applying the following *biodiversity* effects management hierarchy in decision-making on applications for *resource consent* and notices of requirement:

(1) avoid adverse *effects* as the first priority,

(2) where adverse *effects* demonstrably cannot be completely avoided, they are remedied,

(3) where adverse *effects* demonstrably cannot be completely avoided or remedied, they are mitigated,

(4) where there are residual adverse *effects* after avoidance, remediation, and mitigation, then the residual adverse *effects* are offset in accordance with APP3, and

(5) if *biodiversity* offsetting of residual adverse *effects* is not possible, then:

  (a) the residual adverse *effects* are compensated for in accordance with APP4, and

  (b) if the residual adverse *effects* cannot be compensated for in accordance with APP4, the activity is avoided.

ECO–P7 – Coastal indigenous *biodiversity*

Coastal indigenous *biodiversity* is managed by CE–P5, and implementation of CE–P5 also contributes to achieving ECO–O1.

ECO–P8 – Enhancement

The extent, occupancy and condition of Otago's indigenous *biodiversity* is increased by:

(1) restoring and enhancing habitat for indigenous species, including taoka and mahika kai species,

(2) improving the health and *resilience* of indigenous *biodiversity*, including ecosystems, species, important ecosystem function, and *intrinsic values*, and

(3) buffering or linking ecosystems, habitats and ecological corridors.

ECO–P9 – *Wilding conifers*

Reduce the impact of *wilding conifers* on indigenous *biodiversity* by:

(1) avoiding *afforestation* and *replanting* of *plantation forests* with *wilding conifer* species listed in APP5 within:

  (a) areas identified as *significant natural areas,* and

  (b) buffer zones adjacent to *significant natural areas* where it is necessary to protect the *significant natural area*, and

(2) supporting initiatives to control existing *wilding conifers* and limit their further spread.

ECO–P10 – Integrated management

Implement an integrated and co-ordinated approach to managing Otago's ecosystems and indigenous *biodiversity* that:

(1) ensures any permitted or controlled activity in a *regional* or *district plan* rule does not compromise the achievement of ECO–O1,

(2) recognises the interactions ki uta ki tai (from the mountains to the sea) between the terrestrial *environment*, *fresh water*, and the *coastal marine area*, including the migration of fish species between *fresh* and *coastal waters*,

(3) promotes collaboration between individuals and agencies with *biodiversity* responsibilities,

(4) supports the various statutory and non-statutory approaches adopted to manage indigenous *biodiversity*,

(5) recognises the critical role of people and communities in actively managing the remaining indigenous *biodiversity* occurring on private *land,* and

(6) adopts regulatory and non-regulatory regional pest management programmes.

Methods

ECO–M1 – Statement of responsibilities

In accordance with section 62(1)(i)(iii) of the RMA 1991, the *local authorities* responsible for the control of *land* use to maintain indigenous *biological diversity* are:

(1) the Regional Council and *territorial authorities* are responsible for specifying objectives, policies and methods in *regional* and *district plans* for managing the margins of *wetlands*, *rivers* and *lakes*,

(2) the Regional Council is responsible for specifying objectives, policies and methods in *regional plans*:

  (a) in the *coastal marine area*,

  (b) in *wetlands*, *lakes* and *rivers*, and

  (c) in, on or under the *beds* of *rivers* and *lakes*,

(3) in addition to (1), *territorial authorities* are responsible for specifying objectives, policies and methods in *district plans* outside of the areas listed in (2) above if they are not managed by the Regional Council under (4), and

(4) the Regional Council may be responsible for specifying objectives, policies and methods in *regional plans* outside of the areas listed (1) above if:

  (a) the Regional Council reaches agreement with the relevant *territorial authority* or *territorial authorities*, and

  (b) if applicable, a transfer of powers in accordance with section 33 of the RMA 1991 occurs from the relevant *territorial authority* or *territorial authorities* to the Regional Council.

ECO–M2 – Identification of *significant natural areas*

Local authorities must:

(1) in accordance with the statement of responsibilities in ECO–M1, identify the areas and values of *significant natural areas* as required by ECO–P2, and

(2) map the areas and include the values identified under (1) in the relevant *regional* and *district plans*,

(3) recognise that indigenous *biodiversity* spans jurisdictional boundaries by:

(a) working collaboratively to ensure the areas identified by different *local authorities* are not artificially fragmented when identifying *significant natural areas* that span jurisdictional boundaries, and

(b) ensuring that indigenous *biodiversity* is managed in accordance with this RPS,

(4) require ecological assessments to be provided with applications for resource consent and notices of requirement that identify whether affected areas are *significant natural areas* in accordance with APP2,

(5) in the following areas, prioritise identification under (1) no later than 31 December 2025:

(a) intermontane basins that contain indigenous vegetation and habitats,

(b) areas of dryland shrubs,

(c) braided *rivers*, including the Makarora, Mātukituki and Lower Waitaki Rivers,

(d) areas of montane tall tussock grasslands, and

(e) limestone habitats.

ECO–M3 – Identification of taoka

Local authorities must:

(1) work together with *mana whenua* to agree a process for:

(a) identifying indigenous species and ecosystems that are taoka,

(b) describing the taoka identified in (1)(a),

(c) mapping or describing the location of the taoka identified in (1)(a), and

(d) describing the values of each taoka identified in (1)(a), and

(2) notwithstanding (1), recognise that *mana whenua* have the right to choose not to identify taoka and to choose the level of detail at which identified taoka, or their location or values, are described, and

(3) to the extent agreed by *mana whenua*, amend their *regional* and *district plans* to include matters (1)(b) to (1)(d) above.

ECO–M4 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) if the requirements of ECO–P3 and ECO–P6 can be met, provide for the use of *lakes* and *rivers* and their *beds,* including:

(a) activities undertaken for the purposes of pest control or maintaining or enhancing the habitats of indigenous fauna, and

(b) the maintenance and use of existing *structures* (including *infrastructure*), and

(c) *infrastructure* that has a *functional* or *operational need* to be sited or operated in a particular location,

(2) require:

(a) resource consent applications to include information that demonstrates that the sequential steps in the effects management hierarchy in ECO–P6 have been followed, and

(b) that consents are not granted if the sequential steps in the effects management hierarchy in ECO–P6 have not been followed, and

(3) provide for activities undertaken for the purpose of restoring or enhancing the habitats of indigenous fauna.

ECO–M5 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) if the requirements of ECO–P3 and ECO–P6 are met, provide for the use of *land* and the surface of *water bodies* including:

(a) activities undertaken for the purposes of pest control or maintaining or enhancing the habitats of indigenous fauna, and

(b) the maintenance and use of existing *structures* (including *infrastructure*), and

(c) *infrastructure* that has a *functional* or *operational need* to be sited or operated in a particular location,

(2) control the clearance or modification of indigenous vegetation,

(3) promote the establishment of *esplanade reserves* and *esplanade strips*, particularly where they would support ecological corridors, buffering or connectivity between *significant natural areas*,

(4) require:

(a) resource consent applications to include information that demonstrates that the sequential steps in the effects management hierarchy in ECO–P6 have been followed, and

(b) that consents are not granted if the sequential steps in the effects management hierarchy in ECO–P6 have not been followed, and

(5) provide for activities undertaken for the purpose of restoring or enhancing the habitats of indigenous fauna, and

(6) prohibit the planting of *wilding conifer* species listed in APP5 within areas identified as *significant natural areas*.

ECO–M6 – Engagement

Local authorities, when implementing the policies in this chapter, will:

(1) work collaboratively with other *local authorities* to adopt an integrated approach to managing Otago's *biodiversity* across administrative boundaries,

(2) engage with individuals (including landowners and *land* occupiers), community groups, government agencies and other organisations with a role or an interest in *biodiversity* management, and

(3) consult directly with landowners and *land* occupiers whose properties potentially contain or are part of *significant natural areas*.

ECO–M7 – Monitoring

Local authorities will:

(1) establish long-term monitoring programmes for areas identified under ECO–P1 that measure the net loss and gain of indigenous *biodiversity*,

(2) record information (including data) about the state of species, vegetation types and ecosystems,

(3) to the extent possible, use mātauraka Māori and tikaka Māori monitoring methods, as well as scientific monitoring methods, and

(4) regularly report on matters in (1) and (2) and publish these reports.

ECO–M8 – Other incentives and mechanisms

Local authorities are encouraged to consider the use of other mechanisms or incentives to assist in achieving Policies ECO–P1 to ECO–P10, including:

(1) providing information and guidance on the maintenance, restoration and enhancement of indigenous ecosystems and habitats,

(2) funding assistance for restoration projects (for example, through Otago Regional Council's ECO Fund),

(3) supporting the control of pest plants and animals, including through the provision of advice and education and implementing regulatory programmes such as the Regional Pest Management Plan,

(4) financial incentives,

(5) covenants to protect areas of *land*, including through the QEII National Trust,

(6) advocating for a collaborative approach between central and local government to fund indigenous *biodiversity* maintenance and enhancement, and

(7) gathering information on indigenous ecosystems and habitats, including outside *significant natural areas*.

Explanation

ECO–E1 – Explanation

The first policy in this chapter outlines how the kaitiaki role of Kāi Tahu will be recognised in Otago. The policies which follow then set out a management regime for identifying *significant natural areas* and indigenous species and ecosystems that are taoka and protecting them by avoiding particular adverse *effects* on them. The policies recognise that these restrictions may be unduly restrictive for some activities within *significant natural areas*, including existing activities already established. To maintain ecosystems

and indigenous *biodiversity*, the policies set out mandatory and sequential steps in an effects management hierarchy to be implemented through decision making, including providing for *biodiversity* offsetting and compensation if certain criteria are met.

Although the objectives of this chapter apply within the coastal environment, the specific management approach for *biodiversity* is contained in the CE – Coastal environment chapter. Given the *biodiversity* loss that has occurred in Otago historically, restoration or enhancement will play a part in achieving the objectives of this chapter and these activities are promoted.

Wilding conifers are a particular issue for *biodiversity* in Otago. Although *plantation forestry* is managed under the NESPF, the NESPF allows plan rules to be more stringent if they recognise and provide for the protection of *significant natural areas*. The policies adopt this direction by requiring *district* and *regional plans* to prevent *afforestation* within *significant natural areas* and establish buffer zones where they are necessary to protect *significant natural areas*.

The policies recognise that managing ecosystems and indigenous *biodiversity* requires co-ordination across different areas and types of resources, as well as across organisations, communities and individual landowners. This articulates the stewardship role of all people and communities in Otago in respect of indigenous *biodiversity*.

Principal reasons

ECO–PR1 – Principal reasons

The health of New Zealand's *biodiversity* has declined significantly since the arrival of humans and remains under significant pressure. Mahika kai and taoka species, including their abundance, have been damaged or lost through resource use, *land* use change and development in Otago. The provisions in this chapter seek to address this loss and pressure through providing direction on how indigenous *biodiversity* is to be managed.

The provisions in this chapter assist in maintaining, protecting and restoring indigenous *biodiversity* by:

- stating the outcomes sought for ecosystems and indigenous *biodiversity* in Otago,
- requiring identification and protection of *significant natural areas* and indigenous species and ecosystems that are taoka, and
- directing how indigenous *biodiversity* is to be maintained.

This chapter will assist with achieving the outcomes sought by *Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020.* Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions, however *local authorities* may also choose to adopt additional non-regulatory methods to support the achievement of the objectives.

Anticipated environmental results

ECO–AER1 There is no further decline in the quality, quantity or diversity of Otago's indigenous *biodiversity*.

ECO–AER2 The quality, quantity and diversity of indigenous *biodiversity* within Otago improves over the life of this Regional Policy Statement.

ECO–AER3	Kāi Tahu are involved in the management of indigenous *biodiversity* and able to effectively exercise their *kaitiakitaka*.
ECO–AER4	Within *significant natural areas*, the area of *land* vegetated by *wilding conifers* is reduced.

EIT – Energy, infrastructure and transport

EIT–EN – Energy

Objectives

EIT–EN–O1 – Energy and social and economic well-being

Otago's communities and economy are supported by *renewable energy generation* within the region that is safe, secure, and *resilient*.

EIT–EN–O2 – *Renewable electricity generation*

The generation capacity of *renewable electricity generation activities* in Otago:

(1) is maintained and, if practicable maximised, within environmental limits, and

(2) contributes to meeting New Zealand's national target for *renewable electricity generation*.

EIT–EN–O3 – Energy use

Development is located and designed to facilitate the efficient use of energy and to reduce demand if possible, minimising the contribution that Otago makes to total *greenhouse gas* emissions.

Policies

EIT–EN–P1 – Operation and maintenance

The operation and maintenance of existing *renewable electricity generation activities* is provided for while minimising its adverse *effects*.

EIT–EN–P2 – Recognising *renewable electricity generation activities* in decision making

Decisions on the allocation and use of *natural and physical resources,* including the use of *fresh water* and development of *land*:

(1) recognise the national, regional and local benefits of existing *renewable electricity generation activities*,

(2) take into account the need to at least maintain current *renewable electricity generation* capacity, and

(3) recognise that the attainment of increases in *renewable electricity generation* capacity will require significant development of *renewable electricity generation activities.*

EIT–EN–P3 – Development and upgrade of *renewable electricity generation activities*

The security of renewable electricity supply is maintained or improved in Otago through appropriate provision for the development or upgrading of *renewable electricity generation activities* and diversification of the type or location of *electricity generation activities*.

EIT–EN–P4 – Identifying new sites or resources

Provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for *renewable electricity generation* and, when selecting a site for new *renewable electricity generation,* prioritise those where adverse *effects* on highly valued *natural and physical resources* and *mana whenua* values can be avoided or, at the very least, minimised.

EIT–EN–P5 – Non-renewable energy generation

Avoid the development of non-renewable energy generation activities in Otago and facilitate the replacement of non-renewable energy sources, including the use of fossil fuels, in energy generation.

EIT–EN–P6 – Managing *effects*

Manage the adverse *effects* of *renewable electricity generation activities* by:

(1) applying EIT–INF–P13,

(2) having regard to:

  (a) the *functional need* to locate *renewable electricity generation activities* where resources are available,

  (b) the *operational need* to locate where it is possible to connect to the *National Grid* or *electricity sub-transmission infrastructure*, and

  (c) the extent and magnitude of adverse *effects* on the *environment* and the degree to which unavoidable adverse *effects* can be remedied or mitigated, or residual adverse *effects* are offset or compensated for; and

(3) requiring consideration of alternative sites, methods and designs, and offsetting or compensation measures (in accordance with any specific requirements for their use in this RPS), where adverse *effects* are potentially significant or irreversible.

EIT–EN–P7 – Reverse sensitivity

Activities that may result in reverse sensitivity *effects* or compromise the operation or maintenance of *renewable electricity generation activities* are, as the first priority, prevented from establishing and only if that is not reasonably practicable, managed so that reverse sensitivity *effects* are minimised.

EIT–EN–P8 – *Small and community scale distributed electricity generation*

Provide for *small and community scale distributed electricity generation* activities that increase the local community's *resilience* and security of energy supply.

EIT–EN–P9 – Energy conservation and efficiency

Development is designed, including through roading, lot size, dimensions, layout, and orientation so that energy use is efficient, energy waste is minimised, and solar gain is optimised.

Methods

EIT–EN–M1 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for *renewable electricity generation*,

(2) require the prioritisation of sites for new *renewable electricity generation activities* where adverse *effects* on highly valued *natural and physical resources* and *mana whenua* values can be avoided or, at the very least, minimised,

(3) manage the adverse *effects* of developing or upgrading *renewable electricity generation activities* that:

  (a) are within the *beds* of *lakes* and *rivers* and the *coastal marine area*, or

  (b) involve the taking, use, damming or diversion of *water* and *discharge* of *water* or *contaminants*,

(4) provide for the operation and maintenance of existing *renewable electricity generation activities*, including their *natural and physical resource* requirements, within the environmental limits, and

(5) restrict the establishment of activities that may adversely affect the efficient functioning of *renewable electricity generation infrastructure* (including impacts on generation capacity).

EIT–EN–M2 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) provide for activities associated with the investigation, identification and assessment of potential sites and energy sources for *renewable electricity generation*,

(2) require the prioritisation of sites for new *renewable electricity generation activities* where adverse *effects* on highly valued *natural and physical resources* and *mana whenua* values can be avoided or, at the very least, minimised,

(3) manage the adverse *effects* of developing or upgrading *renewable electricity generation activities* that:

  (a) are on the surface of *rivers* and *lakes* and on *land* outside the *coastal marine area*, or

  (b) the *beds* of *lakes* and *rivers*,

(4) provide for the continued operation and maintenance of *renewable electricity generation activities* on the surface of *rivers* and *lakes* and on *land* outside the *coastal marine area* and the *beds* of *lakes* and *rivers*,

(5) restrict the establishment or occurrence of activities that may adversely affect the efficient functioning of *renewable electricity generation infrastructure,*

(6) require the design of *subdivision* development to optimise solar gain, including through roading, lot size, dimensions, layout and orientation, and

(7) require design of transport *infrastructure* that provides for multi-modal transport options in urban and rural residential locations.

EIT–EN–M3 – Education and information

(1) *Local authorities* must provide education and information to improve energy efficiency and provide for the adoption of renewable energy sources, including:

(a) measures for increased energy efficiency and energy conservation, and

(b) opportunities for *small and community scale distributed electricity generation*.

(2) *Territorial authorities* must provide information on design techniques to optimise solar gain, including through roading, lot size, dimensions, layout, and orientation.

Explanation

EIT–EN–E1 – Explanation

The policies in this section are designed to set a clear preference for *renewable electricity generation activities* contributing to meeting New Zealand's national target for *renewable electricity generation*. *Renewable electricity generation activities* are promoted by providing for the investigation, operation and maintenance of these sites and ensuring that decisions on allocating natural resources and the use of *land*, for example, recognise the benefits of *renewable electricity generation activities* arising from maintaining or increasing generation capacity. It is noted that *renewable electricity generation activities* will come within the definition of *infrastructure*, and that provisions relating to *infrastructure* also apply.

The potential magnitude of adverse *effects* and *functional* and *operational needs* associated with *renewable electricity generation activities* is recognised by requiring consideration of those needs, and the extent to which unavoidable *effects* can be remedied or mitigated. Where residual adverse *effects* remain, consideration is given to proposals to offset these, or compensate for them. Increasing energy security will assist with ensuring that communities have options for clean heat.

To ensure the on-going functionality of assets and to maximise their benefits, reverse sensitivity *effects* or activities that may compromise the operation or maintenance of *renewable electricity generation activities* are to be avoided or their impacts minimised.

The policies also seek that energy use is efficient and energy waste is reduced, which will have consequential *effects* on minimising Otago's contribution to the nation's *greenhouse gas* emissions.

Principal reasons

EIT–EN–PR1 – Principal reasons

Energy is a basic requirement of life in Otago. It enables communities to provide for their well-being, and health and safety, and is essential to the regional economy. Everyday life is significantly affected when energy supply is disrupted. Therefore, ensuring the security of energy supplies that meet demand is crucial. The ability of existing energy generation activities to continue operating is dependent on access to resources such as *water* in hydro *lakes* and the operator's ability to maintain existing *infrastructure*.

Otago is fortunate to have several existing *renewable electricity generation* sites and potential to increase *renewable electricity generation*. The benefits of *renewable electricity generation* include reducing *greenhouse gas* emissions, dependence on imported energy and greater supply security. These benefits are afforded to Otago communities and nationally as exported energy is significant for other regions. Because of this, providing for new *renewable electricity generation* opportunities to meet increasing energy demand is necessary. Additionally, addressing inefficiencies in energy use can ensure that existing *infrastructure* is better utilised to reduce the need for new generation sites.

Renewable electricity generation facilities can cause significant adverse *effects* on the environment because of their *functional need* to locate in particular areas. These areas are where resources are available, for example *water* for hydro-electricity generation, but they may also contain other significant

values such as outstanding natural features or landscapes, significant *indigenous vegetation* or sites of significance to *mana whenua* values. In some situations, it may not be possible to avoid adverse *effects* on these significant values after considering alternative sites or design options. In these circumstances the *effects* should be remedied or mitigated, and consideration should be given to whether those *effects* that cannot be avoided are offset or compensated.

The provisions in this chapter assist in giving effect to the NPSREG and NPSFM and implementing section 7(j) of the RMA 1991. Implementation of the provisions will occur primarily through *regional* and *district plan* provisions but regional, city and district councils also have a role in providing education and information to the community.

Anticipated environmental results

EIT–EN–AER1	The proportion of electricity generated by *renewable energy generation activities* (including small and community scale electricity generation) in Otago increases over time.
EIT–EN–AER2	Energy use in Otago becomes more efficient over time and security of supply is maintained.
EIT–EN–AER3	The adverse *effects* associated with *renewable energy generation activities* are minimised.
EIT–EN–AER4	The proportion of *greenhouse gas* emissions per capita from energy generation reduces over time.

INF – Infrastructure

Objectives

EIT–INF–O4 – Provision of *infrastructure*

Effective, efficient and resilient *infrastructure* enables the people and communities of Otago to provide for their social and cultural well-being, their health and safety, and supports sustainable economic development and growth within the region within environmental limits.

EIT–INF–O5 – Integration

Development of *nationally* and *regionally significant infrastructure,* as well as *land* use change, occurs in a co-ordinated manner to minimise adverse *effects* on the *environment* and increase efficiency in the delivery, operation and use of the *infrastructure*.

EIT–INF–O6 – Long-term planning for electricity transmission infrastructure

Long-term investment in, and planning for, electricity transmission *infrastructure*, and its integration with *land* use, is sustained.

Policies

EIT–INF–P10 – Recognising resource requirements

Decision making on the allocation or use of *natural and physical resources* must take into account the needs of *nationally* and *regionally significant infrastructure.*

EIT–INF–P11 – Operation and maintenance

Except as provided for by ECO–P4, allow for the operation and maintenance of existing *nationally* and *regionally significant infrastructure* while:

(1) avoiding, as the first priority, significant adverse *effects* on the *environment*, and

(2) if avoidance is not practicable, and for other adverse *effects,* minimising adverse *effects*.

EIT–INF–P12 – Upgrades and development

Provide for upgrades to, and development of, *nationally* or *regionally significant infrastructure* while ensuring that:

(1) *infrastructure* is designed and located, as far as practicable, to maintain functionality during and after *natural hazard* events,

(2) it is, as far as practicable, co-ordinated with long-term *land* use planning, and

(3) increases efficiency in the delivery, operation or use of the *infrastructure*.

EIT–INF–P13 – Locating and managing *effects* of *infrastructure*

When providing for new *infrastructure* outside the coastal environment:

(1) avoid, as the first priority, locating *infrastructure* in all of the following:

(a) *significant natural areas,*

(b) outstanding natural features and landscapes,

(c) *natural wetlands,*

(d) *outstanding water bodies*,

(e) areas of high or outstanding natural character,

(f) areas or places of significant or outstanding *historic heritage*,

(g wāhi tapu, wāhi taoka, and areas with protected customary rights, and

(h) areas of high recreational and high amenity value, and

(2) if it is not possible to avoid locating in the areas listed in (1) above because of the *functional* or *operational needs* of the *infrastructure* manage adverse *effects* as follows:

(a) for *nationally* or *regionally significant infrastructure*:

(i) in *significant natural areas,* in accordance with ECO–P4,

(ii) in *natural wetlands,* in accordance with the relevant provisions in the NESF,

(iii) in *outstanding water bodies,* in accordance with LF–P12,

(iv) in other areas listed in EIT–INF–P13 (1) above, minimise the adverse *effects* of the *infrastructure* on the values that contribute to the area's importance, and

(b) for all *infrastructure* that is not *nationally* or *regionally significant*, avoid adverse *effects* on the values that contribute to the area's outstanding nature or significance.

EIT–INF–P14 – Decision making considerations

When considering proposals to develop or upgrade *infrastructure*:

(1) require consideration of alternative sites, methods and designs if adverse *effects* are potentially significant or irreversible, and

(2) utilise the opportunity of substantial upgrades of *infrastructure* to reduce adverse *effects* that result from the existing *infrastructure*, including on *sensitive activities*.

EIT–INF–P15 – Protecting *nationally* or *regionally significant infrastructure*

Seek to avoid the establishment of activities that may result in reverse sensitivity *effects* on *nationally* or *regionally significant infrastructure*, and/or where they may compromise *t*he *functional* or *operational needs* of *nationally* or *regionally significant infrastructure.*

EIT–INF–P16 – Providing for electricity transmission and the *National Grid*

Maintain a secure and sustainable electricity supply in Otago by:

(1) providing for development of, and upgrades to, the electricity transmission network and requiring, as far as practicable, its integration with *land* use,

(2) considering the requirements of and constraints on the *functional* or *operational needs* of the electricity transmission network,

(3) providing for the efficient and effective development, operation, maintenance, and upgrading of the *National Grid*,

(4) enabling the reasonable operation, maintenance and minor upgrade requirements of established electricity transmission assets, and

(5) minimising the adverse *effects* of the electricity transmission network on urban amenity, and avoiding adverse *effects* on town centres, areas of high amenity or recreational value and existing *sensitive activities*.

EIT–INF–P17 – Urban growth and *infrastructure*

Provide for *development infrastructure* and *additional infrastructure* required to service existing, planned and expected urban growth demands in the short, medium and long term, taking in account UFD–P1 to UFD–P10.

Methods

EIT–INF–M4 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) manage the adverse *effects* of *infrastructure* activities that:

  (a) are in the *beds* of *lakes* and *rivers*, or

  (b) are in the *coastal marine area*, or

  (c) involve the taking, use, damming or diversion of *water* or,

  (d) involve the *discharge* of *water* or *contaminants*, and

(2) require the prioritisation of sites for *infrastructure* where adverse *effects* on highly valued *natural and physical resources* and *mana whenua* values can be avoided or, at the very least, minimised.

EIT–INF–M5 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) require a strategic approach to the integration of *land* use and *nationally* or *regionally significant infrastructure*,

(2) enable planning for the electricity transmission network and *National Grid* to achieve efficient distribution of electricity,

(3) map the electricity transmission network, and in relation to the *National Grid*, identify a buffer corridor within which *sensitive activities* shall generally not be allowed, and

(4) manage the *subdivision*, use and development of *land* to ensure *nationally* or *regionally significant infrastructure* can develop to meet increased demand,

(5) manage the adverse *effects* of developing, operating, maintaining, or upgrading *nationally* or *regionally significant infrastructure* that are on:

  (a) the surface of *rivers* and *lakes* and on *land* outside the *coastal marine area*, and

  (b) the *beds* of *lakes* and *rivers*,

(6) ensure that development is avoided where:

  (a) it cannot be adequately served with *infrastructure*,

(b) it utilises *infrastructure* capacity for other planned development, or

(c) the required upgrading of *infrastructure* is not funded, and

(7) require the prioritisation of sites where adverse *effects* on highly valued *natural and physical resources* and *mana whenua* values can be avoided or, at the very least, minimised.

EIT–INF–M6 – Advocacy

Local authorities must:

(1) advocate for the upgrading or replacement of existing *nationally* or *regionally significant infrastructure* if the operation of *infrastructure* results in significant adverse *effects*, and

(2) work proactively with *infrastructure* providers to co-ordinate the upgrading or development of *nationally* or *regionally significant infrastructure* to support co-location or concurrent construction to reduce adverse *effects.*

Explanation

EIT–INF–E2 – Explanation

The policies in this section recognise the critical importance of *infrastructure* to communities and provide for the continued operation of existing *infrastructure* and the development of upgraded or new *infrastructure* where adverse *effects* are managed. As many assets rely on particular resource requirements or specific locations, decisions on allocating *natural and physical resources* shall make provision for the *functional* or *operational needs* of *nationally* and *regionally significant infrastructure*. For *infrastructure* in the coastal environment, the provisions of the CE – Coastal environment chapter are also applicable to ensure the NZCPS is given effect.

Given the potential magnitude of adverse *effects* associated with this *infrastructure*, consideration is required of the ability to remedy or mitigate unavoidable adverse *effects*, alternative options and offsetting or compensation.

To ensure *infrastructure* is planned for, and used efficiently, the provisions require that the benefits of existing *nationally* and *regionally significant infrastructure* are maximised, and *infrastructure* provision is undertaken in a co-ordinated manner. The policies also seek to manage the potential adverse *effects* of other activities on *nationally* and *regionally significant infrastructure* to ensure the ability to operate these assets is not compromised.

Principal reasons

EIT–INF–PR2 – Principal reasons

Infrastructure is fundamental to the health and safety of communities, and their social and economic well-being and functioning. The nature of *infrastructure* means there are typically operational and functional constraints which dictate where and how these activities operate to properly serve local communities. These types of assets also tend to require significant investment, although some have at times been subject to under-investment.

The scale and type of activities involved in the development, operation, maintenance, and upgrading of *infrastructure* are such that adverse *effects* on the *environment* are likely and, at times, significant. Efforts are required to reduce impacts from *infrastructure*, by avoiding its location in areas that are important to Otago, particularly where alternatives are available. If it is necessary to locate in those areas, then it is

necessary that the values that make those areas important are protected. There are instances however, when residual *effects* cannot be avoided, in which case *effects* should be remedied or mitigated and offsetting or compensation may be necessary if it meets any criteria set. Given the potential for adverse *effects*, it is important that *local authorities* monitor and enforce the standards set in plans and on *resource consents* and designations.

The policies in this chapter give effect to the NPSREG, NPSET, NPSFM and NPSUD and recognise *infrastructure* that has benefits for the wider Otago region and nationally. Implementation of the provisions will occur through the *regional* and *district plan* provisions.

Anticipated environmental results

EIT–INF–AER5 *Infrastructure* provides safe, effective and efficient services to the Otago community.

EIT–INF–AER6 The provision of *infrastructure* is co-ordinated and integrated to service growth efficiently.

EIT–INF–AER7 *Nationally* and *regionally significant infrastructure* is protected from reverse sensitivity *effects* caused by incompatible activities.

EIT–INF–AER8 The adverse *effects* associated with *nationally* and *regionally significant infrastructure* are minimised.

TRAN – Transport

Objectives

EIT–TRAN–O7 – Effective, efficient, and safe transport

Otago has an integrated air, *land* and sea transport network that:

(1) is effective, efficient and safe,

(2) connects communities and their activities within Otago, with other regions, and internationally, and

(3) is *resilient* to *natural hazards*.

EIT–TRAN–O8 – Transport system

The transport system within Otago supports the movement of people, goods and services, is integrated with *land* use, provides a choice of transport modes and is adaptable to changes in demand.

EIT–TRAN–O9 – *Effects* of the transport system

The contribution of transport to Otago's *greenhouse gas* emissions is reduced and communities are less reliant on fossil fuels for transportation.

EIT–TRAN–O10 – *Commercial port activities*

Commercial port activities operate safely and efficiently, and within environmental limits.

Policies

EIT–TRAN–P18 – Integration of the transport system

The transport system contributes to the social, cultural and economic well-being of the people of Otago through:

(1) integration with *land* use activities and across transport modes, and

(2) provision of transport *infrastructure* that enables service delivery as demand requires.

EIT–TRAN–P19 – Transport system design

Resilience and adaptability of the transport system supports efficient networks for the transport of people and goods that are sustained and improved by:

(1) promoting a consolidated urban form that integrates *land* use activities with the transport system,

(2) placing a high priority on *active transport* and *public transport* and their integration into the design of development and transport networks, and

(3) encouraging improved access to public spaces, including the *coastal marine area*, *lakes* and *rivers*.

EIT–TRAN–P20 – Public transport

Plans and proposals for maintenance and development of the transport system enhance the uptake of *public transport* by:

(1) providing safe and reliable alternatives to private vehicle transport,

(2) including measures to ensure pedestrian and cyclist safety and amenity, and

(3) taking into consideration the accessibility needs of the community.

EIT–TRAN–P21 – Operation of the transport system

The efficient and effective operation of the transport system is maintained by:

(1) avoiding adverse *effects* of activities on the functioning of the transport system,

(2) avoiding the impacts of incompatible activities, including those that may result in reverse sensitivity *effects*,

(3) avoiding development that forecloses an opportunity to adapt, upgrade or develop the transport system to meet future transport demand,

(4) promoting the development and use of transport hubs that enable an efficient transfer of goods for transport and distribution across different freight and people transport modes,

(5) promoting methods that provide more efficient use of, or reduce reliance on, private motor vehicles, including ridesharing, park and ride facilities, demand management and alternative transport modes, and

(6) encouraging a shift to using renewable energy sources.

EIT–TRAN–P22 – Sustainable transportation

Sustainable transport networks that enhance the uptake of new technologies and reduce reliance on fossil fuels are developed throughout Otago.

EIT–TRAN–P23 – *Commercial port activities*

Recognise the national and regional significance of the *commercial port activities* associated with the ports at Port Chalmers and Dunedin (respectively) by:

(1) within environmental limits as set out in Policies CE–P3 to CE–P12, providing for the efficient and safe operation of these ports and efficient connections with other transport modes,

(2) within the environmental limits set out in Policies CE–P3 to CE–P12, providing for the development of the ports' capacity for national and international shipping in and adjacent to existing port activities, and

(3) ensuring that development in the coastal environment does not adversely affect the efficient and safe operation of these ports, or their connections with other transport modes.

Methods

EIT–TRAN–M7 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) provide for the development, operation, maintenance, or upgrade of the transport system that:

  (a) is within the *beds* of *lakes* and *rivers* or the *coastal marine area*, or

  (b) involves the taking, use, damming or diversion of *water* and *discharge* of *water* and *contaminants*,

(2) manage the adverse *effects* of *infrastructure* activities that:

(a) provide for the establishment of transport *infrastructure* that supports modes of transport that are not reliant on fossil fuels, and

(b) include policies and methods that provide for the *commercial port activities* associated with the operations at Otago Harbour and the ports at Port Chalmers and Dunedin, and

(3) within environmental limits, facilitate the safe and efficient operation and development of *commercial port activities* at Port Chalmers and Dunedin. This includes previously approved *resource consents* for the following activities in the coastal development area mapped in MAP2:

(a) dredging of Otago lower harbor (to 17.5m for entrance channel, and 14.5m through to Port Chalmers),

(b) dredging of Otago upper harbour to 10.5m,

(c) management of upper and lower harbour navigation beacons,

(d) *discharge* of dredging spoil to the disposal grounds at Heyward Point, Aramoana, Shelley Beach, and AO, and

(e) placement and use of scientific buoys.

EIT–TRAN–M8 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) require a strategic approach to the integration of the transport system with *land* uses and between modes,

(2) require high trip generating activities to be integrated with public transport services and provide for safe pedestrian and cycling access,

(3) include *subdivision* and *infrastructure* design standards to minimise private vehicle use, enable public transport networks to operate and recognise the accessibility needs of the community, including the mobility impaired, the elderly and children,

(4) restrict or prevent the establishment or expansion of activities adjacent to transport *infrastructure* that may compromise the operation or safety of the transport system,

(5) provide for the establishment of transport *infrastructure* that supports modes of transport that are not reliant on fossil fuels, and

(6) include policies and methods that provide for *commercial port activities* associated with the operations at Otago Harbour and the ports at Port Chalmers and Dunedin.

EIT–TRAN–M9 – Regional Land Transport Plan

Otago Regional Council will take into account the objectives, provisions and methods of this chapter in preparing its Regional Land Transport Plan and Regional Public Transport Plan.

Explanation

EIT–TRAN–E3 – Explanation

The policies in this section seek to ensure that transport *infrastructure* is well designed and functions effectively, including providing for accessibility for different modes and purposes. This includes managing

potential *effects* of other activities on the transport system and ensuring strategic decision making in the provision of transport *infrastructure* to best provide for connectivity. The policies also recognise the contribution of the transport system to emissions and provide for networks that seek to adopt technologies which reduce the adverse *effects* on the *environment* arising from fuel usage. In relation to *commercial port activities* taking place within the coastal environment, the provisions of the CE – Coastal Environment chapter also apply.

Principal reasons

EIT–TRAN–PR3 – Principal reasons

The transport system is critical for connecting people and communities and transporting goods, the effective functioning of Otago's economy and the well-being of Otago's community. The transport network can, however, have adverse *effects* on the *environment* and impact on community well-being. If there is sufficient demand, integration and the necessary *infrastructure*, modal choices can be provided and by giving preference to modes with lower environmental *effects*, the adverse impacts of the transport system can be reduced. However, as large parts of the Otago region are rural, reliance on private vehicles will remain the preferred, or the only practical, transport option for many people. This should not exclude the potential for improvements in modal choice or accessibility for a range of abilities and sectors of the community. Planning for transport *infrastructure* should be co-ordinated with urban and commercial growth and development to enable the transport system to effectively serve local communities and avoid reducing the efficiency of existing *infrastructure*.

Anticipated environmental results

EIT–TRAN–AER9 Structure planning and *district plans* make explicit provision for all modes of transport.

EIT–TRAN–AER10 The number of people participating in active transport increases.

EIT–TRAN–AER11 The number of dwellings per hectare in areas accessible to *public transport* increases over the life of this RPS.

EIT–TRAN–AER12 *Public transport* patronage increases and congestion levels decrease over the life of this RPS.

EIT–TRAN–AER13 *Greenhouse gas* emissions arising from the transport system reduce over time from increased active transport, shared travel and *public transport* patronage and reduced reliance on fossil fuels.

EIT–TRAN–AER14 The transport of people, goods and services within Otago is achieved in a timely manner and at costs comparable to other regions.

HAZ – Hazards and *risks*

HAZ–NH – *Natural hazards*

Objective

HAZ–NH–O1 – *Natural hazards*

Levels of *risk* to people, communities and property from *natural hazards* within Otago do not exceed a tolerable level.

HAZ–NH–O2 – Adaption

Otago's people, property and communities are prepared for and able to adapt to the *effects* of *natural hazards*, including *climate change*.

Policies

HAZ–NH–P1 – Identifying areas subject to *natural hazards*

Identify areas where *natural hazards* may adversely affect Otago's people, communities and property by assessing:

(1) the hazard type and characteristics,

(2) *multiple* and *cascading hazards,* where present,

(3) any cumulative *effects*,

(4) any *effects* of *climate change*,

(5) likelihood, using the best available information, and

(6) any other exacerbating factors.

HAZ–NH–P2 – *Risk* assessments

Assess the level of *natural hazard risk* by determining a range of *natural hazard* event scenarios and their potential consequences in accordance with the criteria set out within APP6.

HAZ–NH–P3 – New activities

Once the level of *natural hazard risk* associated with an activity has been determined in accordance with HAZ–NH–P2, manage new activities to achieve the following outcomes:

(1) when the *natural hazard risk* is significant, the activity is avoided,

(2) when the *natural hazard risk* is tolerable, manage the level of *risk* so that it does not become significant, and

(3) when the *natural hazard risk* is acceptable, maintain the level of *risk*.

HAZ–NH–P4 – Existing activities

Reduce existing *natural hazard risk* by:

(1) encouraging activities that reduce *risk*, or reduce community vulnerability,

(2) restricting activities that increase *risk*, or increase community vulnerability,

(3) managing existing *land* uses within areas of significant *risk* to people and communities,

(4) encouraging design that facilitates:

  (a) recovery from *natural hazard* events, or

  (b) relocation to areas of acceptable *risk*, or

  (c) reduction of *risk*,

(5) relocating *lifeline utilities*, and facilities for essential and emergency services, away from areas of significant *risk*, where appropriate and practicable, and

(6) enabling development, upgrade, maintenance and operation of *lifeline utilities* and facilities for essential and emergency services.

HAZ–NH–P5 – Precautionary approach to *natural hazard risk*

Where the *natural hazard risk,* either individually or cumulatively, is uncertain or unknown, but potentially significant or irreversible, apply a precautionary approach to identifying, assessing and managing that *risk* by adopting an avoidance or adaptive management response to diminish the *risk* and uncertainty.

HAZ–NH–P6 – Protecting features and systems that provide hazard mitigation

Protect natural or modified features and systems that contribute to mitigating the *effects* of *natural hazards* and *climate change.*

HAZ–NH–P7 – Mitigating *natural hazards*

Prioritise *risk* management approaches that reduce the need for *hard protection structures* or similar engineering interventions, and provide for *hard protection structures* only when:

(1) *hard protection structures* are essential to manage *risk* to a level the community is able to tolerate,

(2) there are no reasonable alternatives that result in reducing the *risk* exposure,

(3) *hard protection structures* would not result in an increase in *risk* to people, communities and property, including displacement of *risk* off-site,

(4) the adverse *effects* of the *hard protection structures* can be adequately managed, and

(5) the mitigation is viable in the reasonably foreseeable long term or provides time for future adaptation methods to be implemented, or

(6) the *hard protection structure* protects a *lifeline utility*, or a facility for essential or emergency services.

HAZ–NH–P8 – *Lifeline utilities* and facilities for essential or emergency services

Locate, relocate, and design *lifeline utilities* and facilities for essential or emergency services to:

(1) maintain their ability to function to the fullest extent possible, during and after *natural hazard* events, and

(2) take into account their operational co-dependence with other *lifeline utilities* and essential services to ensure their effective operation.

HAZ–NH–P9 – Protection of hazard mitigation measures

Protect the *functional needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services, including by:

(1) avoiding significant adverse *effects* on those measures, utilities or services,

(2) avoiding, and only where avoidance is not practicable, remedying or mitigating other adverse *effects* on those measures, utilities or services,

(3) maintaining access to those measures, utilities or services for maintenance and operational purposes, and

(4) restricting the establishment of other activities that may result in reverse sensitivity *effects* on those measures, utilities or services.

HAZ–NH–P10 – Coastal hazards

In addition to HAZ–NH–P1 to HAZ–NH–P9 above, on any *land* that is potentially affected by coastal hazards over at least the next 100 years:

(1) avoid increasing the *risk* of social, environmental and economic harm from coastal hazards,

(2) ensure no *land* use change or redevelopment occurs that would increase the *risk* to people and communities from that coastal hazard,

(3) encourage *land* use change or redevelopment that reduces the *risk* from that coastal hazard, and

(4) ensure decision making about the nature, scale and location of activities considers the ability of Otago's people and communities to adapt to, or mitigate the *effects* of, sea level rise and *climate change*.

HAZ–NH–P11 – Kaitiaki decision making

Recognise and provide for the role of Kāi Tahu as kaitiaki over *wāhi tūpuna*, Māori reserves and freehold land that is susceptible to *natural hazards* by involving *mana whenua* in decision making and management processes.

Methods

HAZ–NH–M1 – Statement of responsibilities

In accordance with section 62(1)(i)(i) of the RMA 1991, the responsibilities for the control of *land* use to avoid or mitigate *natural hazards* or any group of hazards are as follows:

(1) the Regional Council and *territorial authorities* are both responsible for specifying objectives, policies and methods in *regional* and *district plans* for managing *land* subject to *natural hazard risk*,

(2) the Regional Council is responsible for:

  (a) specifying objectives, policies and methods in *regional plans*:

    (i) in the *coastal marine area*,

    (ii) in *wetlands*, *lakes* and *rivers*, and

(iii) in, on or under the *beds* of *rivers* and *lakes*,

(b) identifying areas in the region subject to *natural hazards* and describing their characteristics as required by Policy HAZ–NH–P1, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database,

(c) in the coastal environment, identifying the coastal hazards as required by CE–P2(3) in accordance with Policy 24 of the NZCPS, mapping the extent of those areas in the relevant *regional plan(s)* and including those maps on a *natural hazard* register or database, and

(3) *territorial authorities* are responsible for

(a) specifying objectives, policies and methods in *district plans* for *land* outside of the areas listed in (2)(a), and

(b) mapping or identifying via the *natural hazard* register or database, areas identified in 2(a), (b) and (c) above subject to natural hazards and describing the characteristics and the extent of those areas in the relevant *district plan(s)*.

HAZ–NH–M2 – *Local authorities*

Local authorities must:

(1) assess the level of *natural hazard risk* in their region or district in accordance with HAZ–NH–P2 and APP6, including by:

(a) consulting with communities, stakeholders and partners regarding *risk* levels thresholds, and

(b) developing a Risk Table in accordance with Step 3 of APP6 at a district or community scale,

(2) continue to undertake research on the identification of *natural hazard risk* and amend *natural hazard* registers, databases, *regional* and/or *district plans* as required,

(3) investigate options for reducing the level of *natural hazard risk* within areas of existing development to a tolerable or lower level, including by managing existing use rights under Sections 10 and 20A of the RMA,

(4) prepare or amend and maintain their *regional* or *district plans* to take into account the *effects* of *climate change* by:

(a) using the best relevant *climate change* data and projections to 2115,

(b) taking a precautionary approach when assessing and managing the *effects* of *climate change* where there is scientific uncertainty and potentially significant or irreversible *effects*,

(c) providing for activities that assist to reduce or mitigate the *effects* of *climate change*, and

(d) encouraging system *resilience*.

HAZ–NH–M3 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) manage activities in the *coastal marine area*, *beds* of *lakes* and *rivers*, and *wetlands* to achieve policies HAZ–NH–P2 to HAZ–NH–P6 and APP6,

(2) include *natural hazard* reduction measures, such as removing or restricting existing *land* uses, where there is significant *risk* to people or property,

(3) protect natural or modified features and systems that provide mitigation from the adverse *effects* of *natural hazards* in accordance with HAZ–NH–P6,

(4) provide for *hard protection structures* in accordance with HAZ–NH–P7,

(5) provide for the *functional needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services in accordance with HAZ–NH–P8 and HAZ–NH–P9,

(6) include provisions that require decision makers to apply the precautionary approach set out in HAZ–NH–P5 when considering applications for *resource consent* for activities that will change the use of *land* and thereby increase the *risk* from *natural hazards* within areas subject to *natural hazard risk* that is uncertain or unknown, but potentially significant or irreversible, and

(7) require a *natural hazard risk* assessment be undertaken where an activity requires a *resource consent* to change the use of *land* which will increase the *risk* from *natural hazards* within areas subject to *natural hazards,* and where the *resource consent* is lodged prior to the *natural hazard risk* assessment required by HAZ–NH–M2(1) being completed, the *natural hazard risk* assessment must include:

(a) an assessment of the level of *natural hazard risk* associated with the proposal in accordance with APP6, and

(b) an assessment demonstrating how the proposal will achieve the outcomes set out in Policies HAZ–NH–P3 and HAZ–NH–P4.

HAZ–NH–M4 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) achieve policies HAZ–NH–P2 to HAZ–NH–P6 and APP6 on *land* outside the *coastal marine area*, *beds* of *lakes* and *rivers*, and *wetlands* by managing the location, scale and density of activities that may be subject to *natural hazard risk,*

(2) require implementation of *natural hazard risk* reduction measures, including to existing activities in accordance with HAZ–NH–P4,

(3) protect the role of natural or modified features and systems that provide mitigation from the adverse *effects* of *natural hazards* in accordance with HAZ–NH–P6,

(4) provide for *hard protection structures* in accordance with HAZ–NH–P7,

(5) provide for the *functional needs* of hazard mitigation measures, *lifeline utilities*, and essential or emergency services in accordance with HAZ–NH–P8 and HAZ–NH–P9,

(6) include provisions that require decision makers to apply the precautionary approach set out in HAZ–NH–P5 when considering applications for *resource consent* for activities that will change the use of *land* and which may increase the *risk* from *natural hazards* within areas subject to *natural hazard risk* that is uncertain or unknown, but potentially significant or irreversible, and

(7) require a *natural hazard risk* assessment be undertaken where an activity requires a plan change or *resource consent* to change the use of *land* which will increase the *risk* from *natural hazards* within areas subject to *natural hazards*, and where the application is lodged prior to the *natural hazard risk* assessment required by HAZ–NH–M2(1) being completed, the *natural hazard risk* assessment must include:

(a) an assessment of the level of *natural hazard risk* associated with the proposal in accordance with APP6, and

(b) an assessment demonstrating how the proposal will achieve the outcomes set out in Policies HAZ–NH–P3 and HAZ–NH–P4.

HAZ–NH–M5 – Other incentives and mechanisms

Local authorities are encouraged to consider the use of other mechanisms or incentives to assist in achieving Policies HAZ–NH–P1 to HAZ–NH–P11, including:

(1) preparing *natural hazard* strategies or other similar documents to assist in the management and reduction of *natural hazard risk* and adaptation to, and mitigation of, the *effects* of *climate change*,

(2) developing community relevant responses to the impacts of *natural hazards* and *climate change*, in collaboration with key stakeholders and affected community,

(3) undertaking research in collaboration with other *local authorities* and other stakeholders as appropriate, into *natural hazards* and *climate change* in Otago, and

(4) providing information and guidance on:

(a) management approaches to the avoidance or mitigation of *natural hazards*,

(b) ways to adapt to and mitigate the *effects* of *climate change*, and

(c) the benefits of natural features and systems in mitigating *natural hazards*.

Explanation

HAZ–NH–E1 – Explanation

The policies in this chapter are designed to reduce the level of *natural hazard risk* within the region through sound preparation, investigation and planning. These provisions take a risk-based approach, taking into consideration the likelihood of the hazard and the vulnerability of people, communities, and the *environment*. The approach ensures consistent planning by applying the same framework irrespective of the type of *natural hazard* that may exist. It allows for the full range of *risk* mitigation measures (regulatory and non-regulatory) to be taken into account in determining the level of *risk* that exists at a particular locality.

Once the level of *risk* has been established, the provisions direct that *district* and *regional plans* require activities to be undertaken in a manner that results in the *natural hazard risk* to people, the community and property being tolerable or lower. Where a *natural hazard risk* to people, the community and property cannot be reduced to a tolerable level, the activity must be avoided. The provisions require that the same risk-based approach is taken when considering the management of existing development, by ensuring that the *risk* associated with existing development is tolerable or lower.

The provisions also set direction on *natural hazard* management methods such as use of the precautionary approach, protecting natural features and systems that provide hazard mitigation, the use of *hard protection structures*, and the location and design of *lifeline utilities* and facilities for essential or emergency services. These provisions are designed to reduce the level of *natural hazard risk* within the region.

HAZ–NH–PR1 – Principal reasons

The Otago region is exposed to a wide variety of *natural hazards* that impact on people, property, *infrastructure* and the wider *environment*. Given the wide variety of landscapes that make up the Otago

region, the *natural hazards* threats range from coastal erosion and flooding in the lowland coastal areas of the region to alluvial fan deposition, landslip, fire, earthquakes, rock fall, and *river* breaches in the alpine areas of the region. The *effects* of *natural hazards* vary in terms of both their likelihood and consequence. Some *natural hazards,* such as flooding, may occur relatively frequently and may damage property and disrupt people's lives and economic, social and cultural activities, whereas *natural hazards* such as tsunami occur infrequently, but when they do occur, they pose serious *risk* to life.

The negative *effects* of *natural hazards* are generally best managed by avoiding development in areas that are known to be subject to *natural hazards*. However, the majority of the region is subject to some form of hazards *risk*, to a greater or lesser extent. While avoidance may be the preferred option in many cases, in other situations mitigating the *effects* of *natural hazards* to tolerable levels will be a feasible option to ensure the health, safety and well-being of the community. The changing nature of *natural hazards risk* due to *climate change* means that planning provisions need to be able to adapt to a future *natural hazards environment*.

Communities need consistent guidance on sea level rise, extreme weather events, and all other adverse *effects* of *climate change* if they are to appropriately manage those *effects*. *Climate change* is resulting in rising sea levels and is increasing the frequency and severity of climate related *natural hazards* including flooding, wind events, fires, landslips, erosion and drought. *Stormwater* systems may not be able to cope with heavier rainfall. Other *effects* of *climate change* include changing distributions of plants and animals, and consequential *effects*, such as the *risk* of saltwater intrusion into *groundwater* as a result of sea level rise in combination with increased *groundwater* abstraction, and *groundwater* ponding. There may be other adverse *effects* from *climate change* that are not yet known. A precautionary approach is required where there is scientific uncertainty. The *effects* of *climate change* will result in social, environmental and economic costs. It is prudent that these changes are planned for now, so that the impacts can be reduced.

In addition to the objectives and policies in this chapter, the management of *natural hazards* are also recognised and provided for in the following chapters of this RPS:

- IM – Integrated management
- CE – Coastal environment
- EIT – Energy, infrastructure and transport
- UFD – Urban form and development

Anticipated environmental results

HAZ–NH–AER1 The location and design of new developments and natural resource use reduces community exposure to the adverse *effects* of *natural hazards* events and processes.

HAZ–NH–AER2 No developments proceed that have a significant level of *risk*.

HAZ–NH–AER3 The level of *risk* associated with new development does not exceed a tolerable level.

HAZ–NH–AER4 Where existing development is subject to *risks* from *natural hazards*, the level of *risk* is reduced to a tolerable level.

HAZ–NH–AER5 The impact on life, property, *lifeline utilities*, and essential services from *natural hazards* and *climate change* is managed.

HAZ–CL – *Contaminated land*

Objectives

HAZ–CL–O3 – Contaminated land

Contaminated land and *waste* materials are managed to protect human health, *mana whenua* values and the *environment* in Otago.

Policies

HAZ–CL–P13 – Identifying *contaminated land*

Identify sites of known or potentially *contaminated land* in Otago using the Ministry for the Environment's *Hazardous Activities and Industries List*.

HAZ–CL–P14 – Managing *contaminated land*

Actively manage contaminated or potentially *contaminated land* so that it does not pose an unacceptable *risk* to people and the *environment*, by:

(1) assessing and monitoring *contaminant* levels and environmental *risks*,

(2) protecting human health in accordance with regulatory requirements,

(3) avoiding, as the first priority, and only where avoidance is not practicable, mitigating or remediating, adverse *effects* of the *contaminants* on the *environment,* and

(4) requiring closed *landfills* to be managed in accordance with a closure plan that sets out monitoring requirements and, where necessary, any remedial actions required to address ongoing *risks*.

HAZ–CL–P15 – New *contaminated land*

Avoid the creation of new *contaminated land* or, where this is not practicable, minimise adverse *effects* on the *environment* and *mana whenua* values.

HAZ–CL–P16 – *Waste* minimisation responses

Apply the principles of the *waste* management hierarchy (reduce, reuse, recycle, recover, residual *waste* management) to the management of all *waste* streams.

HAZ–CL–P17 – Disposal of *waste* materials

Provide for the development and operation of facilities and services for the storage, recycling, recovery and treatment of *waste* materials but only for the disposal of *waste* materials if those materials cannot be recycled, recovered or treated for re-use.

HAZ–CL–P18 – *Waste* facilities and services

When providing for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of *waste* materials:

(1) avoid adverse *effects* on the health and safety of people,

(2) minimise the potential for adverse *effects* on the *environment* to occur,

(3) minimise *risk* associated with *natural hazard* events, and

(4) restrict the establishment of activities that may result in reverse sensitivity *effects* near *waste* management facilities and services.

Methods

HAZ–CL–M6 – *Regional plans*

Otago Regional Council must:

(1) maintain a register or database of sites where hazardous activities and industries are or have been located in Otago,

(2) prepare or amend and maintain its *regional plans* to:

(a) in accordance with HAZ–CL–P14 and HAZ–CL–P15 manage the *effects* of the use of *contaminated land* on:

(i) the quality of air, *water* and *land*; and

(ii) the *coastal marine area*, and the *beds* of *rivers*, *lakes* and other *water bodies*,

(b) require *waste* disposal facilities to be designed, constructed and operated in accordance with best industry practice, and

(c) require *waste* disposal facilities to monitor, record and report on the quantity and composition of *waste* being deposited to *landfill*.

HAZ–CL–M7 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to provide for the development of facilities and services for the storage, recycling, recovery, treatment and disposal of *waste* while achieving the outcomes listed in HAZ–CL–P14 to HAZ–CL–P16.

HAZ–CL–M8 – *Waste* management and minimisation plans

Local authorities must develop *waste* management and minimisation plans in accordance with the Waste Minimisation Act 2008.

HAZ–CL–M9 – Other incentives and mechanisms

Local authorities may:

(1) encourage the application of the *waste* management hierarchy by:

(a) giving preference to reducing waste generated,

(b) reusing *waste*,

(c) recycling *waste*,

(d) recovering resources from *waste*, and

(e) only disposing residual *waste* to a disposal facility,

(2) provide information and guidance on *waste* minimisation and management, and

(3) advocate for:

(a) the implementation of the *waste* hierarchy throughout the region, and

(b) the development of *infrastructure* and services to provide for recycling and disposal services across the region.

Explanation

HAZ–CL–E2 – Explanation

The policies in this chapter are designed to ensure that *contaminated land* and *waste* materials do not harm human health or the *environment*. To achieve this, areas of known or potentially *contaminated land* are to be identified. Once sites are identified, the protection of human health is managed by the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2012 (NESCS). It is the role of *regional plans* to minimise the adverse *effects* of the *contaminants* on the *environment* by avoiding the creation of new *contaminated land* and minimising the adverse *effects* of *waste* material on the *environment*. The provisions within this chapter also encourage the application of the *waste* management hierarchy.

Principal reasons

HAZ–CL–PR2 – Principal reasons

Resources need to be carefully used to minimise the material disposed of as *waste*. Waste materials and hazardous substances need to be carefully managed to avoid creating environmental problems or adversely affecting human health.

In order to protect people and the *environment* from the adverse *effects* of *contaminated land*, the first task is to identify *land* that could be contaminated. The Ministry for the Environment's Hazardous Activities and Industries List (HAIL) is a list of activities and industries that may have involved the use of hazardous substances. Such use of hazardous substances may have resulted in *land* becoming contaminated. Once known or potentially *contaminated land* has been identified, assessments can be made to determine the nature or existence of contamination.

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2012 (NESCS) sets out a nationally consistent set of planning controls and soil *contaminant* values. It applies to assessing and managing the actual or potential adverse *effects* of *contaminants* in soil on human health when undertaking *subdivision, land* use change, *earthworks*, soil sampling or removing the underground portions of any fuel storage or dispensing systems. The NESCS does not apply to assessing and managing the actual or potential adverse *effects* of *contaminants* on other receptors, including ecology, *water* quality or *amenity values*. Therefore, it is the role of the *regional plans* to manage these adverse *effects*.

The *waste* management hierarchy is an internationally recognised management model for the reduction of residual *waste*. The *waste* management hierarchy can be applied to all *waste* streams. When making decisions about a *land* use or activity, it is possible to include methods that will reduce *waste* over the lifetime of that *land* use or activity.

Anticipated environmental results

HAZ–CL–AER6	The environment, people and communities are not harmed by *waste* materials.
HAZ–CL–AER7	The waste hierarchy is implemented, resulting in less *waste* requiring disposal and a reduction of the environmental *effects* generated from *waste*.

HCV – Historical and cultural values

HCV–WT – *Wāhi tūpuna*

Objectives

HCV–WT–O1 – Kāi Tahu cultural landscapes

Wāhi tūpuna and their associated cultural values are identified and protected.

HCV–WT–O2 – Rakatirataka

The rakatirataka of *mana whenua* over *wāhi tūpuna* is recognised, and *mana whenua* are able to exercise *kaitiakitaka* within these areas.

Policies

HCV–WT–P1 – Recognise and identify *wāhi tūpuna*

Kāi Tahu relationships with *wāhi tūpuna* are sustained, including by:

(1) identifying as *wāhi tūpuna* any sites and areas of significance to *mana whenua*, along with the cultural values that contribute to each *wāhi tūpuna* being significant,

(2) recognising the rakatirataka of *mana whenua* over *wāhi tūpuna* and providing for their ability to exercise *kaitiakitaka* within these areas,

(3) recognising and providing for connections and associations between different *wāhi tūpuna*, and

(4) recognising and using traditional place names.

HCV–WT–P2 – Management of *wāhi tūpuna*

Wāhi tūpuna are protected by:

(1) avoiding significant adverse *effects* on the cultural values associated with identified *wāhi tūpuna*,

(2) where adverse *effects* demonstrably cannot be completely avoided, remedying or mitigating adverse *effects* in a manner that maintains the values of the *wāhi tūpuna*,

(3) managing identified *wāhi tūpuna* in accordance with tikaka Māori,

(4) avoiding any activities that may be considered inappropriate in *wāhi tūpuna* as identified by Kāi Tahu, and

(5) encouraging the enhancement of access to *wāhi tūpuna* to the extent compatible with the particular *wāhi tūpuna*.

Methods

HCV–WT–M1 – Identification

Local authorities must:

(1) enable Kāi Tahu to identify *wāhi tūpuna* sites, areas and values,

(2) identify *wāhi tūpuna* using the guide set out in APP7,

(3) recognise that *wāhi tūpuna* span jurisdictional boundaries and work together to ensure the identification process under (1) enables *wāhi tūpuna* sites, areas and values to be treated uniformly across district boundaries, and

(4) identify, map, describe and protect the areas and values identified under (1) in the relevant *regional* and *district plans* or, if a site is a sensitive cultural site, use alert layers to advise of sensitive cultural sites without disclosure in plans.

HCV–WT–M2 – *Regional* and *district plans*

Local authorities must prepare or amend and maintain their *regional* and *district plans* to include methods that are in accordance with tikaka to:

(1) control activities in, or adjacent to, *wāhi tūpuna* sites and areas,

(2) require cultural impact assessments where activities have the potential to adversely affect *wāhi tūpuna*,

(3) require including conditions on *resource consents* or designations to provide buffers or setbacks between *wāhi tūpuna* and incompatible activities,

(4) require including accidental discovery protocols as conditions on *resource consents* or designations for activities that may unearth archaeological sites, and

(5) maintain existing access to identified *wāhi tūpuna* sites and areas and promote improved access where practicable.

HCV–WT–M3 – Collaboration with Kāi Tahu

Local authorities must include Kāi Tahu in all decision making concerning protection of the values of *wāhi tūpuna* sites and areas and collaborate with Kāi Tahu to:

(1) identify and protect places, areas or landscapes of cultural, spiritual or traditional significance to them,

(2) identify and protect the values that contribute to their significance, and

(3) share information relevant to Kāi Tahu interests.

Explanation

HCV–WT–E1 – Explanation

The policies in this chapter are designed to achieve protection of *wāhi tūpuna* from inappropriate *subdivision*, use and development. The policies recognise the significance of *wāhi tūpuna* to Kāi Tahu, and enable the relationship of Kāi Tahu with their culture and traditions by acknowledging that the identification of *wāhi tūpuna* and the associated values can only be undertaken by Kāi Tahu, then protecting or managing those sites or areas to ensure that activities do not have any significant adverse *effects* on the values associated with the identified *wāhi tūpuna*. The policies also direct that the management of activities within or adjacent to *wāhi tūpuna* must occur in a culturally appropriate manner.

Principal reasons

HCV–WT–PR1 – Principal reasons

Wāhi tūpuna are landscapes that embody the customary and contemporary relationship of Kāi Tahu and their culture and traditions with Otago. The sites and resources used by Kāi Tahu are spread throughout Otago, reflecting the relationship of Kāi Tahu with the *land, coastal waters* and wai Māori. *Wāhi tūpuna* have significant cultural value to Kāi Tahu.

The provisions in this chapter assist in implementing section 6(e) of the RMA 1991 and the NZCPS by requiring:

- the identification of *wāhi tūpuna* in consultation with Kāi Tahu,
- the protection of *wāhi tūpuna* from inappropriate *subdivision*, use and development, and
- specified actions on the part of Otago's *local authorities* in managing activities that may impact *wāhi tūpuna*.

Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions, however *local authorities* may also choose to adopt additional non-regulatory methods to support the achievement of the objectives.

Anticipated environmental results

HCV–WT–AER1 The areas and places of *wāhi tūpuna* are identified in the relevant *regional* and *district plans.*

HCV–WT–AER2 *Wāhi tūpuna* and their values are maintained.

HCV–HH – *Historic heritage*

Objective

HCV–HH–O3 – *Historic heritage* resources

Otago's unique *historic heritage* contributes to the region's character, sense of identity, and social, cultural and economic well-being, and is preserved for future generations.

Policies

HCV–HH–P3 – Recognising *historic heritage*

Recognise that Otago's *historic heritage* includes:

(1) Māori cultural and *historic heritage* values,

(2) archaeological sites,

(3) residential and commercial *buildings*,

(4) pastoral sites,

(5) surveying equipment, communications and transport, including *roads*, bridges and routes,

(6) industrial *historic heritage,* including mills and brickworks,

(7) gold and other mining systems and settlements,

(8) dredge and ship wrecks,

(9) ruins,

(10) coastal *historic heritage*, particularly Kāi Tahu occupation sites and those associated with early European activities such as whaling,

(11) memorials, and

(12) trees and vegetation.

HCV–HH–P4 – Identifying *historic heritage*

Identify the places and areas of *historic heritage* in Otago in accordance with APP8 and categorise them as:

(1) places and areas with special or outstanding *historic heritage* values or qualities, or

(2) places and areas with *historic heritage* values or qualities.

HCV–HH–P5 – Managing *historic heritage*

Protect *historic heritage* by:

(1) requiring the use of accidental discovery protocols,

(2) avoiding adverse *effects* on areas or places with special or outstanding *historic heritage* values or qualities,

(3) avoiding significant adverse *effects* on areas or places with *historic heritage* values or qualities,

(4) avoiding, as the first priority, other adverse *effects* on areas or places with *historic heritage* values or qualities,

(5) where adverse *effects* demonstrably cannot be completely avoided, remedying or mitigating them, and

(6) recognising that for *infrastructure*, EIT–INF–P13 applies instead of HCV–HH–P5(1) to (5).

HCV–HH–P6 – Enhancing *historic heritage*

Enhance places and areas of *historic heritage* wherever possible through the implementation of plan provisions, decisions on applications for *resource consent* and notices of requirement and non-regulatory methods.

HCV–HH–P7 – Integration of *historic heritage*

Maintain *historic heritage* values through the integration of *historic heritage* values into new activities and the adaptive reuse or upgrade of *historic heritage* places and areas.

Methods

HCV–HH–M4 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) identify places and areas with *historic heritage* in accordance with HCV–HH–P4 that are located in the *beds* of *lakes* and *rivers*, *wetlands* and the *coastal marine area,*

(2) control the following where they may adversely affect *historic heritage*:

  (a) the character, location, scale and form of *structures* in the *beds* of *lakes* and *rivers, wetlands* and in the *coastal marine area*,

  (b) indigenous vegetation removal in the *beds* of *lakes* and *rivers*, *wetlands* and the *coastal marine area,*

  (c) *earthworks*, deposition and disturbance to and in the *beds* of *lakes* and *rivers* and in the *coastal marine area*,

  (d) *discharges* to air,

  (e) taking, use, damming and diversion of, and *discharges* to, *water*, and

  (f) the disturbance, demolition or alteration of physical elements or *structures* of *historic heritage* in the *beds* of *lakes* and *rivers* and in the *coastal marine area*,

(3) include implementation methods to protect *historic heritage* that are in accordance with HCV–HH–P5 and may also include:

  (a) assessment criteria, development standards or thresholds to control the scale, intensity, form and location of activities (including for the purposes of controlling cumulative adverse *effects*), and

  (b) conditions on *resource consents* to provide buffers or setbacks between *historic heritage* places or areas and other incompatible activity, and

(4) require the use of accidental discovery protocols as conditions on *resource consents* for *earthworks* or other activities that may encounter archaeological features.

HCV–HH–M5 – *District Plans*

Territorial authorities must prepare or amend and maintain their *district plans* to the extent necessary to:

(1) identify places and areas with *historic heritage* in accordance with HCV-HH-P4 that are located outside the *beds* of *lakes* and *rivers*, *wetlands* and the *coastal marine area,*

(2) control the following where they may adversely affect *historic heritage*:

  (a) the location, intensity and form of *subdivision*,

  (b) the character, location, scale and form of activities (including *structures*) outside the *beds* of *lakes* and *rivers* and the *coastal marine area*,

  (c) the location and scale of *earthworks* and indigenous vegetation removal outside the *beds* of *lakes* and *rivers* and the *coastal marine area,*

  (d) the disturbance, demolition or alteration of physical elements or *structures* with special or outstanding *historic heritage* value or qualities outside the *coastal marine area*, *beds* of *lakes* and *rivers*,

(3) include implementation methods to protect *historic heritage* places and areas required by HCV–HH–P5, and may also include:

  (a) assessment criteria, development standards or thresholds to control the scale, intensity, form and location of activities (including for the purposes of controlling cumulative adverse *effects*),

  (b) conditions on *resource consents* and designations to provide buffers or setbacks between *historic heritage* places or areas and other incompatible activity,

  (c) accidental discovery protocols as conditions on *resource consents* for *earthworks* or other activities that may unearth archaeological features,

  (d) providing for activities seeking to retain *historic heritage* places, areas or landscapes, including adaptive reuse, maintenance and seismic strengthening,

  (e) including heritage alert layers in plans to inform the public about areas where there is a high probability of the presence of heritage values, particularly archaeological values, and

(4) require the use of accidental discovery protocols as conditions on *resource consents* and designations for *earthworks* or other activities that may unearth archaeological features.

HCV–HH–M6 – Incentives and education

Local authorities are encouraged to use other mechanisms or incentives to assist in achieving Policies HCV–HH–P3 to HCV–HH–P7, including:

(1) promoting public awareness of *historic heritage* values through providing information and education, and

(2) rates differentials and *resource consent* fee waivers for activities that involve the retention of historic places or areas.

Explanation

HCV–HH–E2 – Explanation

The policies in this section are designed to ensure that Otago's unique *historic heritage* continues to contribute to the region's character, sense of identity, and social and economic well-being by requiring places and areas of significant *historic heritage* to be identified using regionally consistent methodology, then protecting or managing those sites or areas in particular ways to ensure that other activities do not detract from the region's special character and sense of identity. This also includes enhancing places and areas of *historic heritage* by encouraging the integration of *historic heritage* values into new activities and enabling the adaptive reuse or upgrade of *historic heritage* places in certain circumstances.

Principal reasons

HCV–HH–PR2 – Principal reasons

Otago is a region rich in *historic heritage*, with a diversity of significant cultural and *historic heritage* places and areas that contribute to its special character and identity. *Historic heritage* encompasses historic sites, *structures*, places, and areas; archaeological sites; sites of significance to Māori (including wāhi tapu and wāhi taoka) and the broader surroundings and landscape in which they are situated. The heritage resources in Otago are reflective of the history that helped to shape the region, and is representative of the different cultures, industries and institutions that contributed to its development. Historic landscapes in the coastal *environment* are specifically recognised in Policy 17 of the NZCPS.

The provisions in this chapter assist in implementing section 6(f) of the RMA 1991 and the NZCPS by requiring:

- the identification of places and areas with *historic heritage* values and qualities and places and areas with special or outstanding *historic heritage* values and qualities using clear criteria and methodology that is regionally consistent,
- the protection of *historic heritage* from inappropriate *subdivision*, use and development,
- the enhancement of *historic heritage* through the integration of *historic heritage* values into new activities and enabling the adaptive reuse or upgrade of *historic heritage* places and areas in certain circumstances, and
- specified actions on the part of Otago's *local authorities* in managing *historic heritage*.

Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions, however *local authorities* may also choose to adopt additional non-regulatory methods to support the achievement of the objectives.

Anticipated environmental results

HCV–HH–AER3	Heritage resources that make a significant contribution towards Otago's *historic heritage* are identified and protected.
HCV–HH–AER4	The number, type, extent and distribution of *historic heritage* sites and places with special or outstanding values or qualities are maintained.
HCV–HH–AER5	Otago's existing built *historic heritage* is maintained, enhanced and integrated through efficient use, or adaptive reuse, where appropriate.

NFL – Natural features and landscapes

Objectives

NFL–O1 – Outstanding and *highly valued natural features and landscapes*

The areas and values of Otago's outstanding and *highly valued natural features and landscapes* are identified, and the use and development of Otago's *natural and physical resources* results in:

(1) the protection of outstanding natural features and landscapes, and

(2) the maintenance or enhancement of *highly valued natural features and landscapes*.

Policies

NFL–P1 – Identification

In order to manage outstanding and *highly valued natural features and landscapes*, identify:

(1) the areas and values of outstanding and *highly valued natural features and landscapes* in accordance with APP9, and

(2) the capacity of those natural features and landscapes to accommodate use or development while protecting the values that contribute to the natural feature and landscape being considered outstanding or highly valued.

NFL–P2 – Protection of outstanding natural features and landscapes

Protect outstanding natural features and landscapes by:

(1) avoiding adverse *effects* on the values that contribute to the natural feature or landscape being considered outstanding, even if those values are not themselves outstanding, and

(2) avoiding, remedying or mitigating other adverse *effects*.

NFL–P3 – Maintenance of *highly valued natural features and landscapes*

Maintain or enhance *highly valued natural features and landscapes* by:

(1) avoiding significant adverse *effects* on the values of the natural feature or landscape, and

(2) avoiding, remedying or mitigating other adverse *effects*.

NFL–P4 – Restoration

Promote restoration of the areas and values of outstanding and *highly valued natural features and landscapes* where those areas or values have been reduced or lost.

NFL–P5 – *Wilding conifers*

Reduce the impact of *wilding conifers* on outstanding and *highly valued natural features and landscapes* by:

(1) avoiding *afforestation* and *replanting* of *plantation forests* with *wilding conifer* species listed in APP5 within:

(a) areas identified as outstanding natural features or landscapes, and

(b) buffer zones adjacent to outstanding natural features and landscapes where it is necessary to protect the outstanding natural feature or landscape, and

(2) supporting initiatives to control existing *wilding conifers* and limit their further spread.

NFL–P6 – Coastal features and landscapes

Natural features and landscapes located within the coastal environment are managed by CE–P6 and implementation of CE–P6 also contributes to achieving NFL–O1.

Methods

NFL–M1 – Identification

Territorial authorities must:

(1) include in their *district plans* a map or maps and a statement of the values of the areas of outstanding and *highly valued natural features and landscapes* in accordance with NFL–P1,

(2) include in their *district plans* a statement of the capacity of outstanding and *highly valued natural features and landscapes* to accommodate change in use and development without their values being materially compromised or lost, in accordance with NFL–P1,

(3) recognise that natural features and landscapes may span jurisdictional boundaries and work together, including with the Regional Council, to identify areas under (1) to ensure that the identification of natural features and landscapes are treated uniformly across district boundaries, and

(4) prioritise identification under (1) in areas that are likely to contain outstanding natural features or landscapes and are likely to face development or growth pressure over the life of this RPS.

NFL–M2 – *Regional plans*

Otago Regional Council must prepare or amend and maintain its *regional plans* to:

(1) control the use and development of *water bodies,* the *beds* of *rivers* and *lakes*, and *wetlands* in order to protect outstanding natural features and landscapes in accordance with NFL–P2, and maintain and enhance *highly valued natural features or landscapes* in accordance with NFL–P3, and

(2) provide for and encourage activities undertaken for the primary purpose of restoring *highly valued natural features or landscapes* in accordance with NFL–P4.

NFL–M3 – *District plans*

Territorial authorities must prepare or amend and maintain their *district plans* to:

(1) control the *subdivision*, use and development of *land* and the use of the surface of *water bodies* in order to protect outstanding natural features or landscapes in accordance with NFL–P2, and maintain and enhance *highly valued natural features or landscapes* in accordance with NFL–P3,

(2) provide for and encourage activities undertaken for the primary purpose of restoring *highly valued natural features or landscapes* in accordance with NFL–P4, and

(3) manage *wilding conifer* spread in accordance with NFL–P5.

NFL–M4 – Other incentives and mechanisms

Local authorities are encouraged to consider the use of other mechanisms or incentives to assist in achieving the outcomes sought by the policies in this chapter, including:

(1) funding assistance for restoration projects (for example, through the Regional Council's ECO Fund),

(2) purchase of *land* that forms part of a natural feature or landscape,

(3) development or design guidelines (for example, colour palettes for *structures* in or on natural features or landscapes),

(4) rates relief for *land* that is protected due to its status as an outstanding natural feature or landscape,

(5) education and advice,

(6) waiver or reduction of processing fees for activities where the primary purpose is to enhance the values of *highly valued natural features or landscapes*, and

(7) advocating for a collaborative approach between central and local government to fund and carry out *wilding conifer* control.

Explanation

NFL–E1 – Explanation

The policies in this chapter are designed to require outstanding and *highly valued natural features and landscapes* to be identified using regionally consistent attributes, then managing activities to either protect outstanding natural features and landscapes in accordance with section 6(b) of the RMA 1991 or maintain *highly valued natural features or landscapes* in accordance with section 7 of the RMA 1991. This distinction recognises that these areas have values with differing degrees of significance and that, generally, those classified as 'highly valued' will have greater capacity to accommodate *land* use change and development without values being adversely affected. The policies seek to control the impact of *wilding conifers* which are a particular threat to Otago's natural features and landscapes, in a way that recognises the regulations in the NESPF.

Principal reasons

NFL–PR1 – Principal reasons

Natural features include resources that are the result of natural processes, particularly those reflecting a particular geology, topography, geomorphology, hydrology, ecology, or other physical attribute that creates a natural feature or combination of natural features. Landscapes include the natural and physical attributes of *land* together with air and *water*, which change over time and which is made known by people's evolving perceptions and associations. Natural features and landscapes also have significant

cultural value to Kāi Tahu. There are many sites of significance across Otago, reflecting the relationship of Kāi Tahu with the *land, water* and sea.

The provisions in this chapter assist in protecting Otago's outstanding and *highly valued natural features and landscapes* by requiring:

- the identification of outstanding and *highly valued natural features and landscapes* using regionally consistent criteria,
- the protection of outstanding natural features and landscapes and maintenance of *highly valued natural features and landscapes*,
- an ongoing reduction in the impact of *wilding conifers* on natural features and landscapes, and
- specified actions on the part of Otago's *local authorities* in managing natural features and landscapes.

Implementation of the provisions in this chapter will occur primarily through *regional* and *district plan* provisions, however *local authorities* may also choose to adopt additional non-regulatory methods to support the achievement of the objectives.

Anticipated environmental results

NFL–AER1 The number, type, extent and distribution of identified outstanding and *highly valued natural features and landscapes* are maintained over the life of this RPS.

NFL–AER2 The values of outstanding and *highly valued natural features and landscapes* are not reduced or lost.

NFL–AER3 Within areas identified as outstanding or *highly valued natural features or landscapes*, the area of *land* vegetated by *wilding conifers* is reduced over the life of this RPS.

UFD – Urban form and development

Objectives

UFD–O1 – Form and function of *urban areas*

The form and functioning of Otago's *urban areas*:

(1) reflects the diverse and changing needs and preferences of Otago's people and communities, now and in the future, and

(2) maintains or enhances the significant values and features identified in this RPS, and the character and resources of each *urban area*.

UFD–O2 – Development of *urban areas*

The development and change of Otago's *urban areas:*

(1) improves housing choice, quality, and affordability,

(2) allows business and other non-residential activities to meet the needs of communities in appropriate locations,

(3) respects and wherever possible enhances the area's history, setting, and natural and built environment,

(4) delivers good urban design outcomes, and improves liveability,

(5) improves connectivity within urban areas, particularly by *active transport* and *public transport*,

(6) minimises conflict between incompatible activities,

(7) manages the exposure of *risk* from *natural hazards* in accordance with the HAZ–NH – Natural hazards section of this RPS,

(8) results in sustainable and efficient use of *water*, energy, *land*, and *infrastructure*,

(9) achieves integration of *land* use with existing and planned *development infrastructure* and *additional infrastructure* and facilitates the safe and efficient ongoing use of *regionally significant infrastructure*,

(10) achieves consolidated, well designed and located, and sustainable development in and around existing *urban areas* as the primary focus for accommodating the region's urban growth and change, and

(11) is guided by the input and involvement of *mana whenua*.

UFD–O3 – Strategic planning

Strategic planning is undertaken in advance of significant development, expansion or redevelopment of *urban areas* to ensure that

(1) there is sufficient *development capacity* supported by integrated *infrastructure* provision for Otago's housing and business needs in the short, medium and long term,

(2) development is located, designed and delivered in a way and at a rate that recognises and provides for locationally relevant regionally significant features and values identified by this RPS, and

(3) the involvement of *mana whenua* is facilitated, and their values and aspirations are provided for.

UFD–O4 – Development in *rural areas*

Development in Otago's *rural areas* occurs in a way that:

(1) avoids impacts on significant values and features identified in this RPS,

(2) avoids as the first priority, land and soils identified as highly productive by LF–LS–P19 unless there is an *operational need* for the development to be located in *rural areas*,

(3) only provides for urban expansion, rural lifestyle and rural residential development and the establishment of *sensitive activities*, in locations identified through strategic planning or zoned within *district plans* as suitable for such development; and

(4) outside of areas identified in (3), maintains and enhances the *natural and physical resources* that support the productive capacity, rural character, and long-term viability of the rural sector and rural communities.

UFD–O5 – Urban development and *climate change*

The impacts of *climate change* are responded to in the development and change of Otago's *urban areas* so that:

(1) the contributions of current communities and future generations to *climate change* impacts are reduced,

(2) community resilience increases,

(3) adaptation to the effects of *climate change* is facilitated,

(4) energy use is minimised, and energy efficiency improves, and

(5) establishment and use of *small and community-scale distributed electricity generation* is enabled.

Policies

UFD–P1 – Strategic planning

Strategic planning processes, undertaken at an appropriate scale and detail, precede urban growth and development and:

(1) ensure integration of *land* use and *infrastructure*, including how, where and when necessary *development infrastructure* and *additional infrastructure* will be provided, and by whom,

(2) demonstrate at least sufficient *development capacity* supported by integrated *infrastructure* provision for Otago's housing and business needs in the short, medium and long term,

(3) maximise current and future opportunities for increasing resilience, and facilitating adaptation to changing demand, needs, preferences and *climate change*,

(4) minimise *risks* from and improve resilience to *natural hazards*, including those exacerbated by *climate change,* while not increasing *risk* for other development,

(5) indicate how connectivity will be improved and connections will be provided within *urban areas*,

(6) provide opportunities for iwi, hapū and whānau involvement in planning processes, including in decision making, to ensure provision is made for their needs and aspirations, and cultural practices and values,

(7) facilitate involvement of the current community and respond to the reasonably foreseeable needs of future communities, and

(8) identify, maintain and where possible, enhance important features and values identified by this RPS.

UFD–P2 – Sufficiency of *development capacity*

Sufficient urban area housing and business *development capacity* in *urban areas,* including any required competitiveness margin, is provided in the short, medium and long term by:

(1) undertaking strategic planning in accordance with UFD–P1

(2) identifying areas for urban intensification in accordance with UFD–P3,

(3) identifying areas for urban expansion in accordance with UFD–P4,

(4) providing for commercial and industrial activities in accordance with UFD–P5 and UFD–P6

(5) responding to any demonstrated insufficiency in housing or business *development capacity* by increasing *development capacity* or providing more *development infrastructure* as required, as soon as practicable, and

(6) requiring Tier 2 *urban environments* to meet, at least, the relevant housing bottom lines in APP10.

UFD–P3 – Urban intensification

Within *urban areas* intensification is enabled where it:

(1) contributes to establishing or maintaining the qualities of a *well-functioning urban environment*,

(2) is well-served by existing or planned *development infrastructure* and *additional infrastructure*,

(3) meets the greater of demonstrated demand for housing and/or business use or the level of accessibility provided for by existing or planned *active transport* or *public transport*,

(4) addresses an identified shortfall for housing or business space, in accordance with UFD–P2,

(5) addresses issues of concern to iwi and hapū, including those identified in any relevant iwi planning documents, and

(6) manages adverse *effects* on values or resources identified by this RPS that require specific management or protection.

UFD–P4 – Urban expansion

Expansion of existing *urban areas* is facilitated where the expansion:

(1) contributes to establishing or maintaining the qualities of a *well-functioning urban environment,*

(2) will not result in inefficient or sporadic patterns of settlement and residential growth,

(3) is integrated efficiently and effectively with *development infrastructure* and *additional infrastructure* in a strategic, timely and co-ordinated way,

(4) addresses issues of concern to iwi and hapū, including those identified in any relevant iwi planning documents,

(5) manages adverse *effects* on other values or resources identified by this RPS that require specific management or protection,

(6) avoids, as the first priority, highly productive land identified in accordance with LF–LS–P19,

(7) locates the new urban/rural zone boundary interface by considering:

(a) adverse *effects*, particularly reverse sensitivity, on *rural areas* and existing or potential productive rural activities beyond the new boundary, and

(b) key natural or built barriers or physical features, significant values or features identified in this RPS, or cadastral boundaries that will result in a permanent, logical and defendable long-term limit beyond which further urban expansion is demonstrably inappropriate and unlikely, such that provision for future development infrastructure expansion and connectivity beyond the new boundary does not need to be provided for, or

(c) reflects a short or medium term, intermediate or temporary zoning or infrastructure servicing boundary where provision for future *development infrastructure* expansion and connectivity should not be foreclosed, even if further expansion is not currently anticipated.

UFD–P5 – *Commercial activities*

Provide for *commercial activities* in *urban areas* by:

(1) enabling a wide variety and scale of *commercial activities*, social activities and cultural activities in central business districts, town centres and commercial areas, especially if they are highly accessible by *public transport* and *active transport,*

(2) enabling smaller local and neighbourhood centres and rural settlements to accommodate a variety of *commercial activities*, social activities and cultural activities of a scale appropriate to service local community needs,

(3) providing for the expansion of existing areas or establishment of new areas identified in (1) and (2) by first applying UFD–P1 and UFD–P2, and

(4) outside the areas described in (1) and (2), allow for small scale retail and service activities, home occupations and *community services* to establish within or close to the communities they serve.

UFD–P6 – *Industrial activities*

Provide for *industrial activities* in *urban areas* by:

(1) identifying specific locations and applying zoning suitable for accommodating *industrial activities* and their reasonable needs and *effects* including supporting or *ancillary activities*,

(2) identifying a range of *land* sizes and locations suitable for different *industrial activities*, and their *operational needs* including land-extensive activities,

(3) managing the establishment of non-industrial activities, in industrial zones, by avoiding activities likely to result in reverse sensitivity *effects* on *industrial activities*, or likely to result in an inefficient use of industrial zoned *land* or *infrastructure*, particularly where:

(a) the area provides for a significant *operational need* for a particular *industrial activity* or grouping of *industrial activities* that are unlikely or are less efficiently able to be met in alternative locations, or

(b) the area contains *nationally* or *regionally significant infrastructure* and the requirements of EIT–INF–P15 apply, and

(4) in areas that are experiencing or expected to experience high demand from other urban activities, and the criteria in (3)(a) or (3)(b) do not apply, managing the establishment of non-industrial activities and the transition of industrial zoned areas to other purposes, by first applying (1) and (2).

UFD–P7 –Rural Areas

The management of *rural areas*:

(1) provides for the maintenance and, wherever possible, enhancement of important features and values identified by this RPS,

(2) outside areas identified in (1), maintains the productive capacity, amenity and character of *rural areas*,

(3) enables *primary production* particularly on land or soils identified as highly productive in accordance with LF–LS–P19,

(4) facilitates *rural industry* and supporting activities,

(5) directs rural residential and rural lifestyle development to areas zoned for that purpose in accordance with UFD–P8,

(6) restricts the establishment of residential activities, *sensitive activities*, and non-rural businesses which could adversely affect, including by way of reverse sensitivity, the productive capacity of highly productive *land*, *primary production* and *rural industry* activities, and

(7) otherwise limits the establishment of residential activities, *sensitive activities*, and non-rural businesses to those that can demonstrate an *operational need* to be located in *rural areas.*

UFD–P8 – Rural lifestyle and rural residential zones

The establishment, development or expansion of rural lifestyle and rural residential zones only occurs where:

(1) the *land* is adjacent to existing or planned *urban areas* and ready access to employment and services is available,

(2) despite the direction in (1), also avoids *land* identified for future urban development in a relevant plan or *land* reasonably likely to be required for its future urban development potential, where the rural lifestyle or rural residential development would foreclose or reduce efficient realisation of that urban development potential,

(3) minimises impacts on rural production potential, *amenity values* and the potential for reverse sensitivity *effects* to arise,

(4) avoids, as the first priority, highly productive land identified in accordance with LF–LS–P16,

(5) the suitability of the area to accommodate the proposed development is demonstrated, including

(a) capacity for servicing by existing or planned *development infrastructure* (including self-servicing requirements),

(b) particular regard is given to the individual and cumulative impacts of domestic *water* supply, *wastewater* disposal, and *stormwater* management including self-servicing, on the receiving or supplying environment and impacts on capacity of *development infrastructure*, if provided, to meet other planned urban area demand, and

(c) likely future demands or implications for publicly funded services and *additional infrastructure*, and

(6) provides for the maintenance and wherever possible, enhancement, of important features and values identified by this RPS.

UFD–P9 – Iwi, hapū and whānau

Facilitate the development of Native Reserves and *Te Ture Whenua Maori land,* for *papakāika, kāika, nohoaka,* and *marae*, where existing or planned *development infrastructure* of sufficient capacity is or can be provided (including allowance for self-servicing systems).

UFD–P10 – Criteria for significant development capacity

'Significant development capacity' is provided for where a proposed plan change affecting an *urban environment* meets all of the following criteria:

(1) the location, design and layout of the proposal will positively contribute to achieving a *well-functioning urban environment*,

(2) the proposal is well-connected to the existing or planned urban area, particularly if it is located along existing or planned transport corridors,

(3) required *development infrastructure* can be provided effectively and efficiently for the proposal, and without material impact on planned *development infrastructure* provision to, or reduction in *development infrastructure* capacity available for, other feasible, likely to be realised developments, in the short-medium term,

(4) the proposal makes a significant contribution to meeting a need identified in a *Housing and Business Development Capacity Assessment*, or a shortage identified in monitoring for:

(a) housing of a particular price range or typology, particularly more affordable housing,

(b) business space or *land* of a particular size or locational type, or

(c) community or educational facilities, and

(5) when considering the significance of the proposal's contribution to a matter in (4), this means that the proposal's contribution:

(a) is of high yield relative to either the forecast demand or the identified shortfall,

(b) will be realised in a timely (i.e. rapid) manner,

(c) is likely to be taken up, and

(d) will facilitate a net increase in district-wide up-take in the short to medium term.

Methods

UFD–M1 – Strategic planning

Otago Regional Council and *territorial authorities*:

(1) must, where they are Tier 2 local authorities, jointly determine housing *development capacity* that is feasible and likely to be taken up in the medium and long terms through *Housing and Business Development Capacity Assessments*,

(2) should, for other districts, jointly determine demand and potential supply responses through similar, but appropriately scaled strategic planning approaches,

(3) must, where they are Tier 2 and Tier 3 local authorities, monitor and regularly assess and report on the supply of, and demand for, residential, commercial and industrial zoned *land development capacity* available at the regional, district and *urban environment* scales, and other local authorities are encouraged to do so,

(4) must coordinate the redevelopment and intensification of urban areas and the development of extensions to urban areas with *infrastructure* planning and development programmes, to provide the required *development infrastructure* and *additional infrastructure* in an integrated, timely, efficient and effective way, and to identify and manage impacts on key values and resources identified by this RPS, and for Tier 2 local authorities to achieve this through jointly developed *Future Development Strategies* and/or strategic planning, and for all other *local authorities* through strategic planning in accordance with UFD–P1,

(5) must, where they are Tier 2 local authorities, develop housing bottom lines for *urban environments* and include those bottom lines in APP10 and in the relevant *district plans*,

(6) must individually or jointly develop further regulatory or non-regulatory methods and actions to implement strategic and spatial plans, including to guide the detail of how, when and where development occurs, including matters of urban design, requirements around the timing, provision, and responsibilities for open space, connections and infrastructure, including by third parties, and the ongoing management of effects of urban development on matters of local importance, and

(7) must involve *mana whenua,* and provide opportunities for iwi, hapū and whānau involvement in planning processes, including in decision making, to ensure provision is made for their needs and aspirations, and cultural practices and values and to ensure the requirements of the MW chapter are met, and the issues and values identified in RMIA are recognised and provided for.

UFD–M2 – *District plans*

Territorial authorities must prepare or amend their *district plans* as soon as practicable, and maintain thereafter, to:

(1) identify and provide for urban expansion and intensification, to occur in accordance with:

  (a) any adopted *future development strategy* for the relevant district or region, which must be completed in time to inform the 2024 Long Term Plan, or

  (b) where there is no *future development strategy,* a *local authority* adopted strategic plan developed in accordance with UFD-P1, for the relevant area, district or region,

(2) in accordance with any required *Housing and Business Development Capacity Assessments* or monitoring, including any *competitiveness margin*, ensure there is always sufficient *development capacity* that is feasible and likely to be taken up and, for Tier 2 urban environments, at a minimum

meets the bottom lines for housing in APP-10, and meets the identified *land* size and locational needs of the commercial and industrial sectors,

(3) ensure that urban development is designed to:

(a) achieve a built form that relates well to its surrounding *environment*, including by identifying and managing impacts of urban development on values and resources identified in this RPS,

(b) provide for a diverse range of housing, *commercial activities*, industrial and service activities, social and cultural opportunities,

(c) achieve an efficient use of *land*, energy, *water* and *infrastructure*,

(d) promote the use of water sensitive design wherever practicable,

(e) minimise the potential for reverse sensitivity *effects* to arise, by managing the location of incompatible activities, and

(f) reduce the adverse *effects* of Otago's cooler winter climate through designing new subdivision and development to maximise passive winter solar gain and winter heat retention, including through roading, lot size, dimensions, layout and orientation,

(4) identify and provide for locations that are suitable for urban intensification in accordance with UFD–P2,

(5) identify and provide for locations that are suitable for urban expansion, if any, in accordance with UFD–P3,

(6) identify and provide for *commercial activities* in accordance with UFD–P5,

(7) identify and provide for *industrial activities* in accordance with UFD–P6,

(8) manage development in *rural areas* in accordance with UFD–P7,

(9) manage rural residential and rural lifestyle activities in *rural areas* in accordance with UFD–P8,

(10) provide for *papakāika, kāika, nohoaka,* and *marae*, in accordance with UFD–P9, and

(11) must involve *mana whenua* and provide opportunities for iwi, hapū and whānau involvement in planning processes, including in decision making, to ensure provision is made for their needs and aspirations, and cultural practices and values and ensure the requirements of the MW chapter are met, and the issues and values identified in RMIA are recognised and provided for at the local level.

UFD–M3 – Design of public spaces and surrounds

Territorial authorities must design and maintain public places and spaces, including streets, open spaces, public *buildings* and publicly accessible spaces so that they are safe, attractive, accessible and usable by everyone in the community.

Explanation

UFD–E1 – Explanation

The policies in this chapter are designed to facilitate the provision of sufficient housing and business capacity and ensure all of the region's *urban areas* demonstrate the features of *well-functioning urban*

environments and meet the needs of current and future communities. Urban intensification must be enabled, and urban expansion should be facilitated, however these important decisions should be preceded and guided by strategic planning processes that consider how best this can be achieved, while also maintaining and, wherever possible, enhancing the important values and features identified in other chapters of this RPS, and in consideration of local context, values and pressures. The strategic planning process will also consider and demonstrate where, when, how and by whom the necessary *development infrastructure* and *additional infrastructure* will be provided in order to both facilitate development and change and minimise environmental impacts from it, including avoiding impacts on the operation of *regionally and nationally significant infrastructure*.

In addition, this chapter seeks to maintain the character and *amenity values* of Otago's rural areas, including by facilitating the use of the *natural and physical resources* that support the viability of the rural sector. Otago's rural and urban areas also contain significant natural, cultural and historic values and features as identified by other parts of this RPS. In all cases while facilitating urban development and managing rural productive activities these values must also be identified, maintained and, wherever possible, enhanced. This approach includes direction on different types of development within rural areas, managing the expansion and location of *urban areas*, and rural lifestyle and rural residential development, and directing that growth be enabled in *urban areas* to minimise the need for development to occur within rural areas, other than what is needed to facilitate rural community and rural productive activities.

The policies in this chapter are primarily focused on directing where development is and is not appropriate and under what circumstances, but provides discretion for *local authorities* to determine the detail of how that development is managed, its ultimate density, height, bulk and location, timing and sequencing, the detail of any required *development infrastructure* and *additional infrastructure* that may be needed, and allows for the consideration of particular locally significant features values and needs that contribute to the attractiveness or uniqueness of the diverse communities, landscapes, and environments of the region.

This more detailed determination must, however, be informed by evidence and information collated through appropriately scaled *strategic planning* processes and will be implemented by a range of regulatory and non-regulatory methods, including joint development of *Housing and Business Assessments* and *Future Development Strategies* for Tier 2 local authorities, and similar but appropriately scaled processes undertaken in and for other areas, including regular regional, district and *urban environment* scale monitoring, analysis and evaluation.

In delivering on the objectives and policies in this chapter, which relate largely to human activities and settlements, the natural, physical, and built values and features of importance to the region must be recognised and provided for.

The following chapters of this Regional Policy Statement have particular relevance to the achievement of the objectives of this chapter by identifying particular aspects of Domains or Topics to be managed, and where there is an apparent conflict, must be balanced in accordance with the directions outlined in the Integrated Management chapter:

- *MW – Mana Whenua*
- AIR – Air
- CE – Coastal environment
- LF – *Land* and *freshwater*
- ECO – Ecosystems and indigenous *biodiversity*
- EIT – Energy, *infrastructure* and transport
- HAZ – Hazards and *risks*

- HCV – Historical and cultural values
- NFL – Natural features and landscapes

Principal reasons

UFD–PR1 – Principal reasons

The provisions in this chapter assist in fulfilling the functions of the regional council under section 30(ba) and *territorial authorities* under section 31(aa) of the RMA 1991 to ensure sufficient *development capacity* in relation to housing and *business land* to meet the expected demands of the region and districts respectively. They also assist in giving effect to the similar but more detailed requirements of the *NPSUD*.

Urban areas are important for community well-being and are a reflection the inherently social nature of humans. Well-functioning urban areas enable social interactions and provide a wide variety (across type, location and price) of housing, employment and recreational opportunities to meet the varied and variable needs and preferences of communities, in a way that maximises the well-being of its present and future inhabitants, and respects its history, its setting and the *environment*. The combination of population growth and demographic change will result in changes in the quantity and qualities demanded of housing, employment, business, *infrastructure*, social facilities and services across the region. Upgrade and replacement of the existing development and infrastructure will also continue to be required even where growth is limited, resulting in changes in the built environment. Some of these changes will also be driven by changes in the *natural environment*, including the impacts of climate change. Urban areas are highly dynamic by nature, so the provisions in this chapter seek to manage, rather than limit, the form, function, growth and development of urban areas in a way that best provides for the community's well-being both now and into the future.

The pace and scale of growth and change, and the scale and nature of urban environments and areas in the region is variable, meaning no single response at a regional level is appropriate in all cases. Accordingly, the process identified in this RPS remains flexible and responsive (outside of Tier 2 urban environments, which have specific requirements under the NPSUD). Key requirements of strategic planning include considering and providing for reasonably expected changes in overall quantum of demand and supply as well as changes in needs and preferences that may drive or add to these changes in demand, designing to maximise the efficient use of energy, land and infrastructure (including transport infrastructure). This can best be achieved by prioritising development in and around the region's existing urban areas as the primary focus of the region's growth and change, by enabling development within and adjacent to those urban areas, where it generally is most suitable and most efficient to do so.

These strategic planning processes provide the mechanism by which longer term issues can be considered, integration between land use and infrastructure can be achieved, and various constraints, opportunities and key trade-offs can be identified and appropriately resolved, while identifying and managing the values and resources identified in this RPS. These processes, and others should always involve *mana whenua,* at all levels of the process to ensure their views and values can be incorporated and celebrated, and their needs and aspirations appropriately provided for.

All development should seek to maximise efficient use of water consumption (through water efficient design) and disposal (reduced consumption reduces sewerage loads, and the water sensitive design reduces impacts on both supplying and receiving natural systems and can reduce flooding from stormwater), and maximise the winter capture and retention of the suns energy, which will also assist with reducing the energy needed to heat homes in winter and can also help reduce air pollution from solid fuel burning for home heating. Development in more central parts of the region also need to be

designed to be cognisant of minimising excess sun capture in the summer months. Enabling the establishment and use of small-scale renewable energy generation also facilitates local energy resilience, contributes to national renewable energy generation targets with associated climate change benefits, and may reduce the need for additional large-scale generation and transmission infrastructure and associated impacts.

Rural areas are attractive as residential living areas, and for other non-rural activities. However, they contain areas, activities and resources critical for rural production that can be impacted by sensitive activities. Non-urban areas also contain a wide range of other values that can be negatively impacted by the impacts of rural-residential and other activities, that do not have a functional need to be in rural areas. The provisions in this chapter focus on managing where rural living opportunities and other non-rural activities are provided for, so that the potential *effects* on the rural character, productive potential and the wide range of environmental values, features and resources that rural areas also contain are appropriately managed. The supply of rural lifestyle opportunities to meet demand should be directed to suitably located and zoned areas to minimise impacts on values in rural areas. In designing and planning for rural residential and rural lifestyle development, local authorities will need to be aware of the potential future constraints on future urban expansion and development, including the cumulative impacts of infrastructure servicing irrespective of whether this is onsite, community or through connections to urban reticulated schemes.

Implementation of the provisions in this chapter will occur partially through *regional plans* but primarily *district plan* provisions, as well as through preparation of *future development strategies* and *structure plans*. To appropriately and efficiently achieve the objectives and policies, other non-regulatory spatial planning exercises and associated action plans, agreements and infrastructure delivery programs will be needed to complement regulatory approaches, including setting aside the necessary funding for delivery, and partnering with *mana whenua,* central government, communities and developers to deliver the quality and quantity of urban development needed to meet demand and provide for change, improve land and development market competitiveness, and achieve resilient, efficient and attractive urban places.

Anticipated environmental results

UFD–AER1 Appropriately scaled strategic planning occurs in advance of regulatory planning, and regulatory plans are changed in a timely manner to facilitate the outcomes identified in these processes.

UFD–AER2 Urban expansion only occurs when suitable and sufficient *development infrastructure* is in place or will be provided at the time of expansion and provision is made for the needs of *additional infrastructure*.

UFD–AER3 *Development infrastructure* is in place in time to facilitate reasonably expected urban intensification or planned expansion.

UFD–AER4 New developments including redevelopments are designed to maximise energy and transport efficiency and minimise impacts on *water* quality and quantity.

UFD–AER5 The majority of new development is located close to services, jobs, and other urban amenities and can access those amenities by a range of transport modes including *active transport* and, where available, *public transport*.

UFD–AER6 The mode share and use of *active transport* and *public transport* increases.

UFD–AER7	New developments are at minimal *risk* from *natural hazards* including changes to *risk* due to the impacts of *climate change*, and do not increase *risk* to existing or planned developments.
UFD–AER8	In existing urban areas at *risk* from *natural hazards*, including changes to *risk* due to the impacts of *climate change*, communities are informed, *resilient* and prepared for the *effects* of known *natural hazard risks*.
UFD–AER9	There is an increased range of housing types and locations and an increased number of *dwellings*, particularly more affordable housing in existing and planned *urban areas*.
UFD–AER10	The current and future needs of business are met by the availability of a range of opportunities for *land* and space that meets their requirements.
UFD–AER11	All new rural residential or rural lifestyle development occurs within areas zoned for this use.

PART 4 – EVALUATION AND MONITORING

Monitoring the efficiency and effectiveness of the policy statement

ORC must monitor the efficiency and effectiveness of its RPS provisions and publish the results every five years.[48] The RPS needs to include the procedures for monitoring its methods and policies.[49]

Existing monitoring procedure

ORC has policies and procedures in place to gather information and to monitor and report on how well Otago's *natural and physical resources* are managed. These include State of the Environment reporting, *resource consent* monitoring, and annual reporting against objectives in the Council's Long-Term Plan. These policies and procedures will be reviewed and updated to reflect ORPS environmental goals (objectives) and ensure the right information is being gathered to monitor the environmental results anticipated.

The ORPS is relevant to all decision making under the RMA 1991 and must be given effect through *regional* and *district plans*. As the ORPS is given effect through *regional* and *district plans*, much of the data needed for monitoring will be gathered for the purpose of, or will be relevant to, the monitoring of *regional* and *district plans.* ORC will undertake a work programme to identify data the *territorial authorities* collect in the course of their normal monitoring regimes and make arrangements for collection and sharing of data, including information that the regional council collects that may be of benefit to *territorial authorities*.

Specific environmental indicators will be developed to monitor the impact that ORPS policies and methods are having on Otago's social, economic, cultural and environmental well-being, and whether they remain the most appropriate for achieving the RMA 1991's purpose. These environmental indicators will be developed outside of the ORPS. This approach enables the frequency or type of indicators to be amended, in order to respond to emerging issues, improved technology and best practice, changes in the local *environment*, or societal expectations. It forms part of a continuous review and reporting cycle, resulting in policy changes and adjustments as necessary.

The ORPS needs to reflect the needs and aspirations of *tangata whenua* and the wider community, so *tangata whenua* and stakeholders will be encouraged to be involved with monitoring the provisions of the ORPS.

Regional Monitoring Strategy

To address the undertakings described above, ORC must develop a comprehensive integrated Regional Monitoring Strategy (RMS). This strategy will link ORC's various monitoring procedures together to reduce double handling, identify connections, and improve interrelationships, both between ORC functions and

[48] Section 35 of the Resource Management Act 1991
[49] Section 62(1)(j) of the Resource Management Act 1991

with other agencies. The strategy will help monitor the effectiveness and efficiency of the ORPS, using both quantitative and qualitative assessments, and sit alongside it as a non-statutory document.

The RMS will assist ORC with expanding its monitoring activities to respond to ORPS provisions and ensure the things measured accurately reflect policy success, including natural, social, economic, cultural and *historic heritage* values. It will increase transparency by stating what is monitored and why.

This goes hand in hand with increasing the ORC's leadership and facilitation role in several areas, including *climate change*.

PART 5 – APPENDICES AND MAPS

Appendices

APP1 – Criteria for identifying *outstanding water bodies*

Outstanding water bodies include any *water body* with one or more of the following outstanding values, noting that sub-values are not all-inclusive:

Table 4: Values of outstanding water bodies

Values	Description	Example sub-values
Cultural and spiritual	A *water body* which has outstanding cultural and spiritual values.	Wāhi tapu, wāhi taoka, wai tapu, rohe boundary, battle sites, pa, kāika, tauraka waka, mahika kai, pa tuna; and acknowledged in korero tuku iho, pepeha, whakatauki or waiata
Ecology	A *water body* which has outstanding ecological value as a habitat for: • Native birds • Native fish • Salmonid fish • Other aquatic species	Native birds, native fish, native plants, aquatic macroinvertebrates
Landscape	A *water body* which forms a key component of a landscape that is "conspicuous, eminent, remarkable or iconic" within the region, or is critical to an outstanding natural feature.	Scenic, association, natural characteristics (includes hydrological, ecological and geological features)
Natural character	A *water body* with high naturalness that exhibits an exceptional combination of natural processes, natural patterns and natural elements with low levels of modification to its form, ecosystems and the surrounding landscape.	Natural characteristics (includes hydrological, ecological and geological features)
Recreation	A *water body* which is recognised as providing an outstanding recreational experience for an activity which is directly related to the *water*.	Angling, fishing, kayaking, rafting, jetboating
Physical	A *water body* which has an outstanding geomorphological, geological or hydrological feature which is dependent on the *water body's* condition and functioning.	Science

APP2 – Significance criteria for indigenous *biodiversity*

An area is considered to be a *significant natural area* if it meets any one or more of the criteria below:

Representativeness

(a) An area that is an example of an indigenous vegetation type or habitat that is typical or characteristic of the original natural diversity of the relevant ecological district or coastal marine biogeographic region. This may include *degraded* examples of their type or represent all that remains of indigenous vegetation and habitats of indigenous fauna in some areas.

(b) An indigenous marine ecosystem (including both intertidal and sub-tidal habitats, and including both faunal and floral assemblages) that makes up part of at least 10% of the natural extent of each of Otago's original marine ecosystem types and reflecting the environmental gradients of the region.

(c) An indigenous marine ecosystem, or habitat of indigenous marine fauna (including both intertidal and sub-tidal habitats, and including both faunal and floral components), that is characteristic or typical of the natural marine ecosystem diversity of Otago.

Rarity

(d) An area that supports:

(i) An indigenous species that is threatened, at *risk*, or uncommon, nationally or within an ecological district or coastal marine biogeographic region, or

(ii) Indigenous vegetation or habitat of indigenous fauna that has been reduced to less than 20% of its former extent nationally, regionally or within a relevant *land environment*, ecological district, coastal marine biogeographic region or *freshwater environment* including *wetlands*, or

(iii) Indigenous vegetation and habitats within originally rare ecosystems, or

(iv) The site contains indigenous vegetation or an indigenous species that is endemic to Otago or that are at distributional limits within Otago.

Diversity

(e) An area that supports a high diversity of indigenous ecosystem types, indigenous *taxa* or has changes in species composition reflecting the existence of diverse natural features or gradients.

Distinctiveness

(f) An area that supports or provides habitat for:

(i) Indigenous species at their distributional limit within Otago or nationally, or

(ii) Indigenous species that are endemic to the Otago region, or

(iii) Indigenous vegetation or an association of indigenous species that is distinctive, of restricted occurrence, or has developed as a result of an

		unusual environmental factor or combinations of factors.
Ecological context	(g)	The relationship of the area with its surroundings (both within Otago and between Otago and the adjoining regions), including: (i) An area that has important connectivity value allowing dispersal of indigenous flora and fauna between different areas, or (ii) An area that has an important buffering function that helps to protect the values of an adjacent area or feature, or (iii) An area that is important for indigenous fauna during some part of their life cycle, either regularly or on an irregular basis, e.g. for feeding, resting, nesting, breeding, spawning or refuges from predation, or (iv) A *wetland* which plays an important hydrological, biological or ecological role in the natural functioning of a *river* or coastal ecosystem.

APP3 – Criteria for *biodiversity* offsetting

(1) *Biodiversity* offsetting is not available if the activity will result in:

(a) the loss of any individuals of Threatened *taxa*, other than kānuka (*Kunzea robusta* and *Kunzea serotina*), under the New Zealand Threat Classification System (Townsend et al, 2008), or

(b) reasonably measurable loss within the ecological district to an At Risk-Declining *taxon*, other than manuka (*Leptospermum scoparium*), under the New Zealand Threat Classification System (Townsend et al, 2008).

(2) *Biodiversity* offsetting is available if the following criteria are met:

(a) the offset addresses residual adverse *effects* that remain after implementing the sequential steps required by ECO–P6(1) to (3),

(b) the offset achieves no net loss and preferably a net gain in indigenous *biodiversity*, as measured by type, amount and condition at both the impact and offset sites using an explicit loss and gain calculation,

(c) the offset is undertaken where it will result in the best ecological outcome, and as the first priority be:

(i) close to the location of the activity, and

(ii) within the same ecological district or coastal marine biogeographic region,

(d) the offset is applied so that the ecological values being achieved are the same or similar to those being lost,

(e) the positive ecological outcomes of the offset endure at least as long as the impact of the activity and preferably in perpetuity,

(f) the offset achieves *biodiversity* outcomes beyond results that would have occurred if the offset was not proposed,

(g) the time delay between the loss of *biodiversity* and the realisation of the offset is the least necessary to achieve the best possible outcome,

(h) the outcome of the offset is achieved within the duration of the *resource consent*, and

(i) any offset developed in advance of an application for *resource consent* must be shown to have been created or commenced in anticipation of the specific *effect* of the proposed activity and would not have occurred if that *effect* was not anticipated.

APP4 – Criteria for *biodiversity* compensation

(1) *Biodiversity* compensation is not available if the activity will result in:

(a) the loss of an indigenous *taxon* (excluding *freshwater* fauna and flora) or of any ecosystem type from an ecological district or coastal marine biogeographic region,

(b) removal or loss of viability of habitat of a Threatened or At Risk indigenous species of fauna or flora under the New Zealand Threat Classification System (Townsend et al, 2008),

(c) removal or loss of viability of a *naturally rare* or uncommon ecosystem type that is associated with indigenous vegetation or habitat of indigenous fauna, or

(d) worsening of the New Zealand Threat Classification System (Townsend et al, 2008) conservation status of any Threatened or At Risk indigenous fauna.

(2) *Biodiversity* compensation is available if the following criteria are met:

(a) compensation addresses only residual adverse effects that remain after implementing the sequential steps required by ECO–P5(1) to (4),

(b) compensation is undertaken where it will result in the best practicable outcome and preferably:

(i) close to the location of the activity, and

(ii) within the same ecological district or coastal marine biogeographic region,

(c) compensation achieves positive *biodiversity* outcomes that would not have occurred without that compensation,

(d) the positive *biodiversity* outcomes of the compensation are enduring,

(e) the time delay between the loss of *biodiversity* through the proposal and the gain or maturation of the compensation's *biodiversity* outcomes is the least necessary to achieve the best possible outcome,

(f) the outcome of the compensation is achieved within the duration of the *resource consent*,

(g) *biodiversity* compensation developed in advance of an application for *resource consent* must be shown to have been created or commenced in anticipation of the specific *effect* of the proposed activity and would not have occurred if that *effect* was not anticipated, and

(h) the *biodiversity* compensation is demonstrably achievable.

APP5 – Species prone to *wilding conifer* spread

Table 5: Species prone to wilding conifer spread

Common name	Botanical name
Big cone pine	*Pinus coulteri*
Bishops pine	*Pinus muricata*
Contorta (lodgepole) pine	*Pinus contorta*
Corsican pine, Black pine	*Pinus nigra*
Douglas fir	*Pseudotsuga menziesii*
Dwarf mountain pine	*Pinus uncinata*
Japanese cedar	*Cryptomeria japonica*
Japanese larch	*Larix kaempferi*
Larch	*Larix decidua*
Lawson's cypress	*Chamaecyparis lawsoniana*
Macrocarpa	*Cupressus macrocarpa*
Maritime pine	*Pinus pinaster*
Mountain pine	*Pinus mugo*
Norfolk Island pine	*Araucaria heterophylla*
Norway spruce	*Picea abies*
Patula pine	*Pinus patula*
Pine	*Pinus sp./Pine*
Ponderosa pine	*Pinus ponderosa*
Radiata pine	*Pinus radiata*
Scots pine	*Pinus sylvestris*
Sitka spruce	*Picea sylvestris*
Slash pine	*Pinus elliottii*
Spruce	*Picea sp.*
Strobus pine	*Pinus strobus*
Western red cedar	*Thuja plicata*
Western white pine	*Pinus monticola*

APP6 – Methodology for *natural hazard risk* assessment

Undertake the following four step process to determine the *natural hazard risk*.

Step 1 – Determine the likelihood

Using Table 6, assess the likelihood of three *natural hazard* scenarios occurring, representing a high likelihood, median likelihood, and the maximum credible event, using the best available information:

Table 6: Likelihood scale

Likelihood	Indicative frequency
Almost certain	Up to once every 50 years (2% AEP)
Likely	Once every 51 – 100 years (2 – 1% AEP)
Possible	Once every 101 – 1,000 years (1 – 0.11% AEP)
Unlikely	Once every 1,001 – 2,500 years (0.1 – 0.04% AEP)
Rare	2,501 years plus (<0.04% AEP)

Step 2 – *Natural hazard* consequence

Using Table 7 and the matters listed in (1) to (10) below, assess the consequence (catastrophic, major, moderate, minor, or insignificant) of the *natural hazard* scenarios identified in step 1 considering:

(1) the nature of activities in the area,

(2) individual and community vulnerability,

(3) impacts on individual and community health and safety,

(4) impacts on social, cultural and economic well-being,

(5) impacts on *infrastructure* and property, including access and services,

(6) available and viable *risk* reduction and hazard mitigation measures,

(7) *lifeline utilities*, essential and emergency services, and their co-dependence,

(8) implications for civil defence agencies and emergency services,

(9) the changing *natural hazard* environment,

(10) cumulative *effects* including *multiple* and *cascading hazards,* where present, and

(11) factors that may exacerbate a *natural hazard* event including the *effects* of *climate change*.

Table 7: Consequence table

Severity of Impact	Built				Health & Safety
	Social/Cultural	*Buildings*	Critical *Buildings*	Lifelines	
Catastrophic (V)	≥25% of *buildings* of social/cultural significance within hazard zone have functionality compromised	≥50% of affected *buildings* within hazard zone have functionality compromised	≥25% of critical facilities within hazard zone have functionality compromised	Out of service for > 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for > 6 months (affecting < 20% of the town/city population)	> 101 dead and/or > 1001 injured
Major (IV)	11-24% of *buildings* of social/cultural significance within hazard zone have functionality compromised	21-49% of *buildings* within hazard zone have functionality compromised	11-24% of *buildings* within hazard zone have functionality compromised	Out of service for 1 week – 1 month (affecting ≥20% of the town/city population) OR suburbs out of service for 6 weeks to 6 months (affecting < 20% of the town/city population)	11 – 100 dead and/or 101 – 1000 injured
Moderate (III)	6-10% of *buildings* of social/cultural significance within hazard zone have functionality compromised	11-20% of *buildings* within hazard zone have functionality compromised	6-10% of *buildings* within hazard zone have functionality compromised	Out of service for 1 day to 1 week (affecting ≥20% of the town/city population) OR suburbs out of service for 1 week to 6 weeks (affecting < 20% of the town/city population)	2 – 20 dead and/or 11 – 100 injured
Minor (II)	1-5% of *buildings* of social/cultural significance within hazard zone have functionality compromised	2-10% of *buildings* within hazard zone have functionality compromised	1-5% of *buildings* within hazard zone have functionality compromised	Out of service for 2 hours to 1 day (affecting ≥20% of the town/city population) OR suburbs out of service for 1 day to 1 week (affecting < 20% of the town/city population	1 dead and/or 1 – 10 injured
Insignificant (I)	No *buildings* of social/cultural significance within hazard zone have functionality compromised	< 1% of affected *buildings* within hazard zone have functionality compromised	No damage within hazard zone, fully functional	Out of service for up to 2 hours (affecting ≥20% of the town/city population) OR suburbs out of service for up to 1 day (affecting < 20% of the town/city population	No dead No injured

When assessing consequences within this matrix, the final level of impact is assessed on the 'first past the post' principle, in that the consequence with the highest severity of impact applies. For example, if a *natural hazard* event resulted in moderate severity of impact across all of the categories, with the exception of critical *buildings* which had a 'major' severity of impact, the major impact is what the proposal would be assessed on. If a *natural hazard* event resulted in all of the consequences being at the same level (for example, all of the consequences are rated moderate), then the level of consequence is considered to be moderate.

When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 2 shall guide the assessment of *natural hazard* consequence.

Step 3 – Assessing activities for *natural hazard risk*

Using the information within steps 1 and 2 above, and Table 8, assess whether the *natural hazard* scenarios will have an acceptable, tolerable, or significant *risk* to people, property and communities, by considering:

(1) the *natural hazard risk* identified, including *residual risk*,

(2) any measures to avoid, remedy or mitigate those *risks*, including relocation and recovery methods,

(3) the long-term viability and affordability of those measures,

(4) flow on *effects* of the *risk* to other activities, individuals and communities, and

(5) the availability of, and ability to provide, *lifeline utilities*, and essential and emergency services, during and after a *natural hazard* event.

Table 8: Risk table

Likelihood	**Consequences**				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain					
Likely					
Possible					
Unlikely					
Rare					
Green, Acceptable *Risk*: Yellow, Tolerable *Risk*: Red, Significant *Risk*					

Notes:

Table 8 above has been included as a region-wide baseline. As set out in HAZ–NH–M2(1) *local authorities* are required to undertake a consultation process with communities, stakeholders and partners regarding *risk* levels thresholds and develop a *risk* table at a district or community scale. This region-wide baseline is to be used in the absence of a district or community scale *risk* table being developed.

When this assessment is being undertaken in accordance with HAZ-NH-M3(7)(a) or HAZ-NH-M4(7)(a) the text within Step 3 shall guide the assessment of *natural hazard risk*.

Step 4 – Undertake a quantitative *risk* assessment

While Steps 1-3 will qualitatively categorise *natural hazard risk* based on a community's understanding and acceptance level of *risk*, it will not provide quantitative understanding of the *risk* a *natural hazard* presents to the built environment, or health and safety.

If the assessment undertaken in Steps 1-3 determines that one of the three *natural hazard* scenarios generate *risk* that is significant, undertake a quantitative *risk* assessment utilising the following methodology:

(1) Based on the likelihood of a *natural hazard* event within the hazard zone (see Step 1), and including the potential impacts of *climate change* and sea level rise, select a representative range

of at least five hazard scenarios with varying likelihoods to model,[50] including the maximum credible event.

(2) Model the Annual Individual Fatality Risk (AIFR)[51] and Annual Property Risk (APR)[52] for the range of hazard scenarios across the hazard zone, and create loss exceedance distributions.

(3) Analyse loss exceedance distributions and determine losses.

(4) Implementing a first-past-the-post principle for the AIFR and APR:

  (a) for areas of new development where the greatest AIFR or APR is:

    (i) less than 1×10^{-6} per year, the *risk* is re-categorised as acceptable,

    (ii) between 1×10^{-6} and 1×10^{-5} per year, the *risk* is re-categorised as tolerable, or

    (iii) greater than 1×10^{-5} per year, the *risk* is re-categorised as significant.

  (b) for areas with existing development, where the greatest AIFR or APR is:

    (i) less than 1×10^{-5} per year, the *risk* is re-categorised as acceptable;

    (ii) between 1×10^{-5} and 1×10^{-4} per year, the *risk* is re-categorised as tolerable; or

    (iii) greater than 1×10^{-4} per year, the *risk* is re-categorised as significant.

(5) Following the quantitative *risk* assessment, a *risk* level is assigned to the hazard area.

AIFR and APR are the selected *risk* metrics as they represent the likely consequences of a wide range of *natural hazards*. For example, some *natural hazards*, generally, do not have the capacity to cause fatalities, but may result in widespread damage to property, while other *natural hazards* have a high capacity to cause fatalities. A first-past-the-post principle to the re-categorisation of *risk* is applied to ensure that decisions are based on the greatest *risk* present between the two metrics.

If the level of knowledge or uncertainty regarding the likelihood or consequences of a *natural hazard* event precludes the use of Step 4, then a precautionary approach to assessing and managing the *risk* should be applied, as set out in HAZ–NH–P5.

[50] The model should include an analysis of uncertainty
[51] Annual probability that an individual most at risk is killed in any one year as a result of the hazards occurring
[52] Annual probability of total property loss (relating to permanent structures) as a result of the hazards occurring

APP7 – Identifying *wāhi tūpuna*

This appendix is a guide to assist in identifying *wāhi tūpuna*. It is not a complete list of all *wāhi tūpuna* in Otago.

Kāi Tahu use the term *'wāhi tūpuna'* to describe landscapes that embody the customary and contemporary relationship of Kāi Tahu and their culture and traditions with Otago. It is important to understand this concept in the context of the distinctive seasonal lifestyle that Kāi Tahu evolved in the south. The sites and resources used by Kāi Tahu are spread throughout Otago. These places did not function in isolation from one another but were part of a wider cultural setting and pattern of seasonal resource use. The different elements of these sites of significance include:

Table 9: Sites of significance to Kāi Tahu

Site of significance	Explanation
Ara Tawhito	Ancient trails. A network of trails crossed the region linking the permanent villages with seasonal inland campsites and along the coast, providing access to a range of mahika kai resources and inland stone resources, including pounamu and silcrete.
Kāika	Permanent settlements or occupation sites. These occurred throughout Otago, particularly in coastal areas.
Nohoaka	These were a network of seasonal settlements. Kāi Tahu were based largely on the coast in permanent settlements and ranged inland on a seasonal basis. Iwi history shows, through place names and whakapapa, continuous occupation of a network of seasonal settlements, which were distributed along the main river systems from the source lakes to the sea.
Wāhi Mahika kai	The places where the customary gathering of food or natural materials occurs. Mahika kai is one of the cornerstones of Kāi Tahu culture.
Mauka	Important mountains. Mountains are of great cultural importance to Kāi Tahu. Many are places of spiritual presence, and prominent peaks in the district are linked to Kāi Tahu creation stories, identity and mana.
Marae	The marae atea and the buildings around it, including the wharenui, wharekai, church and urupā. The sheltering havens of Kāi Tahu cultural expression, a place to gather, kōrero and to welcome visitors. Marae are expressions of Kāi Tahu past and present.
Repo raupo	Wetlands or swamps. These provide valued habitat for taoka species and mahika kai resources.
Tauraka waka	Canoe mooring sites. These were important for transport and gathering kai.
Tūāhu	Places of importance to Māori identity. These are generally sacred ground and marked by an object, or a place used for purposes of divination.
Taumanu	Fishing sites. These are traditional fishing easements which have been gazetted by the South Island Māori Land Court.
Umu, Umu-tī	Earth ovens. Used for cooking tī-kōuka (cabbage tree), are found in a diversity of areas, including old stream banks and ancient river terraces, on low spurs or ridges, and in association with other features, such as kāika nohoaka.
Urupā	Human burial sites. These include historic burial sites associated with kāika, and contemporary sites, such as the urupā at Ōtākou and Puketeraki marae.
Wāhi kōhatu	Rock outcrops. Rocky outcrops provided excellent shelters and were intensively occupied by Māori from the moa-hunter period into early European settlement during seasonal hikoi. Tuhituhi neherā (rock art) may be present due to the occupation of such places by the tūpuna.

Wāhi pakaka	Battle sites. Historic battle sites occur throughout Otago, such as that at Ohinepouwera (Waikouaiti sandspit) where Taoka's warriors camped for six months while they laid siege on Te Wera on the Huriawa Peninsula.
Wāhi paripari	Cliff areas.
Wāhi taoka	Resources, places and sites treasured by *mana whenua*. These valued places reflect the long history and association of Kāi Tahu with Otago.
Wāhi tapu	Places sacred to Kāi Tahu. These occur throughout Otago and include urupā (human burial sites).
Wāhi tohu	Features used as location markers within the landscape. Prominent landforms formed part of the network of trails along the coast and inland.
Wai Māori	Freshwater areas important to Māori, including wai puna (springs), roto (lakes) and awa (rivers).

APP8 – Identification criteria for places and areas of *historic heritage*

A place or area is considered to have *historic heritage* if it meets any one or more of criteria below:

Aesthetic The place has, or includes, aesthetic qualities that are considered to be especially pleasing, particularly beautiful, or overwhelming to the senses, eliciting an emotional response. These qualities are demonstrably valued, either by an existing community or the general public, to the extent that they could be expected to experience a sense of loss if the qualities which evoke the aesthetic value were no longer there.

Archaeological The place provides, or is demonstrably likely to provide, physical evidence of human activity that could be investigated using archaeological methods. Evidence obtained from an archaeological investigation could be expected to be of significance in answering research questions, or as a new or important source of information about an aspect of New Zealand history.

Architectural The place reflects identifiable methods of construction or architectural styles or movements. When compared with other similar examples, or in the view of experts or relevant practitioners, it has characteristics reflecting a significant development in this country's architecture. Alternatively, or in conjunction with this, the place is an important or representative example of architecture associated with a particular region or the wider New Zealand landscape.

Cultural The place reflects significant aspects of an identifiable culture and it can be demonstrated that the place is valued by the associated cultural group as an important or representative expression of that culture.

Historic The place contributes to the understanding of a significant aspect of New Zealand history and has characteristics making it particularly useful for enhancing understanding of this aspect of history, especially when compared to other similar places.

Scientific The place includes, or is demonstrably likely to include, fabric expected to be of significance in answering research questions or a new or important source of information about an aspect of New Zealand's cultural or historical past through the use of specified scientific methods of enquiry.

Social The place has a clearly associated community that developed because of the place, and its special characteristics. The community has demonstrated that it values the place to a significant degree because it brings its members together, and they might be expected to feel a collective sense of loss if they were no longer able to use, see, experience or interact with the place.

Spiritual The place is associated with a community or group who value the place for its religious, mystical or sacred meaning, association or symbolism. The community or group regard the place with reverence, veneration and respect, and they might be expected to feel a collective sense of loss if they were no longer able to use, see, experience or interact with the place.

Technological The place includes physical evidence of a technological advance or method that was widely adopted, particularly innovative, or which made a significant contribution to New Zealand history

OR

The place reflects significant technical accomplishment in comparison with other similar examples or, in the view of experts or practitioners in the field, has characteristics making the place particularly able to contribute towards our understanding of this technology.

Traditional The place reflects a tradition that has been passed down by a community or culture for a long period, usually generations and especially since before living memory, and has characteristics reflecting important or representative aspects of this tradition to a significant extent.

The significance of areas and places with *historic heritage* will be assessed having regard to the following criteria:

(1) the extent to which the place reflects important or representative aspects of Otago or New Zealand history,

(2) the association of the place with events, persons, or ideas of importance in Otago or New Zealand history,

(3) the potential of the place to provide knowledge of Otago or New Zealand history,

(4) the importance of the place to *takata whenua*,

(5) the community association with, or public esteem for, the place,

(6) the potential of the place for public education,

(7) the technical accomplishment, value, or design of the place,

(8) the symbolic or commemorative value of the place,

(9) the importance of identifying historic places known to date from an early period of Otago's or New Zealand's settlement,

(10) the importance of identifying rare types of historic places, and

(11) the extent to which the place forms part of a wider historical and cultural area.

APP9 – Identification criteria for outstanding and *highly valued natural features*, *landscapes* and seascapes

The areas and the values of outstanding and *highly valued natural features*, *landscapes* and seascapes are identified using the following attributes:

Physical attributes	(a)	Natural science factors, including geological, topographical, ecological and dynamic components.
	(b)	The presence of *water* including in seas, *lakes*, *rivers* and streams.
	(c)	Vegetation (native and exotic).
Sensory attributes	(d)	Legibility or expressiveness – how obviously the feature, landscape or seascape demonstrates its formative processes.
	(e)	Aesthetic values including memorability and naturalness.
	(f)	Transient values, including presence of wildlife or other values at certain times of the day or year.
	(g)	Wild or scenic values.
Associative attributes	(h)	Whether the values are shared and recognised.
	(i)	Cultural and spiritual values for Kāi Tahu, identified by working, as far as practicable, in accordance with tikanga Māori, including their expression as cultural landscapes and features.
	(j)	Historical and heritage associations.

APP10 – Housing bottom lines

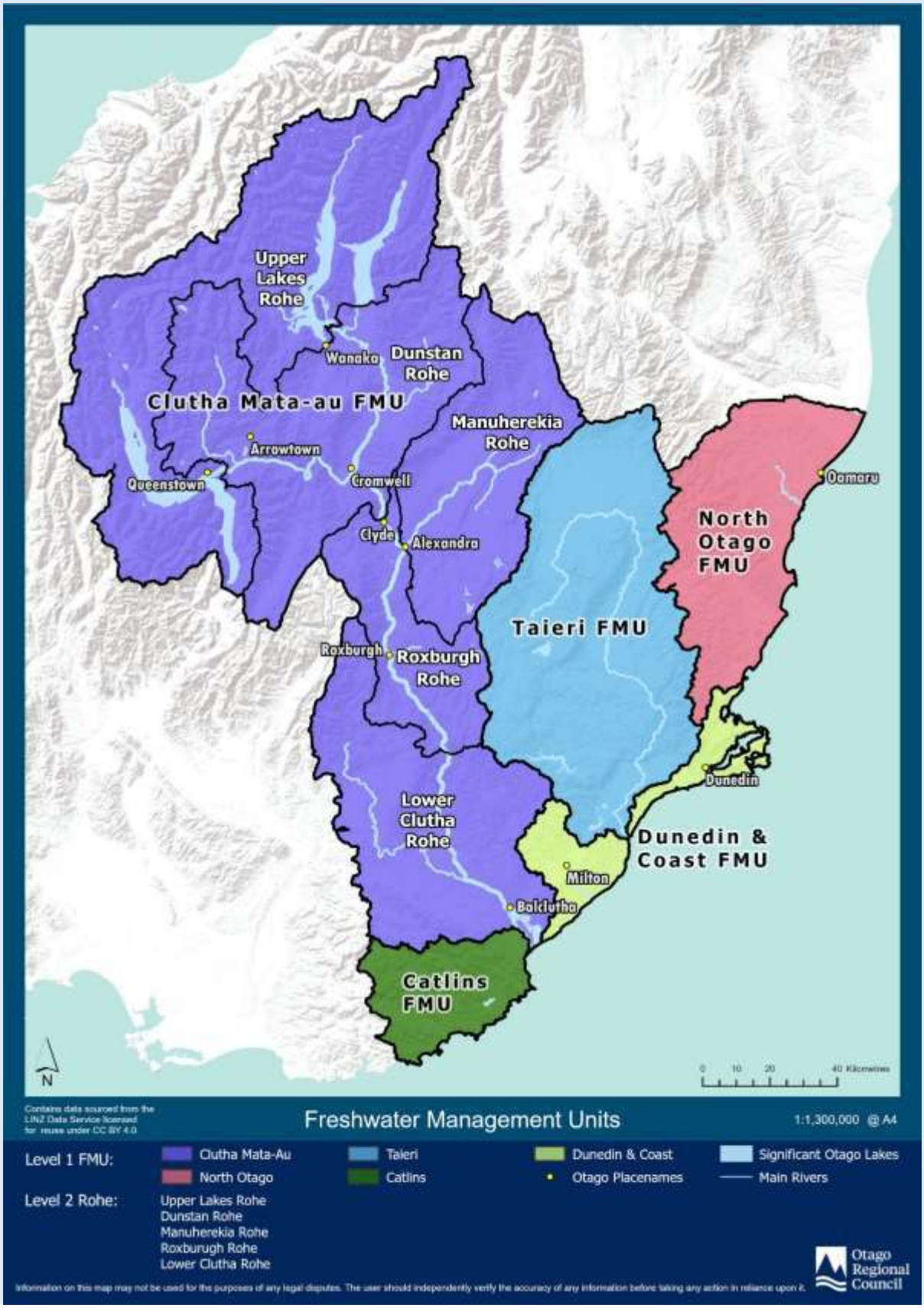
Table 10: Bottom lines for development capacity

Tier 2 Urban Environment	Short- Medium Term (0-10 years)	Long Term (11-30 years)
Queenstown		
Dunedin		

Note: This schedule will be amended or reamended in accordance with the National Policy Statement for Urban Development 2020, without using RMA Schedule 1, as soon as practicable following the publication of any relevant *Housing and Business Development Capacity Assessment,* the first of which is due to be completed by 31 July 2021.

Maps

MAP1 – Freshwater Management Units



MAP2 – EIT–TRAN–M7 Port Activities