BLUE GREEN NETWORK PLAN

QUEENSTOWN LAKES DISTRICT COUNCIL

Grow Well Whaiora

Boffa Miskell

Kauati

Te Ao Marama Inc.

Aukaha

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Image source: Whakatipu Trails trust

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EXECUTIVE SUMMARY

HE WHAKARĀPOPO-TOTANGA



OVERVIEW

The Queenstown Lakes District is shaped by its unique natural landscapes, which play a fundamental role in the environmental, cultural, and social well-being of its communities. As the District experiences ongoing urban development and population growth, for both residents and visitors, it is essential to integrate natural systems and open spaces into our future planning to ensure ecological resilience and stronger communities over the long term. Kāi Tahu have an environmental philosophy of ‘Ki Uta Ki Tai’, which recognises that everything is connected and must be managed as such. Ki Uta Ki Tai reflects that mana whenua belong to the environment and are only borrowing the resources from generations that are yet to come.

The Blue Green Network Plan (BGN Plan) provides a strategic, long-term framework that identifies opportunities for protecting and integrating these natural systems and open spaces into the planning and development of Queenstown Lakes District's urban areas and settlements. It emphasises the importance of preserving vital water systems (i.e. ‘blue’ elements) alongside land-based ecosystems and open spaces (i.e. ‘green’ elements), particularly as we face development intensification and climate change. This will help minimise fragmentation of ecosystems, proactively identify space for water, improve community well being, enhance biodiversity, strengthen cultural connections to place, increase community resilience, and provide for recreation, sport and social opportunities.

The 2021 Queenstown Lakes Spatial Plan (QLSP) identified several ‘Priority Areas’ and ‘Future Urban Areas’ across the Whakatipu and Upper Clutha Basins, where future urban change and growth is expected. This Blue Green Network plan builds on the Spatial Plan Priority Areas, Future Urban Areas and Settlements and Townships, identifying 21 ‘BGN Focus Areas’. The 21 BGN Focus Areas are the primary focus of this BGN Plan guiding integration of the Blue Green Network within existing and future urban development.

The BGN Plan is a more proactive approach to enhancing the Blue Green Network. As land and/or development opportunities arise, it allows communities and developers to see how an area or particular landholding could positively contribute to the Blue Green Network.

A Kāi Tahu report (A Kāi Tahu Blue Green Network Ki Uta Ki Tai, August 2024) was commissioned by QLDC to provide recommendations with associated guidance and interim methods to support continued collaboration between QLDC and Kāi Tahu beyond the life of this project. These recommendations and interim methods will assist in testing a Kāi Tahu BGN approach and refine enduring Outcome Delivery Mechanisms and processes. The report also identified a series of Kāi Tahu outcomes and expectations that should be read in conjunction with the mechanisms and guidance to assist with the delivery of a Kāi Tahu BGN.

FEATURES

The Blue Network encompasses the water catchments from the mountains to the lakes and beyond and all the waterways in between. The Green Network is the open space land and vegetation patterns across the landscape. The Blue and the Green are not separate, but it is a useful way to understand the systems at a landscape scale and the component parts that support optimum function of these networks and systems.

The key features of the Blue Green Network include:



Figure 1: Key features of a Blue Green Network

BLUE NETWORK

1. Lakes, Foreshores, Bays
2. Rivers, Streams and Creeks
3. Wetlands
4. Green Infrastructure

GREEN NETWORK

5. Natural and Scenic Reserves
6. Ecological corridors

COMMUNITY NETWORK

7. Parks and Open Spaces
8. Tracks and Trails
9. Streets and Civic Spaces

GEOGRAPHIC SCOPE

The 2021 Queenstown Lakes Spatial Plan (QLSP) identified several ‘Priority Areas’ and ‘Future Urban Areas’ across the Whakatipu and Upper Clutha Basins, where future urban change and growth is expected. This Blue Green Network plan builds on the Spatial Plan Priority Areas, Future Urban Areas and Settlements and Townships, identifying 21 ‘BGN Focus Areas’. The 21 BGN Focus Areas are the primary focus of this BGN Plan guiding integration of the Blue Green Network within existing and future urban development. The 21 BGN Focus Areas (clustered into 8) are:



Figure 2: Geographic scope of Blue Green Network

WHAKATIPU BASIN

- Tāhuna | Queenstown
- Queenstown Hill / Frankton Road
- Fernhill / Sunshine Bay
- 1 Te Kirikiri | Frankton
- Te Pūtahi | Eastern Corridor
- Te Tapuae | Southern Corridor
- Kelvin Heights
- Arthurs Point
- Kā Muriwai | Arrowtown
- 2 Tāhuna | Glenorchy
- 3 Takerehaka | Kingston

UPPER CLUTHA

- Take Kārara | Wānaka Central
- Three Parks
- 4 Wānaka North
- Wānaka South
- Wānaka West
- Albert Town
- 5 Luggate
- 6 Lake Hāwea
- 7 Cardrona
- 8 Makarora

PRINCIPLES



Figure 3: Blue Green Network Principles

LOCAL BLUE GREEN PLANS

The Local Blue Green Plans are a series of strategic plans designed to integrate natural and recreational elements within a landscape to enhance social and environmental well-being. These plans combine blue elements, such as rivers, lakes, wetlands, and streams, with green elements, including ecological corridors and recreational spaces like parks, trails, destinations, and arrival nodes. The goal is to create interconnected systems that support biodiversity, improve water management, and provide spaces for community recreation and cultural activities.

This document includes 21 Local Green Blue Plans for each of the BGN Focus Areas.



Figure 4: Example of Local Blue Green Plans

DIGITAL BLUE GREEN NETWORK (GIS LAYERS)

The combined Local Blue Green Plans and their data attributes are also documented and managed digitally in a separate Geographic Information System (GIS) held by QLDC, where they can be cross-referenced and periodically updated along with other mapping information the Council and other agencies hold.

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INTRODUCTION

KŌRERO TĪMATAKA



IMAGE SOURCE: QUEENSTOWNNZ.CO.NZ

1.1 PLAN PURPOSE

The Queenstown Lakes District is shaped by its unique natural landscapes, which play a fundamental role in the environmental, cultural, and social well-being of its communities. As the District experiences ongoing urban development and population growth, for both residents and visitors, it is essential to integrate natural systems and open spaces into our future planning to ensure ecological resilience and stronger communities over the long term. Kāi Tahu have an natural resource management philosophy of ‘Ki Uta Ki Tai’, which recognises that everything is connected and must be managed as such. Ki Uta Ki Tai reflects that mana whenua belong to the environment and are only borrowing the resources from generations that are yet to come. Ki Uta Ki Tai has been embedded into the creation of this Blue Green Network Plan.

The Blue Green Network Plan (BGN Plan) provides a strategic, long-term framework that identifies opportunities for protecting and integrating these natural systems and open spaces into the planning and development of Queenstown Lakes District's urban areas and settlements. It emphasises the importance of preserving vital water systems (i.e. ‘blue’ elements) alongside land-based ecosystems and open spaces (i.e. ‘green’ elements), particularly as we face development intensification and climate change. This will help minimise fragmentation of ecosystems, proactively identify space for water, improve community wellbeing, enhance biodiversity, strengthen cultural connections to place, increase community resilience, and provide for recreation, sport and social opportunities.

The 2021 Queenstown Lakes Spatial Plan (QLSP) identified several ‘Priority Areas’ and ‘Future Urban Areas’ across the Whakatipu and Upper Clutha Basins, where future urban change and growth is expected. This Blue Green Network plan builds on the Spatial Plan Priority Areas, Future Urban Areas and Settlements and Townships, identifying 21 ‘BGN Focus Areas’. The 21 BGN Focus Areas are the primary focus of this BGN Plan guiding integration of the Blue Green Network within existing and future urban development.

The BGN Plan has been developed collaboratively by Queenstown Lakes District Council (QLDC) alongside the other Grow Well Whaiora Partners (i.e. Kai Tahu, Otago Regional Council (ORC) and New Zealand Government) with input from stakeholders to ensure it reflects a shared commitment to sustainable urban development.

The QLSP is also one of several national, regional and district policy and strategy documents that direct and guide the BGN Plan. The BGN Plan will, in turn, inform smart decisions on future land use and the built environment to help achieve multiple benefits from investment and prioritise capital and operational spending on open space that meets the needs of our growing and changing community. To achieve this, it explains the rationale and identifies projects and opportunities that set a clear path to create a legacy for future generations.

The BGN Plan is a more proactive approach to enhancing the Blue Green Network. As land and/or development opportunities arise, it allows communities and developers to see how an area or particular landholding could positively contribute to the Blue Green Network.

The BGN Plan currently does not add regulation to private land and any future projects will be done in partnership with landowners’.

1.2 PLAN STRUCTURE

BLUE GREEN NETWORK PLAN

The BGN Plan is split into four main sections with additional references provided within appendices:

1

INTRODUCTION
This defines what a Blue Green Network is, introduces the benefits of a comprehensive approach, describes the values and principles used to inform decision making, outlines the geographic scope and how the BGN Plan fits in with other initiatives to manage urban change and future growth. It also describes the process followed to prepare the BGN Plan.

2

SETTING THE SCENE
This provides a landscape-scale overview of the Queenstown Lakes District and Whakatipu Basin and Upper Clutha to help establish a baseline understanding of the existing Blue Green Network within a wider context. It includes describing its geological formations, historic vegetation landcover, and the separate features of the existing blue, green and community networks. This supports a more holistic understanding of how the BGN Focus Areas can contribute to wider natural environment connections and opportunities for enhancing those connections to support biodiversity and cultural values, and biodiversity and cultural associations.

3

LOCAL BLUE GREEN PLANS
This documents future projects and opportunities of the Blue Green Network within each defined boundary of the BGN Focus Areas. A series of plans apply the principles of a Blue Green Network to their local context, including identifying and describing site specific responses to the key elements of water, ecology, parks, trails, destinations and arrival nodes.

4

IMPLEMENTATION
This provides an overview of the non-spatial mechanisms and actions required to progress the Blue Green Network Plan. This will be supplemented with a more detailed action plan to be prepared by QLDC.

APPENDICES
These provide further details on the methodology followed, alignment with key strategies, policies and other plans, the gaps analysis undertaken within BGN Focus Areas, and engagement process.

DIGITAL BLUE GREEN NETWORK

The combined Local Blue Green Plans and their data attributes are also documented and managed digitally in a separate Geographic Information System (GIS) held by QLDC, where they can be cross referenced and periodically updated along with other mapping information the Council and other agencies hold. These interactive Plans will be publicly available online and will allow users to see the Blue Green Network at a landscape scale to help understand how their individual properties, development proposals or community initiatives fit into the wider context and what is required to positively contribute to the network. The principles of a district wide Blue Green Network can then be applied on a site-by-site basis with a clearer view of the opportunities that will over time deliver on strategic direction of the district to genuinely 'Grow Well Whaiora – in the pursuit of wellness' through development that protects and enhances natural environment function and public open space networks.

QLDC BLUE GREEN NETWORK ACTION PLAN

The future projects and opportunities identified in the Local Blue Green Plans are scheduled and detailed in a separate Blue Green Network Action Plan prepared by QLDC. This includes identifying priorities, timeframes, responsibilities, and funding that can inform other processes, such as the Council's Long Term Plan

NOTES AND DISCLAIMERS:

The combined Local Blue Green Plans and their data attributes are

- This BGN Plan represents an initial version of the Blue Green Network, recognising that there is more information and detail that can be included and that further analysis and planning work is necessary. The BGN Plan is based on policy, parks planning and spatial data up until July 2024. It is a document that will be monitored and reviewed over time as environmental and urban changes occur. Check the GIS-based Digital Blue Green Network for the latest update.
- The BGN Plan relies on a range of desktop data sourced from a variety of datasets, some of which has been mapped at a national level and may not be entirely reliable or complete. Significant gaps and inconsistencies still exist in publicly available GIS data, particularly when relying on national datasets. Assumptions were made to reconcile conflicting information, prioritising locally sourced data where possible.
- The Local Blue Green Plans are a response to current strategies, policies and plans. While some gaps have been identified in these higher-level documents, the Local Blue Green Plans do not assume that updates will be made to address these gaps, though future policy development work might recommend revisions for adoption. Check the latest versions of these documents for current policy direction.
- The Local Blue Green Plans are based on the BGN Focus Areas in the QLSP. The boundaries for these urban areas are not well-defined and were created using Statistical Areas as a base, with adjustments made where necessary (e.g. to include known developments outside these areas). New parks that have been or will be vested with the Council, which currently have not been classified by type (e.g. local park, community park), have been classified according to size.
- Future projects and opportunities identified with the Local Blue Green Plans are subject to change based on mana whenua led assessments and / or when structure plans are developed for the BGN Focus Areas.

1.3 BLUE GREEN NETWORK DEFINITION

The BGN concept is centered around the function of Ki Uta ki Tai. It is the expression of the interrelationships and connections that support natural environment systems and the potential benefits of weaving this into land use and development planning and public open space investment.

The Blue Network encompasses the water catchments from the mountains to the lakes and beyond and all the waterways in between. The Green Network is the open space land and vegetation patterns across the landscape. The Blue and the Green are not separate, but it is a useful way to understand the systems at a landscape scale and the component parts that support optimum function of these networks and systems. In this way, the BGN can be protected and restored and integrated into urban areas and settlements. By strategically integrating and connecting the BGN across the Whakatipu Basin and Upper Clutha, numerous advantages can be realised for ecosystems and communities.

The key features of the BGN include:

BLUE NETWORK

1 LAKES, FORESHORES, BAYS
Whakatipu-Wai-Māori, Wānaka and Hāwea are iconic lakes of cultural and statutory significance to Kāi Tahu and offer visual and recreational amenity to the community and visitors. They lie in glacial valleys and are fed by numerous waterways from the surrounding mountain ranges and hills. Lake levels and the extent of shoreline can vary either naturally or are controlled for hydro generation and flood management. There are also numerous smaller lakes that are part of the freshwater, ecological and recreational systems and networks across the district, including Lake Hayes, Lake Johnson, Lake Dispute, Moke Lake and Diamond Lake.

2 RIVERS, STREAMS AND CREEKS
Waterways, other than lakes, form a hierarchy of tributaries within a wider catchment that typically have moving water, such as a rivers, streams and creeks, or natural channels with intermittent flows. These can often be dynamic, particularly braided streams and rivers on alluvial fans / outwash plains or meandering streams on valley floors. The number, variety and quality of the rivers is a unique feature of the district. The major rivers and lakes in the district form the largely natural headwaters for Otago's largest river catchment-the Mata-Au/ Clutha River. As well as being places of mahika kai and ara tawhito, wai māori has whakapapa connection for Kāi Tahu. There also may be other cultural values associated with waterways – e.g. taoka and tapu associated with some water bodies/reaches. 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).

3 WETLANDS
These reside in important transitional zones between aquatic and terrestrial environments where water sits intermittently or permanently. They can play crucial ecological roles, providing habitat for a diverse array of plant and animal species, to support biodiversity and mahinga kai. They often serve to buffer stormwater runoff from steeper terrain; however, many have been reduced to remnants by urban settlement, compromising ecological function and potential to deliver ecosystems services benefits.



Figure 5: Key features of a Blue Green Network

4 GREEN INFRASTRUCTURE
Infrastructure, such as constructed wetlands, swales and rain gardens, and associated detention basins are designed to mitigate effects of development by slowing and attenuating stormwater flow and treating water quality before discharge into lakes and waterways. If well designed, they can also deliver biodiversity and recreation outcomes alongside water management function. This infrastructure can be designed through nature-based solutions to have similar functions and values to streams and wetlands. There is a strong interdependency between built infrastructure in urban areas and natural streams and waterways and the ability of both to effectively support environmental and community outcomes in a financially sustainable way.

GREEN NETWORK

5 NATURAL AND SCENIC RESERVES
Larger open spaces typically encompass mountains, lakes and waterways that provide important physical and visual connections with nature and offer diverse recreation opportunities, such as walking, biking and water activities. They often have high ecological and natural character values (e.g. Outstanding Natural Landscapes and Features). These features include mauka/roto/awa that are significant wāhi tūpuna with whakapapa connection for Kāi Tahu (this links back to creation narratives). Some of them comprise National Parks, Public Conservation Land, LINZ foreshore and river beds, recreation and scenic reserves and Nohoanga.

6 ECOLOGICAL CORRIDORS
A continuous strip, or stepping stones, of protected and enhanced land/ habitat between isolated or separated ecosystems form corridors that help facilitate the connectivity of flora and fauna and support ecological systems and processes at a landscape scale.

COMMUNITY NETWORK

7 PARKS AND OPEN SPACES
A diverse mix of types and sizes of parks are fundamental to meeting the day-to-day needs of people and communities within or near urban areas. These provide outdoor environments where people meet, socialise and can be active. This also includes sportsfields and event hubs that host local, regional, national and international sports and events and often also accommodate Community Facilities. The parks can deliver connected and component parts of the Blue Green Network alongside the primary purpose of outdoor spaces for physical activity and community use.

8 TRACKS AND TRAILS
The extensive trail network in the district provides linkages for recreation or active travel, such as walkways, cycleways or shared routes, that make moving between and around our neighbourhoods easier and can provide for alternative and more sustainable transport modes. They are a key part of the recreation opportunities across the district and can potentially offer routes for micro mobility users, including scooters and electric wheelchairs. The linear and connected nature of tracks and trails offer opportunities to connect natural habitat and support ecosystems. The desire of people to be near water and existing settlement patterns across the District provide a strong correlation between Blue Green Networks and public access to tracks and trails.

9 STREETS AND CIVIC SPACES
Within and around settlements a framework of more formal public spaces with hard surfaces is found that balances both movement and place functions. Streets support dynamic multi-modal movement, social interaction and linear blue and green infrastructure (e.g. swales and raingardens). They provide important opportunities for planting large tree species in urbanized environments where there is less (or no) space on private property for urban greening of a suitable scale. They can provide important amenity and ecological links between key parts of the Blue Green Network. Civic Spaces, such as squares and promenades, provide active and passive spaces and can host larger community gatherings and commercial events. They have an important social function and can be a focus point in a community, situated outside key public buildings such as community centres, libraries and recreation or events facilities.

1.4 KEY BENEFITS

This BGN identifies values and opportunities for protecting and integrating natural systems and environments into the ongoing planning and development of the Queenstown Lakes District urban areas and settlements. It comprises an overarching plan with Principles and Outcomes and individual Local Blue Green Plans which are also provided as a GIS layer. QLDC and Kāi Tahu along with other Grow Well Whaiora Partners and input from stakeholders and the wider public, have developed this Plan to identify opportunities and enable implementation over the long-term.

There is a need to more sympathetically integrate urban development into natural systems and with an understanding of the carrying capacity of te taiao and how different places contribute to landscape scale systems and cultural concepts of relationship to water and land. Recognition of ki uta ki tai is key in the district as a landscape scale systems approach to land use planning that supports Te Mana o te Wai and protects and restores the Mauri of water bodies.

The Whakatipu Basin and Upper Clutha area comprise large-scale complex geography where land, water and vegetation patterns and natural systems interact with human settlement and land use. The BGN consists of interconnected systems of river catchments, streams, lakes, wetlands, native bush, tussock lands, and other ecosystems. These natural systems significantly contribute to the environmental, cultural, social, and economic well-being of the Queenstown Lakes District. Careful future planning of urban areas can protect, restore and use these systems to deliver high-quality, adaptable places for people to live, work and visit. Recreation reserves and trails networks are often integrated into the Blue Green Network and provide opportunity to protect, reconnect and restore natural environmental function as part of the wider systems.

The geologically dynamic and world-renowned landscapes of the Whakatipu Basin and Upper Clutha area host a range of distinctive ecosystems, values and experiences that are central to the integrity of the wider Queenstown Lakes landscape and identity of local communities. The BGN is of particular significance to Kāi Tahu, with some elements such as Whakatipu Waimāori and the Mata-au forming part of their creation narratives. Ancient trails that have connected the lives and practices of tūpuna through generations are an integral part of the Blue Green Network. It has shaped Mana Whenua worldviews, practices and lifestyles and will offer the opportunity for cultural recognition, at the same time as influencing how we live, work, play and provide for future generations.

Both the Whakatipu Basin and Upper Clutha communities have opportunities for direct and indirect access to the natural environment. The waterways, reserves, sports fields, parks and greenways, trails, streets and other open spaces, within and around towns and settlements offer places for people to unwind, connect, get inspired, socialise and be physically active. A BGN approach to planning and investment in urban areas and settlements provides an opportunity to maximise both natural environment and human health/wellbeing outcomes provided by these spaces.

The BGN has immense potential to provide a regenerative framework for urban growth and development that improves and revitalises natural systems through innovative and restorative practices. As the District proactively plans for population growth and climate change, the adaptability and resilience of the BGN is a key component in supporting thriving communities. This plan is critical for protecting natural systems, enhancing urban environments, enhancing public greenspaces, and creating a network of streets and trails that connect people and places and offer important recreation opportunities.

An example of the cumulative value of a BGN is identifying opportunities for intentional planning for space for snow melt and stormwater to flow, that also reduces contaminants at outlets, provides amenity to communities, access for recreation, and helps reduce flooding where people live. Combined, these features support environmental and community wellbeing while providing resilience in extreme storm events. This makes economic sense, builds a sense of community, and provides access to a healthy natural environment in people's everyday lives. Importantly, this allows for delivery of multiple benefits from investment in land, infrastructure, and open space.

KEY BENEFITS OF A BLUE GREEN NETWORK INCLUDE:

INTEGRATES TE AO MĀORI:
Recognises Kaitiakitaka, tikaka, haere whakamua and mauri values. Whanaukataka is also a benefit, particularly relating to social, and economic benefits. A holistic natural resource management systems approach and supports ki uta ki tai and mahika kai.

ENHANCES ECOLOGICAL CONNECTIVITY:
Enables landscape-scale systems to be supported through connected networks of waterways and open spaces that protect and improve biodiversity outcomes, provide habitat and provide space for a more resilient and sustainable urban ecosystem.

IMPROVES WATER QUALITY:
Provides space for protection of waterways through urban settlements and riparian planting to support water quality, giving effect to Te Mana o te Wai. Use of green infrastructure elements and provision of space for water systems to connect and flow, and to allow for attenuation and treatment of stormwater runoff and mitigate the impacts of urbanisation on local water bodies.

PROVIDES FOR INCREASED RESILIENCE TO CLIMATE CHANGE:
Enhances the resilience of urban areas to climate change impacts by understanding the potential of natural systems to manage water volume. Provide space for water to flow above ground and healthy land and vegetation to protect people and property from natural hazards.

PROVIDES RECREATION, SPORT AND SOCIAL OPPORTUNITIES:
Provides opportunities for recreation, connection with nature, outdoor activities, and social interaction for a diverse mix of people and communities. Delivers sport and recreation and events spaces that mean community needs as the community grows and changes.

ENHANCES HUMAN HEALTH AND WELLBEING:
Enhances health of the community, individuals, and visitors through opportunities for access to the natural environment in everyday life. Promotes the potential to live well in a place where the natural environment is protected and cared for and in turn supports human health.

RAISING AWARENESS AND EDUCATION:
Provides educational and volunteering opportunities, which foster a sense of stewardship and belonging. The community understand and champion open space, environmental and cultural values in their neighbourhood and across the District.

INCLUSIVE AND ACCESSIBLE:
Establishes a connected system of waterways, open spaces that are easily accessible to all residents.

SUPPORTS MORE SUSTAINABLE LAND USE AND DEVELOPMENT:
Prioritises the preservation of open spaces, protect and enhance waterways, create connected green corridors, and promote compact and mixed-use development patterns that allow natural environment systems to function within urban areas and settlements. Future growth deliberately and proactively plans space for natural environment systems to function and delivers community and environmental outcomes from open space networks.

PROMOTES TOURISM AND LOCAL VISITORS:
Ensures protection of landscapes, provision of green infrastructure and a network of open spaces and trails that supports a consistently great visitor experience. A place where the quality of the natural environment and the benefits of living 'within nature' continues to drive destination promotion and the development.

CULTURAL
ENVIRONMENTAL
SOCIAL
ECONOMIC

1.5 KĀI TAHU VALUES

KI UTA KI TAI
Ki Uta Ki Tai is a Kāi Tahu natural resource management philosophy recognising that everything is connected and must be managed as such. Ki Uta Ki Tai reflects that mana whenua belong to the environment and are only borrowing the resources from generations that are yet to come.

AHI KĀ ROA
Recognise Kāi Tahu presence and the importance of the area to their associations, practices and cultural ecological systems as a community who shaped, managed, and relied on te taiao across much of these ancestral lands, wāhi tūpuna.

IRA ATUA TANGATA ATUA
Ira Atua and Tangata Atua are cultural constructs that recognise the act of ordering whakapapa and are embedded in how Kāi Tahu engage with their environment. It considers what is held within a landscape and what is appropriate at place. . A landscape holds and exerts many things in different ways, including whakapapa, mana, kawa, tikanga, mātauranga, identity, connections, practices, history, values and guide what is appropriate

MAURI
Mauri can be defined as the life principle, life supporting capacity, or life force present in all things. Protecting the mauri of a resource is the fundamental management principle for Māori. Mana whenua treasure the mauri of freshwater and other resources, and experience cultural offence and distress when that mauri is degraded.

WAIRUA
Kāi Tahu whānau use different ways to feel spiritually connected with their takiwā. For example, gathering kai with whānau at a traditional fishing place, they know was named by their tūpuna and utilised by successive generations of their whānau, is one way. Conversely being denied these opportunities through physical constraints or absence of resources can impact wairua/spiritual wellbeing.

MAHINGA KAI
Mahinga kai is about mahi ngā kai – it is about places, ways of doing things, and resources that sustain the people. Mahinga kai is considered by Kāi Tahu to be, in today's language, the principal 'environmental indicator' in natural systems. If mahinga kai is not present, is unsafe or unable to harvested, then that natural system is under stress and requires remedial action. Mahinga kai practices rely on thriving and abundant biodiversity, safe and aesthetically pleasing places to practice, and the active transfer of knowledge between people. Biodiversity and aesthetics are dependent on the sustainable management of many other natural resources in the takiwā, especially waterbodies.

ACCESS
Importance to provide access to mahinga kai, practices, and other associations. The QLDC area includes many Te Ara Tawhito/ancient trails which traverse and move up and down the district area providing safe and known access routes to places, resources, and practices.

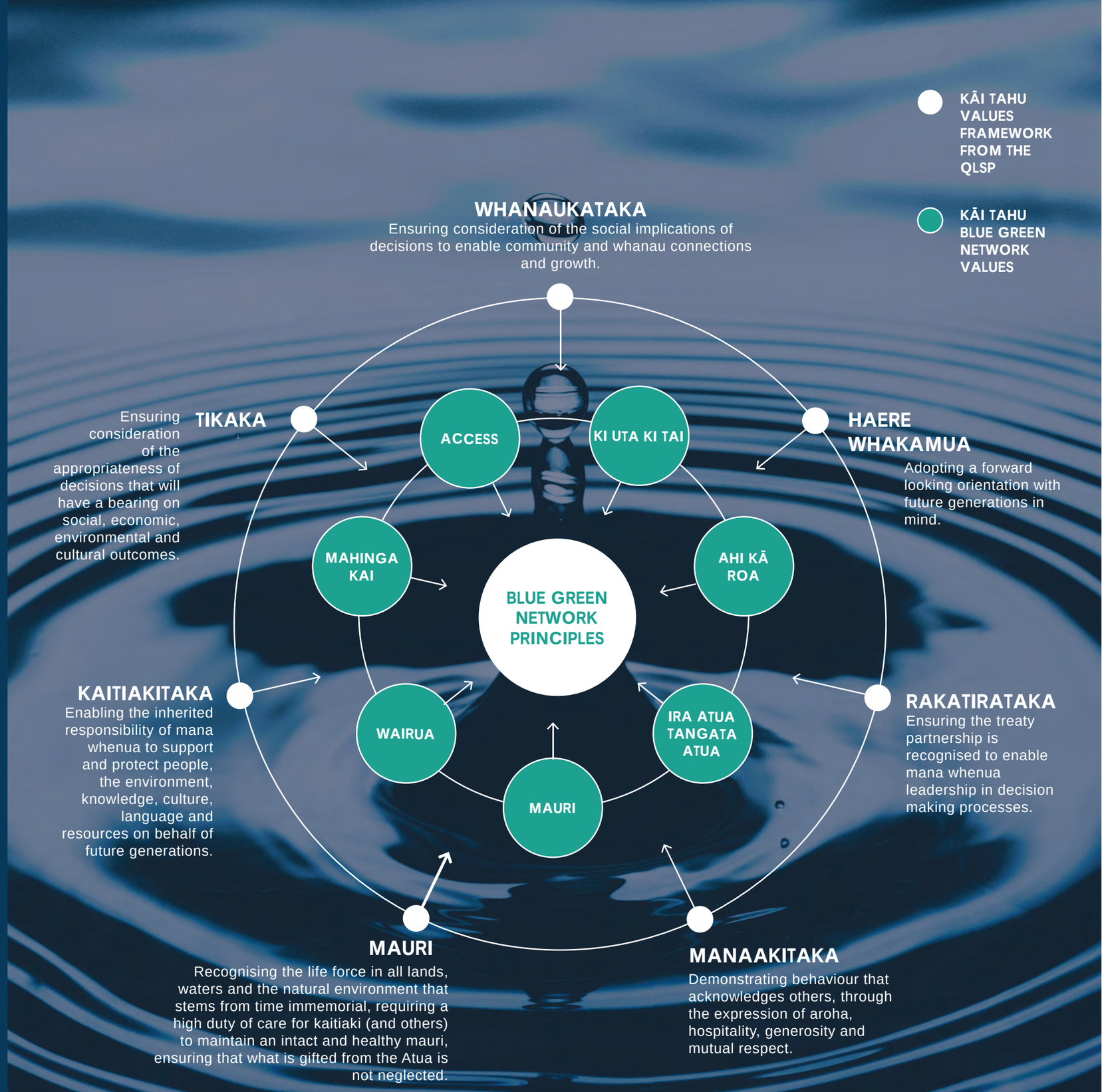


Figure 6: Kai Tahu Values

1.6 PRINCIPLES



MANA O TE WAI

Involves prioritising Wai/water as the foundation of healthy and functioning environments and communities. Catchment scale understanding of the waterways informs land management and community use, with the intrinsic values of water as the first priority. This principle aims to ensure that water is managed sustainably, with a focus on preserving, enhancing and providing for the natural processes at a landscape scale. Prioritising water and making space for water is vital for response to climate adaptation, supporting cultural values and connection to place, enhancing biodiversity, providing recreational opportunities, and fostering community and individual health and well-being.



WOVEN INTO THE CONTEXT

Recognising the interconnectedness of natural environment systems. Decisions about component parts of interrelated systems or networks (such as blue, green or community networks) impact the system as a whole. Decisions can support the system or fundamentally impact its ability to properly function for both its own sake and to support community values. Although the Blue Green Network focuses on the BGN Focus Areas (derived from the Queenstown Lakes Spatial Plan), it is essential to consider the surrounding areas of influence to identify place-based interventions that support the wider system. The potential of one urban settlement to supporting the wider catchment or landscape scale blue green networks will be different to others. Understanding context will maximise potential benefits to the interrelated networks.



COEXISTENCE OF NATURE AND PEOPLE

Planning and managing spaces and work programmes to deliver multiple outcomes benefits both nature and people. There are cultural, social, environmental, and economic benefits in planning for development and activities driven by natural processes and networks. People can thrive when they are able to live within and connect to natural systems in their everyday lives. People and nature are not separate, and when they coexist there are incremental co-benefits.



CONNECTING PEOPLE AND PLACE

The importance of protecting and providing access to natural environments and outdoor recreation space within and around urban settlements is recognised. These spaces foster a strong sense of community and belonging while expressing the unique characteristics of a particular location. Better integration of connections (active travel, trails, ecological corridors etc) will improve accessibility to, through and between open spaces and key destinations. Connected networks are required for access, waterways and biodiversity, so it makes sense to plan these networks in an integrated way. This also allows for expression of cultural values and protection and enhancement of unique local characteristics. A diverse mix of open spaces will ensure both environment and community/human needs are meet as built development and urban form evolves.



FIT FOR PURPOSE AND WELL SERVICED

Public open spaces, sport and recreation facilities, and trail networks are key components of urban environments and settlements that enable multiple outcomes to be delivered from the same area of land – provided they are well thought out (at a landscape and network scale), well located, large enough, well designed and carefully managed.

Open spaces need to be located where they are optimally suited to their primary intended use, with appropriate shape, size, and absence of constraints, while also allowing for multi-functional use that does not interfere with their primary purpose. In this way, the open space network can deliver outcomes greater than the sum of its parts, and investment in land and ongoing management is optimised.

Figure 7: Blue Green Network Principles

1.7 GEOGRAPHIC SCOPE

The 2021 Queenstown Lakes Spatial Plan identified several Priority Areas, Future Urban Areas and Settlements across Whakatipu and Upper Clutha, which could accommodate future residential growth in the Queenstown Lakes District. This BGN plan describes these as 21 'BGN Focus Areas' and these areas are the focus of this plan, where blue and green networks can frame, enhance and connect future growth and change. This plan presents an opportunity to focus on environmental and community outcomes as a bottom line with built development located and designed to protect and enhance natural environment systems, so the full range of benefits from those systems can be realised.

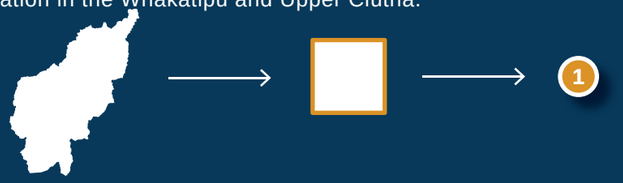
PRIORITY DEVELOPMENT AREA

A Priority Development Area is a defined area that the QLSP has identified as accommodating growth within and around existing urban areas of Tāhuna Queenstown and Wānaka. This approach builds on locations that are already fully or partially urbanised. It sets clear limits to outward urban growth, bound by natural features or areas subject to hazards. This aims to accommodate high levels of urban growth in defined areas while preserving areas of rural character, natural landscape and rural production.

SETTLEMENT AREA

Generally, this encompasses existing smaller urban areas or townships which can accommodate a limited amount of the Queenstown Lakes District future growth. This would be achieved through infill development and expansion within those areas already zoned in the District Plan for urban development. Some smaller settlements will change significantly over the next 30 years; Cardrona has the potential to develop as an alpine resort, Kingston/ Luggate and Hāwea will continue to transition from holiday settlements into small towns with more permanent residents and other smaller settlements, such as Glenorchy and Makarora are expected to see a small amount of growth occurring within their current footprints and consistent with their unique character and constraints.

As these BGN Focus Areas develop and grow over time it is increasingly important that a Blue Green Network is identified, protected and enhanced so that the potential for significant contribution to the social, environmental, economic and cultural wellbeing for the Whakatipu and Upper Clutha community is realised The identified Priority Development and Settlement Areas from the Spatial Plan are therefore focus areas for the Blue Green Network Plan, in the context of the relationship between these areas and location in the Whakatipu and Upper Clutha.



AREA OF ACKNOWLEDGEMENT
Queenstown Lakes District

AREA OF INFLUENCE
Whakatipu Basin and Upper Clutha

AREA OF FOCUS
BGN Focus Areas

WHAKATIPU BASIN

BGN Focus Areas:

1. Tāhuna | Queenstown
2. Queenstown Hill / Frankton Road
3. Fernhill / Sunshine Bay
4. Te Kirikiri | Frankton
5. Te Pūtahi | Eastern Corridor
6. Te Tapuae | Southern Corridor
7. Kelvin Heights
8. Arthurs Point
9. Kā Muriwai | Arrowtown
10. Tāhuna | Glenorchy
11. Takerehaka | Kingston

UPPER CLUTHA

BGN Focus Areas:

12. Take Kārara | Wānaka Central
13. Three Parks
14. Wānaka North
15. Wānaka South
16. Wānaka West
17. Albert Town
18. Luggate
19. Lake Hāwea
20. Cardrona
21. Makarora

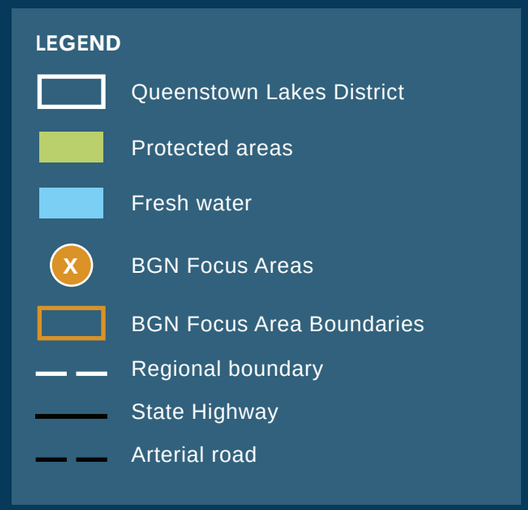




Figure 8: Queenstown region plan

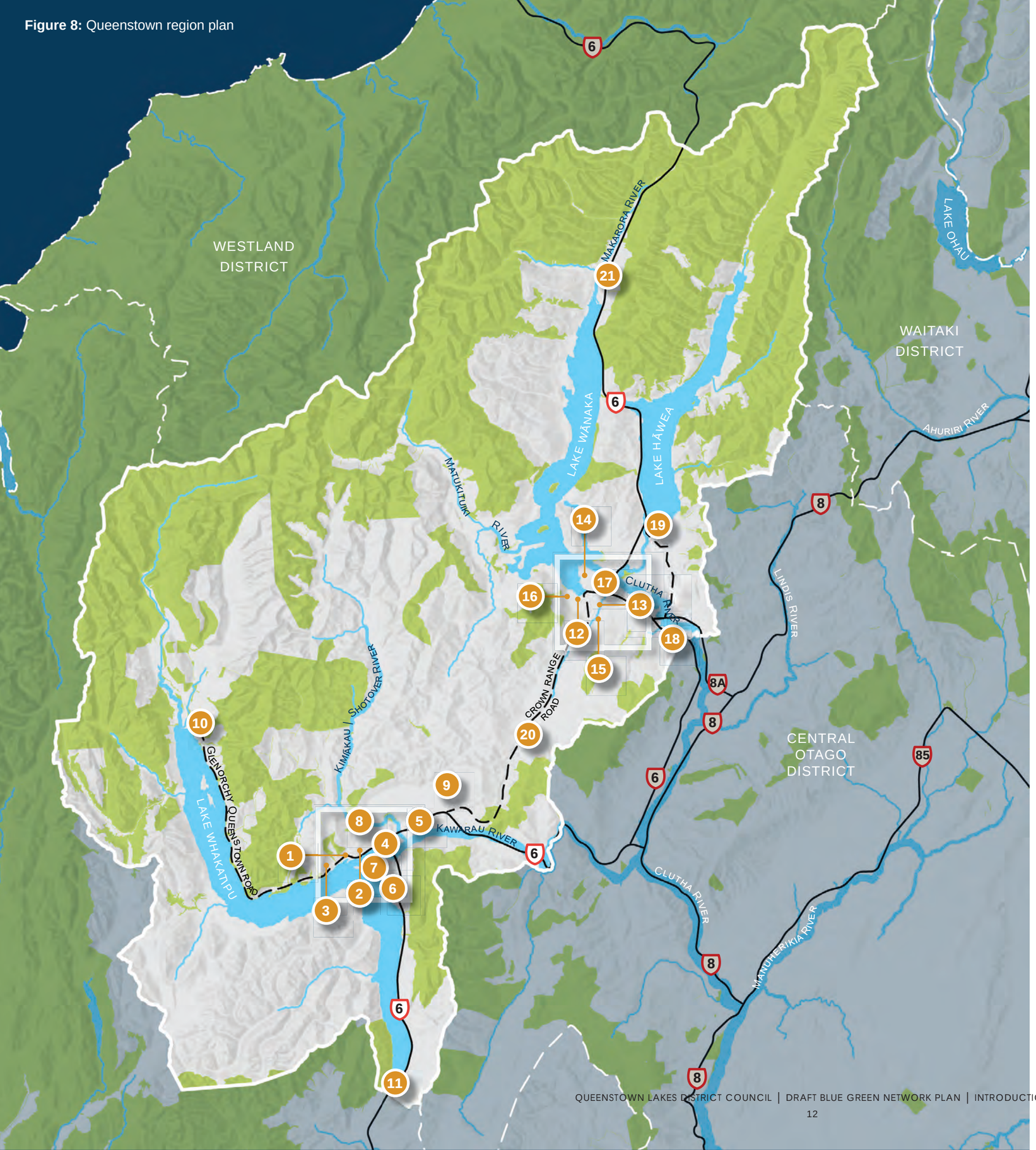




Figure 9: Whakatipu basin plan



Figure 10: Upper Clutha plan

WHAKATIPU BASIN

BGN Focus Areas:

1. Tāhuna | Queenstown
2. Queenstown Hill / Frankton Road
3. Fernhill / Sunshine Bay
4. Te Kirikiri | Frankton
5. Te Pūtahi | Eastern Corridor
6. Te Tapuae | Southern Corridor
7. Kelvin Heights
8. Arthurs Point
9. Kā Muriwai | Arrowtown
10. Tāhuna | Glenorchy
11. Takerehaka | Kingston

UPPER CLUTHA

20. Cardrona

Figure 11: Whakatipu basin aerial

TE-TAUMATA-O-HAKITEKURA | BEN LOMAND

MT CRICHTON

KAWARAU | THE REMARKABLES

CECIL PEAK

WALTER PEAK

WHAKATIPU-WAI-MĀORI | LAKE WHAKATIPU

UPPER CLUTHA

BGN Focus Areas:

- 12 Take Kārara | Wānaka Central
- 13 Three Parks
- 14 Wānaka North
- 15 Wānaka South
- 16 Wānaka West
- 17 Albert Town
- 18 Luggate
- 19 Lake Hāwea
- 21 Makarora

Figure 12: Upper Clutha aerial

1.8 RESPONDING TO FUTURE GROWTH

Growth pressures in response to the needs of a larger community and increasing visitor numbers result in urban development intensifying and expanding over an increasingly large and dispersed area of the Queenstown Lakes District. Intensification can incrementally reduce the open space and amenity available on private land. This puts greater pressure on existing, sometimes deficient, public open spaces and facilities, and constrains further additions to the BGN within urban areas. Greenfield development inevitably changes areas from a natural landscape or rural character to a more highly modified environment. While comprehensive greenfield development can provide opportunities for rehabilitation of waterways and creation of new recreation connections and green open spaces, this can often be lost with incremental urban expansion. Either way, if urban change is not well-managed it could compromise some of the qualities valued by Kāi Tahu and the wider community and those attributes that attract visitors to the District. Poorly managed growth that does not provide space for natural environment systems is a lost opportunity for realising the significant value (social, cultural, economic, and environmental) associated with a healthy, functioning environment.

Urban growth can also result in the need for compromises between different types of open space within the GBN, such as natural / urban and formal / informal spaces. It can also mean competition for finite developable areas between open spaces and other infrastructure needs, either civil (e.g. stormwater management) or community (e.g. school playing fields). While there can be good opportunities for nature-based solutions and co-location of open spaces, it is not always appropriate to consolidate them together.

High density living increases the demand on the public open space network. It is critical that a diversity of public open space is delivered that responds to different housing typologies and changing urban form. The flip side of enabling higher density development and living is the need for a greater allocation of land for public open spaces and investment in those spaces for use by a higher number of people with a wider diversity of needs. A sufficient range of open spaces, of a large enough size, is required so that both the environmental and social/recreation needs are provided across the district's different towns and settlements. With an absence of private backyards additional public open space provision is required for permeable surfaces and waterways, large trees and other vegetation, outdoor areas for gathering, socialising, play, gardening, exercising pets etc. Small and poorly located public open space is unable to deliver the full range of function needed for the district to ‘Grow Well – Whaiora”.

Projections indicate these urban development pressures will continue with ongoing significant growth over the next 30 years. Proactive, long-term spatial planning can help manage growth in a way that can optimise BGN outcomes.

QUEENSTOWN LAKES SPATIAL PLAN 2021

The Queenstown Lakes Spatial Plan (QLSP) is a vision framework for the next 20+ years for how and where the communities of the wider Whakatipu and the Upper Clutha areas can grow and develop, to ensure social, cultural, environmental, and economic well-being. It is important to ensure that future growth happens in the right place and is supported by the right infrastructure, whether that is open space provisions, pipes in the ground, ways of getting around, access to schools, healthcare or other community facilities.

The QLSP was developed in partnership with the Grow Well | Whaiora Partnership that includes QLDC, Aukaha, Te Ao Marama Inc. (TAMI), Otago Regional Council and New Zealand Government. A series of workshops and consultation with the community has informed the Spatial Plan and the QLSP was adopted by QLDC in July 2022.

To deliver the QLSP, a series of Priority Initiatives have been identified under each outcome. These priority initiatives will be monitored, and the Spatial Plan will be reviewed on a three-year cycle (except for the next plan cycle, which will be completed within two years). This is to enable the Spatial Plan to inform the Ten Year Plan and the 30 Year Infrastructure Strategy.

HOW THE SPATIAL PLAN HAS DIRECTED THE BLUE GREEN NETWORK PROJECT

Outcome four of the QLSP identifies the need for ‘Well-designed neighbourhoods that provide for everyday needs’. Three strategies were outlined to achieve outcome four, one of which relates to the Blue Green Network:

STRATEGY 13 -

ENHANCE AND PROTECT THE BLUE GREEN NETWORK

As the Queenstown Lakes grows, ensuring access to a variety of quality public open spaces is increasingly important. The Blue Green Network is the compilation of all the parks, open spaces, streets and accessible waterways that deliver a variety of educational, recreational, ecological, cultural, landscape and health benefits. Establishing a connected open space network needs to be planned for in the initial stages of new developments, as well as taking opportunities to add, retrofit and improve links with the existing network wherever possible.

Increasing density to provide more housing choices will mean more people will be living in attached housing and apartments in the future. These types of houses often have less private open space than traditional detached suburban properties. Public open space will increasingly become the ‘kiwi backyard’ for residents and will need to provide for a wider range of activities. Ensuring residents in higher density housing have easy access to open space is critical to make this an attractive option for more of the community.

While new open spaces can be secured for greenfield developments, adding more open space is difficult where infill redevelopment is occurring within the existing urban area. In these areas, protecting and improving the quality of existing open space and streetscape is important, so they cater for a mix of activities for more people and to provide amenity in higher density areas.

Recommended priority initiatives were outlined at the end of each outcome chapter, to be advanced by the partnership’s joint work. Priority Initiative 15 states the following: ‘Develop open space network plans to deliver the Blue Green Network’.

QLSP 2021 FRAMEWORK

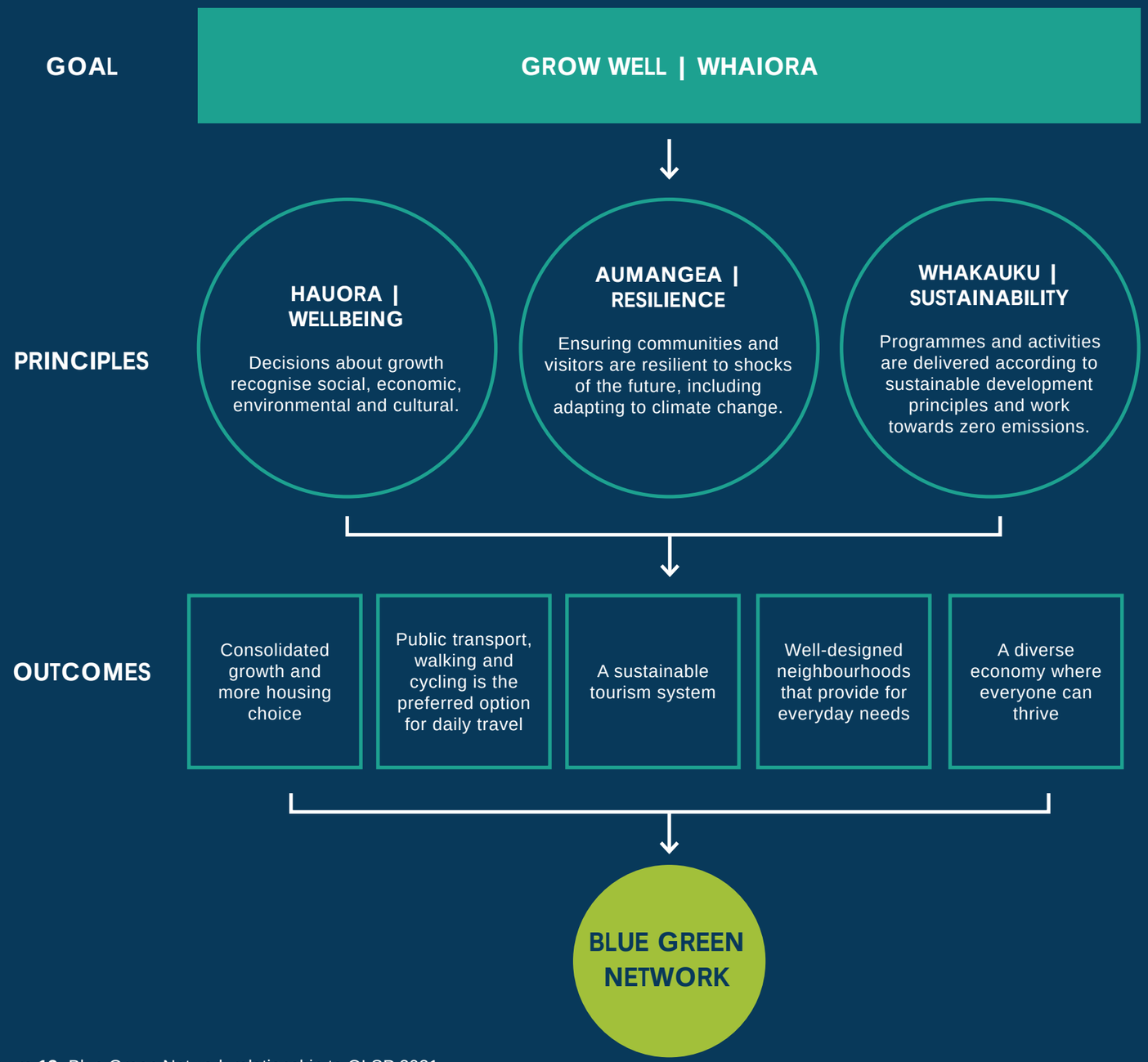


Figure 13: Blue Green Network relationship to QLSP 2021

WHAT NEXT?

The BGN will guide planning, investment and ongoing management of spaces and places that allow for natural environment systems and community/individual public open space access needs to be identified, protected and enhanced within and around urban settlements. The BGN will inform the continuing development of the Spatial Plan by responding to outcome four from the 2021 Spatial Plan by creating ‘well-designed neighbourhoods that provide for everyday needs and enhancing and protecting the Blue Green Network’.

The Spatial Plan Gen 2.0, which is currently under review, will build on earlier work completed in 2021, and will become part of the Future Development Strategy, which is a central government requirement for all high growth councils in Aotearoa New Zealand. The purpose of the Spatial Plan Gen 2.0 is to help the district 'grow well', guide how the natural environment is protected and enhanced alongside the urban growth and create urban spaces that do not just meet the needs of the community, but are places that the community and the district can be proud of. The BGN will be a key component to achieving this purpose.

1.9 CLIMATE CHANGE

Climate change presents a significant challenge for towns and cities around New Zealand with enormous implications for natural environment systems and communities. Understanding the interaction between landscape scale natural systems such as water catchments for example and the built environment, provides opportunity to proactively plan for climate adaptation. Environment-led urban development can both reduce contributions to climate change (such as transport related CO2 emissions for example) and increase the potential for people to live safely and well as the climate changes.

The information below outlines the potential climate change impacts and implications under the climate change scenario RCP8.5, compared to present-day conditions. The RCP8.5 scenario represents a high greenhouse gas emissions pathway, which projects significant changes in temperature, precipitation, extreme weather events, and biodiversity. By understanding these projected changes, we gain valuable context for planning a Blue Green Network, which will help ensure the resilience and well-being of the Queenstown Lakes District's natural systems, urban areas, and communities.

QUEENSTOWN LAKES CLIMATE 2100

MEAN TEMPERATURE | By 2050, the mean temperature in the district is projected to be, on average, 1.3°C warmer (ranging from 0.9°C to 1.66°C). By 2100, the district is expected to experience an increase of 3.1°C (ranging from 2.2°C to 4.05°C).

FROST DAYS (≤0°C) | The district is anticipated to see up to 24 fewer frost days by 2050, with a further reduction leading to up to 64 fewer frost days by 2100.

HOT DAYS (≥25°C) | There will likely be an increase in hot days, with up to 24 additional days by 2050 and up to 71 more hot days by 2100.

SNOW | The peak snow-covered area is projected to reduce by approximately 20%. Snow cover duration is expected to decrease across the district, with a more pronounced reduction toward the east. Ski-field areas, particularly Cardrona and Coronet Peak, will be significantly affected by the shorter snow cover duration.

PRECIPITATION | By 2050, the eastern part of the district may be up to 50mm drier, while the western part could become up to 800mm wetter. By 2100, these changes could intensify, with the east being up to 100mm drier and the west experiencing up to 1780mm more precipitation.

EXTREME RAINFALL | Short-duration rainfall events (10 minutes to 2 hours) are expected to see about one-third more rainfall across all Annual Recurrence Intervals (ARIs), with the greatest increase for events with 80 to 100-year ARIs. Medium-duration events (6-24 hours) may experience a 20-30% increase in rainfall for all ARIs, with the greatest rise in events with 60 to 100-year ARIs. Long-duration events (48-120 hours) could see a 15-20% increase in rainfall, with the most significant increases in events with 30 to 250-year ARIs.

WILDFIRE | Climate change is expected to increase wildfire risk in the Queenstown Lakes District due to higher temperatures and drier conditions. Central Otago, particularly along highways SH80, SH8, and SH6, is at especially high risk due to flammable vegetation, limited access, and scarce water resources for fire suppression. Population growth, new developments, and visitors unfamiliar with wildfire risks further heighten the potential danger.

POTENTIAL IMPACTS ON BLUE GREEN NETWORK:

WATERWAYS AND ECOSYSTEMS:
The district's iconic lakes, braided rivers, and waterways provide habitats for a diversity of threatened birds, fish, and invertebrates, and offer important mahika kai resources. High flows during extreme rainfall events may cause erosion, sedimentation, and damage from debris, degrading important habitats and reducing available kai. Additionally, runoff into these waterways may increase nutrients and other contaminants, supporting algal blooms.

BIODIVERSITY AND TĀONGA SPECIES:
The native species in the Queenstown Lakes District are highly sensitive to gradual changes in mean temperature and temperature extremes. These changes affect their natural seasonal cycles, habitat availability, and pressures from invasive pests.

Warmer temperatures tend to favour exotic species, which are better adapted to or more tolerant of these conditions. Historically, the alpine character of the district has limited the range of some invasive species. As temperatures rise, these areas may become more exposed to invasions from new pests.

The district's terrestrial and aquatic biodiversity is already under considerable pressure from invasive species, including plants, vertebrates, invertebrates, and pathogens. Climate change will exacerbate these pressures by aiding the range expansion of existing invasive species and allowing new pests to establish.

Alpine and sub-alpine environments are particularly vulnerable to reduced snow and ice, which create conditions more favourable to lower elevation species, especially invasive pests and weeds. These environments are often geographically isolated, limiting the ability for native species to retreat, and many possess low adaptive capacity.

Retrofitting existing urban environments to respond to climate adaptation is significantly more complex than ensuring there is enough land in the right places to support natural environment function and community needs as a prerequisite of any further growth and development. There are already issues of intergenerational equity around paying for climate adaptation. Poor decisions now will affect future generations for many years to come.

Sources:

Langer, E. R., Wegner, S., Pearce, G., Melia, N., Luff, N., and Palmer, D. (2021) Adapting and mitigating wildfire risk due to climate change: extending knowledge and best practice. Prepared for the Ministry of Primary Industries by New Zealand Forest Research Institute Limited (Scion)

Cameron, C. & Bird, L. (2019) Climate change implications for the Queenstown Lakes District. Prepared by Bodeker Scientific for the Queenstown Lakes District Council

NIWA. High Intensity Rainfall Design System (HIRDS). NIWA, https://hirds.niwa.co.nz/.

1.10 PROCESS

1 EXISTING STATE

The initial phase of the project encompassed a desktop mapping exercise of the existing BGN within the Whakatipu Basin and Upper Clutha. While the Local Blue Green Plans are primarily centred on urban areas, understanding the wider system view of the BGN is necessary to consider what the opportunities are to support those systems within the urban areas.

This phase entailed the separate mapping of the blue, green, and community elements to facilitate clear communication, while acknowledging the interconnectedness of these components. The blue network encompassed waterways and catchments, the green network focused on indigenous vegetation and ecological corridors, and the community network addressed recreational trails and parks, highlighting elements that directly serve and engage the community. It is imperative to recognize the intrinsic linkage between the blue, green, and community components, as their integration is essential for a cohesive and sustainable BGN.

Mapping at the basin level provided a detailed understanding of the current state, which served as a foundation for developing the Local Blue Green Plans and addressing the identified gaps.

2 LITERATURE REVIEW

A comprehensive review of relevant policy documents, as detailed in Appendix B, was undertaken to understand the existing policy framework and its alignment with the goals of the BGN. This review provided critical insights into policy gaps and opportunities, which informed subsequent analysis and planning stages. Five policy documents were reviewed in detail, being:

- QLDC Climate and Biodiversity Plan 2022-2025
- Better Ways To Go 2022
- Community Facilities Strategy 2021
- Future Parks and Reserves Provisions Plan 2022
- Parks and Open Spaces Strategy 2021

3 GAPS ANALYSIS

Following the literature review, a desktop analysis using GIS tools was conducted to identify spatial gaps in the existing BGN. This analysis aimed to pinpoint areas lacking in blue and green infrastructure and areas with unmet community needs. Detailed maps and analysis results are documented in Appendix C. The purpose of this section is to inform the development of Local Blue Green Plans by identifying and prioritizing gaps in the spatial network that require resolution. Through comprehensive spatial analysis, the aim is to guide decision-making and resource allocation towards addressing the identified deficiencies within the Blue Green Network.

4 WORKSHOPS, ENGAGEMENT SESSIONS AND SITE VISITS

To further refine the analysis and gather comprehensive insights, Kāi Tahu, as Crown partners, undertook a mana whenua led assessment to understand Kāi Tahu values. A series of workshops and engagement sessions were held with key stakeholders, including community members, local experts, and government officials. These sessions included a project partner workshop, two stakeholder workshops with Whakatipu and Upper Clutha stakeholders, and two days of site visits, to gather firsthand information and validate the desktop analysis. The insights and feedback from these activities, which can be found in Appendix D, were crucial in informing the overall Local Blue Green Plans. These engagements ensured a thorough understanding of local conditions and stakeholder perspectives, which were instrumental in enhancing the accuracy and relevance of the analysis and the resulting Local Blue Green Plans.

5 LOCAL BLUE GREEN PLANS

The information and findings from the previous steps were then used to develop Local Blue Green Plans for every BGN Focus Areas, resulting in a total of 21 plans. Each plan was designed to address the identified gaps, align with community needs, identify opportunities including future land acquisition needs, and enhance the integration of blue and green networks into urban settlements over time. These plans were crafted with the same blue-green-community network approach as the existing state basin plans, ensuring consistency and cohesion across the entire project.

These plans are called Local Blue Green Plans because they focus on the Blue Green Network at a local urban level, where the community is most likely to interact with these spaces. Unlike a broader Blue Green Network Plan, which would address the wider basin and catchment levels, these plans target urban areas to maximise community engagement and interaction with blue (waterways and catchments), green (indigenous vegetation and ecological corridors), and community elements (recreational trails and parks).

The aim was to create a cohesive vision for the BGN that incorporates both ecological and community benefits. The Local Blue Green Plans provide a strategic framework that supports sustainable development, promotes biodiversity, and enhances community well-being.

6 FUTURE PROJECTS

The future projects and opportunities identified in the Local Blue Green Plans are scheduled and detailed in a separate BGN Action Plan prepared by QLDC. This includes identifying priorities, timeframes, responsibilities, and funding that can inform other processes, such as the Council's Long Term Plan.

02

SETTING THE SCENE

KŌRERO HOROPAKI OR KAUPAPA

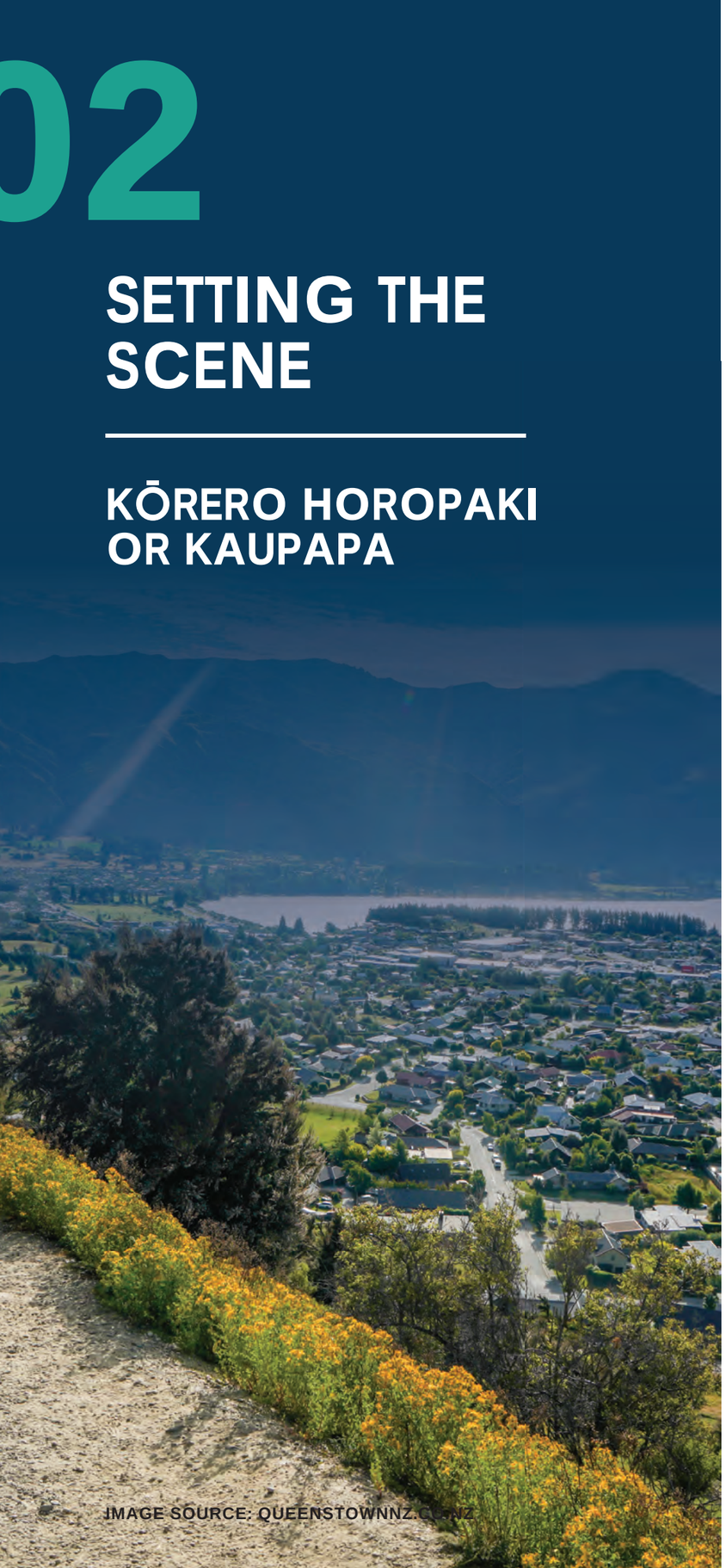


IMAGE SOURCE: QUEENSTOWNNZ.CO.NZ

2.1 WHAKATIPU BASIN

Urban growth in the Whakatipu Basin is subject to protections and constraints that limit where urban development can occur. This includes the extent of Outstanding Natural Landscapes and Features, geotechnical hazards and heritage values. The QLSP identified two main opportunities for expansion of the urban area outwards from Te Kirikiri | Frankton - Te Pūtahi | Eastern Corridor and Te Tapuae | Southern Corridor. The Whakatipu Basin has extremely high growth and land values. Ongoing development and redevelopment within and around the existing settlements and urban areas is complex. Integration of natural environment values and systems into those areas is the focus of the BGN rather than rural or wilderness area planning and management. While not an exhaustive list, the following highlights the existing issues and opportunities with Blue Green Networks across the Whakatipu Basin as they relate to the existing and planned urban and settlement areas.

2.1.1 GEOLOGY

The Whakatipu Basin's landscape has been shaped by tectonic movements along the Alpine Fault, creating the Southern Alps and other mountain ranges. The region's geology is marked by mountains and rocky promontories, mainly composed of schist with alluvial deposits, moraine, and lake sediments in the valley floors.

Glacial processes have significantly influenced the basin's formation. Major glaciation events during the ice ages carved deep, u-shaped valleys and left extensive moraine deposits. Subsequent smaller glacial events further shaped the valley floors. The current landscape is geologically relatively recent, formed within the last 250,000 years

When the ice retreated from the Whakatipu Basin about 8,000 years ago, outwash plains and lakes were left in the deepened river valleys, with sediments forming isolated lakes like Waiwhakaata | Lake Hayes.

Distinct landforms such as large fans, river terraces, and outwash plains are key features of the Whakatipu Basin. Major rivers, including the Kimiākau | Shotover River and Kawarau River, along with the Ōrau | Cardrona River and Haehaenui | Arrow River, have deposited substantial river gravels, forming terraces and steep, eroding banks.

Elevated landform and landscape features that are remnants of ancient glacial processes contribute to the basin's unique sense of place and visual interest. Notable examples in the Whakatipu Basin include Te Tapunui | Queenstown Hill, Peninsula Hill, and Ferry Hill.

2.1.2 LIKELY HISTORIC VEGETATION

The likely historic vegetation contains information on the potential habitats and fauna assemblages likely to have occurred within the Queenstown Lakes District prior to European settlement and the introduction of mammalian predators. This data comes from the Southern Lakes Sanctuary's 'Potential habitat and vegetation types'.

The pre-human vegetation of the flat valley floor of the Whakatipu Basin was primarily Mountain beech forest, which began to dominate most hill and mountain slopes up to about 1100 metres. Above the treeline, snow tussock mixed with scattered shrubs, rising to herbfields, cushion fields, rock, snow, and ice.

The two major rivers that traverse the Whakatipu Basin, the Kimiākau | Shotover River and Kawarau River, would likely have supported habitats such as hard tussock, and scabweed. Wetlands and lake margins would have likely featured raupo reedland and marshes with mineral soils, many of which graded into swamps with peat soils.

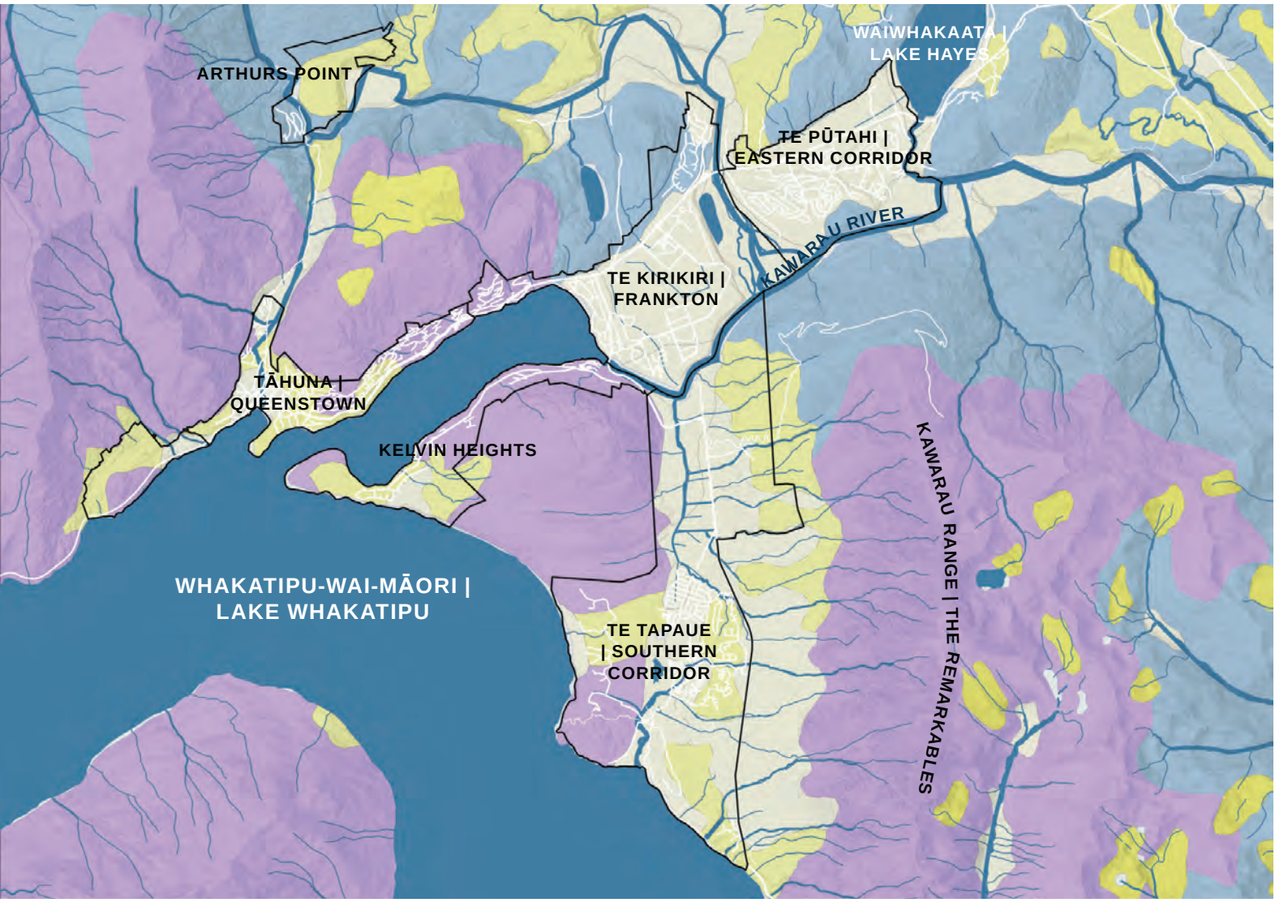


Figure 14: Geology of Whakatipu basin

LEGEND

- BGN FOCUS AREAS

LANDSCAPE FEATURES

- LAKES
- WATERWAYS

GEOLOGICAL FEATURES

- TILL, (LATE PLEISTOCENE GLACIER DEPOSITS)
- GRAVEL, HOLOCENE RIVER DESPOSITS
- GRAVEL, EARLY PLEISTOCENE RIVER DEPOSITS
- PELITE, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - ASPIRING
- PELITE, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - WĀNAKA
- SAND, NEOGENE SEDIMENTARY ROCKS
- SCHIST, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - CAPLES
- SCHIST, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - RAKAIA



Figure 15: Potential habitats and vegetation of Whakatipu basin

LEGEND

- BGN FOCUS AREAS

LANDSCAPE FEATURES

- LAKES
- WATERWAYS

POTENTIAL ECOLOGIES

- KANUKA, OLEARIA SCRUB/ TREELAND
- MATAI, BROADLEAF FOREST
- NARROW-LEAVED AND SLIM SNOW TUSSOCK TUSSOCKLAND/SHRUBLAND
- HARD TUSSOCK, SCABWEED, GRAVELFIELD/STONEFIELD
- GRAVELFIELD (SCREES AND BOULDERFIELDS)
- GRAVELFIELD/STONEFILED MIXED SPECIES CUSHIONFIELD
- DRACOPHYLLUM MUSCOIDES CUSHIONFIELD
- HELICHRYSUM, MELICYTUS, SHRUBLAND/TUSSOCKLAND/ ROCKLAND
- SUBALPINE SHRUBLAND
- MOUNTAIN BEECH FOREST
- RAUPO REEDLAND
- HERBFIELD/MOSSFIELD/ SEDGELAND
- SCHOENUS PAUCIFLORS SEDGELAND (ALPINE SEEPAGES/FLUSHES)

2.1.3 EXISTING BLUE NETWORK

Whakatipu-wai-māori | Lake Whakatipu, Waiwhakaata | Lake Hayes and the major waterways, such as the Kawarau, Kimiākau | Shotover River and Haehaenui | Arrow River, strongly define the BGN Focus Areas. They are a key part of the character and identity of the area and have a visible presence in the landscape. The major lakes and waterways are Statutory Acknowledgement Areas | Wāhi Tūpuna for Kāi Tahu and are of ancestral significance and associated Mahinga Kai and other values relating biodiversity, access, flows, water quality / quantity.

Whakatipu-wai-māori | Lake Whakatipu is 28,900ha in size (New Zealand's third largest lake) and has a catchment of 267,400ha. The lake has very good water quality and excellent ecological conditions. The main settlements at the lake edge are Tāhuna | Queenstown, Takerehaka | Kingston and Tāhuna | Glenorchy. The Rees and Te Awa Whakatipu | Dart River feeds into the lake near Glenorchy, with the Kawarau River draining from Frankton Arm towards the east. There are many smaller rivers and streams that enter the lake, often from very steep, mountainous catchments. The lakes, rivers and streams provide habitat for a range of native fauna including galaxiids, longfin eel, Australasian crested grebe and introduced fish species like salmon and trout. Artificial structures like concrete culverts and piped streams are present in most of the settlement areas; these structures can create barriers for fish, species that live in freshwater habitats.

The invasive aquatic weed lagarosiphon is actively managed by the ORC and other stakeholders in the Kawarau River, and on occasions in Whakatipu-wai-māori | Lake Whakatipu and the Frankton Arm. Left uncontrolled, the weed can spread rapidly, impacting biodiversity by out-competing native aquatic plants and limiting resources for fish and invertebrates.

KEY FEATURES OF THE BGN FOCUS AREAS

TĀHUNA | QUEENSTOWN SURROUNDS AND ARTHURS POINT

The Kimiākau | Shotover River enters the Whakatipu Basin at Arthurs Point where it creates an impressive gorge section, before extending into a braided river bed down to its confluence with the Kawarau River.

Horne Creek runs through Tāhuna | Queenstown from its upper catchment in Matakauri Wetland, via highly modified open and culverted channelled sections, through to Queenstown Bay. Matakauri Wetland north of the Queenstown CBD provides habitat for both fauna and flora, with extensive areas of native sedges forming a regionally significant wetland. Smaller waterways that drain off steeper urban areas, such as Te Tapunui | Queenstown Hill, have a mix of open and piped sections, some with access easements or connecting reserves but many without. One Mile Creek originates from the upper catchment of Te-taumata-o-Hakitekura | Ben Lomond to meet Queenstown Bay.

Fragments of native forest to the west of Tāhuna | Queenstown CBD and north of Fernhill create natural riparian margins along One and Two Mile streams.

TE PŪTAHI | EASTERN CORRIDOR

The Kimiākau | Shotover River provides a braided river habitat between Te Kirikiri | Frankton and Waiwhakaata | Lake Hayes before converging with the Kawarau River. A significant swamp is located at the Kimiākau | Shotover River Confluence with the Kawarau River. Waiwhakaata | Lake Hayes is 276ha in size with a catchment of 4,400 ha that includes settlements and urban areas. The lake has poor water quality and moderate ecological conditions; in recent years there has been a strong focus on improving the edge conditions with willow removal and revegetation programmes. Mill Creek is the major tributary to the lake and is considered an important habitat for native fishes including bully and koaro. The water quality and flow of Mill Creek has been a focus, to support quality improvements for Waiwhakaata | Lake Hayes.

KĀ MURIWAI | ARROWTOWN AND SURROUNDS

The Arrow River | Haehaenui forms the eastern edge of Arrowtown | Kā Muriwai, running along the foot of the Crown Range escarpment and flowing to the Kawarau River. The water quality is high however the river environment adjacent as is passes Arrowtown | Kā Muriwai water takes has been heavily influenced by settlement with exotic vegetation, utilities and historic settlements.

TE TAPUAE | SOUTHERN CORRIDOR AND KELVIN HEIGHTS

Streams draining the northern Kawarau Range | The Remarkables and Peninsula Hill connect into small wetlands, drainage channels and streams running through the Te Tapuae | Southern Corridor before flowing into the Kawarau River. The southern part of the Remarkables slopes within the corridor drains into Lake Whakatipu at Homestead Bay. Within the freshwater network there are numerous artificial structures that may restrict fish passage, while some waterway enhancement works have been undertaken as part of residential greenfield developments.

TĀHUNA | GLENORCHY

Tāhuna |Glenorchy is defined by the braided delta of the Buckler Burn to the south and the extensive Glenorchy Lagoon with associated walkways through a mix of native wetland and woody weed species to the north.

The Te Awa Whakatipu | Dart River and Puahiri | Rees River drain into Whakatipu-wai-māori | Lake Whakatipu just west of Tāhuna | Glenorchy with their large delta area providing an excellent example of a braided river habitat. Kinloch Wetland and Glenorchy Lagoon provide freshwater habitats for various highly valued native bird species.

TAKEREHAKA | KINGSTON

Nestled between the Eyre and Hector Mountains, the Kingston Arm is located on the southern tip of Whakatipu-wai-māori | Lake Whakatipu. Streams draining the steep surrounding mountains flow into the lake, where freshwater fish such as koaro and longfin eel have been recorded.

LEGEND

- BGN FOCUS AREAS
- WAHI TUPUNA
- FLOOD ZONE

LANDSCAPE FEATURES

- SIGNIFICANT WETLANDS
- LAKES
- WATERWAYS
- CATCHMENT BOUNDARY
- RAIL

SIGNIFICANT LOCATIONS

1. WHAKATIPU-WAI-MĀORI | LAKE WHAKATIPU
2. WAIWHAKAATA | LAKE HAYES
3. KAWARAU RIVER
4. KIMIĀKAU | SHOTOVER RIVER
5. HAEHAENUI | ARROW RIVER
6. TE AWA WHAKATIPU | DART RIVER
7. PUAHIRI | REES RIVER
8. HORNE CREEK
9. MATAKAURI WETLAND
10. TE TAPUNUI | QUEENSTOWN HILL
11. TE-TAUMATA-O-HAKITEKURA | BEN LOMOND
12. KAWARAU RANGE | THE REMARKABLES
13. GLENORCHY LAGOON

Figure 16: Existing blue network of Whakatipu Basin

ARTHURS POINT

KIMIĀKUA SHOTOVER RIVER

WAIPUNA
LAKE JOHNSON

WASTE WATER TREATMENT PLANT

WAIWHAKAATA
LAKE HAYES

ARROW RIVER

HW 6

TE PŪTAHI | EASTERN CORRIDOR

KAWARAU RIVER

PŪĀHURU

HORNE / BUSH CREEK

HW 6A

FRANKTON ARM

TE KIRIKIRI | FRANKTON

ONE MILE CREEK

TWO MILE CREEK

TĀHUNA | QUEENSTOWN

KELVIN HEIGHTS

FERNHILL / SUNSHINE BAY

KINGSTON RD. / HW 6

1 2 3 4 8 9 10 11 12

Figure 18: Existing blue network of Kā Muriwai | Arrowtown

5

Figure 17: Existing blue network of Tāhuna | Glenorchy

6 7 13

TE AWA WHAKATIPU DART RIVER

GLENORCHY LAGOON

BUCKLER BURN

STONE CREEK

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

TE TAPUAE | SOUTHERN CORRIDOR

KAWARAU THE REMARKABLES

Figure 19: Existing blue network of Takerehaka | Kingston

SOUTHLAND DISTRICT

QUEENSTOWN LAKES DISTRICT

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

ALLEN CREEK

2.1.4 EXISTING GREEN NETWORK

Department of Conservation (DOC) (conservation land) and Land Information New Zealand (LINZ) (high country stations, lakes/rivers) are major land holders in the District, with open space land located mostly on hill slopes surrounding the basins (e.g. Mt Aspiring National Park west of Glenorchy and Kawarau Range | The Remarkables Conservation area east of Jacks Point) and along waterways / lakes. Some of these areas are also major tourist attractions in the District, including Te-taumata-o-Hakitekura | Ben Lomond, Kimiākau | Shotover River, Arrowtown Chinese Settlement, Bobs Cove, Moke Lake, Mt Creighton and Glenorchy lakeshore. The recently established Remarkables Station QEII National Trust covenant is a large landholding within the Southern Corridor | Te Tapuae currently managed as a working farm.

Mahu Whenua - a large Crown Pastoral Lease to the north of Arrowtown | Kā Muriwai (i.e. Motatapu, Mt Soho, Glencoe and Coronet Peak Stations) is protected by QEII covenants and an extensive trail network is available for public use.

Many of the BGN Focus Areas are adjacent to public land that is dominated by wilding conifers or other exotic woody weed species on steeper slopes and waterway margins with fragmented remnants of native vegetation. Recent DOC, QLDC and some private initiatives have been progressively clear felling these areas providing potential for revegetation with indigenous plant communities.

The mountainous land around all BGN Focus Areas in the Whakatipu Basin is actively managed for gorse (Ulex europaeus), introduced broom species (Cytisus scoparius, Teline monspessulana) and wilding conifers (multiple species). These and other weed species can alter ecosystems, negatively impacting native biodiversity values and capable of changing the hydrology of freshwater habitats .

A range of introduced pest mammals such as possums, mustelids (ferrets, stoats and weasels), rabbits, rats, goats and deer are present in the Whakatipu Basin. The ORC and various community groups run initiatives to control pest mammal numbers. The Whakatipu Wildlife Trust is an umbrella organisation with 70 trapping groups that manage over 3,000 traps throughout the Whakatipu Basin, targeting possums, rats and mustelids (“Groups Archives,” n.d.). The Lake Hayes and Gibbston community-led rabbit management programmes work with local property owners to effectively manage rabbit populations on their land (Rabbits, n.d.)

KEY FEATURES OF THE BGN FOCUS AREAS

TĀHUNA | QUEENSTOWN SURROUNDS AND ARTHURS POINT

Tāhuna | Queenstown and Arthurs Point are surrounded by Te-taumata-o-Hakitekura | Ben Lomond, Bowen Peak, Te Tapunui | Queenstown Hill, and Mt Dewar with the Kimiākau | Shotover River extending through Arthurs Point to its delta east of Te Kirikiri | Frankton. A series of connected conservation areas and reserves around Queenstown and Arthurs Point are home to a mix of exotic and native forests which provide potential habitat for indigenous fauna. An area of fernland to the east of Gorge Road and mixed native and exotic forest to the west provides an ecological connection between Arthurs Point, Matakauri Wetland and other habitats on the edge of Tāhuna Queenstown CBD.

TE PŪTAHI | EASTERN CORRIDOR

The eastern corridor is flanked by the elevated features of Ferry Hill and Slopehill to the north and the extensive open space associated with the Shotover River | Kimiākau delta. The green spaces to the south follow the Kawarau River corridor which contains a mix of exotic and native vegetation. Extensive revegetation efforts have taken place around Lake Hayes, improving the quality of the green space over the past years.

KĀ MURIWAI | ARROWTOWN SURROUNDS

The lower slopes of the mountains north and east of Kā Muriwai | Arrowtown contain a mix of exotic and indigenous forests that provide potential habitat for various native birds. The mountainous slopes of Coronet Peak connect to the Haehaenui | Arrow River where it converges with Bush Creek just north of Kā Muriwai | Arrowtown. The large mahu whenua land holding to the north of Kā Muriwai | Arrowtown contains areas that are largely retired from grazing with regenerating native vegetation.

TE TAPUAE | SOUTHERN CORRIDOR AND KELVIN HEIGHTS

The Kawarau Range | The Remarkables Range flanks the Te Tapuae | Southern Corridor area. Above 850m the range is considered a significant habitat for indigenous insects. Along the range's lower slopes, large areas of matagouri scrub, fernland and small fragments of native forest provide habitat and ecological connectivity from one end of the range to the other.

Peninsula Hill at the northern end of the Te Tapuae | Southern Corridor has some areas of matagouri scrub, providing an ecological stepping stone between the Kawarau Range | The Remarkables, Te Tapunui | Queenstown Hill, and Te-taumata-o-Hakitekura | Ben Lomond.

TĀHUNA | GLENORCHY

More natural, mountainous areas extend around Tāhuna | Glenorchy with several conservation areas that contain regenerating native ecosystems and intact alpine vegetation communities. The large Dart/Rees delta area contains important riverbed and native wetland habitats, as well as extensive stands of willows. Some of these areas surrounding Tāhuna | Glenorchy provide crucial habitat for native birds and bats.

TAKEREHAKA | KINGSTON

Large Conservation and Scenic Reserve areas to the west of Takerehaka | Kingston contain silver beech forest and grasslands which provide habitat for forest birds and significant insect populations.

LEGEND

- BGN FOCUS AREAS
- WAHI TUPUNA
- OUTSTANDING NATURAL AREA

LANDSCAPE FEATURES

- SIGNIFICANT WETLANDS
- LAKES
- WATERWAYS

INDIGENOUS ECOSYSTEMS

- INDIGENOUS FOREST
- SUBALPINE SHRUBLAND
- MANUKA SCRUB / FOREST
- BRACKEN FERNLAND
- TUSSOCKLAND
- ALPINE DRACOPHYLLUM AND CUSHIONFIELD
- GREY SCRUB
- WETLAND VEGETATION

TERRESTRIAL HABITAT

- SIGNIFICANT INVERTEBRATES
- SIGNIFICANT BAT HABITATS
- SIGNIFICANT BIRD HABITATS

SIGNIFICANT LOCATIONS

1. TE-TAUMATA-O-HAKITEKURA | BEN LOMOND
2. BOWEN PEAK
3. TE TAPUNUI | QUEENSTOWN HILL
4. MATAKAURI PARK / MATAKAURI WETLAND
5. TUCKERS BEACH WILDLIFE RESERVE
6. MORNING STAR BEACH RESERVE
7. ŌTEROTU | KAWARAU FALLS SCENIC RESERVE
8. GLENORCHY LAGOON WILDLIFE RESERVE
9. GLENORCHY WATERFRONT RESERVE
10. FEEHLY HILL
11. BUSH CREEK RESERVE
12. TE KERE HAKA SCENIC RESERVE
13. GLEN ALLEN SCENIC RESERVE
14. FERRY HILL
15. SLOPE HILL
16. PENINSULA HILL

Figure 20: Existing green network of Whakatipu Basin

ARTHURS POINT

KIMIĀKUA SHOTOVER RIVER

WAIPUNA
LAKE JOHNSON

WASTE WATER TREATMENT PLANT

HW 6

TE PŪTAHI | EASTERN CORRIDOR

WAIWHAKAATA
LAKE HAYES

ARROW RIVER

KAWARAU RIVER

PŪĀHURU

HW 6A

HORNE / BUSH CREEK

ONE MILE CREEK

TWO MILE CREEK

FRANKTON ARM

TE KIRIKIRI | FRANKTON

TĀHUNA | QUEENSTOWN

KELVIN HEIGHTS

FERNHILL / SUNSHINE BAY

KINGSTON RD. / HW 6

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

TE TAPUAE | SOUTHERN CORRIDOR

KAWARAU

THE REMARKABLES

Figure 22: Existing green network of Kā Muriwai | Arrowtown

Figure 21: Existing green network of Tāhuna | Glenorchy

TE AWA WHAKATIPU
DART RIVER

GLENORCHY LAGOON

BUCKLER BURN

STONE CREEK

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

Figure 23: Existing green network of Takerehaka | Kingston

SOUTHLAND DISTRICT

QUEENSTOWN LAKES DISTRICT

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

ALLEN CREEK

2.1.5 EXISTING COMMUNITY NETWORK

OPEN SPACE PROVISIONS

The more established areas in the Basin (e.g. Kā Muriwai | Arrowtown, Tāhuna | Queenstown) are generally well provisioned with civic spaces and Premier Parks, notably the two Village Greens, Queenstown Gardens | Te Kararo, Queenstown Recreation Reserve, St Omer Park, Earnslaw Park and Butler's Green. Arthur's Point is deficient in formal parks, but has adjacent DOC and LINZ reserve land with the more accessible parts that community groups have informally enhanced with native revegetation. Takerehaka | Kingston and Tāhuna | Glenorchy have a range of parks, some underdeveloped, with a need to consider the network in the context of anticipated growth and development. There is potential that open space networks in developing areas can play a significant role in integration of biodiversity values and recreation access through careful location and design to support blue green community networks.

Small local and pocket parks are present in various areas, but topography and accessibility are often a challenge on the steeper areas such as Te Tapunui | Queenstown Hill and Fernhill, as this does not provide large enough flat, useable space for parks. However, larger scenic or recreation reserves are located in proximity for informal recreation opportunities with mixed levels of accessibility and track networks.

Open space is often located on land that is not suitable for other land uses, such as areas on flood-prone, steep land or under powerlines in areas that are not suitable for providing a range of activities or support facilities (at Lake Hayes Estates for example). Several smaller private developments have not considered open space and trail connections to adjacent areas, resulting in a cumulative deficiency and lost opportunities for connectedness that supports ecological and community outcomes.

Part of Remarkables Station was recently gifted to the QEII National Trust currently providing only limited access opportunities (under review).

TRAILS AND CONNECTIONS

An extensive network of existing trails and active travel connections follow the edge of Waiwhakaata | Lake Hayes and around the northern side Lake Whakatipu/ Frankton Arm, from Sunshine Bay to Homestead Bay, and along the major rivers.

New and enhanced existing trails are a particularly good example of how biodiversity / ecological connectivity can be enhanced by development of recreational assets. The ecological enhancement of the Lake Hayes riparian edge is closely tied to the development of the loop trail and increased access (and growing understanding/ care around ecological values) from the community. Access and ecological enhancement, particularly when community-led, provide a broad range of community outcomes that come with people feeling connected to a place through active involvement in its care. Examples of recreation access (trails) enabling ecological enhancement include Bush Creek and Sawpit Gully.

Te-taumata-o-Hakitekura | Ben Lomond Reserve provides the backdrop to Tāhuna Queenstown CBD and offers a mix of hiking tracks and downhill mountain biking trails. This is bound by Te-taumata-o-Hakitekura | Ben Lomond Station (LINZ) and DOC reserve. The trail network is the most extensive in the Whakatipu Basin and extends north to Kā Muriwai | Arrowtown via Arthurs Point and west to Bobs Cove. Te Tapunui | Queenstown Hill trail network is less developed (although there are many informal trails) with limited accessibility.

The lakes and waterways are already heavily used for recreation and access. Over time, the quality and connectedness of existing access has been improved through the trail network. Good examples include the trails extending to Jacks Point and completion of a loop track around Waiwhakaata | Lake Hayes. In some areas gaps exist in public access (for example along the Haehaenui | Arrow River) where future subdivision and development could offer opportunities for further connectedness along waterways.

DEVELOPMENTS

More recent greenfield BGN Focus Areas are still evolving in terms of their open space provision (e.g. Frankton | Te Kirikiri, Shotover Country / Lake Hayes Estate and Hanley's Farm). While Queenstown Events Centre, Jack Tewa Park and Hanley's Park Playground are good examples of early-stage provision of Sports Ground Parks and Community Parks, these do not cater sufficiently for future growth projections and quality neighbourhood parks that delivery a diverse range of outcomes (blue/green and community).

There are some recent examples of private developments delivering trail and ecological enhancement, such as at Ayrburn and Mt Dewar. There is further potential for large scale development to deliver combined blue-green and community outcomes.

GOLF COURSES

There are five publicly owned golf courses that are leased and several privately owned ones that provide recreational access for fee paying users, but also provide visual amenity and reinforce the urban growth boundaries around towns and settlements. Golf courses are not traditionally high in biodiversity value and occupy very large land areas.

CAMPGROUNDS

There are a range of campgrounds available across the Whakatipu Basin including private holiday parks and DOC campsites. Amenities and biodiversity values vary dependent on location, with more urbanised campgrounds in the settlements as opposed to campgrounds nestled into existing vegetation adjacent to the lake such as Twelve Mile Delta Campground.



Figure 24: Existing community network of Whakatipu Basin

ARTHURS POINT

KIMIĀKUA SHOTOVER RIVER

WAIPUNA
LAKE JOHNSON

WAIWHAKAATA
LAKE HAYES

ARROW RIVER

HW 6

TE PŪTAHI |
EASTERN
CORRIDOR

WASTE
WATER
TREATMENT
PLANT

KAWARAU RIVER

PŪĀHURU

HW 6A

HORNE / BUSH CREEK

ONE MILE CREEK

TWO MILE CREEK

TĀHUNA |
QUEENSTOWN

FRANKTON
ARM

TE KIRIKIRI |
FRANKTON

KELVIN HEIGHTS

FERNHILL /
SUNSHINE BAY

KINGSTON RD. / HW 6

TE TAPUAE
| SOUTHERN
CORRIDOR

KAWARAU
THE REMARKABLES

WHAKATIPU-WAI-
MĀORI
LAKE WHAKATIPU

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Figure 25: Existing community network of Tāhuna | Glenorchy

TE AWA
WHAKATIPU
DART RIVER

GLENORCHY
LAGOON

BUCKLER BURN

STONE CREEK

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

Figure 26: Existing community network of Kā Muriwai | Arrowtown

Figure 27: Existing community network of Takerehaka | Kingston

SOUTHLAND DISTRICT

QUEENSTOWN LAKES DISTRICT

WHAKATIPU-WAI-MĀORI
LAKE WHAKATIPU

ALLEN CREEK

2.2 UPPER CLUTHA BASIN

Compared to the Whakatipu Basin, the Upper Clutha has more rural and larger private land holdings surrounding Wānaka and the settlements of Lake Hāwea, Luggate, Cardrona and Makarora, often making larger public open spaces more difficult to access. Over the last several years, Lake Hāwea, Albert Town, Northlake and Three Parks has accommodated most of the recent urban growth, including both residential and commercial, with Luggate and Cardrona settlements emerging quickly, mainly on their periphery. Wānaka South remains a large undeveloped greenfield Priority Development Area, currently in large rural and rural residential lots.

2.2.1 GEOLOGY

The Upper Clutha Basin's distinctive topography is a result of tectonic movements along the Alpine Fault, creating the Southern Alps and northeast trending ranges. The region's geology is marked by Permian aged schist and Quaternary alluvial deposits, moraine, and lake sediments in the valley floors.

Glacial and fluvial processes have shaped the Upper Clutha Basin's landscape. Major glaciation events during the ice ages carved deep, u-shaped valleys and extensive moraine deposits. Subsequent smaller glacial and fluvial events further sculpted the valley floors. The basin's fill, deposited within the last 250,000 years, consists of outwash plains and lake silt.

Outwash plains and lake silt are particularly prominent in the Clutha River area. Large fans and river terraces from mountain ranges are distinct landforms. Major rivers in the Upper Clutha Basin include the Clutha and Hāwea Rivers, with the Cardrona River contributing significant river gravels. These deposits form terraces and steep, eroding banks. Loess, a fine-grained wind-transported deposit, enhances the soil fertility, reflected in the vegetation cover.

Roche moutonnées, or glacially overridden hills, are defining features of the Upper Clutha Basin. These hills have a distinctive asymmetric shape, formed by glacial ice flattening one side and plucking loose rocks from the other. Notable examples include Mount Iron in Wānaka and Roys Peninsula confining Glendhu Bay. These elevated landforms add to the basin's unique sense of place and visual diversity.

2.2.2 LIKELY HISTORIC VEGETATION

The likely historic vegetation contains information on the potential habitats and fauna assemblages likely to have occurred within the Queenstown Lakes District prior to European settlement and the introduction of mammalian predators. This data comes from the Southern Lakes Sanctuary's 'Potential habitat and vegetation types'.

The pre-human vegetation of the Upper Clutha Basin, characterised by expansive flatlands and gently rolling hills, was a mix of Mountain beech forest, Hall's totara, mountain celery pine, and broadleaf forest. Beech trees dominated most hill and mountain slopes up to about 1100 meters. Above the treeline, snow tussock mixed with scattered shrubs, leading to herbfields, cushion fields, rock, snow, and ice.

The Clutha River (Mata-Au) is a significant geographical feature, flowing through the basin and into Lake Dunstan. This area historically supported habitats such as matai and broadleaf forest, along with Helichrysum and Melicytus shrubland/tussockland/rockland. The river's extensive floodplains and wetlands would have provided rich, fertile grounds for these diverse plant communities, fostering a complex ecosystem. The Cardrona River area, with its kanuka and Olearia scrub/treeland and silver beech forest, would have added to this ecological diversity.

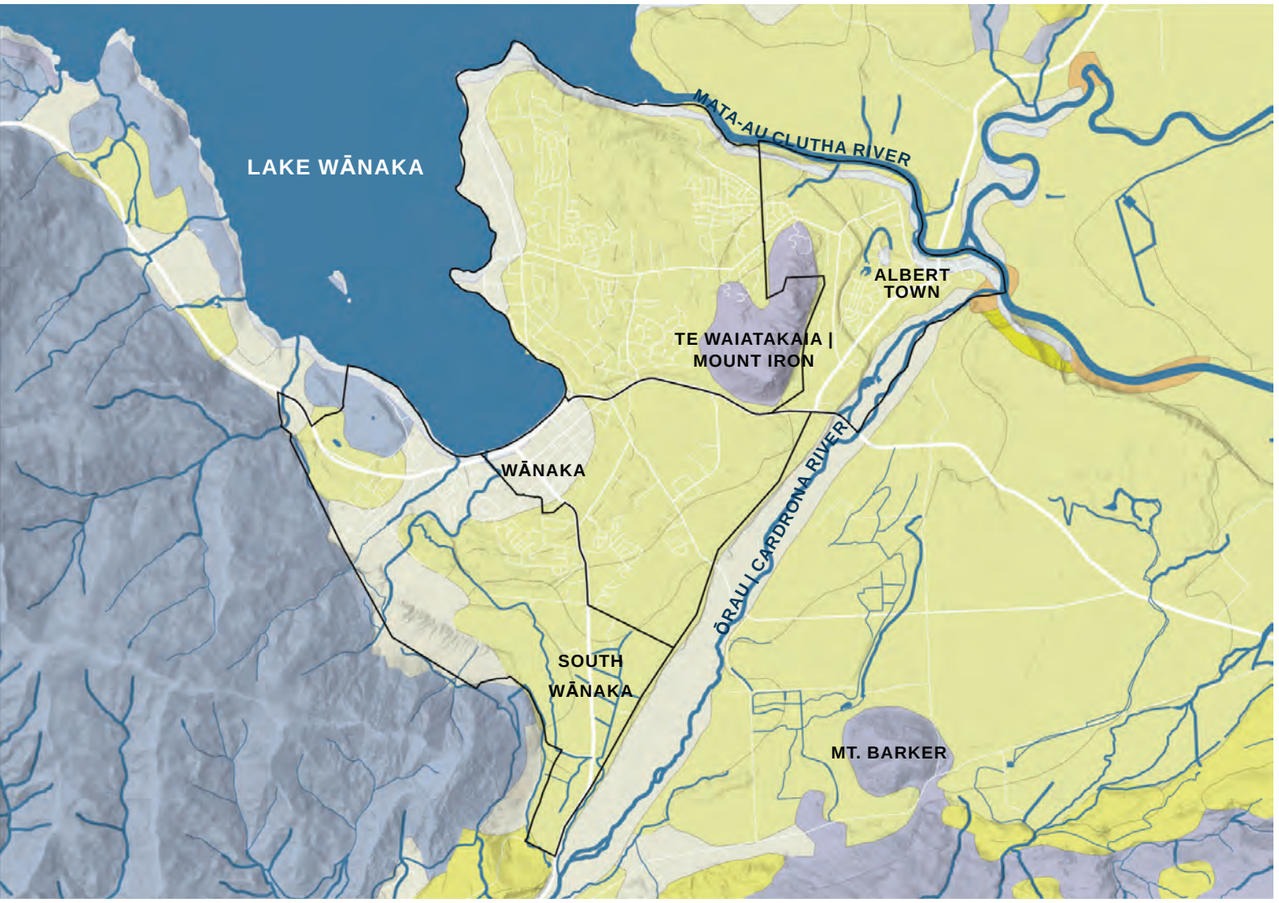


Figure 28: Geology of Upper Clutha

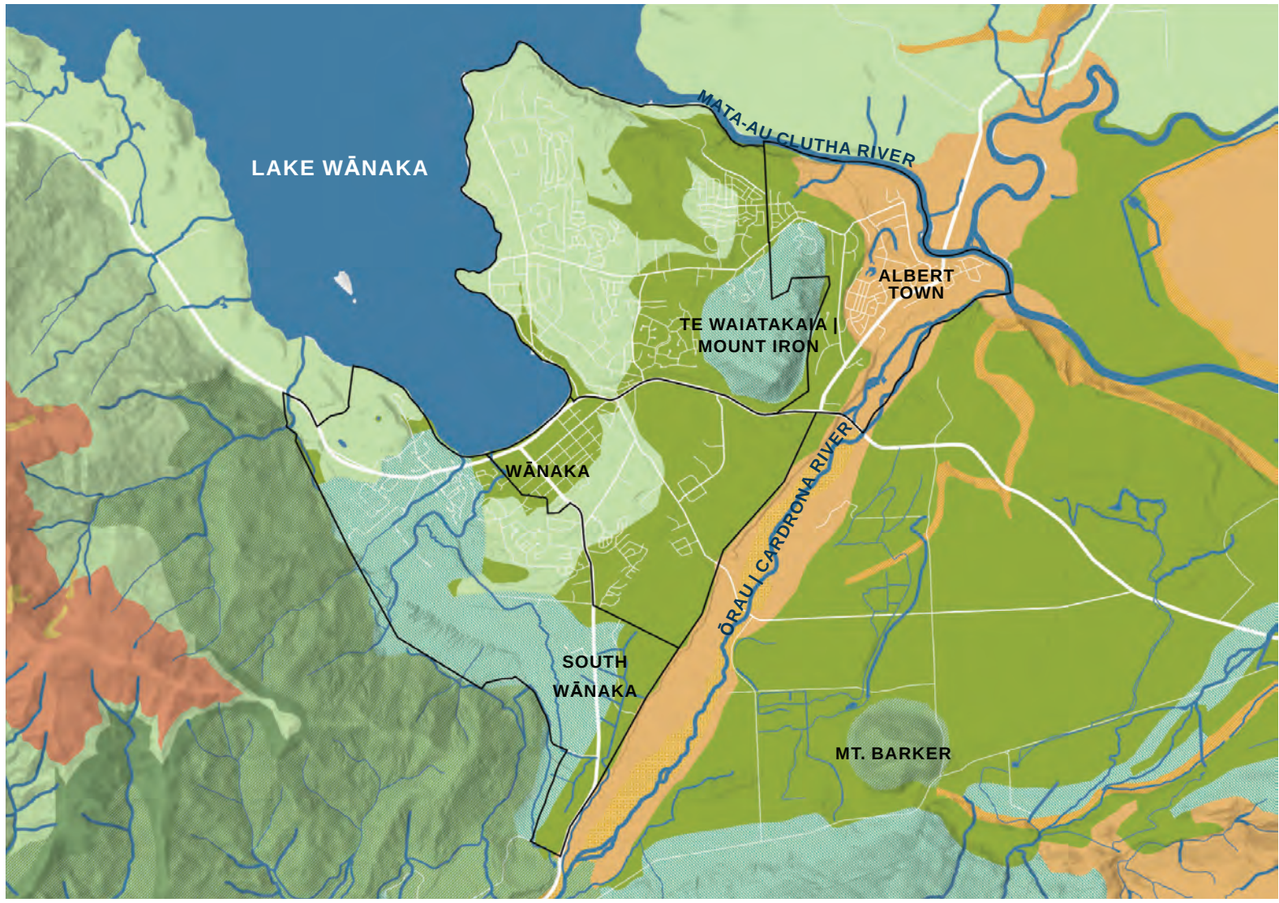


Figure 29: Potential habitats and vegetation of Upper Clutha

LEGEND

- BGN FOCUS AREAS

LANDSCAPE FEATURES

- LAKES
- WATERWAYS

GEOLOGICAL FEATURES

- TILL, (LATE PLEISTOCENE GLACIER DEPOSITS)
- GRAVEL, HOLOCENE RIVER DESPOSITS
- GRAVEL, EARLY PLEISTOCENE RIVER DEPOSITS
- PELITE, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - ASPIRING
- PELITE, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - WĀNAKA
- SAND, NEOGENE SEDIMENTARY ROCKS
- SCHIST, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - CAPLES
- SCHIST, BASEMENT (EASTERN PROVINCE) METAMORPHIC ROCKS - RAKAIA

LEGEND

- BGN FOCUS AREAS

LANDSCAPE FEATURES

- LAKES
- WATERWAYS

POTENTIAL ECOLOGIES

- KANUKA, OLEARIA SCRUB/ TREELAND
- MATAI, BROADLEAF FOREST
- NARROW-LEAVED AND SLIM SNOW TUSSOCK TUSSOCKLAND/SHRUBLAND
- HARD TUSSOCK, SCABWEED, GRAVELFIELD/STONEFIELD
- GRAVELFIELD/STONEFILED MIXED SPECIES CUSHIONFIELD
- HELICHRYSUM, MELICYTUS, SHRUBLAND/TUSSOCKLAND/ ROCKLAND
- SILVER BEECH, MOUNTAIN BEECH FOREST
- MOUNTAIN BEECH FOREST
- SILVER BEECH FOREST
- HALL'S TOTARA, MOUNTAIN CELERY PINE, BROADLEAFE FOREST

2.2.3 EXISTING BLUE NETWORK

The lakes (Wānaka and Hāwea) and rivers (Mata-Au | Clutha River, Hāwea and Ōrau | Cardrona River) are the key defining landscape elements within the Upper Clutha Basin. They are also Statutory Acknowledgement Areas | Wāhi Tūpuna for Kāi Tahu and are of ancestral significance and associated Mahinga Kai and other values relating biodiversity, access, flows, water quality / quantity.

Lake Hāwea, via the Hāwea River, Lake Wānaka and the Ōrau | Cardrona River, drain into the Mata-Au | Clutha River. The confluence of the Mata-Au | Clutha River and Hāwea Rivers is in the Albert Town area. These lakes and rivers are fed by numerous alpine streams in the mountains surrounding the Upper Clutha region which provide a network of freshwater habitats. Lake Wānaka and Hāwea provide habitat for Australasian crested grebe, while freshwater fish records show that native koaro, common bully, longfin eel and the Threatened – Nationally Critical Clutha flathead galaxias are present in streams and rivers around Wānaka CBD, South Wānaka, Albert Town and Hāwea. Numerous built structures, such as culverts and weirs within the waterways in these areas may be acting as barriers to freshwater fauna. Long stretches of the riparian habitats along the Clutha / Mata Au, Hāwea, and Cardrona River | Ōrau River are protected within public conservation land.

Alpine streams feed into the Ōrau | Cardrona River and provide habitat for native fish such as koaro and Clutha flathead galaxias, as well as introduced trout species. The river currently has particularly poor water quality.

Between Wānaka and Glendhu Bays are a series of wetlands, including Scaifes Lagoon, which is also regionally significant. This series of wetlands provides good habitat for the Threatened - Nationally Critical Australasian bittern. Scaifes Lagoon is also an important breeding ground for other waterfowl (Scaifes Lagoon, n.d.).

Some areas along the river margins are managed by DOC or LINZ (e.g. Upper Mata-Au | Clutha River) and the lake and river flow levels of Lake Hāwea and Hāwea River are managed for hydroelectricity generation . The braided Ōrau | Cardrona River is difficult to access as private land directly abuts the river in many places and is highly degraded due to the variation in water levels and extensive presence of the invasive algae didymo.

Several waterways drain the northern slopes of the Harris Mountains into Lake Wānaka where some waterway enhancement works have been undertaken within areas running through existing and greenfield developments closer to Lake Wānaka.

Lake Wānaka is 18,000 ha in size and has a catchment of 259,000 ha. Lake Hāwea is 13,760 ha in size and has a catchment of 139,400ha. Both are glacial lakes and have very good water quality and excellent ecological conditions, apart from the managed lake level variability on Lake Hāwea. The invasive aquatic weed lagarosiphon and lake snow are present in Lake Wānaka. Left uncontrolled, the weed can spread rapidly, impacting biodiversity by competing indigenous aquatic plants and limiting resources for fish and invertebrates (Lagarosiphon, n.d.). However, with the help of Land Information New Zealand, Otago Regional Council and other stakeholders, substantial progress is being made to manage this aquatic weed and native aquatic plants are now thriving in parts of the lake that were previously covered by lagarosiphon.

KEY FEATURES FROM BGN FOCUS AREAS

WĀNAKA AND SURROUNDS

Bullock Creek runs, via highly modified open channelled sections through private residential properties, through to Wānaka Town Centre where waterway enhancement work is well established.

ALBERT TOWN

One of 11 regionally significant wetlands in the Upper Clutha Basin, Butterfield Wetland sits northeast of Albert Town. This oxbow wetland provides a habitat for native fish such as galaxiids and bullies, and waterfowl (Butterfield Wetland, n.d.).

Albert Town Lagoon is an important wetland that has been enhanced through removal of invasive species and restoration planting.

Both the Hāwea and Cardrona River have their confluence with the Clutha River near Albert Town, where one of two bridges across the Clutha River is located.

MAKARORA

Near the settlement of Makarora, the Makarora River drains into Lake Wānaka. The area is ecologically significant due to a range of ecosystems that provide habitat for several Threatened and At-Risk native species like long-tailed bats, Australasian crested grebe and kaka. The Makarora Flat Swamp Complex sits at the head of Lake Wānaka and next to the mouth of the braided Makarora River. The river mouth and swamp are important habitats for native bird species including banded dotterel, pied stilt, grey duck and Australasian crested grebe.

LEGEND

- BGN FOCUS AREAS
- WAHI TUPUNA
- FLOOD ZONE

LANDSCAPE FEATURES

- SIGNIFICANT WETLANDS
- LAKES
- WATERWAYS
- STORMWATER CHANNEL
- CATCHMENT BOUNDARY

SIGNIFICANT LOCATIONS

1. LAKE WĀNAKA
2. LAKE HĀWEA
3. ŌRAU | CARDRONA RIVER
4. MATA-AU | CLUTHA RIVER
5. BULLOCK CREEK
6. BUTTERFIELD WETLAND
7. MAKARORA FLAT SWAMP COMPLEX
8. LUGGATE CREEK

Figure 30: Existing blue network of Upper Clutha

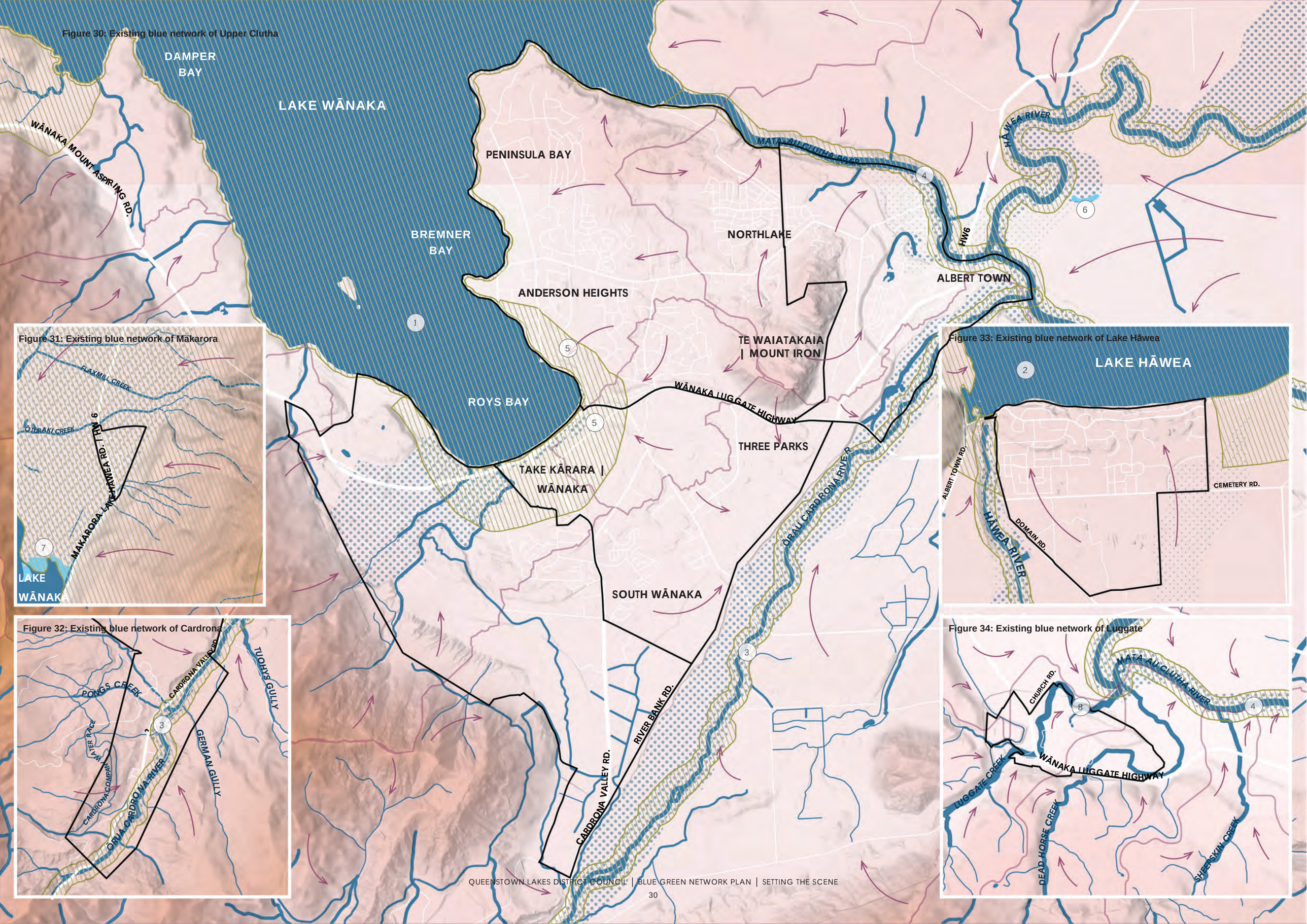


Figure 31: Existing blue network of Makarora

Figure 32: Existing blue network of Cardrona

Figure 33: Existing blue network of Lake Hāwea

Figure 34: Existing blue network of Luggate

2.2.4 EXISTING GREEN NETWORK

The parks developed in new subdivisions are often not large enough to deliver both the intended recreation ecological outcomes. For example, parks in the new subdivision areas of Wānaka west and in Hāwea are relatively small, and therefore do not provide enough land for planting to meaningfully support native ecosystems or provide habitat. In some new and redeveloped communities the vesting of particularly narrow parcels of land prevents opportunities to provide both recreation links and ecological connectivity within the same areas. . Due to the high value of land it is crucial that parks and access links contribute to recreation, community and biodiversity outcomes. Multipurpose parks represent the best value for money for the community over the long term.

The parts of the margins of the lakes (Wānaka and Hāwea) and rivers (Mata-Au | Clutha River, Hāwea and Ōrau | Cardrona River) are dominated by woody weed species, in particular willows and poplars, with some native revegetation occurring. Biodiversity is limited due to historic and current land use. Small native forest and scrub fragments around the Cardrona settlement potentially provide ecological stepping-stones between the alpine tussock lands of Mt Cardrona to the west and the Criffel Range to the east.

The mountains surrounding the Upper Clutha BGN Focus Areas are managed for the introduced weed species gorse, broom and wilding conifers. These plants are considered invasive species capable of disrupting ecosystems and negatively impacting biodiversity. Wilding conifers can also alter the hydrology of freshwater habitats (Broom, n.d.; Gorse, n.d.; Wilding Conifers - Otago Regional Council, n.d.).

There are a range of introduced pest mammals in the Upper Clutha such as possums, stoats, rats and rabbits. The ORC, the Department of Conservation, and various community groups run initiatives to control pest mammals. Wānaka Backyard Trapping is a community-led group that runs 14 trapping programs and a trap library in the Wānaka, Luggate, and Hāwea areas. The group target mice, possums, rats and mustelids (Home, n.d.). The Albert Town and Queensberry (just south of Luggate) community-led rabbit management programmes work with local property owners to effectively manage rabbit populations on their land (Rabbits, n.d.).

DOC manages many conservation areas that extend from the mountain and foothill areas that form the edge of the Upper Clutha Basin (e.g. Te Waiatakaia | Mount Iron, Roys Peak, Rocky Mountain, Treble Cone / Harris Mountains, Hāwea Conservation Area / Park).

Around Wānaka CBD, Wānaka South, and Albert Town are fragments of kanuka forest, such as the Hikuwai Conservation Area and Albert Town Recreation Reserve (at the headwaters of the Mata-Au | Clutha River) and Te Waiatakaia | Mount Iron Scenic Reserve. These forest fragments provide potential habitat for native forest birds like long-tailed cuckoo, brown creeper / pipipi, and tomtit and are likely an important ecological stepping-stone between other kanuka fragments and fernland along the Mata-Au | Clutha River, Hāwea and Cardrona Rivers, as well as larger forest areas to the west of Hāwea and south of Luggate.

KEY FEATURES OF THE BGN FOCUS AREAS

WĀNAKA AND SURROUNDS

Community restoration work has improved the quality of the Bullock Creek environment with significant planting and habitat creation. Te Waiatakaia | Mount Iron is a key landmark/ gateway for Wānaka Township. In December 2021, QLDC reached an agreement to purchase nearly 100ha of land around Te Waiatakaia | Mount Iron and Little Mount Iron in Wānaka. The land has large areas of Kanuka forest that are identified as significant natural areas (SNAs) in the District Plan. Council has also recently agreed to accept the vested DOC reserve land and is working closely with the local community and Iwi on plans for Te Waiatakaia | Mount Iron's long-term future, including its ecological values.

The Te Waiatakaia | Mount Iron Scenic Reserve between Albert Town and Wānaka CBD is a significant habitat for insects with moths associated with native brooms and daisy shrubs a feature of this habitat. Other significant insect habitats are present in the Upper Clutha Basin. Southwest of Luggate is the Luggate Creek Scenic Reserve, and east of the Cardrona settlement is the Pisa Conservation Area; both areas support a rich diversity of native alpine and sub-alpine insects.

MAKARORA

Large areas of indigenous vegetation to the east and west of Makarora provide good ecological connections high into alpine valleys and are habitats for native forest bird species including kaka and mohua / yellowhead. There are also large areas of habitat for the Threatened – Nationally Critical long-tailed bat around Makarora, with the species being recorded in the river valley north of the settlement.

LUGGATE

Luggate Creek is a key feature of the settlement with associated walkways through a mix of native regeneration and woody weed species alongside more established exotic planting, particularly around the Luggate Campground and Cricket Club.



Figure 35: Existing green network of Upper Clutha

DAMPER BAY

LAKE WĀNAKA

WĀNAKA MOUNT ASPIRING RD.

PENINSULA BAY

BREMNER BAY

ANDERSON HEIGHTS

ROYS BAY

TAKE KĀRARA | WĀNAKA

SOUTH WĀNAKA

NORTHLAKE

TE WAIATAKAIA | MOUNT IRON

THREE PARKS

MATA-AU CLUTHA RIVER

HW6

ALBERT TOWN

HĀWEA RIVER

WĀNAKA LUGGATE HIGHWAY

ÖRAU CARDRONA RIVER

CARDRONA VALLEY RD.

RIVER BANK RD.

4

7

9

1

3

2

Figure 36: Existing green network of Makarora

FLAXMILL CREEK

ÖTURAKI CREEK

HW6

ALBERT TOWN RD.

MAKARORA LAKE HĀWEA RD.

LAKE WĀNAKA

Figure 38: Existing green network of Lake Hāwea

LAKE HĀWEA

6

CEMETERY RD.

10

DOMAIN RD.

HĀWEA RIVER

Figure 37: Existing green network of Cardrona

POWS CREEK

CARDRONA VALLEY RD.

TUOHYS GULLY

WATER RACE

CARDRONA COMPANY

GERMAN GULLY

5

ÖRAU CARDRONA RIVER

Figure 39: Existing green network of Luggate

7

MATA AU CLUTHA RIVER

CHURCH RD.

WĀNAKA LUGGATE HIGHWAY

LUGGATE CREEK

DEAD HORSE CREEK

SHEEPSKIN CREEK

2.2.5 EXISTING COMMUNITY NETWORK

Wānaka Lakefront has recently undergone extensive enhancement work adjacent to the town centre, including establishment of boardwalks over the lake margins near the Bullock Creek delta.

The lakes (Wānaka and Hāwea) and rivers (Mata-Au | Clutha River, Hāwea and Ōrau | Cardrona River) have beaches and reserves along the shoreline and river margins that contain existing recreation opportunities and active transport routes.

As with Whakatipu, open space in new developments is often located on land that is not suitable for other land uses, such as areas on flood-prone, steep land or narrow linear stormwater reserves that are not suitable for providing for a range of activities or support facilities. Several smaller private developments have not considered open space and trail connections to adjacent areas, resulting in a cumulative deficiency and lost opportunities for connectedness that supports ecological and community outcomes.

OPEN SPACE PROVISIONS

The more established residential areas in the Upper Clutha (e.g. Wānaka, Lake Hāwea) are generally well provisioned with civic spaces and Premier and Community Parks, eg Pembroke Park, Wānaka Station Park and Peter Fraser Park.

There is a large reserve on Luggate Hill that is suitable for informal, passive recreation but due to the elevated landform is not easily accessed nor suitable for sport fields or a park. It is currently in very poor condition, partly due to its exposure, but provides a notable outlook.

TRAILS AND CONNECTIONS

A continuous foreshore track connects Glendhu Bay, via Wānaka, to the Mata-Au | Clutha River outlet. This connects with a wider trail network along the Clutha River, via Albert Town, to the Luggate Bridge. This returns back on the north bank with another leg extending up the Hāwea River to Lake Hāwea.

Tracks along the Lake Hāwea waterfront / Hāwea River are important links between the communities and to surrounding/adjacent blue space.

Deans Bank Track offers limited cross country mountain biking opportunities on the north bank of the Mata-Au | Clutha River outlet. Some of the other larger recreation open spaces that provide mountain bike downhill trail networks are in private ownership around Wānaka (e.g. Glendhu Bay Bike Park).

There is a mix of hiking tracks around Te Waiatakaia | Mount Iron and Roys Peak ,offering the two key opportunities locally. Mt Aspiring National Park and conservation areas in the Pisa Range and at the head of Lake Hāwea (e.g. Timaru Creek, Isthmus Peak and Kidds Bush) are relatively accessible for local residents and visitors.

Some of the river trails are incomplete, such as a route from Wānaka to Lake Dunstan and from Cardrona to Albert Town .

DEVELOPMENTS

As described in the green network section, new subdivisions include a parks and public access trails/connections that do not have enough land area to deliver anticipated outcomes for the community. Opportunity is being lost to provide multiple values from the same area of land and to provide sufficient public open space for people living in higher density development typology. This is a significant issue, as once housing development is built around new parks and access, the cost to make those areas larger to properly function and deliver environmental and community needs is prohibitive. The community and Council are locked in to poorly performing public open space networks if sufficient land area is not planned for and delivered from the outset.

Within Three Parks there is a large Recreation Centre with Sports Grounds and the decommissioned oxidation ponds at Ballantynes Road have recently been rezoned to Active Sports and Recreation. Anderson Heights has several local parks, community parks and school grounds, including Lismore Park and Kelly's Flat Reserve. This provides a good level of open space provision and connectivity.

Kirimoko subdivision has very little open space for the density of development present. Northlake has a Community Park with tennis court, skate park and pump track. Otherwise, is not well provided for in terms of open space within the subdivision relative to the residential density provided, with most being linear pocket parks along Northlake Drive (not recognised under the QLDC open spaces strategy) or stormwater reserves.

GOLF COURSES

The publicly owned Wānaka golf course provides recreational access for fee paying users, but also provides visual amenity, space for many mature trees and contains growth around Wānaka Town Centre.

Campgrounds Council owns several large campgrounds that are leased (Glendhu Bay, Albert Town Campground, Lake Wānaka and Lake Hāwea Holiday Park) that are generally publicly accessible for lake and open space access.

LEGEND

- BGN FOCUS AREAS

OPEN SPACE TYPES

- GOLF COURSES
- RESERVES
- CONSERVATION
- QUEEN ELIZABETH II TRUST COVENANTS
- LAKES
- WATERWAYS
- TRACKS AND TRAILS

SIGNIFICANT LOCATIONS

1. TE WAIATAKAIA | MOUNT IRON
2. PEMBROKE PARK
3. WĀNAKA GOLF COURSE
4. WĀNAKA RECREATIONAL CENTRE
5. LISMORE PARK
6. WĀNAKA CEMETERY
7. ALBERT TOWN RESERVE
8. CARDRONA DOMAIN
9. PETER FRASER PARK
10. LAKE HĀWEA GOLF CLUB
11. KANE RESERVE

Figure 40: Existing community network of Upper Clutha

DAMPER BAY

LAKE WĀNAKA

WĀNAKA MOUNT ASPIRING RD.

PENINSULA BAY

BREMNER BAY

ROYS BAY

ANDERSON HEIGHTS

NORTHLAKE

MATA-AU CLUTHA RIVER

HĀWEA RIVER

HW6

ALBERT TOWN

TE WAIATAKAIA | MOUNT IRON

WĀNAKA LUGGATE HIGHWAY

THREE PARKS

TAKE KĀRARA WĀNAKA

ÓRAU CARDRONA RIVER

SOUTH WĀNAKA

CARDRONA VALLEY RD.

RIVER BANK RD.

1 2 3 4 5 6 7

Figure 41: Existing community network of Makarora

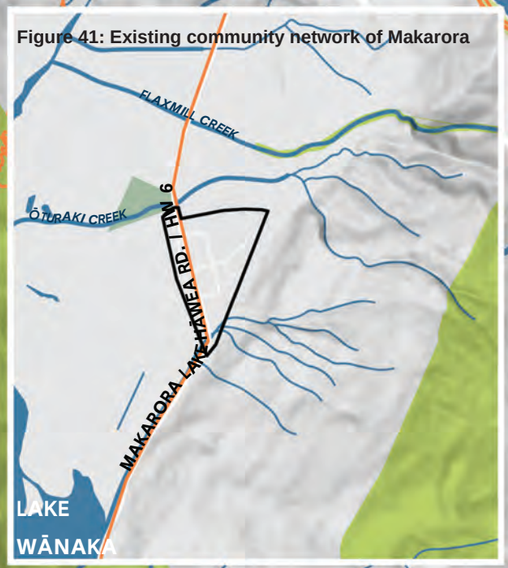


Figure 42: Existing community network of Cardrona

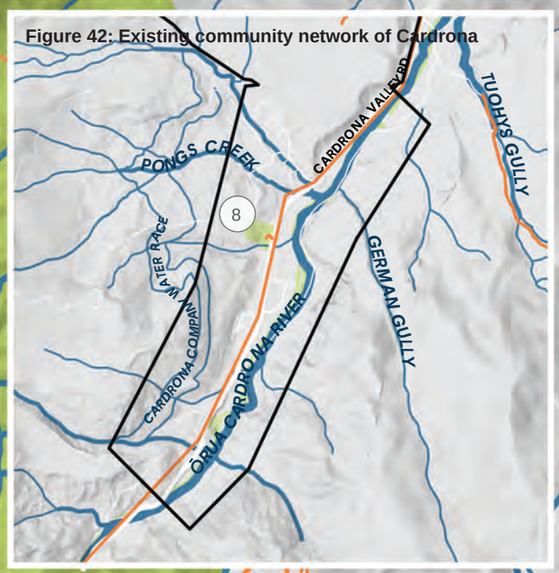


Figure 43: Existing community network of Lake Hāwea

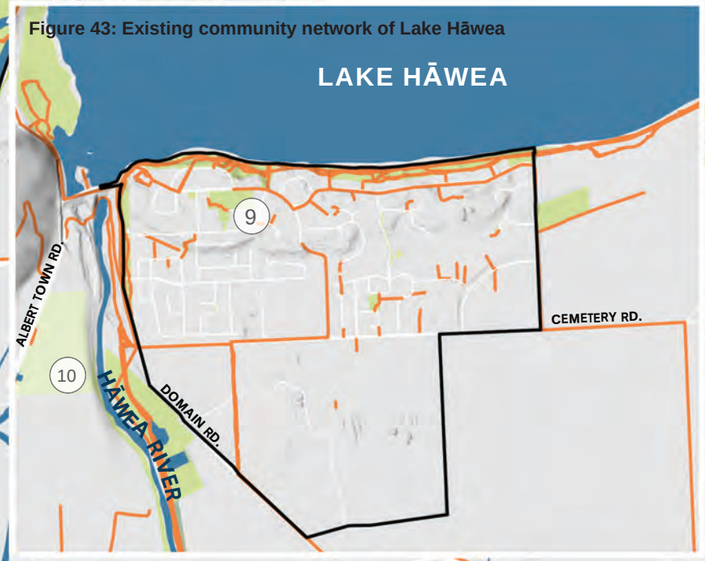
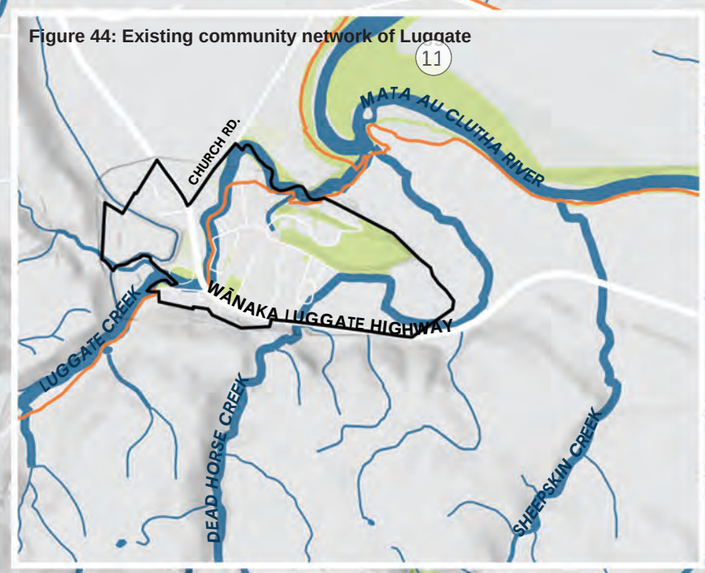


Figure 44: Existing community network of Luggate



03

LOCAL BLUE GREEN PLANS

KŌTUITUI MAHERE MO TE WHENUA ME NGA WAI



LOCAL PLAN DEFINITION

The Local Blue Green Plans are a series of strategic plans designed to integrate natural and recreational elements within a landscape to enhance social and environmental well-being. These plans combine blue elements, such as rivers, lakes, wetlands, and streams, with green elements, including ecological corridors and recreational spaces like parks, trails, destinations, and arrival nodes. The goal is to create interconnected systems that support biodiversity, improve water quality and management and support biodiversity, and provide spaces for community recreation and cultural activities.

There are 21 maps covering the PBGN Focus Areas detailed below.

The maps include six main components:

- Water
- Ecology
- Parks
- Trails
- Destinations
- Arrival nodes

These components represent high-level groupings of projects that could be implemented within the BGN. They are intentionally kept broad due to the preliminary nature of this exercise. Detailed potential initiatives for each component are outlined below, although this list is non-exhaustive and additional initiatives may be identified during detailed project planning.

Each component may have a fixed or flexible location. For instance, ecological corridors associated with waterways are relatively fixed around riparian zones and are mapped as 'proposed.' Conversely, ecological corridors aimed at linking areas of indigenous biodiversity may have multiple spatial options and are mapped as 'approximate location.' New Parks are indicative but the size and quality of the land that is used to create those parks is important.

The plans incorporate only the blue, green, and community layers, simplified for ease of communication. They are intended to be overlaid with other plans, such as district plan layers and overlays (including Wāhi Tūpuna, etc.), for comprehensive planning.

COMPONENTS

BLUE COMPONENTS

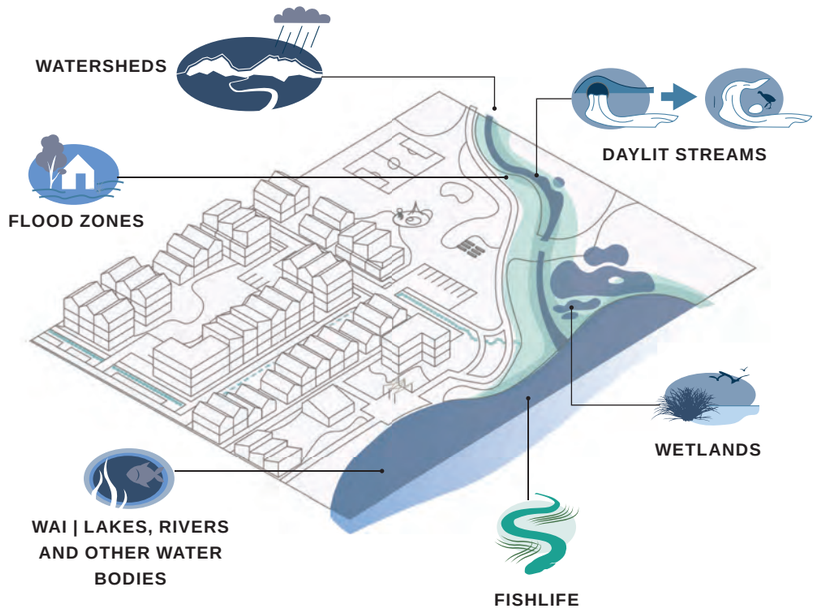


Figure 45: Example of 'blue' components

WATER

Wetland creation and restoration: Constructing new wetlands or restoring and enhancing degraded wetlands to improve the overall health of the waterways e.g. water filtration, habitat, and flood management.

Mahinga Kai: Protecting and enhancing Mahinga Kai practices by improving access to waterways for sustainable harvesting.

Waterway restoration: Rehabilitating natural river channels, removing concrete linings, re-establishing natural flow patterns and making space for water and stormwater systems.

Stormwater Infrastructure: Implementing bioswales, rain gardens, and permeable pavements to manage runoff and reduce pollution.

Fish Passage: Installing fish ladders to enhance habitat connectivity and biodiversity and removing fish passage barriers.

GREEN COMPONENTS

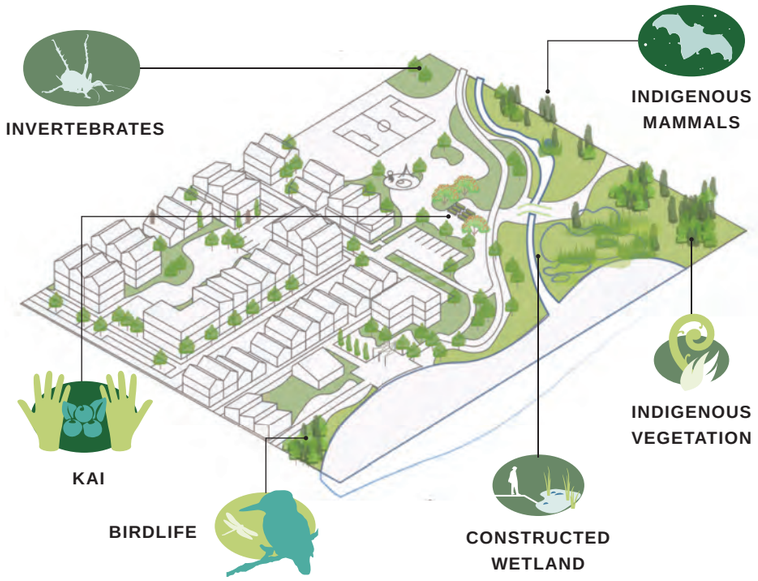


Figure 46: Example of 'green' components

COMMUNITY COMPONENTS

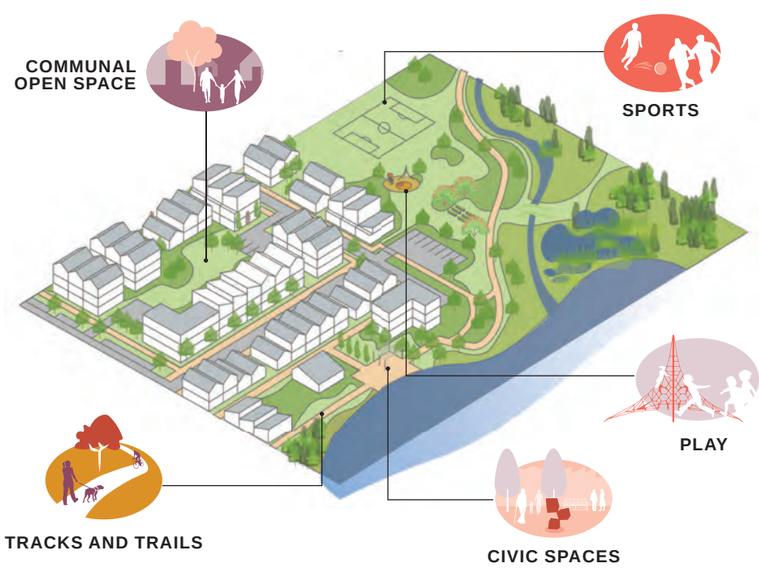


Figure 47: Example of 'community' components

ECOLOGY

Ecology: Encourage the use of mahinga kai and rongoā species.

Removal of invasive vegetation: Removing invasive weeds helps to restore the natural ecosystem and prevent the spread of invasive species that can outcompete indigenous flora.

Replanting of indigenous revegetation: Replanting native species to support local biodiversity, enhance habitat for wildlife, and strengthens the resilience of the ecosystem.

Riparian buffer zones: Establishing or enhancing vegetated areas along waterways to filter runoff, reduce erosion, and provide habitat.

Ecological corridors and stepping stones: Creating linear pathways and ecological corridors that connect fragmented habitats, allowing fish, wildlife, animals and manu to move safely between areas.

PARKS

Local Parks: Park that is easily accessible for the immediate community, within easy walking distance (5-10 minutes) to residents in the area. Provides a basic information recreation experience for nearby residents. Create new parks in new urban areasor upgrade existing local parks in existing urban areas to provide informal recreation via a short walk to local residents.

Community Parks: Area of open space that provides a variety of informal recreation experiences for residents across a neighbourhood/ suburb, well used by the community for informal recreation, social, cultural and leisure experiences. Create new or expand existing community parks to provide a variety of experiences for residents across a neighbourhood/suburb, including for informal recreation, social, cultural and leisure activities.

Community Sportsground Parks: Sportsground parks are designed and used for organised sport with toilets, changing facilities, car parking and turf or playing surface formally maintained to an appropriate standard for the relevant sports code/s. These include sports fields, hard-court areas, club facilities as well as associated infrastructure such as car parking and changing rooms. Community Parks and Community Sportsground Parks can be combined.

PARKS

Destination / Premier parks: A premier park provides a unique experience and typically has a more extensive range of facilities that people will travel to and spend more time at. These parks are usually larger and meet the needs of both residents within the district and visitors to the area as they provide a unique experience or point of difference to other parks.

Pocket Parks: Pocket parks are areas of greenspace that are either very small or are often not fully accessible as the land is maybe steep or located in gullies. They can provide amenity and visual relief in dense areas, space for large amenity trees, support stormwater management, and offer high-quality landscaping.

Civic Spaces: Civic spaces are for meeting, socialising, play and events located within the urban town centres and can comprise squares, plazas, greens, streets and shared spaces.

KEY DESTINATIONS

Recognising existing destinations as key locations where locals and visitors already travel to, and strategically providing trail connections to these areas to improve access. Key destinations include town centres, civic spaces, lake foreshores and bays, viewpoints and lookouts, marinas, significant gardens / playgrounds, golf courses and campgrounds, recreation hubs and event centres and schools

ARRIVAL NODES

Developing and enhancing arrival nodes to provide convenient access points to the wider recreation and trails network. This would consist of: parking, toilets, and signage and information

TRACKS AND TRAILS

Provide for recreation: Provide linkages for recreation or active travel, such as walkways, cycleways or shared routes, that make moving between and around our neighbourhoods easier and can provide for alternative and more sustainable transport modes, includes trail signs and wayfinding

Connecting destinations: Creating pathways and transportation links between key destinations to enhance accessibility and encourage exploration within the Blue Green Network.

Connecting to employment and services: Integrating active travel routes with employment hubs and essential services to facilitate convenient and sustainable commuting options for residents.

Connecting waterways: Creating tracks and trails along waterways to support Mahinga Kai practices by providing access to traditional food gathering sites. Provides opportunity to help to restore ara tawhito connections for Kāi Tahu.

Connecting parks: Developing safe tracks and trails that link parks together to ensure that people, especially children, can easily and safely access recreational spaces.

1 TĀHUNA | QUEENSTOWN & 2 QUEENSTOWN HILL / FRANKTON ROAD

These BGN Focus Areas are surrounded by and situated on the steep slopes of Ben Lomond and Queenstown Hill and generally follow the foreshore of Lake Whakatipu. Their immediate landscape context is dominated by wilding pines and woody weed species. Although, large areas of reserve land and the lake provide ready access to a wide range of recreational and tourist activities. The Priority Development Areas are highly urbanised with fragmented waterways that have some sections primarily serving the underground stormwater network, including parts of Horne Creek between Matakauri Wetland and Lake Whakatipu. Green spaces and short trail sections are scattered throughout existing urban areas with the steep underlying topography providing challenges for usable parks and to connect surrounding reserves to the lake. Queenstown Gardens, Queenstown Recreational Reserve and Warren Park are key open space resources on flatter areas within the town with most park deficiencies within the Queenstown Hill / Frankton Road BGN Focus Areas

ID	PROJECTS	DESCRIPTION
1.01	Horne Creek (Central)	Ecological and riparian restoration of Horne Creek.
1.02	Matakauri Wetland	Creating a mahinga kai site.
1.03	Lake Whakatipu Foreshore	Riparian planting of Lake Whakatipu foreshore and enhancing trails.
1.04	Queenstown Hill Recreation Reserve	Revegetating Queenstown Hill in indigenous vegetation and non wilding exotics, and associated trails and arrival node. Interim project to create wildfire breaks and trails.
1.05	Ben Lomond	Revegetating Ben Lomond in indigenous vegetation with some large statue non-wilding exotic trees retained where approporiate, and new arrival node. Interim project to create wildfire breaks and trails.
1.06	Queenstown Recreation Ground	Creating an ecological corridor / stepping stone.
1.07	Warren Park	Creating an ecological corridor / stepping stone.
1.08	Horne Creek	Upgrade reserve to create a Community Park.
1.09	Queenstown Hill Residential	Addition of a local park(s) and associated trails.
1.10	Arthurs Point to Queenstown Track	Complete active travel route connecting Arthurs Point to Queenstown.
1.11	Thompson Street	Te Taumata o Hakitekura Fernhill active trail link.
2.01	Queenstown Hill Waterways	Protect and enhance the streams on Queenstown Hill, and addition of trails and associated arrival node.
2.02	Silvercreek	Addition of a local park and trails through the development area and protection of waterway.

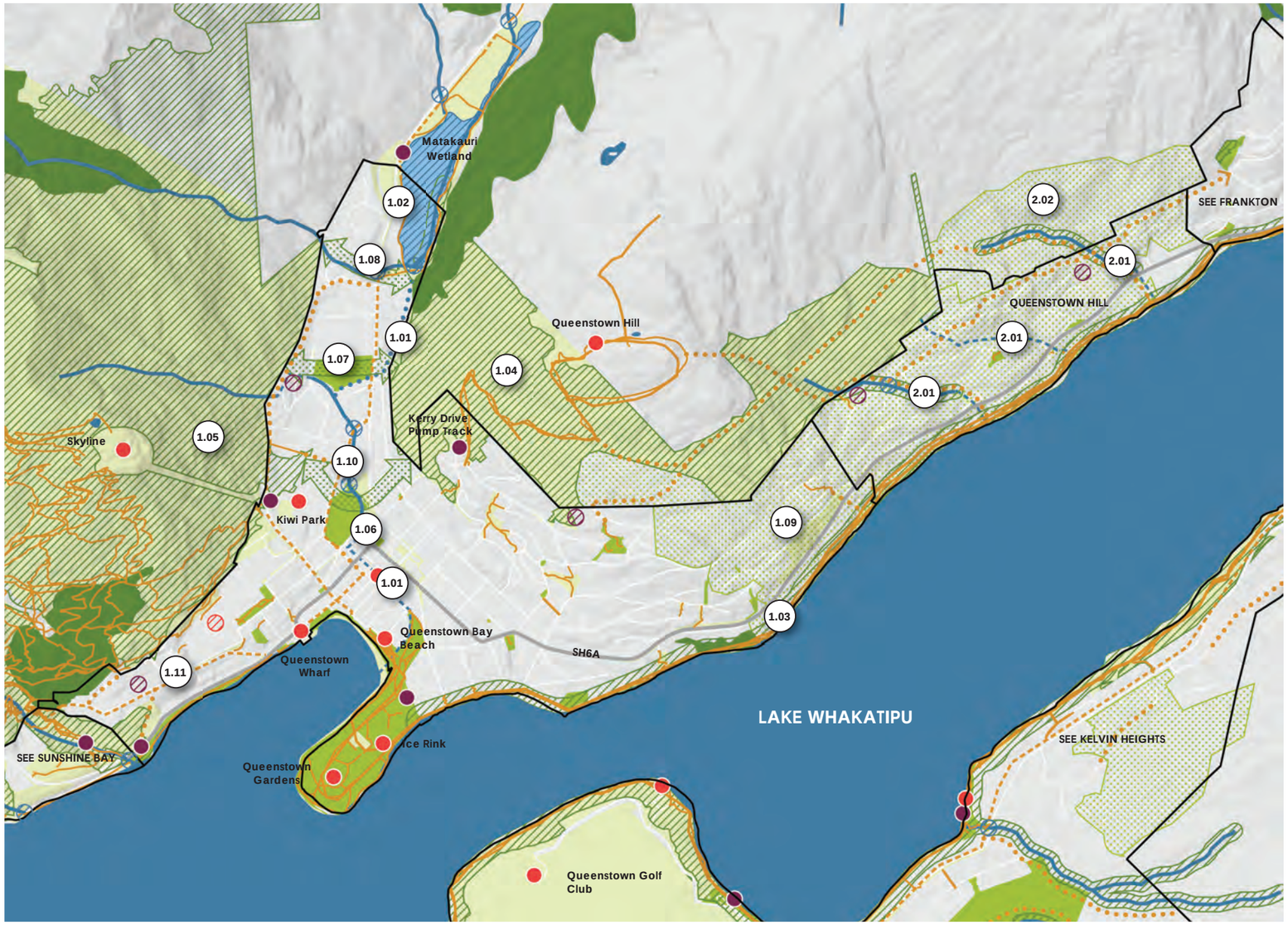


Figure 48: Tāhuna | Queenstown and Queenstown Hill Local Blue Green Plans

3 FERNHILL / SUNSHINE BAY

This BGN Focus Area is surrounded by and situated on the steep slopes of Ben Lomond and follows the foreshore of Lake Whakatipu. One Mile and Two Mile Creeks provide strong ecological connections between the mountains and lake. Otherwise, its immediate landscape context is dominated by wilding pines and woody weed species with some emerging ecological restoration in conservation areas to the south and along the lake foreshore. Large areas of reserve land and the lake provide ready access to a wide range of recreational activities, including potential for expanding existing trails network.

The BGN Focus Area is largely urbanised with two fragmented waterways connecting through to the lake. Existing green spaces are predominantly on the edge of existing urban areas with the steep underlying topography providing challenges for other usable parks within. There is potential to enhance two trail connections following the lake foreshore and on upper slopes through the heart of the area, both connecting in with conservation area trials beyond.

ID	PROJECTS	DESCRIPTION
3.01	2 Mile Creek	Protect and enhance 2 Mile Creek.
3.02	Stormwater Channels	Protect and enhance waterways that are currently classified as stormwater channels.
3.03	Lake Whakatipu Foreshore	Riparian planting of Lake Whakatipu foreshore and upgrading trails.
3.04	New Park(s)	Upgrade existing parks.
3.05	New Park(s)	Upgrade existing parks.
3.06	Fernhill to Queenstown active travel	Active travel route connecting Fernhill to Queenstown.
3.07	One Mile Creek	Protect and enhance One Mile Creek. Wilding conifer removal. Enhanced arrival node that protects historic hydrostation.



Figure 49: Fernhill / Sunshine Bay Local Blue Green Plans

4 TE KIRIKIRI | FRANKTON

This BGN Focus Area is bounded by Lake Whakatipu and Kawarau and Kimiākau | Shotover Rivers with trails alongside and two historic bridge crossings that are key parts of the wider trails network. Woody weed species dominate their water edges. Linkages to the north are constrained by the elevated terrain of Ferry Hill with opportunities to provide access to Tucker Beach and Lake Johnson. The Queenstown Event Centre provides for premier sports grounds that currently services the wider Whakatipu Basin community.

A considerable amount of greenfield land remains for intensive urban development where the provision of parks will be important to service projected housing and business growth, including civic spaces. The remediation and ecological restoration of the Kimiākau | Shotover River Delta is also an opportunity for a large-scale, district park.

ID	PROJECTS	DESCRIPTION
4.01	Lake Whakatipu Foreshore	Invasive weed species removed and riparian planting of Lake Whakatipu foreshore and upgrading trails.
4.02	Shotover River | Kimi-ākau	Riparian planting of Shotover River | Kimi-ākau.
4.03	Kawarau River	Riparian planting of Kawarau River.
4.04	Lake Johnson | Waipuna and surrounding waterways	Riparian planting of Lake Johnson and surrounding waterways, and enhance public access to the Lake.
4.05	Remarkables Park	Addition of a community park and and local park
4.06	Glenda Drive	Addition of a civic space within the Industrial Precinct.
4.07	Shotover delta | Kimi-ākau	Conversion of existing clean fill site into Local or Community Park.
4.08	Frankton Road North	Addition of a community and/or local park and civic space.
4.09	D2 - Tucker Beach to Frankton	Active travel route connecting Tucker Beach to Frankton and associated arrival node.
4.10	Shotover Bridge to State Highway 6 active travel	Active travel route (bridge) connecting Shotover Bridge to State Highway 6.
4.11	State Highway 6 to Frankton track active travel	Active travel route connecting State Highway 6 to Frankton Track and address stairs.
4.12	Frankton Marina Swimming Lane	Upgrade access to swimming lane through removal of willows

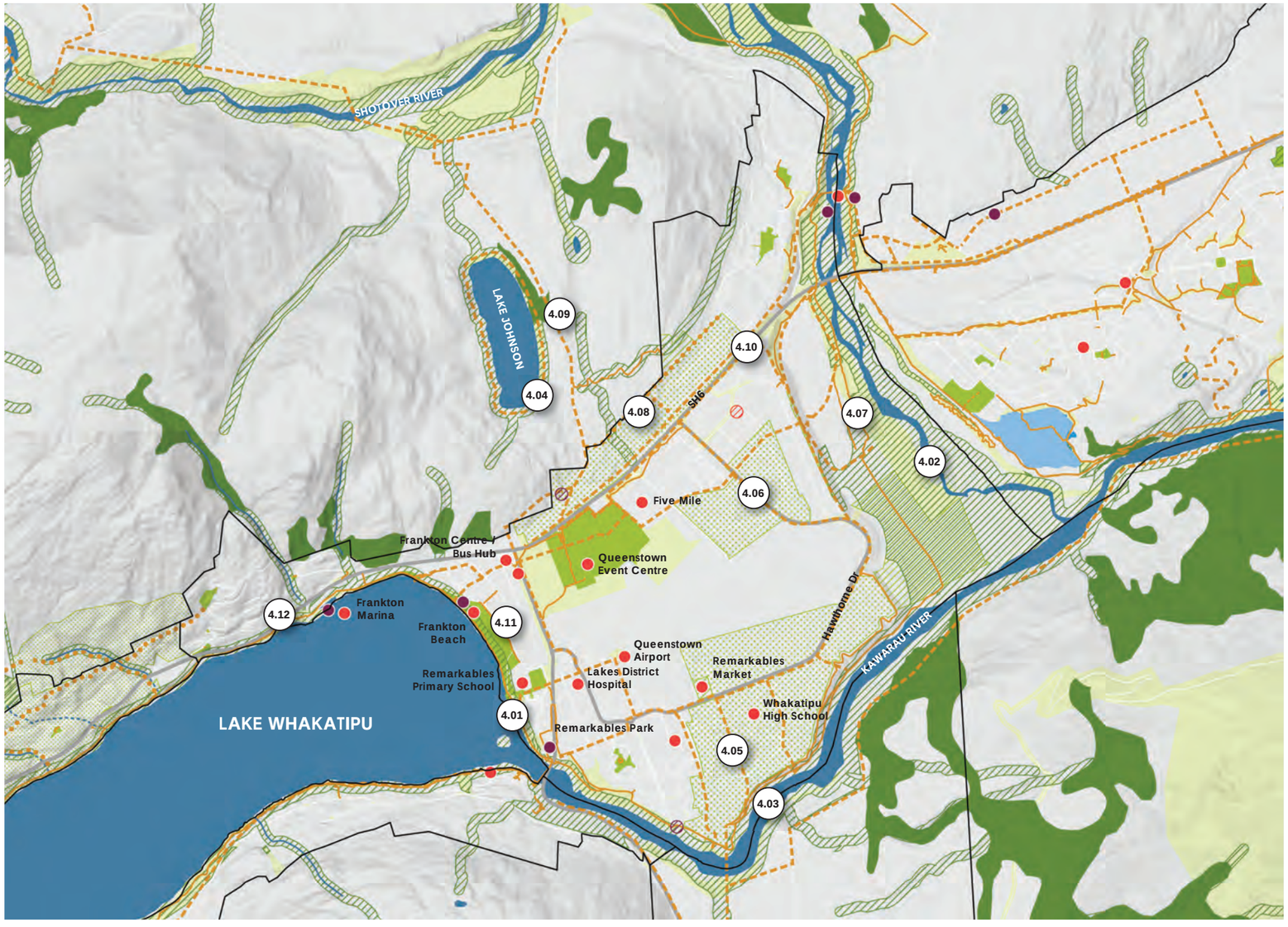


Figure 50: Te Kirikiri | Frankton Local Blue Green Plans

5 TE PŪTAHI | EASTERN CORRIDOR

The BGN Focus Area is bounded by Lake Waiwhakaata \ Lake Hayes and Kawarau and Kimiākau | Shotover Rivers with trails alongside and a historic bridge crossing that is a key part of the wider trails network. Woody weed species dominate their water edges with some emerging ecological restoration along the lake foreshore. Linkages to the north are constrained by the elevated terrain of Slope Hill. Open space usage within existing residential areas is often constrained in size and useability by the presence of a high voltage transmission line along the Corridor.

A considerable amount of greenfield land remains for intensive urban development where stormwater management and the provision of premier sports grounds, parks and civic space will be important to service projected housing growth. The ecological restoration of the Kimiākau | Shotover River Delta and other low-lying land along the Kawarau River are other areas of focus.

ID	PROJECTS	DESCRIPTION
5.01	Lake Hayes	Riparian planting of Lake Hayes.
5.02	Shotover River	Weed removal along Shotover River corridor and riparian planing along managed edges.
5.03	Kawarau River	Weed removal along Kawarau River corridor.
5.04	Widgeon Park	Upgrade existing reserve at Widgeon Place to Community Park.
5.05	516 Ladies Mile	Addition of a Community Facility and Premier Sportsground Park at 516 Ladies Mile
5.06	Te Putahi Ladies Mile Parks	Addition of various parks as per the Te Putahi Ladies Mile Masterplan with planting undertaken as soon as feasible.
5.07	Lake Hayes to Shotover Bridge active travel	Active Travel Route connecting Lake Hayes to Shotover Bridge, separated from SH6.
5.08	Slope Hill	Trails connecting to and around Slope Hill, and associated arrival node.
5.09	Frankton - Ladies Mile Highway	Relocate main crossing point to create a safe pedestrian crossing at lights
5.10	Bridesdale	Upgrade trails at the bottom of Bridesdale to prevent flooding on trails

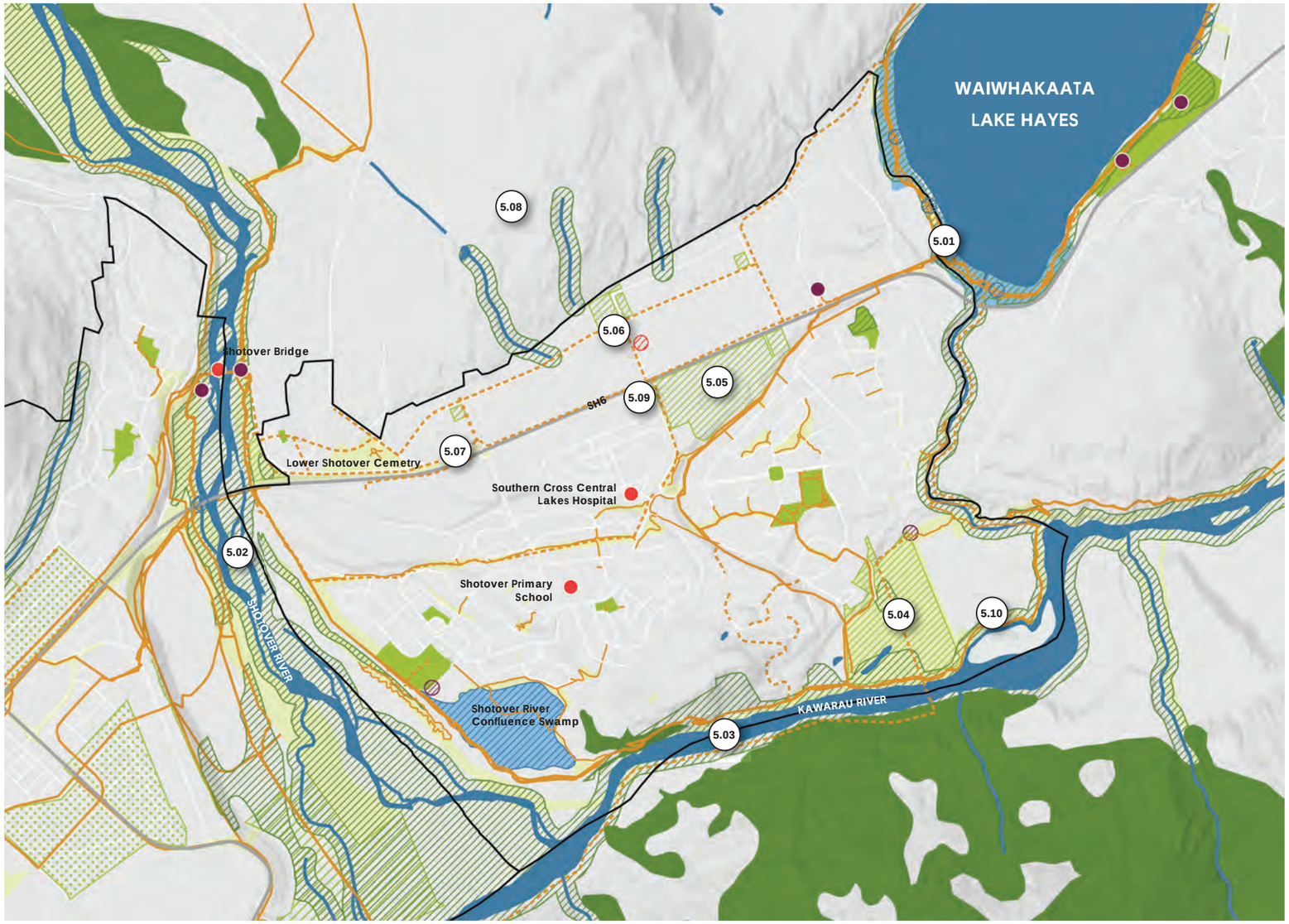


Figure 51: Te Pūtahi | Eastern Corridor Local Blue Green Plans

LEGEND

- WATERWAYS - EXISTING
- WATERWAYS - PROPOSED
- WATERWAYS - APPROXIMATE LOCATION
- WETLAND - EXISTING
- FISH LADDER - PROPOSED
- ECOLOGY - EXISTING
- ECOLOGY - PROPOSED
- ECOLOGY - APPROXIMATE LOCATION
- PARKS - EXISTING
- PARKS - PROPOSED
- FUTURE PARKS - APPROXIMATE LOCATION
- DESTINATIONS - EXISTING
- DESTINATIONS - PROPOSED
- ARRIVAL NODES - EXISTING
- ARRIVAL NODES - PROPOSED
- TRAILS - EXISTING
- TRAILS - PROPOSED ROUTE
- FUTURE TRAILS - APPROXIMATE ROUTE

6 TE TAPUAE | SOUTHERN CORRIDOR

The BGN Focus Area is bounded by the Kawarau River in the north and the Kawarau Maunga | The Remarkables to the east, including adjacent large areas of QEII National Trust Land that are subject to a 50-year conservation plan and proposed trail connections. Lake Whakatipu defines the west and south of the Corridor with a trail along most of the foreshore. The Jack Tewa Park, Jacks Point and Jacks Point Golf Course are other notable public and private open space resources.

A considerable amount of greenfield land remains for intensive urban development where stormwater management and the provision of premier sports grounds, parks and civic space will be important to service projected business and housing growth. The ecological restoration of the wetlands, waterways and lake foreshore will be other areas of focus where they have potential to provide important linkages between the mountains and the lake, particularly around Jacks Point Village / Homestead Bay.

ID	PROJECTS	DESCRIPTION
6.01	Lake Whakatipu Foreshore	Riparian planting of foreshore, and expansion of trail network to the south.
6.02	Lake Tewa	Riparian planting of Lake Tewa.
6.03	Willow Pond	Riparian planting of Willow Pond.
6.04	The Preserve wetlands	Riparian planting and terrestrial revegetation of wetlands along Preserve Hill.
6.05	Homestead Bay East	Addition of 2-3 community parks and 4-5 local parks and civic spaces.
6.06	Homestead Bay	Addition of 1 community park, and riparian planting of waterways and associated trails and civic spaces.
6.07	Jack Tewa Park	Expansion of Jack Tewa Park for premier sports fields and community facilities.
6.08	Remarkables Station	Revegetation of waterways, and indicative location of trail network to link into residential areas.
6.09	Jacks Point to Frankton active travel	Jacks Point to Frankton trail along waterway, including revegetating waterway.

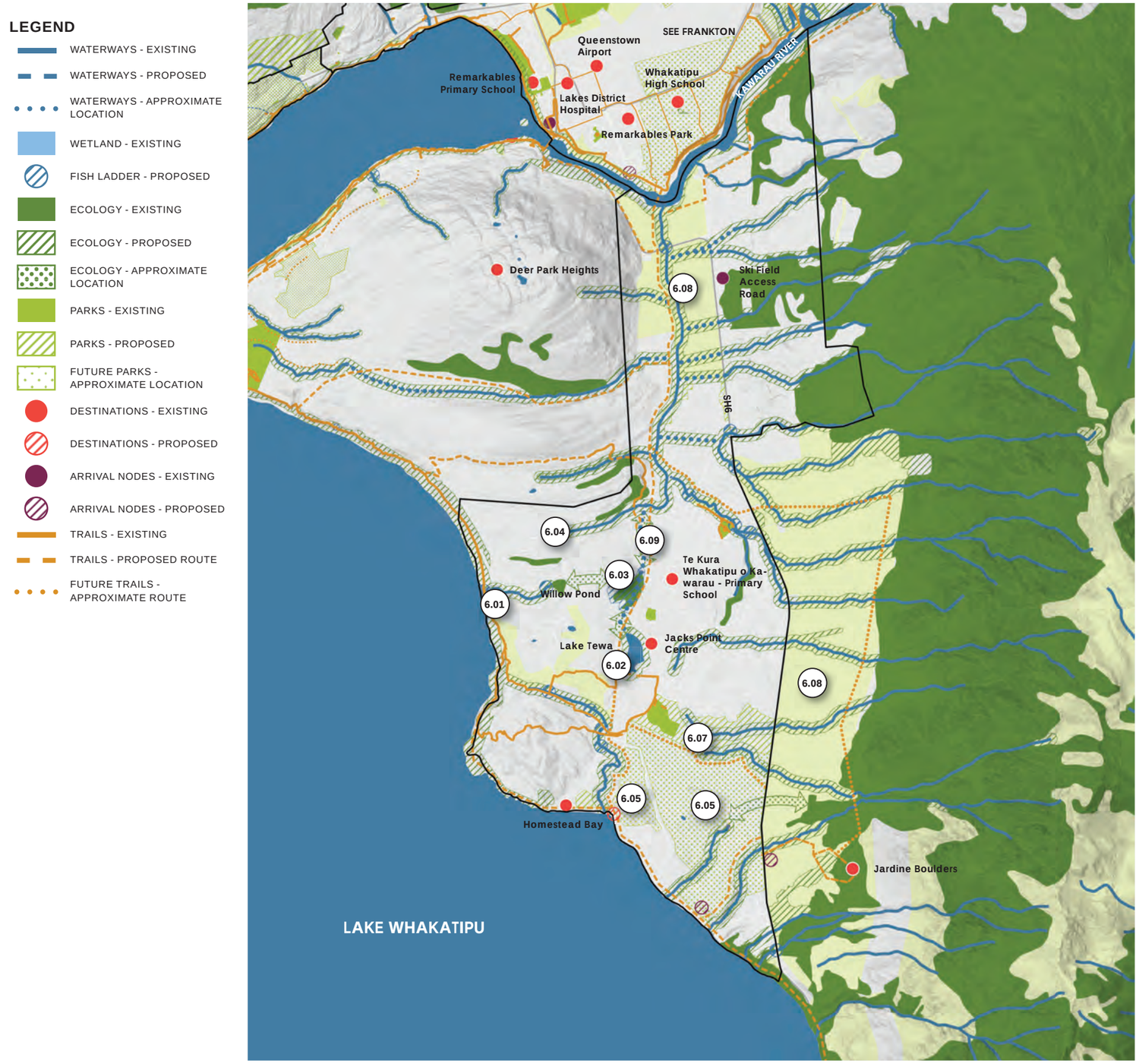


Figure 52: Te Tapuae | Southern Corridor Local Blue Green Plans

7 KELVIN HEIGHTS

This area is an established lower density residential area located between the toe of the steep of Peninsula Hill and the Frankton Arm foreshore of Lake Whakatipu. It extends west through to a narrow isthmus with a prominent peninsula containing the Queenstown Golf Club. A trail along the foreshore provides connections to Te Kirikiri | Frankton with a less user-friendly link to Te Tapue | Southern Corridor. This foreshore is dominated by wilding pines and woody weed species. Jardine Park is the primary open space resource.

While some zoned land is available for development, new infill or greenfield housing is not likely to intensify much further and the focus is likely to be on foreshore revegetation and associated trail usability and continuing to enhance Jardine Park.

ID	PROJECTS	DESCRIPTION
7.01	Lake Whakatipu Foreshore	Riparian planting of Lake Whakatipu foreshore and upgrading trails.
7.02	Kelvin Heights to Frankton active travel	Active travel upgrades to Kelvin Heights to Frankton Track



Figure 53: Kelvin Heights Local Blue Green Plans

8 ARTHURS POINT

This Settlement is situated at the base of Mt Dewar and Bowen Peak, including access to reserves and more remote recreation activities. The Kimiākau | Shotover River gorge extends between the two halves of the settlement with wilding pines and woody weed species lining its upper faces. Informal green spaces and trail connections are located throughout the community, providing some amenity and connectivity, but in many instances lacking legal recognition and protection. Well-formed bike trails connect the settlement to Tāhuna | Queenstown and Arrowtown and are planned in the future to extend through to Te Kirikiri | Frankton.

Some zoned land is available for development and new infill and greenfield housing is intensifying around the upper terraces. The focus will be on revegetation along the Kimiākau | Shotover River and formal provision of parks.

ID	PROJECTS	DESCRIPTION
8.01	Shotover River | Kimiākau	Riparian planting of Shotover River and associated trails.
8.02	Kimiākau Shotover Gorge Trail	Active travel route connecting Arthurs Point to Tucker Beach Trail.
8.03	New park	New local park.
8.04	Revegetation	Revegetation of Public Conservation Land.

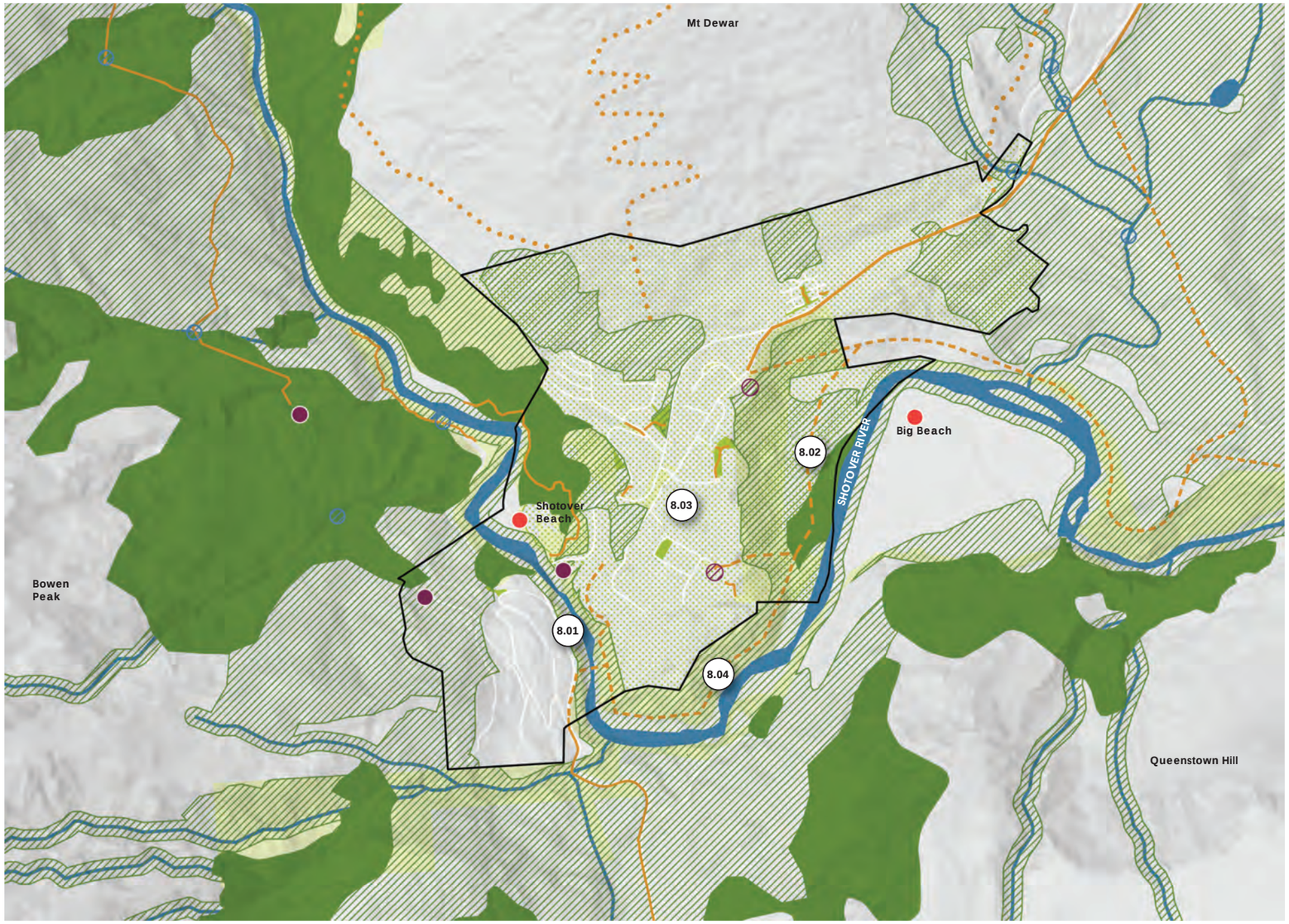


Figure 54: Arthurs Point Local Blue Green Plans

9 KĀ MURIWAI | ARROWTOWN

This Settlement is surrounded by conservation land to the north with extensive trails that extend along the Arrow River and Bush Creek. Woody weed species dominate the hillsides and waterway edges with some emerging ecological restoration initiatives. Multiple resorts / golf courses provide private open space and trail easements on the southern side of the settlement. Arrowtown has good open space provision and connections throughout the settlement and along the more natural areas to its north and east. It is a destination for both locals and tourists in-part due to its open space amenity, including several village green civic spaces.

Due to limited new greenfield land and lower density infill opportunities, the focus will be on Woody weed management and continued revegetation along the Arrow River and Bush Creek catchments.

ID	PROJECTS	DESCRIPTION
9.01	Arrow River | Haehaenui	Riparian planting of Arrow River | Haehaenui.
9.02	Bush Creek	Riparian planting of Bush Creek.
9.03	Glencoe Station, Mt Walsh, German Hill	Revegetation of areas north of Arrowtown, including Glencoe Station, Mt Walsh and German Hill.
9.04	Feehly Hill Scenic Reserve	Revegetation of Feehly Hill.
9.05	Arrowtown to Lake Hayes track active travel	Active travel route connecting Arrowtown to Lake Hayes.
9.06	Arrowtown to Arthurs Point active travel	Active travel route connecting Arrowtown to Arthurs Point.
9.07	Bush Creek Bridge	New bridge across Bush Creek near Chinese Village.

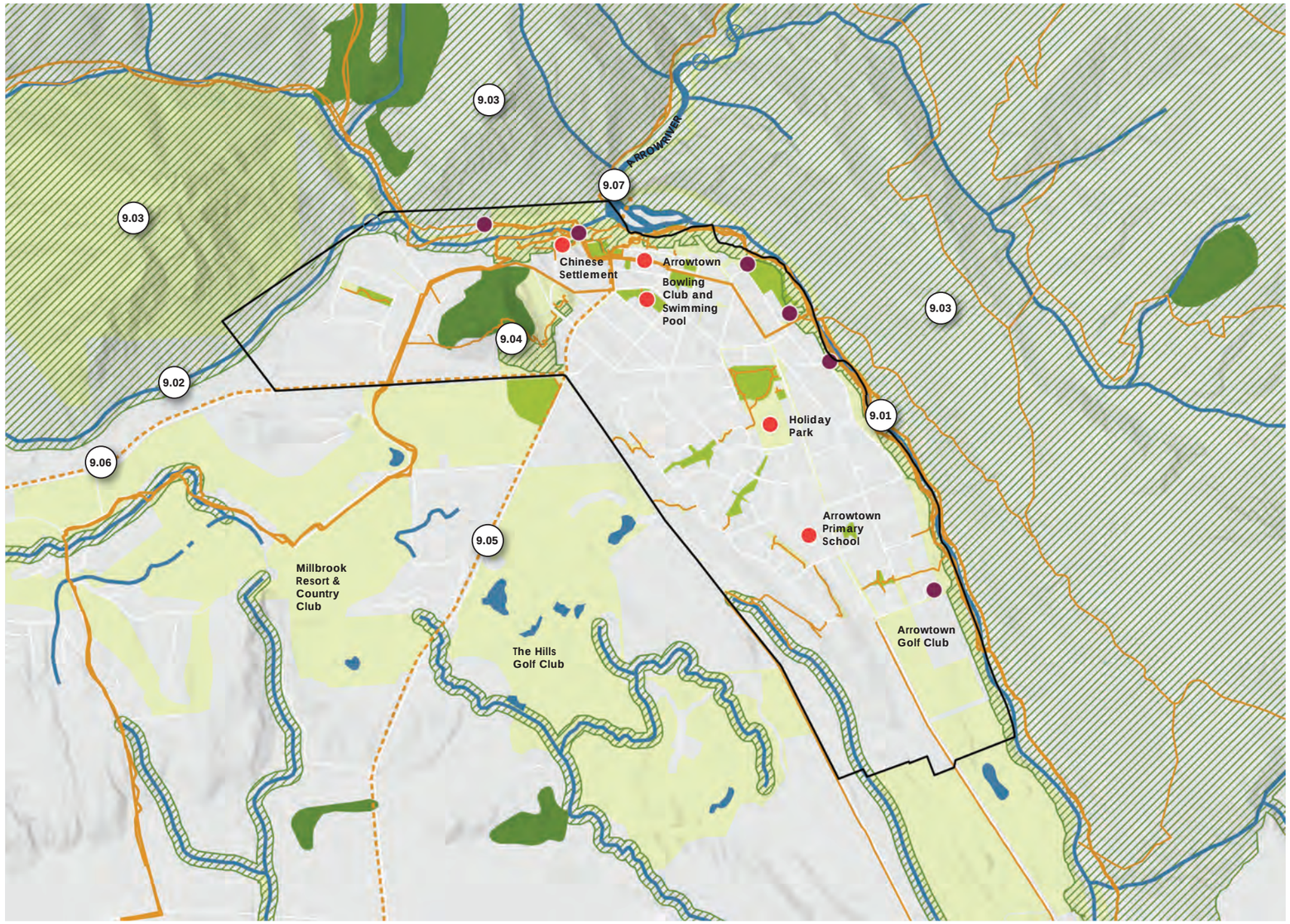


Figure 55: Kā Muriwai | Arrowtown Local Blue Green Plans

LEGEND

- WATERWAYS - EXISTING
- WATERWAYS - PROPOSED
- WATERWAYS - APPROXIMATE LOCATION
- WETLAND - EXISTING
- FISH LADDER - PROPOSED
- ECOLOGY - EXISTING
- ECOLOGY - PROPOSED
- ECOLOGY - APPROXIMATE LOCATION
- PARKS - EXISTING
- PARKS - PROPOSED
- FUTURE PARKS - APPROXIMATE LOCATION
- DESTINATIONS - EXISTING
- DESTINATIONS - PROPOSED
- ARRIVAL NODES - EXISTING
- ARRIVAL NODES - PROPOSED
- TRAILS - EXISTING
- TRAILS - PROPOSED ROUTE
- FUTURE TRAILS - APPROXIMATE ROUTE

10 TĀHUNA | GLENORCHY

This is a small Settlement at the northern end of Lake Whakatipu where the Dart and Rees Rivers form an extensive delta and wetland of high natural value. The Lake foreshore and some wetland areas are dominated by woody weed species. While it is a gateway to more remote recreation activities, connections to a surrounding trail network are limited.

Natural hazards constrain opportunities and limited growth is expected in the Settlement. Therefore, revegetation of foreshore and wetland areas and enhancement of existing spaces is the focus, rather than creation of new spaces.

ID	PROJECTS	DESCRIPTION
10.01	Glenorchy Wharf	Riparian planting of Lake Whakatipu foreshore and establishing trails.
10.02	Rees River	Riparian planting of Rees River.
10.03	Buckler Burn	Riparian planting of Buckler Burn.



Figure 56: Tāhuna | Glenorchy Local Blue Green Plans

11 TAKEREHAKA | KINGSTON

This Settlement is located at the southernmost end of Lake Whakatipu and adjacent to existing conservation areas with extensive indigenous vegetation and some steep walking tracks. While being the gateway to the Around the Mountain NZ Cycle Trail, other trail connections along Lake Whakatipu are limited due to the steep terrain, State Highway 6 and rural landholdings.

The Settlement steadily growing with extensive greenfield development areas zoned, which provides opportunities to establish new parks and enhance waterways. Additional focus will be on extending trails along the Lake foreshore and adding to the track network within conservation areas.

ID	PROJECTS	DESCRIPTION
11.01	Northern Waterways	Riparian planting waterways to the north of Kingston, and associated trails connecting into town.
11.02	Southern Waterways	Riparian planting waterways to the south of Kingston.
11.03	New Park	Addition of a community park and local parks.
11.04	Rail Track	Trail along the rail track.
11.05	Lake Whakatipu Track	Trail along Lake Whakatipu Foreshore.



Figure 57: Takerehaka | Kingston Local Blue Green Plans

LEGEND

- WATERWAYS - EXISTING
- WATERWAYS - PROPOSED
- WATERWAYS - APPROXIMATE LOCATION
- WETLAND - EXISTING
- FISH LADDER - PROPOSED
- ECOLOGY - EXISTING
- ECOLOGY - PROPOSED
- ECOLOGY - APPROXIMATE LOCATION
- PARKS - EXISTING
- PARKS - PROPOSED
- FUTURE PARKS - APPROXIMATE LOCATION
- DESTINATIONS - EXISTING
- DESTINATIONS - PROPOSED
- ARRIVAL NODES - EXISTING
- ARRIVAL NODES - PROPOSED
- TRAILS - EXISTING
- TRAILS - PROPOSED ROUTE
- FUTURE TRAILS - APPROXIMATE ROUTE

12 TAKE KĀRARA | WĀNAKA & 13 THREE PARKS

These BGN Focus Areas are situated at the southern end of Lake Wānaka with Three Parks located on an upper terrace, bounded by the Cardrona River and Mt Iron. Both the Lake foreshore and Mt Iron provide access to an extensive trail network ready access to a wide range of recreational and tourist activities. Pembrooke Park, Wānaka Golf Course and Wānaka Recreation Centre provide the primary open space resource within the BGN Focus Areas.

Wānaka Central is already highly urbanised with Bullock Creek and a terrace escarpment wrapping around this BGN Focus Area and it is well endowered with parks. Together with the Lake foreshore, there are opportunities for further ecological restoration. Three Parks is an emerging greenfield development. Although adequate open spaces are provided and a substantial future sport and recreation park is planned within Three Parks, there is a lack of connectivity and local parks will need to supplement outer residential areas and no civic space is provided within Three Parks Town Centre.

ID	PROJECTS	DESCRIPTION
12.01	Bullock Creek	Protect and enhance Bullock Creek
12.02	Lake Wānaka Foreshore	Riparian planting of Lake Wānaka.
12.03	Cardrona River	Riparian planting of Cardrona River and associated trails.
12.04	Wānaka South	Addition of a new community and/or local parks.
12.05	Ballantyne Road	Trail along Ballantyne Road connecting Cardrona River to Wānaka Central.
12.06	Local Connections	Local trail connections.
13.01	Ballantyne Road Open Space	Conversion of Sewage dispersal fields to Premier Sportsground Park.
13.02	Sir Tim Wallis Drive	Trail along Tim Wallis Drive connecting Ballantyne Road through Three Parks to Mt Iron.
13.03	Local Connections	Local trail connections.
13.04	Three Parks	Additional open space provisions including connections



Figure 58: Take Kārara | Wānkaka and Three Parks Local Blue Green Plans

14 WĀNAKA NORTH

The BGN Focus Area is surrounded by Lake Wanaka, Mata-Au | Clutha River outlet and Mount Iron. These provide access to an extensive trail network and a wide range of recreational areas. Lismore Park and Mt Iron provide the primary open space resource within the BGN Focus Area.

The BGN Focus Area includes established residential areas with limited and unevenly distributed parks, particularly in the lower density, northern parts. Emerging greenfield developments do provide more comprehensively planned open spaces and trail connections for their more intensive urban development. Although, a considerable amount of greenfield land remains where stormwater management and the parks will be important to service projected housing growth. The ecological restoration and trail connectivity along the Lake Foreshore and River terraces are other areas of focus. While Mt Iron has extensive areas of indigenous vegetation, wildfire management in an ongoing concern.

ID	PROJECTS	DESCRIPTION
14.01	Lake Wānaka Foreshore	Riparian planting of Lake Wānaka.
14.02	New Park	Additional community park and local park.
14.03	New Park	Additional community park.
14.04	Scurr Heights	Active Trail connecting Wānaka Central to Beacon Point.
14.05	Te Waiatakaia | Mount Iron	Wildfire breaks and trails.

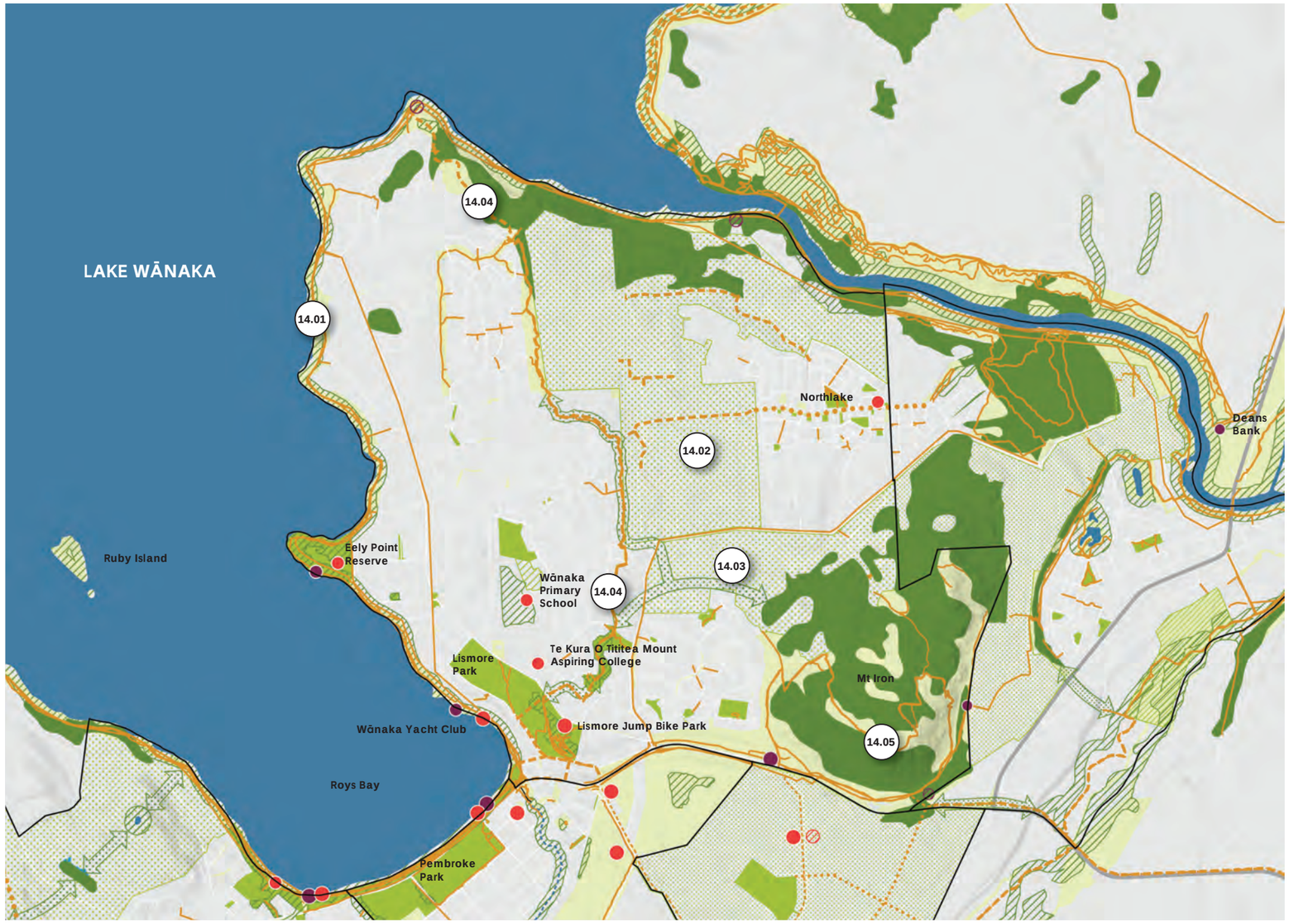


Figure 59: Wānaka North Local Blue Green Plans

LEGEND

- WATERWAYS - EXISTING
- WATERWAYS - PROPOSED
- WATERWAYS - APPROXIMATE LOCATION
- WETLAND - EXISTING
- FISH LADDER - PROPOSED
- ECOLOGY - EXISTING
- ECOLOGY - PROPOSED
- ECOLOGY - APPROXIMATE LOCATION
- PARKS - EXISTING
- PARKS - PROPOSED
- FUTURE PARKS - APPROXIMATE LOCATION
- DESTINATIONS - EXISTING
- DESTINATIONS - PROPOSED
- ARRIVAL NODES - EXISTING
- ARRIVAL NODES - PROPOSED
- TRAILS - EXISTING
- TRAILS - PROPOSED ROUTE
- FUTURE TRAILS - APPROXIMATE ROUTE

15 WĀNAKA WEST & 16 WĀNAKA SOUTH

These BGN Focus Areas are bounded by Mt Alpha in the west, braded Cardrona River in the south and Lake Wanaka. The Lake defines the northern extent with a trail along its foreshore that provide access to an extensive trail network and a wide range of recreational areas.

Lower density residential development has been incrementally growing in the Wānaka West BGN Focus Area without the establishment of a comprehensive trail and ecological linkages to adjacent areas or provision parks that will need to be supplemented. A considerable amount of greenfield land remains for more intensive urban development where stormwater management and the provision of parks will be important to service projected housing growth. The existing large rural and rural residential lots provide opportunities to connect trails and ecological corridors along the base of Mt Alpha and through to Lake Wanaka and Cardrona River.

ID	PROJECTS	DESCRIPTION
15.01	Lake Wānaka Foreshore	Riparian planting of Lake Wānaka.
15.02	New Park	Addition of community and local park.
15.03	New Park	Addition of a new community and/or local park.
15.04	Foot of Roys Peak	Trail along the foot of Roys Peak to connect Wānaka East, Wānaka South and Cardrona River.
16.01	New Park	Addition of several new community and local parks.
16.02	Roys Peak Waterways	Riparian planting along waterways on the northern side of Roys Peak and associated trails.

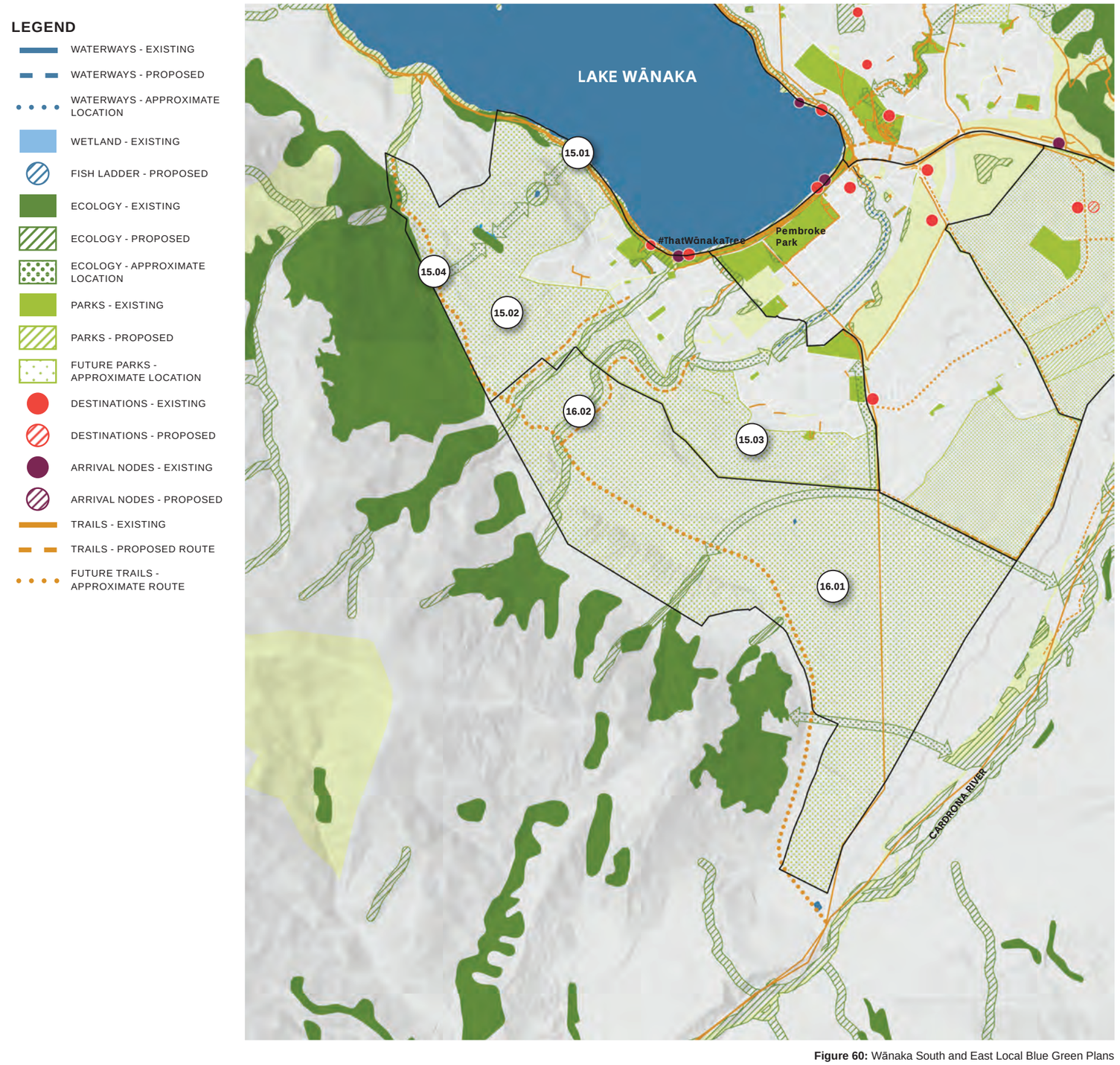


Figure 60: Wānaka South and East Local Blue Green Plans

17 ALBERT TOWN

This Settlement is located to the north and west of Mt Iron with the Mata-Au | Clutha River extending along the northern boundary and the braded Cardrona River to the west.

The BGN Focus Area includes established lower density residential areas that is adequately serviced with parks, but will be insufficient for any additional projected housing growth. The ecological restoration and trail connectivity along the two River corridors and wetland restoration will be another key areas of focus. While Mt Iron has extensive areas of indigenous vegetation, wildfire management in an ongoing concern.

ID	PROJECTS	DESCRIPTION
17.01	Clutha River Mata-Au	Riparian planting of Clutha River Mata-Au and associated trails.
17.02	Cardrona River	Riparian planting of Cardrona River and associated trails.
17.03	Albert Town Wetland	Riparian planting of wetlands.
17.04	New Park	Conversion into local park or enhancement of natural park.
17.05	New Park	Addition of a new local park.
17.06	Connection	New connection from bridge to roundabout

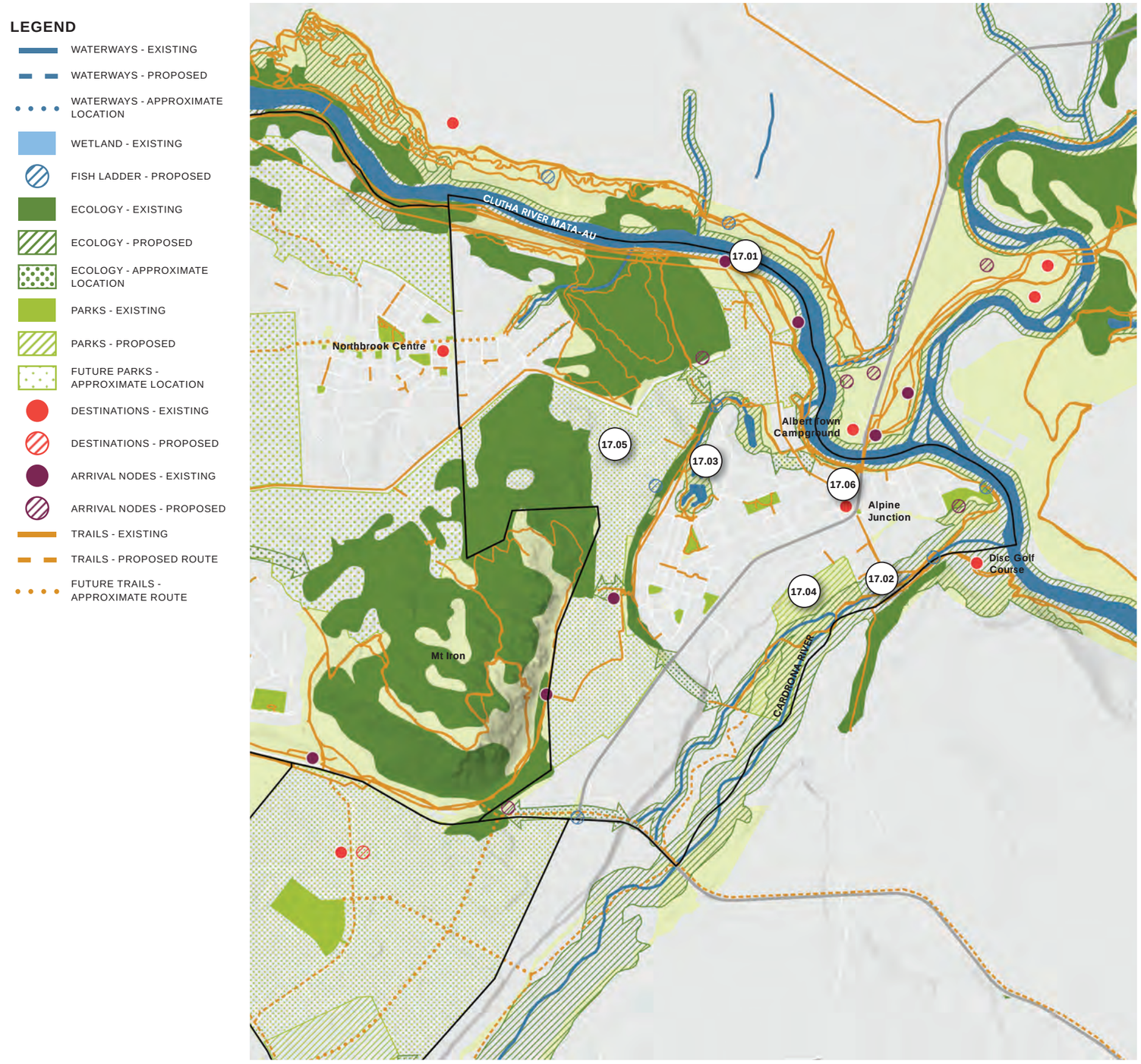


Figure 61: Albert Town Local Blue Green Plans

18 LUGGATE

This Settlement is located at the base of the Pisa Range. There is potential for Luggate Creek to function as an ecological corridor between the natural areas of the Pisa Range and the nearby Mata-Au | Clutha River that could be supported through ecological enhancement and trail connections. Some developable greenfield land remains available with the Settlement area and additional parks will need to be provided to support the growth. This provision could be co-located with opportunities for ecological connections through and around the settlement expansion, including steeper escarpments.

ID	PROJECTS	DESCRIPTION
18.01	Clutha River Mata-Au	Riparian planting of Clutha River Mata-Au and associated trails.
18.02	Luggate Creek	Removal of willow trees and riparian planting of Luggate Creek and associated trails.
18.03	New Park	Development of a new community park.
18.04	New Park	Addition of a new local park.
18.05	Luggate Lung Burner	Trail connecting Luggate to Wānaka Central.
18.06	Wilding Pines	Remove large wilding pines behind town
18.07	Hopkins Street	Upgrade Hopkins Street play area
18.08	New Trail	New trail along Church Road connecting town to river



Figure 62: Luggate Local Blue Green Plans

LEGEND

- WATERWAYS - EXISTING
- WATERWAYS - PROPOSED
- WATERWAYS - APPROXIMATE LOCATION
- WETLAND - EXISTING
- FISH LADDER - PROPOSED
- ECOLOGY - EXISTING
- ECOLOGY - PROPOSED
- ECOLOGY - APPROXIMATE LOCATION
- PARKS - EXISTING
- PARKS - PROPOSED
- FUTURE PARKS - APPROXIMATE LOCATION
- DESTINATIONS - EXISTING
- DESTINATIONS - PROPOSED
- ARRIVAL NODES - EXISTING
- ARRIVAL NODES - PROPOSED
- TRAILS - EXISTING
- TRAILS - PROPOSED ROUTE
- FUTURE TRAILS - APPROXIMATE ROUTE

19 LAKE HĀWEA

This Settlement is located at the southern end the Lake Hawea and bounded by the Hawea River to the west, which provides one of the few ecological and trail linkages to Wanaka BGN Focus Areas and other Settlements. Extensive conservation areas and walking tracks are found in the mountainous areas within the vicinity of the Settlement, which could be connected to through an extended trail network.

ID	PROJECTS	DESCRIPTION
19.01	Lake Hāwea	Riparian planting of Lake Hāwea.
19.02	Hāwea River	Removal of weeds and riparian planting of Hāwea River and associated trails.
19.03	Mt Maude Waterways	Riparian planting of waterways on Mt Maude and associated trails.
19.04	New Park	Addition of new parks as per structure plans
19.05	New Park	Addition of new parks within development areas
19.06	New Trail	Trail connecting Mt Maude with new development areas in South Hāwea.



Figure 63: Hāwea Local Blue Green Plans

20 CARDRONA

This is a small Settlement located on the Cardrona Valley floor with new greenfield development emerging on upper terraces. It includes established lower density residential areas that is adequately serviced with parks, but will be insufficient for any additional projected housing growth. The ecological restoration and trail connectivity along the Cardrona River corridor, tributary waterways / surrounding conservation areas and between residential areas will be other key areas of focus.

ID	PROJECTS	DESCRIPTION
20.01	Cardrona River	Riparian planting of Cardrona River and associated trails.
20.02	New Park	Addition of a community or local park along the Cardrona River and associated arrival node.
20.03	Mt Cardrona Station	Addition of a community park and associated trails as per the Mt Cardrona Station Structure Plan.
20.04	Village Connections	Improve connections within village
20.05	Cardrona River	Improve existing reserve (Cardrona Reserve) with the removal of weeds and new landscaping
20.06	New Trail Connection	Establish walkway between Cardrona Village and Mt Cardrona Station

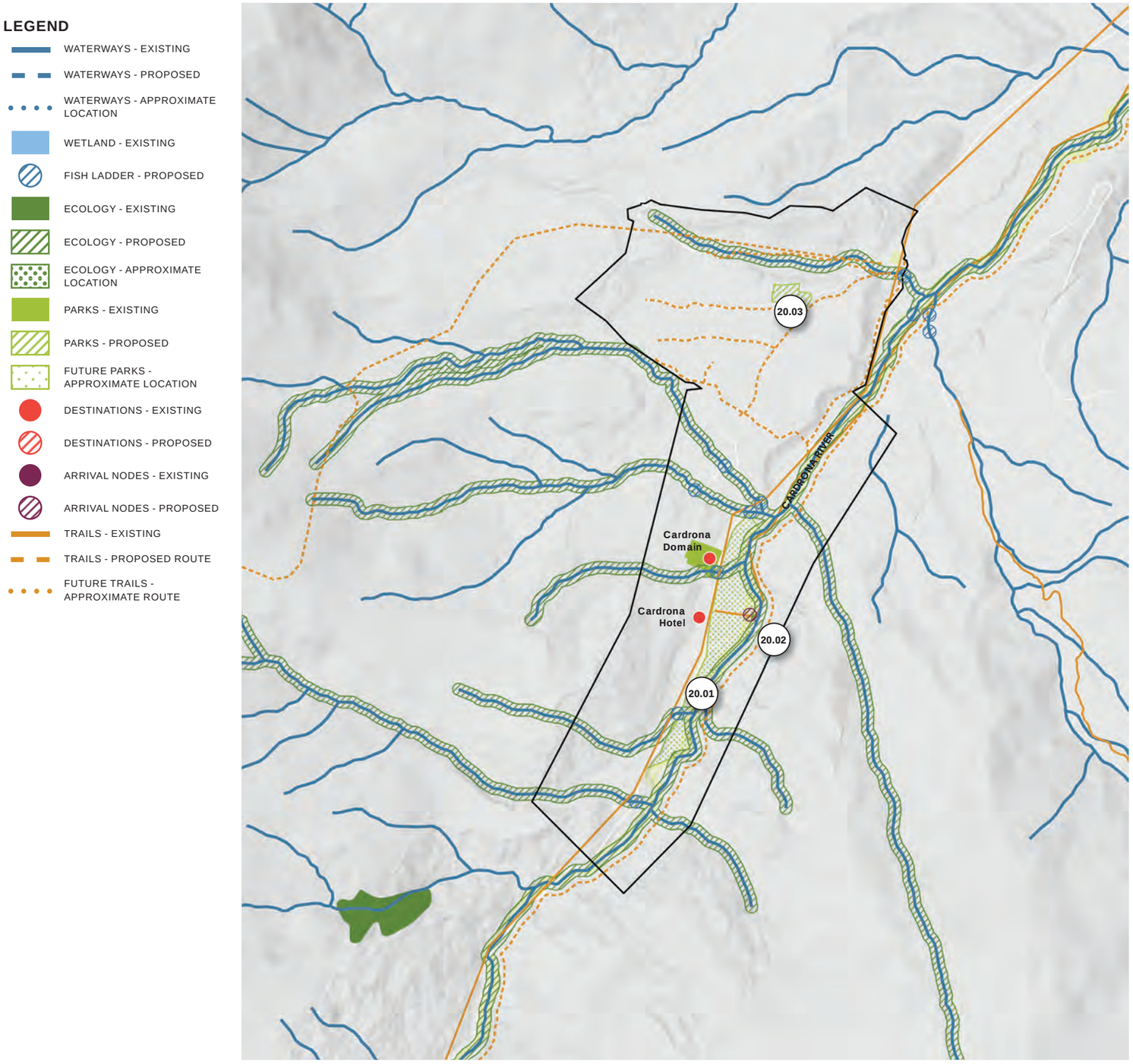


Figure 64: Cardrona Local Blue Green Plans

21 MAKARORA

This comprises of two small Settlements on the eastern side of the Haast Pass, adjacent to the Makarora River. They are surrounded by extensive, highly natural conservation areas and associated informal recreation opportunities. There is a disconnect between the two parts of the Makarora settlement and currently trails are lacking connection to the River.

ID	PROJECTS	DESCRIPTION
21.01	Makarora River	Riparian planting of waterways near settlements and associated trails.
21.02	Charteris Track	Recreation trail connecting the Nature Walk to Rata Road.



Figure 65: Makarora Local Blue Green Plans

04

IMPLEMENTATION

FUTURE PROJECTS



IMAGE SOURCE: QUEENSTOWNNZ.CO.NZ

The Local Blue Green Plans are an important mechanism that QLDC will use to determine and prioritise future spending on parks, open space, and social infrastructure for the Whakatipu and Upper Clutha Basin. Outlining future projects and opportunties within a blue green network is vital for several reasons:

- Strategic Planning and Vision: Clearly identifying future projects helps create a cohesive vision and strategic plan for achieving the outcomes of the Local Blue Green Plans. It ensures that all efforts are aligned with long-term environmental and community goals.
- Resource Allocation: Resources such as funding, staff time, and materials can be allocated more effectively. This allows for better budgeting and financial planning, ensuring that projects are feasible and sustainable.
- Environmental Impact: Future projects outlined in the Local Blue Green Plans typically aim to enhance environmental sustainability. Outlining these projects helps prioritise initiatives that will have the greatest positive impact on ecosystems, water quality, and biodiversity.
- Delivering Treaty Partner Obligations: Implementation of the Blue Green Network and understanding Ki Uta Ki Tai is vital for delivering QLDC Treaty Partner obligations
- Regulatory Compliance: Many environmental projects require compliance with local, regional, and national regulations. Outlining future projects helps ensure that all legal requirements are anticipated and met, avoiding potential delays.
- Economic Opportunities: Well-defined future projects can attract investment and create economic opportunities. This can lead to sustainable economic growth in the region.
- Stakeholder Engagement: Detailed future project plans help engage and inform stakeholders, including local communities, government agencies, and private partners. Transparent planning fosters collaboration and support, which are essential for successful project implementation.
- Adaptive Management: Having a clear outline of future projects allows for adaptive management practices. This means projects can be adjusted based on new information, changing conditions, or unexpected challenges, ensuring resilience and effectiveness.

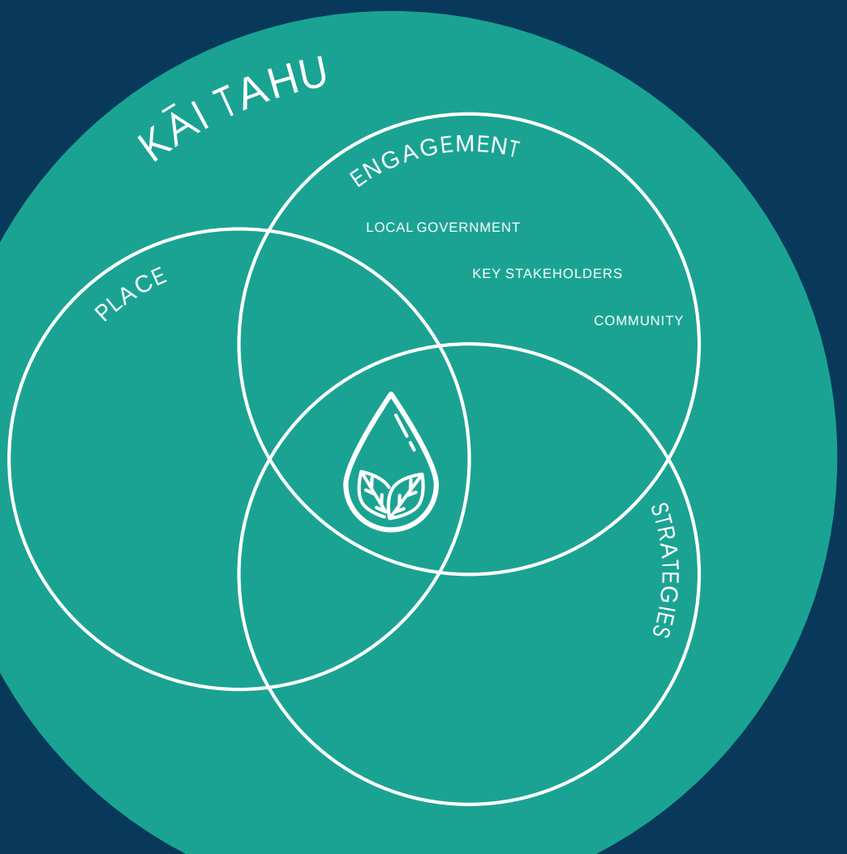
The future opportunities and projects identified in the Local Blue Green Plans will inform QLDC's future work programme, including structure plans, the Future Development Strategy, subdivision open space planning and the Council's Annual and Long Term Plan.

ID	PROJECTS	DESCRIPTION
0.01	Grow Well Whaiora Spatial Plan Gen 2.0 / Future Development Strategy	Integrate BGN Plan values and principles and high-level Local Blue Green Plan projects and opportunities into the Spatial Plan to provide greater statutory weight. Ensure the Future Development Strategy considers Local Blue Green Plans in urban form relationships and capacity calculations.
0.02	QLDC Structure Plans	Integrate BGN Plan values and principles and refine future projects and opportunities from the Local Blue Green Plans into Priority Development Area and Settlement structure plans.
0.03	QLDC Development Contributions Policy (DC Policy)	Review the DC Policy, Contributing Area Maps and QLDC Asset Schedules to integrate BGN Plan values and principles and fund Local Blue Green Plan projects and opportunities as part managing residential, commercial, and industrial growth.
0.04	QLDC Parks and Open Spaces Strategy 2021	Align any proposed revision of the Parks and Open Spaces Strategy with the BGN Plan, including a review and update the parks and open spaces typologies and associated definitions
0.05	QLDC Future Parks and Reserve Provisions Plan 2022	Align any proposed revision of the Future Parks and Reserve Provisions Plan with the BGN Plan, including proactively identifying suitable locations for various open space typologies for early greenfield investment or seeking opportunities to fill of gaps within existing urban areas
0.06	QLDC Asset Management Plan 202X	Align any proposed revision of the QLDC Asset Management Plan with the BGN Plan, to integrate BGN Plan projects and update and refine Local Blue Green Plan projects and opportunities.
0.07	QLDC Community Facilities Strategy 2021	Align any proposed revision of the Community Facilities Strategy with the BGN Plan, including managing the interrelated networks, functions, and activities to optimise co-location opportunities.
0.08	W2G Better Ways to Go 2022	Align any proposed revision of the Better Ways to Go mode shift plan with the BGN Plan to address gaps in the trail network and consider potential mutual benefits from integrating transport and open space planning.
0.09	QLDC Reserve Management Plans	Integrate BGN Plan values and principles and refine Local Blue Green Plan projects and opportunities as part of reviewing relevant reserve management plans.
0.10	ORC / QLDC Annual and Long Term Plans	Seek operational funding for services to progress the BGN Plan recommendations and for capital funding to deliver Local Blue Green Plan infrastructure projects, as part of the Regional and District's Annual and Long Term Plans.
0.11	QLDC District Plan	When updating or replacing the District Plan, seek to align and/or integrate the Blue Green Network into the District Plan (or other planning instrument) to ensure the Blue Green Network can be delivered.
0.12	Mana Whenua-led Assessments	QLDC allocate time and resources to enable Kāi Tahu to undertake mana whenua led assessments to further test the mechanisms and processes to inform a final version of the Kāi Tahu Blue Green Network.
0.13	Kāi Tahu Tree and Planting Guide	QLDC collaborate with Kāi Tahu to develop policy guidance including operating policy to support the planting of tree and plant species that enhance Kāi Tahu outcomes including urban enhancement and ecological restoration sites.
0.14	Waterways Mapping	Map all the waterways in the District to inform a catchment-based approach, such as Wai Whakaata.
0.15	Kāi Tahu Strategic Work Programme	QLDC collaborate with Kāi Tahu to confirm a strategic work programme that supports testing the Kāi Tahu Blue Green Network at priority sites. Possible sites for initial testing include: • Horne Creek • Wai Whakaata (catchment scale) • Te Tapuae | Southern Corridor Structure Plan
0.16	Mahinga Kai Implementation Plans	QLDC collaborate with Kāi Tahu to create Mahinga kai implementation plans to restore Kāi Tahu connections, associations, and practices

A

APPENDIX A

PROCESS | HE TUAKANGA



The BGN Plan has been created through a collaborative process in partnership with Kāi Tahu and involving project Partners, key stakeholders and the community.

The unique characteristics, issues and opportunities of each BGN Focus Areas have been identified and explored to ensure the Community Network Plans reflects the qualities of each place, while being aligned with key strategies already in place and overarching purpose to develop the BGN at a Basin-level.

The BGN Project has been split into four stages that include:

PROJECT INITIATION:

To establish an engagement framework to support conversations, share and gather information and document actions required for the duration of the Project.

DISCOVERY:

To understand the current state of the blue green network and identify issues and opportunities in the context of natural systems, cultural and social infrastructure and urban and built form. This would then support the analysis of potential gaps that could inform future projects and engagement processes.

DESIGN:

To prepare draft BGN Community Network Plans for Whakatipu and Upper Clutha with a focus on the BGN Focus Areas, including integration with their immediate context, ready for community engagement.

DELIVERY:

To refine and finalise the BGN Plans based on community feedback and identify future projects and priorities.

1 PROJECT INITIATION

01 HUI WITH KAI TAHU ENVIRONMENTAL ENTITIES

Hui with Aukaha and Te Ao Marama Incorporated (TAMI) to discuss the project, share perspectives, goals, and aspirations and create an open dialogue to understand values and priorities.

02 INFORMATION GATHERING

Information gathering relating to the existing state of the Blue Green Network which provided the necessary data and insights to make informed and effective decisions

03 DRAFT ENGAGEMENT STRATEGY

Identification of the working group, partners, and other key stakeholders, along with a confirmation of the level of stakeholder engagement and public consultation involvement deemed appropriate. This process also included ensuring alignment with existing Council relationship agreements, consultation processes, and protocols

04 FINAL ENGAGEMENT STRATEGY

The final engagement strategy provided an outline of why and who we engaged with, engagement methods and timelines to ensure meaningful opportunities to provide input, ideas, and concerns throughout the design and planning process.

2 DISCOVERY

05 STRATEGY AND POLICY REVIEW

Undertook a detailed review of relevant strategies and provision frameworks to identify key themes and ensure the Blue Green Network Plans demonstrate strategic alignment with key QLDC strategies.

06 CURRENT STATE INVESTIGATION

A desktop study and analysis were conducted to assess the current state of the Blue Green Network including existing waterways and connections, biodiversity/ecology, parks and reserve networks, Wāhi Tūpuna sites, and trail networks.

07 SITE VISITS

Site visits to BGN Focus Areas across Whakatipu and Upper Clutha, in conjunction with the working group, to better understand specific local issues and opportunities and undertake a quality assessment, including photographic documentation of the existing context.

08 GAP ANALYSIS

Identified and analysed potential open space and connectivity gaps within BGN Focus Areas, relative to existing waterways and other context attributes.

09 WĀNANGA I

Wānanga with Aukaha, TAMI and Council to review and test information gathered.

10 PARTNER WORKSHOP

Workshop with partner group to confirm key vision and project objectives, review and test information gathered, and identify opportunities within the Blue Green Network.

3 DESIGN

11 KEY STAKEHOLDER WORKSHOPS

Key stakeholder workshops for the Whakatipu and Upper Clutha BGN Focus Areas which provided an overview of the project and undertook a high-level design development process to understand the opportunities and issues within the Blue Green Network.

12 WĀNANGA II AND III

Wānanga with Aukaha, TAMI and Council which identified future development needs for a Blue Green Network, including any implementation mechanisms.

13 KĀI TAHU BLUE GREEN NETWORK KI UTA KI TAI REPORT

Collation of the outcomes from wānanga and hui engagement with Aukaha and TAMI and includes several recommendations with associated guidance, identifies a series of Kāi Tahu outcomes and expectations that should be read in conjunction with the mechanisms and guidance to assist with the delivery of a Kāi Tahu Blue Green Network and provides interim methods to support continued collaboration between QLDC and Kāi Tahu beyond the life of this project.

14 DRAFT BLUE GREEN NETWORK PLANS

Draft Blue Green Network Plans that provided a framework for a well-connected, diverse, and inclusive network of blue networks and open spaces. The outcome of the plans are based on information gathered through analysing the existing state, engagement feedback to date and identified Kāi Tahu outcomes and expectations from Kāi Tahu Blue Green Network Ki Uta Ki Tai report and technical expert advice.

4 DELIVERY

15 FUTURE PROJECT DEVELOPMENT

Identified potential future projects for each BGN Focus Areas in Whakatipu and Upper Clutha to address gaps in the Blue-Green Network. This included preparing project outlines with details such as potential outcomes, relevant overarching strategies and guidance, a project summary, and the definition of actions, responsibilities, and dependencies.

16 COMMUNITY ENGAGEMENT

The approved draft Blue Green Network Plans were circulated for community engagement, seeking feedback through a survey on Let's Talk using Social Pin Point.

17 FINAL BLUE GREEN NETWORK PLAN AND KĀI TAHU BLUE GREEN NETWORK KI UTA KI TAI REPORT

Undertook final changes to the Blue Green Network Plans based on feedback and comments and finalise the report and Kāi Tahu Blue Green Network Ki Uta Ki Tai report.

B

APPENDIX B

POLICY SUMMARY

| WHAKARAPOPOTO MO NGA KAUPAPA



POLICY OVERVIEW

The Local Blue Green Plans will set out the level of provision of open space and connections needed in each community to deliver a sustainable quality network. They will respond to the anticipated growth and provide the community with access to a range of recreational, social, cultural, and environmental experiences. It is important that the Community Network Plans demonstrate strategic alignment with the Otago Regional Policy Statement and key QLDC strategies.

ACHIEVING STRATEGIC CLARITY - CONNECTION BETWEEN KEY STRATEGIC DOCUMENT S

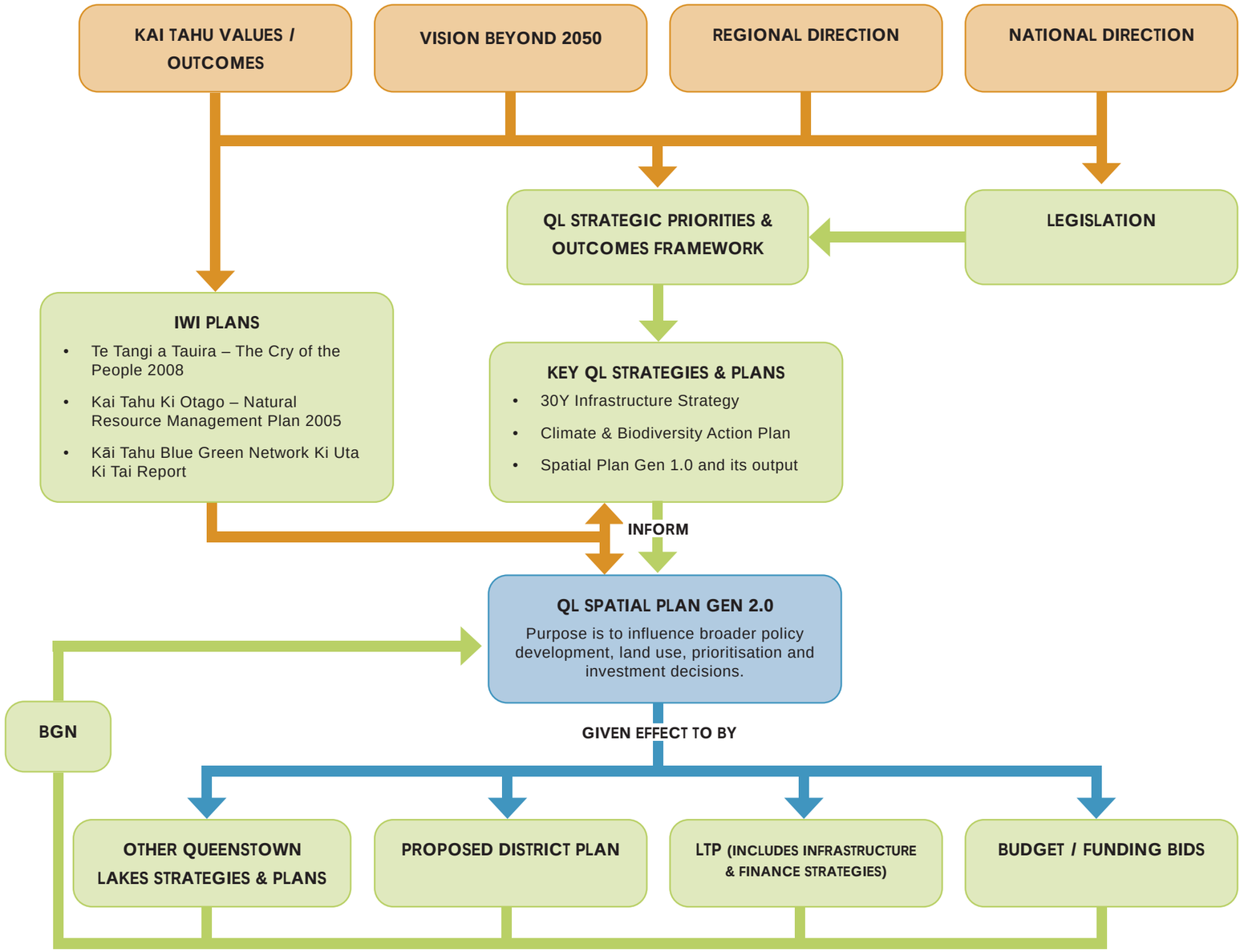


Figure 66: Relationship to policy documents

QLDC CLIMATE AND BIODIVERSITY PLAN 2022 - 2025

OVERVIEW

In 2019 a climate and ecological emergency was declared in the district and the first Climate Action Plan was developed, and 2022 the second iteration was adopted. The Plan sets out actions required to respond to biodiversity loss and climate change ranging from embedding climate action into Council decision-making to building food resilience.

While Council led the development of this plan, it was a vision brought together with input from Ngāi Tahu, climate and biodiversity experts, local businesses, sustainability advocacy groups, conservation groups, and passionate community members.



GOALS:

1

BIODIVERSITY

The mauri (life force or essence) of our ecosystems is protected and restored. Indigenous biodiversity is regenerated.

2

ADAPTATION

Queenstown Lakes is a place that is ready to adapt to a changing climate.

3

MITIGATION

Our district reduces its greenhouse gas emissions by 44% by 2030 and achieves net-zero greenhouse gas emissions by 2050 (against a 2019 baseline and aligned with the 1.5 degree science-based target pathway outlined in the 2020 Emissions Reduction Roadmap).

RELEVANCE TO BLUE-GREEN NETWORK

The basis for a Blue Green Network concept is in the potential to maximise the values associated with each open space and a connected network of open spaces, including values in support of restoring mauri, increasing biodiversity and climate adaptation. The Blue Green Network Plan identifies community scale opportunities and collectively integrates them into district scale planning with an aim to achieve wide-spread biodiversity and climate adaptation outcomes that are more than the sum of their parts.

The Blue Green Network Plan will be a key document in helping to integrate healthy waterways, resilient open spaces and active travel choices into planning and investment for growing communities. This can benefit both the people, through connecting communities and community-centric climate adaptation projects, and support functioning ecosystems. The Plan will identify potential 'missing links' in networks that could deliver significantly longer active travel routes and increased biodiversity outcomes, if connected through its implementation.

RELEVANT OUTCOMES TO THE BLUE GREEN NETWORK:

1

QLDC DEMONSTRATES AMBITIOUS CLIMATE AND BIODIVERSITY LEADERSHIP

- Deliver integrated spatial planning decisions on land use, urban development, transport planning and natural corridor networks which help to reduce emissions, restore indigenous biodiversity, and improve climate change resilience across the district.
- Develop an interconnected network of open spaces, reserves, and natural corridors to support improved biodiversity outcomes that honour the mauri of our district.

4

OUR COMMUNITIES ARE LOW EMISSION AND CLIMATE RESILIENT

- Identify any risks to the culturally significant Wāhi Tūpuna and heritage sites across the district arising from the effects of climate change.
- Support our communities to prepare for and adapt to the impacts of climate change through community-centric climate adaptation projects.
- Bringing trail building, conservation, and edible planting together where appropriate.

6

A FLOURISHING NATURAL ENVIRONMENT

- Partner with Ngāi Tahu, and work with our community, Otago Regional Council and Central Government to create an integrated work programme to deliver climate, biodiversity and wider environmental outcomes throughout our district. The work programme will align with the Pledge to Nature10, ANZBS11, the Otago Biodiversity Strategy12 and consider the Grow Well | Whaiora Spatial Plan Priority Initiative 15 (develop open space network plans).
- Integrate the protection, restoration and enhancement of blue-green networks and indigenous biodiversity corridors into stormwater management, infrastructure design and management of parks, reserves, and open spaces.
- Regenerate Coronet Forest as an exemplar of native biodiversity and a recreational hub.
- Develop and implement plans to protect, restore and enhance other Council land that has high biodiversity potential, including Mt Iron, Matakauri Wetland, Ben Lomond, and Queenstown Hill

BETTER WAYS TO GO 2022

OVERVIEW
This document pulls together the spatial and transport planning and investigation work completed in the Queenstown Lakes District, to identify how the district and its transport system can develop to achieve outcomes sought by local communities. The Mode Shift Plan, has been developed in an evolving national and local policy context relating to transport's role in the national climate change response and emission reduction, most notably the Ministry for the Environment's October 2021 discussion paper intended to inform the first emissions reduction plan.

BENEFITS OF MODE SHIFT
Together, these benefits underpin the potential to create more vibrant and liveable urban environments and improve wellbeing and quality of life. Outlined below are the key outcomes to encouraging more people to travel on foot, by bike or public transport.

TRANSPORT CONTEXT
The Whakatipu Basin is the largest urbanised area in the Queenstown Lakes District and is consequentially the main centre of traffic movement and where the greatest benefits can be achieved from mode shift. The current form and function of land use in the Whakatipu Basin contributes to transport challenges. Te Kirikiri Frankton and the Queenstown Town Centre both serve as residential and commercial cores and key destinations. These two areas are linked by SH6A which is nearing capacity with limited ability to increase due to property and topographical constraints.

Currently there are limited route options on the Wānaka transport network, and this is leading to over-reliance on limited links and travel modes, creating localised congestion, travel delay and increasing barriers to accessing social and economic opportunities. There is poor connectivity between residential areas, the town centre and key trip generators, including schools, with few active travel facilities and no public transport.

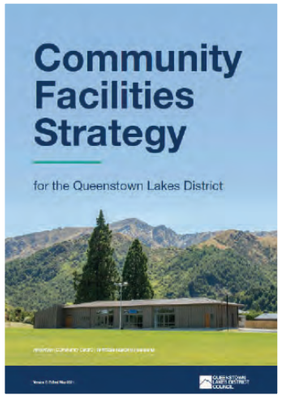
MODE SHIFT PLAN
Three mode shift initiatives have been identified for Whakatipu and Upper Clutha, based on the three key areas of influence set out in the Transport Agency Mode Shift Plan 'Keeping Cities Moving'

RELEVANCE TO BLUE-GREEN NETWORK

The Blue Green Network Plan will help identify where there is potential for multiple benefits obtained from networks of connected open spaces and trails, one of which is providing active transport mode choice for residents and visitors. Integrated transport and open space planning and investment will help deliver intended outcomes of Better Ways to Go such as delivering on a multi-modal network with good quality, safe and connected walking and biking paths and trails. Identifying and addressing gaps in the trail network will be an important outcome of the Blue Green Network, as will the increase in amenity of routes provided for users to enhance their travelling experiences and reducing perceived travel time.

UNDERLYING CAUSE	RESPONSE	INITIATIVE
CITIES THAT HAVE BEEN DESIGNED TO PRIORITISE TRAVEL BY CARS	SHAPING URBAN FORM	QUEENSTOWN LAKES SPATIAL PLAN URBAN CENTRE MASTERPLANS • Ladies Mile • Frankton • Wānaka IMPLEMENT REQUIREMENTS OF THE NPS-UD COMPREHENSIVE PARKING MANAGEMENT PLAN
A LACK OF GOOD ALTERNATIVES FOR SHARED AND ACTIVE TRAVEL DUE TO HISTORIC UNDER-INVESTMENT	MAKING SHARED AND ACTIVE MODES MORE ATTRACTIVE	WALKING + CYCLING INFRASTRUCTURE QUEENSTOWN CENTRE STEET UPGRADE WHAKATIPU ACTIVE TRAVEL NETWORK EDITH CAVELL BRIDGE (ARTHURS POINT / SHOTOVER RIVER BRIDGE) REPLACEMENT WĀNAKA NETWORK OPTIMISATION SCHOOLS TO POOL - WĀNAKA PUBLIC TRANSPORT INFRASTRUCTURE AND SERVICES NEW ZEALAND UPGRADE PROGRAMME PUBLIC TRANSPORT LEVEL OF SERVICE IMPROVEMENTS QUEENSTOWN ARTERIAL ROUTE STANLEY STREET BUS HUB IMPROVEMENTS QUEENSTOWN PUBLIC AND REGIONAL TRANSPORT INTERCHANGE
LIMITED INCENTIVES AND DISINCENTIVES FOR PEOPLE TO CHANGE HOW THEY TRAVEL	INFLUENCING TRAVEL DEMAND AND TRANSPORT CHOICES	TRAVEL DEMAND MANAGEMENT PROGRAMME COMPREHENSIVE PARKING MANAGEMENT PLAN DISTRICT PLAN TRANSPORT CHAPTER (REVIEW AND AMEND AS REQUIRED) TRANSPORT MODEL REPLACEMENT TRANSPORT MONITORING PROGRAMME DISTRICT WIDE NETWORK OPERATING PLAN (INCORPORATING ONE NETWORK FRAMEWORK MEASURES)

COMMUNITY FACILITIES STRATEGY 2021



OVERVIEW

A strategic framework to guide decision making in relation to community facility planning and provision, and community wellbeing with a vision to create 'A network of fit for purpose, affordable community facilities that connect and support resilient, healthy and vibrant communities'. It sits under the Queenstown Lakes Spatial Plan, Queenstown Lakes District Plan, relevant Queenstown Lakes District Council master plans and the 2021-2031 Ten Year Plan. It also aligns with the QLDC Climate Action Plan and Council's participation in Welcoming Communities - Te Waharoa ki ngā Hapori.

This strategy seeks to answer two important community facility questions:

- How do we identify what community facilities are needed now and into the future?
- How do we prioritise Council investment?

KEY RELEVANT THEMES

- The provision of community facilities needs to be viewed as equally important to housing, infrastructure and transport. All of which are essential in protecting, maintaining and enhancing wellbeing and quality of life.
- The provision of open space needs to be protected and not compromised (or eroded) because of other competing pressures. The quality of new allocated open space should be appropriate to meet future community needs and provide quality experiences.
- Community facilities should form an integrated network of best placed, collaborative facilities which are efficiently used, future proofed, sustainable, flexible, affordable, accessible and inclusive.

COMMUNITY FACILITIES STRATEGY PRINCIPLES



Integrated Networks: Community facilities will be considered as part of a broader network which function together to meet overall community needs.



Collaborative: Community facilities will promote collaboration, partnerships and sharing of resources for mutual benefit among user groups.



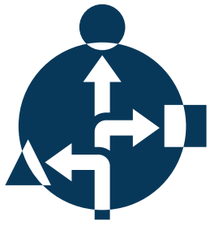
Best Placed Future Proofed: Community facilities will be focal points for the areas they service. Activities, programmes and facility design will build social capital by fostering organised and chance meetings.



Affordable and Sustainable: Community facilities will be universally accessible and affordable for all. Facilities will be affordable, accessible to people of varied physical ability and welcoming to people of all cultures and backgrounds.



Accessible and Inclusive: Community facilities will be designed to accommodate the intended range of functions and activities and utilise the outdoor environment to support participation.



Flexible and Efficient Use: Community facilities will enable a wide range of activities, programmes and services, ensuring maximum use, optimisation of space and adaptability to changing community needs.

RELEVANCE TO BLUE-GREEN NETWORK

The Blue Green Network Plan will outline where there are gaps in open space provision and provide mapping to understand the potential values / benefits in filling gaps in the context of a wider connected network. The Facilities Plan also describes the concept of a network of facilities that support wellbeing and quality of life. Often built facilities (such as libraries, recreation centres, halls, pools and playgrounds) are within or adjacent to civic or park spaces, and together the outdoor and indoor spaces can provide complementary function and activity. Facilities location is also planned around public transport and trail networks and growing urban areas to maximise access.

The Blue Green Network Plan will help to identify the potential for a wider range of open space values to be delivered from any given public facility and the role of that space in the network for both community and natural environment outcomes. The interplay between provision metrics and funding (e.g. development contributions, Council budgets and/or third-party partnerships) will directly impact the implementation of the Blue Green Network Plan. While there are potential mutual benefits of collocating community facilities with open space and waterways, it is likely that there will be ongoing competing pressures between built form and landscape provision where compromises may be required, if collaboration within Council is not achieved or sufficient land acquired. As such, the interrelationship between an integrated network of community facilities and the Green Blue Network is critical. The Spatial Plan and / or Priority Development Area Structure Plans may help facilitate this.

PARKS AND OPEN SPACES STRATEGY 2021

OVERVIEW

The Parks and Open Spaces Strategy provides guidelines around the protection and enhancement of the existing reserve network and the expansion of the network to meet the district's growth. The Strategy's response to the expected population growth and the increasing visitor numbers in the district is to ensure the value of existing open spaces is recognised, and that the network is enhanced and expanded to cater for growth and remain relevant and reflects the Treaty partnership. The Strategy encourages consideration of both quality and quantity to provide an open space environment that continues to meet the communities' current needs as well as consider those of future generations. Quality is particularly important in new and high growth areas to ensure residents have access to a range of park types that can accommodate a wide variety of activities.

OBJECTIVES OF THE PARKS AND OPEN SPACE STRATEGY

- Develop and use of existing reserves
- Priorities for Kāi Tahu in existing and future parks and reserves
- Guidance on active travel, recreational trail and pedestrian connections
- Protection of values in wāhi tūpuna where these overlap with parks and reserves
- Ecological and biodiversity enhancement

RELEVANCE TO BLUE-GREEN NETWORK

The Blue Green Network highlights one of the significant benefits of open spaces – the potential for cumulative value in connected networks of blue and green public open space. The Blue Green Network will helpfully identify networks as a concept and at a district wide scale, so that planning of and investment in existing and new public open space is undertaken with the network benefits in mind. The Blue Green Network will also enable visibility of potential network values on land not owned and managed by the Council, such as schools, other Crown land and private property. This can inform information sharing, partnerships and other relationships with other landowners who might be interested in playing a role in contributing to the realisation of a network of open spaces that support natural environment and community health and wellbeing. The Blue Green Network Plan will deliver on the Open Spaces Strategy vision "To provide a rich and diverse network of open spaces valued by the community and protected and enhanced for future generations". However, the Blue Green Network primarily focuses on quantity and distribution of open space and, as such, the Strategy will remain an important driver of higher quality open spaces, particularly as development intensifies and trade-offs may need to be made between ideal park sizes and enhanced level of treatment and / or facilities provided.

IMPORTANCE OF OPEN SPACE

Open Space plays a vital role in making the Queenstown Lakes District a great place to live work and play and are places for people to meet, connect and get involved in the community. Parks and open spaces are also often host to many of the events and activities that bring visitors to the District and they are therefore critical to our economy. The outstanding landscapes, large open spaces and natural values are what draw many of the visitors to our region. It is critical to our economy in that our tourism sector relies so heavily on it.

ECONOMIC

Adds value to properties and localities, provides tourism and event assets, supports recreation and active transport.

ENVIRONMENTAL

Protects significant natural features and landscapes, enhances of ecological values, facilitates participation in conservation.

EDUCATIONAL

Creates opportunities for learning about natural and cultural heritage, healthy engagement with nature, and socialising.

CULTURAL

Reflects Kāi Tahu values, enables cultural practice, and defines urban helps define urban and rural character boundaries.

AMENITY

Improves liveability, provides place identity, social places to gather, and supports access to outdoors, especially in residentially dense areas

COMMUNITY

Provides places to socialise, host community events and practice whanaukataka, manaakitaka, and kaitiakitaka.

SPORT AND RECREATION

Hosts places for active engagement as well as passive enjoyments as well as the practice of mahika kai.

FUTURE PARKS AND RESERVES PROVISIONS PLAN 2022

OVERVIEW

As the district grows, there is an ongoing need for more reserve land to satisfy open space and recreational needs. The steep topography of the region means that flat usable accessible land is in short supply, is under pressure from a range of competing interests and it is becoming more difficult and more expensive to acquire in appropriate locations for new parks as the urban areas become more intensively developed. The total park provision also needs to recognise the very high numbers of visitors to the region, many who come to participate in some form of outdoor recreation, and the high resident population growth.

The Future Parks and Reserves Provision Plan identifies Priority Development Areas for acquisition and investment and provides clear direction for what reserves will be accepted from developers through the subdivision process. The Plan should be read in conjunction with the Parks and Open Spaces Strategy 2021 which describes the range of park types that provide a diverse recreation and open space experience.

FUTURE PARKS AND RESERVE REQUIREMENTS

The QLDC Growth Projections 2020 identified the future areas in the district where growth is forecast and associated housing capacities. This is reflected in the QLDC Spatial Plan 2021. It shows that the main urban areas of Queenstown and Wānaka provide for approximately 80% of both the estimated growth in dwellings up to 2050 and the Spatial Plan capacity. The remaining 20% is distributed across the smaller settlements and rural areas of the Queenstown Lakes.

RESIDENTIAL GROWTH AREAS

These are newer urban areas or future development areas that are being targeted through mechanisms such as the Spatial Plan and District Plan to meet the demands of growth. In some cases, residential developments have already progressed, but the current reserve land provision has not necessarily provided the required level of service or range of park types that meets the communities' needs.

Therefore, as proposals are being assessed for new developments in these areas the Council can ensure that the proposed reserves are fit for purpose and meet the new provision guidelines. This is the time to identify opportunities to fill gaps in the network and to connect developments and new reserves to existing reserves, trails and to transport networks.

When acquiring new open space in these areas, careful consideration must be given to determine the value of the land to the community. Developers can either provide reserve land that meets the reserve provision guidelines for local and/or community parks, or in-lieu of land, provide a Reserve Land Development Contribution and a cash contribution towards premier sportsground parks.

EXISTING URBAN AREAS

Several established urban areas, particularly in the Wānaka and Queenstown town centres, will be subject to further growth and intensification. Multi-level residential building heights are increasing in the urban town centre areas and apartment living is predicted to become more common. Residents in high density or medium density living usually have limited access to private outdoor space and rely more heavily on public open space to provide amenity and high-quality living standards than residents living in low density or rural areas.

A recommended change to the DC Policy has been identified in the plan that Reserve Land Development Contributions will only be required by way of a contribution to the purchase of additional premier sportsground parks. This is because these areas generally have sufficient local and community park type reserve land provision, but all residents will typically use the premier sportsground parks. Reserve Improvements Development Contributions are required to increase the quality of facilities and overall capacity of the existing reserves to accommodate the residential growth, and the community's recreational needs.

THE RESERVE LAND CONTRIBUTION FOR EACH DWELLING EQUIVALENT HAS BEEN ASSESSED AT 22.5M² FOR THE WHAKATIPU WARD AND 17.5M² FOR WĀNAKA.



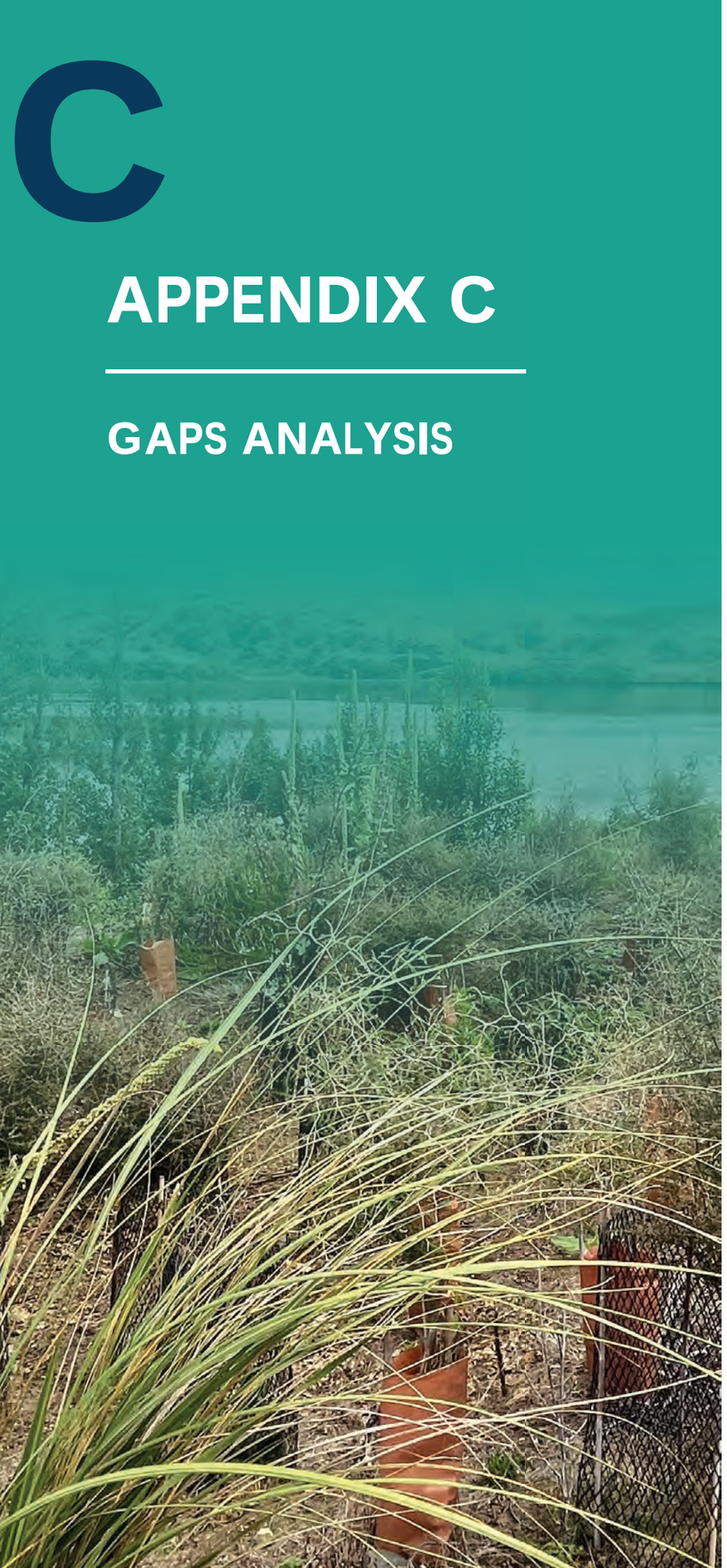
RELEVANCE TO BLUE-GREEN NETWORK

The Future Parks and Reserves Provisions Plan sits alongside the Open Space Strategy and describes how and when new parks will be provided through leveraging off new greenfield and infill development. It is a vital tool in implementing the Strategy and Council's financial planning to ensure new high-quality and fit for purpose parks are delivered in response to a changing and growing community. The Blue Green Network Plan will help proactively identify suitable locations for parks, including consideration of constraints, topography and size, as early as possible. This is particularly important for the location of premier sports parks where there is finite, unconstrained, flat and consolidated greenfield land remaining in the Priority Development Areas of the District. The Blue Green Network will also help the Council to consider investment planning in existing settlements, with visibility of potential connected network values and issues and opportunities associated with current gaps.

C

APPENDIX C

GAPS ANALYSIS



SPATIAL GAPS IN THE BLUE GREEN NETWORK

PURPOSE

The purpose of this section is to inform the development of Local Blue Green Plans by identifying and prioritising gaps in the spatial network that require resolution. Through comprehensive spatial analysis, the aim is to guide decision-making and resource allocation towards addressing the identified deficiencies within the Blue Green Network.

METHODOLOGY

1. POLICY REVIEW AND ENGAGEMENT:
An extensive review of existing policies at national and local levels was conducted to understand the regulatory framework guiding the Blue Green Network, thus defining the 'gaps' in this analysis. Workshops with the Grow Well Whaiora project partners and key stakeholders were also undertaken to understand any specific gaps in the Blue Green Network that may not be captured by policies.

2. DATA GATHERING:
Geographic Information System (GIS) tools were utilised to collect spatial datasets including land use, topography, hydrology, and existing green infrastructure to inform the desktop study.

Due to the scope of the Blue Green Network encompassing various layers across the entire district, it's important to note that much of the data utilised is mapped at a national level, which may result in inaccuracies. Given the inability to ground truth such extensive data across the entire district, caution should be exercised in interpreting precise local conditions.

3. KĀI TAHU BLUE GREEN NETWORK KI UTA KI TAI REPORT
Collation of the outcomes from wānanga and hui engagement with Aukaha and TAMI and includes several recommendations with associated guidance, identifies a series of Kāi Tahu outcomes and expectations that should be read in conjunction with the mechanisms and guidance to assist with the delivery of a Kāi Tahu Blue Green Network and provides interim methods to support continued collaboration between QLDC and Kāi Tahu beyond the life of this project.

4. SPATIAL ANALYSIS
A desktop spatial analysis was then undertaken within GIS to understand the gaps in the Blue Green Network across the 21 BGN Focus Areas in the Whakatipu and Upper Clutha Basins, using the data gathered in Step 2 to identify the gaps identified in Step 1. More information around what is measured as a spatial gap as well as specific data sources used can be found in the table 'Definitions of Gaps'.

GAP TYPE	WHAT IS A GAP?	SPATIAL DATA SOURCE	RELEVANT POLICY / FURTHER INFORMATION
PARK PROVISION	The park provision is defined by how much local or community park land (sqm) there is per household. QLDC has recommended that an appropriate level of service for each area is 7.5sqm per household of local park and 10sqm of reserve land per household of community park. This analysis has been done for 2020 household numbers and projected 2050 household numbers. The overall provision of local parks is identified as a gap when it doesn't meet the 7.5sqm area per household. The overall provision of community parks is identified as a gap when it doesn't meet the 10sqm area per household.	N/A	QLDC Future Parks and Reserves Provisional Plan
SIZE OF PARKS	Local parks are to be a minimum of 0.3ha in size, and are recommended to be between 0.3 - 0.5ha. Community parks are to be a minimum of 1ha in size, and are recommended to be between 1 - 2ha. All local parks smaller than 0.3ha in size is identified as a gap. All community parks smaller than 1ha in size is identified as a gap.	QLDC Parks and Open Space Data	QLDC Future Parks and Reserves Provisional Plan QLDC Parks and Open Spaces Strategy 2021
WALKABILITY OF PARKS	Residents are to have easy, safe access to a local park within a 600m walk, and to a community park within a 1500m walk. All areas within the BGN Focus Areas outside a 600 walking distance of a local park and 1500 walking distance from a community park is identified as a gap.	QLDC Parks and Open Space Data	QLDC Future Parks and Reserves Provisional Plan QLDC Parks and Open Spaces Strategy 2021
CONNECTIONS	Detailed trail planning has been undertaken by both QLDC, Queenstown Trails UCCT and other track and trail organisations. All trails that are currently planned but not yet constructed are identified as a gap.	Queenstown Trails Strategic Plan 2023-2033 QLDC Active Travel Network Business Case	Queenstown Trails Strategic Plan 2023-2033 QLDC Active Travel Network Business Case
PUBLIC ACCESS TO WATER	Access to waterways serve various purposes such as recreation, transport, and sustenance. Ngā ara o ngā wai — waterways as pathways — are integral to land-based routes and hold significance for tangata whenua, often serving as ancestral connections between communities. All areas within a 20m offset from waterway centrelines that are not in public ownership are identified as a gap.	LINZ Central Record of State Land LINZ River Centrelines	N/A

GAP TYPE	WHAT IS A GAP?	SPATIAL DATA SOURCE	RELEVANT POLICY / FURTHER INFORMATION
INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS	Indigenous biodiversity within the margins of rivers, lakes and wetlands is to be maintained and enhanced. Any area within a 20m offset of a waterway that is not identified as indigenous vegetation is identified as a gap.	LRIS Land Cover Data Base (LCDB) LINZ River Centrelines	Otago Regional Policy Statement 2019
FRESHWATER ECOLOGICAL CONNECTIVITY	In stream infrastructure, such as culverts, weirs and dams, can delay or prevent fish movements when adequate provision for fish passage is not provided for. Bridges are the preferred crossing type from a fish passage perspective. All fish passage barriers identified that are not bridges or natural are identified as a gap. Please note, this data is largely not ground truthed and many structure types are identified as 'unknown'. Drained waterways used for stormwater can limit the network's ability to support healthy ecosystems, mitigate flooding, and provide recreational and cultural benefits to communities. All waterways that are identified as 'stormwater channels' are identified as a gap.	LINZ River Centrelines QLDC Stormwater Channel NIWA Fish Passage	NIWA Fish Passage Guidelines
TERRESTRIAL ECOLOGICAL CONNECTIVITY	Terrestrial ecosystems are to be maintained and ecological corridors, allowing for direct, continuous, linear habitat connections between important habitat patches, are recommended. It is important to note that in some cases, exotic vegetation supports and provides connections for ecological connectivity. Areas of vegetation that do not provide habitats for fauna, including exotic high and low producing grassland and depleted grassland, are identified as gaps.	LRIS Land Cover Data Base (LCDB)	Otago Regional Policy Statement 2019 QLDC Climate and Biodiversity Plan 2022-2025
EXOTIC VEGETATION IN PUBLIC LAND	Exotic vegetation poses a significant threat to native biodiversity by out competing native species for resources, altering ecosystems, and reducing habitat suitability for indigenous flora and fauna. Its aggressive growth can lead to the displacement of native plants and disrupt ecological balances, ultimately diminishing the resilience and health of natural habitats. Areas within public ownership that include exotic vegetation is identified as a gap.	LRIS Land Cover Data Base (LCDB) LINZ Central Record of State Land	QLDC Climate and Biodiversity Plan 2022-2025

1 TĀHUNA | QUEENSTOWN & 2 QUEENSTOWN HILL / FRANKTON ROAD

SUMMARY OF GAPS

1. Whilst Queenstown Central and Queenstown Hill have adequate local and community park provision for the short term, they do not have enough for the projected 2050 households. An additional 3ha of local parks are needed, and an additional 2.3ha of community parks are needed.
2. Queenstown Hill has very limited access to local and community parks.
3. Woody weed species dominate Lake Whakatipu shoreline.
4. Horne Creek is classified and treated as a stormwater channel between Queenstown Recreation Ground and Marine Parade Reserve.
5. Exotic grassland species dominate the Matakauri Wetland, causing an ecological connectivity gap.
6. Woody weed species and wilding pines dominate Queenstown Hill. Whilst these may provide a habitat for some fauna (and therefore show as green on the 'terrestrial ecological map'), they can significantly change the landscape and impact on our recreational, hydrological and conservation values.
7. Wilding pines dominate on Ben Lomand.



Figure 67: Queenstown Central and Queenstown Hill / Frankton Road summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
2.8	3,000	0	4,250 - 7,500	-0.5 - 3

	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
5.2	3,000	0	4,250 - 7,500	-0 - 2.3

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



3 FERNHILL / SUNSHINE BAY

SUMMARY OF GAPS

1. Fernhill and Sunshine Bay currently do not have a community park, and therefore do not meet the current day provision. An additional 1.5ha community park is needed to meet the estimated 2050 population.
2. The northern and southern areas of Fernhill have very limited access to local parks.
3. The western areas of Fernhill have very limited access to community parks.
4. Woody weed species dominate Lake Whakatipu shoreline.



Figure 68: Fernhill summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

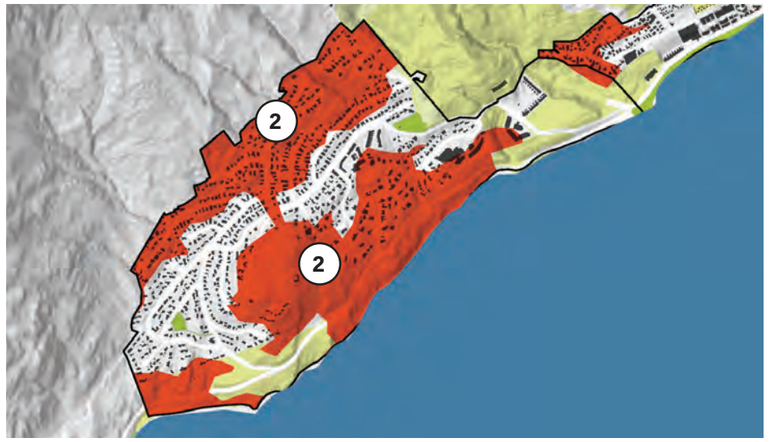
	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
1	1,225	0	1,250-1,300	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
0	1,225	-1.25	1,250-1,300	-1.25 - 1.5

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



4 TE KIRIKIRI | FRANKTON

SUMMARY OF GAPS

1. Whilst Frankton has adequate local and community park provision for the short term, it does not have enough for the projected 2050 households. An additional 5ha of local parks are needed, and an additional 10ha of community parks are needed.
2. The eastern and southern areas of Frankton have very limited access to local parks. This also includes the Industrial Precinct around Glenda Drive.
3. The eastern and southern areas of Frankton have very limited access to community parks.
4. There are currently no trail connections connecting Frankton to Lake Johnson or beyond.
5. Exotic vegetation dominates the Shotover River.

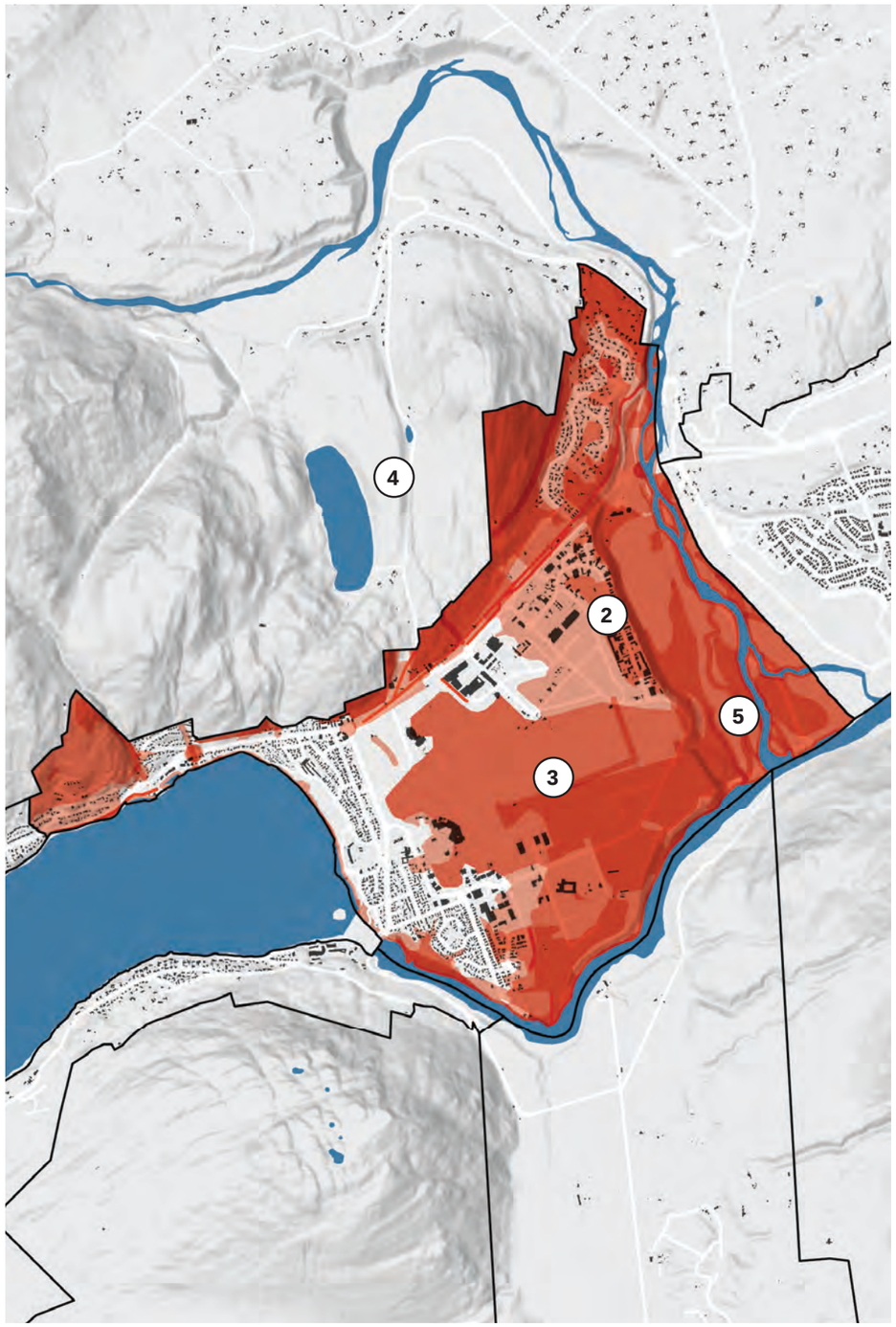


Figure 69: Te Tapaue Southern Corridor summary of gaps

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
2.2	1,825	0	4,500-10,000	-1.2 - 5.3

	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
12.4	1,825	0	4,500-10,000	-0 - 10

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



5 TE PŪTAHI | EASTERN CORRIDOR

SUMMARY OF GAPS

1. Whilst Eastern Corridor has adequate local and community park provision for the short term, it does not have enough local parks for the projected 2050 households. An additional 2.2ha of local parks are needed.
2. Additional trails will be needed in line with the Te Putahi Ladies Mile Structure Plan.
3. Slope Hill is dominated by exotic grassland
4. Kawarua River is dominated by exotic forest and grasslands.



Figure 70: Eastern Corridor summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
2.1	1,670	0	3,250 - 5,700	-0.3 - 2.2

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
6.7	1,670	0	3,250 - 5,700	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



6 TE TAPUAE | SOUTHERN CORRIDOR

SUMMARY OF GAPS

1. There is a significant park provision gap in the Southern Corridor. Currently, there are no local parks located in this Priority Development Area, and an additional 7,000sqm of local parks is recommended to meet 2020 household numbers. By 2050, and additional 4.3ha in local parks will be needed. Similarly, by 2050, the Southern Corridor will require an additional 8.35ha of community park to meet the fore casted household numbers,
2. There are currently two community parks in the Southern Corridor which also function as local parks. The walkability of these local parks is limited.
3. There is a significant trail gap identified within the Southern Corridor, which would connect the various residential communities within the corridor across the Kawarau Falls Bridge and into Frankton.
4. Woody weed species dominate Lake Whakatipu shoreline.
5. There are limited public access to and around the waterwats, in particular Willow Pond.

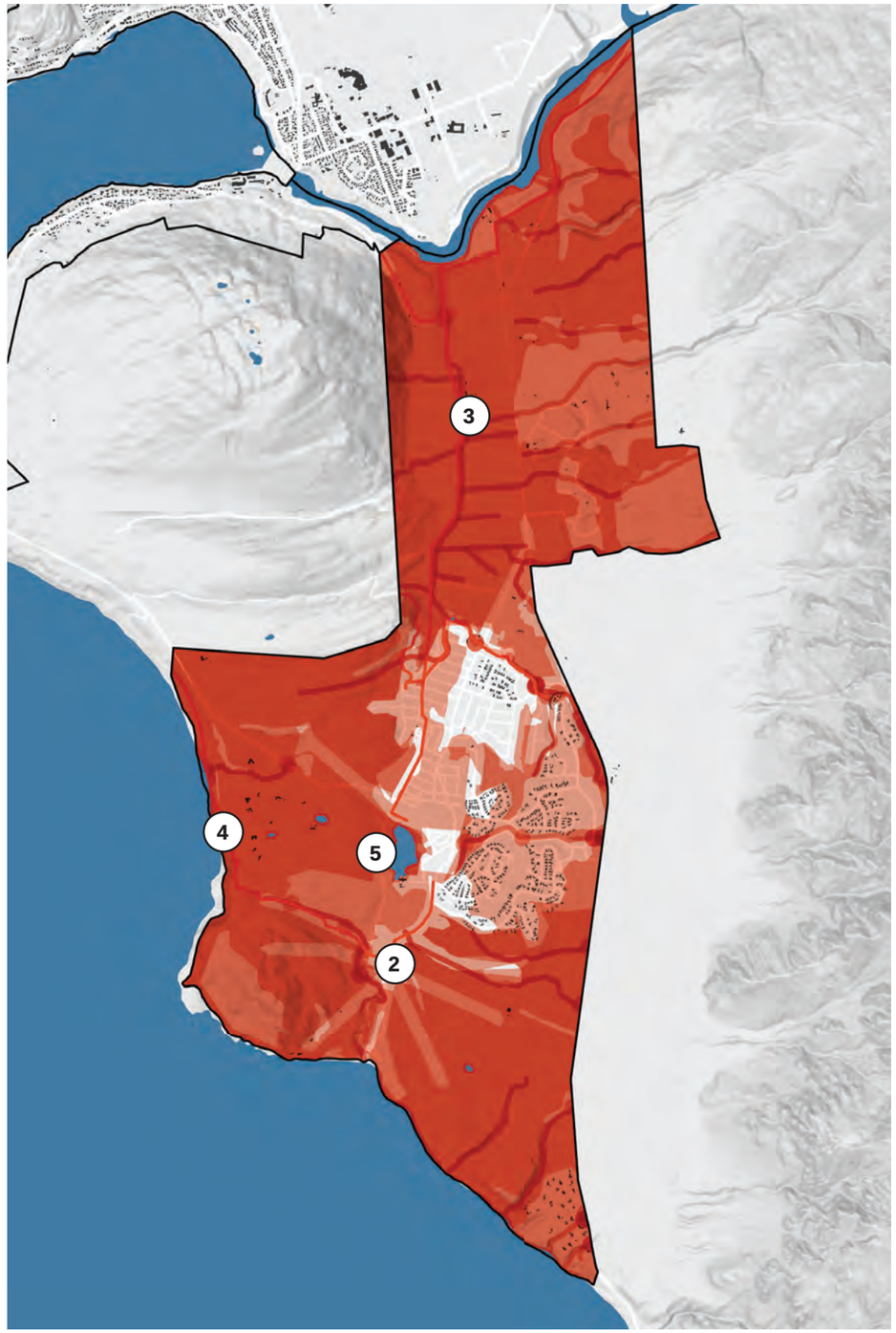


Figure 71: Te Tapaue Southern Corridor summary of gaps

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0	925	-0.7	4,500-11,750	-4.3

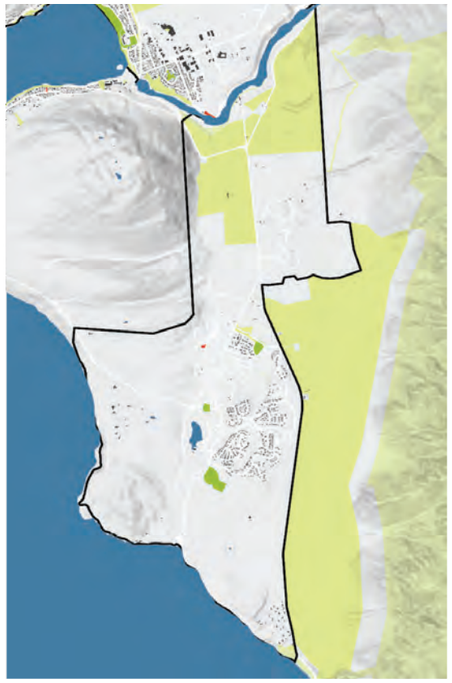
	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
7.9	925	0	4,500-11,750	-8.35

LEGEND

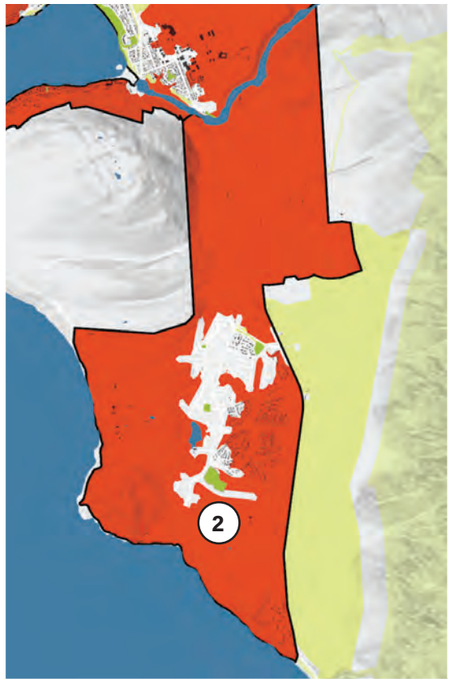
- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

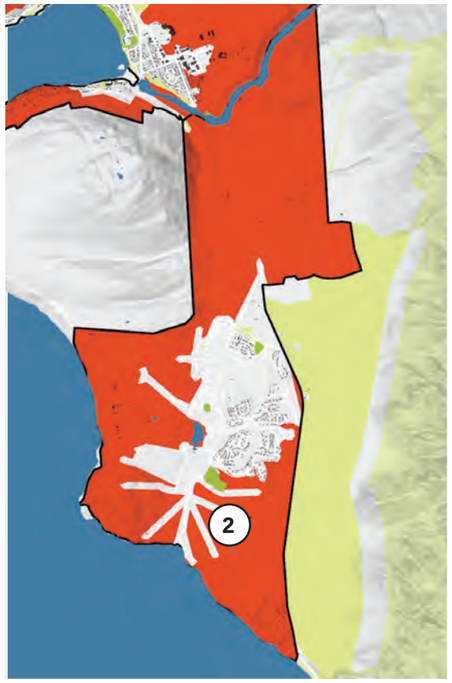
SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



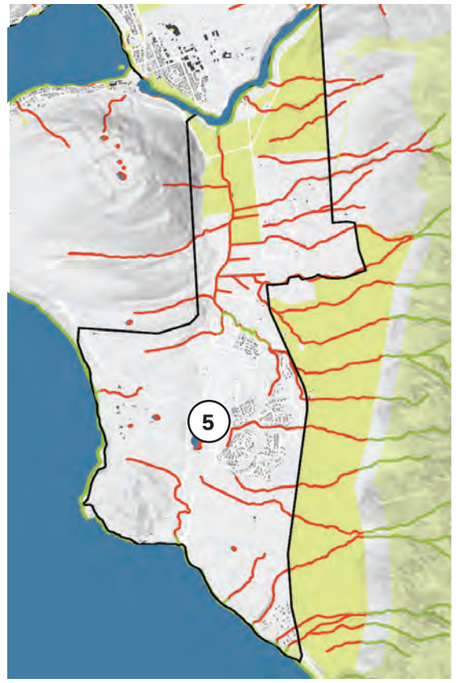
WALKABILITY OF COMMUNITY PARKS



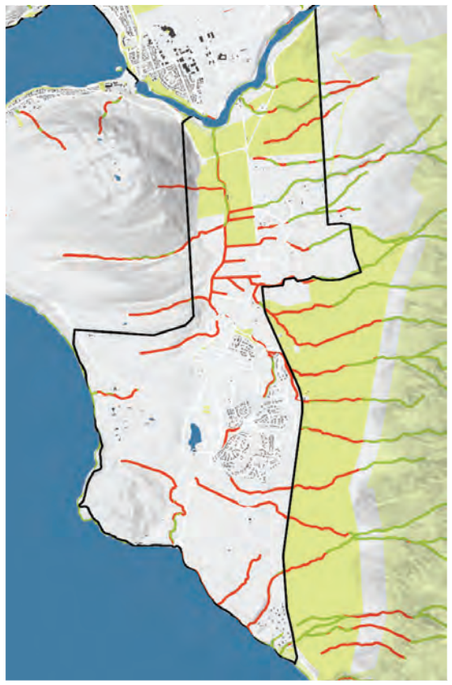
CONNECTIONS



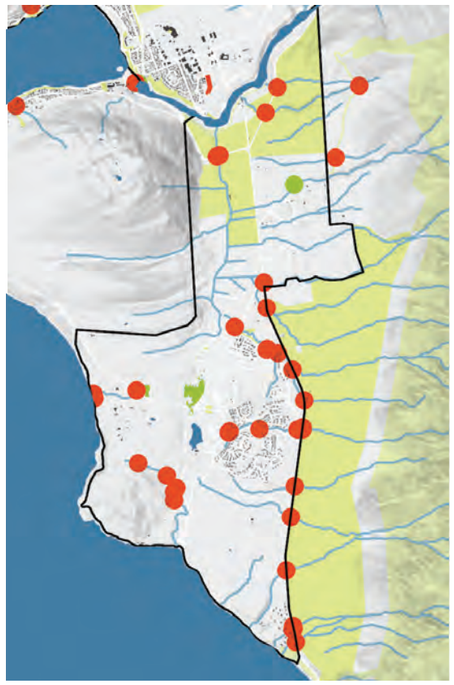
PUBLIC ACCESS TO WATER



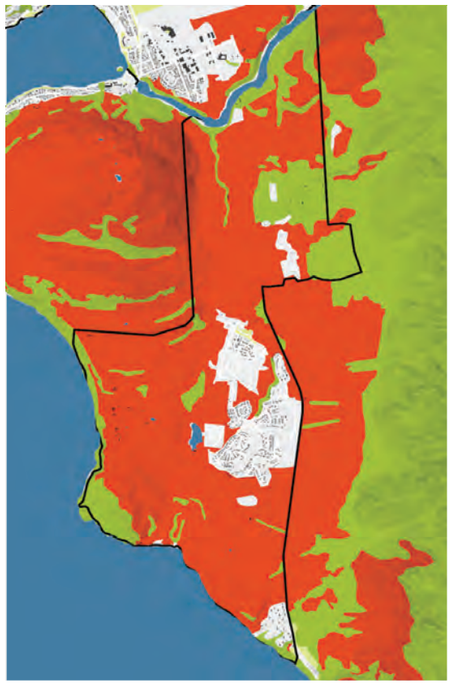
INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



7 KELVIN HEIGHTS

SUMMARY OF GAPS

1. Whilst Kelvin Heights has adequate local and community park provision for the short and long term, it is not distributed evenly across the area, with more of the open spaces located towards the west near Jardine Park and the golf course. This means that the majority of Kelvin Heights are not within the recommended walking distance to a local or community park.
2. Peninsula Hill is primarily grassland, meaning that the waterways don't have appropriate riparian planting.
3. Lake Whakatipu foreshore is dominated by woody weed species.



Figure 72: Arthurs Point summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
1.2	685	0	1,250 - 2,000	- 0.3

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
31.1	685	0	1,250 - 2,000	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



8 ARTHURS POINT

SUMMARY OF GAPS

1. Arthurs Point currently has no community park.
2. The Shotover River is dominated by exotic grasslands and hardwoods.

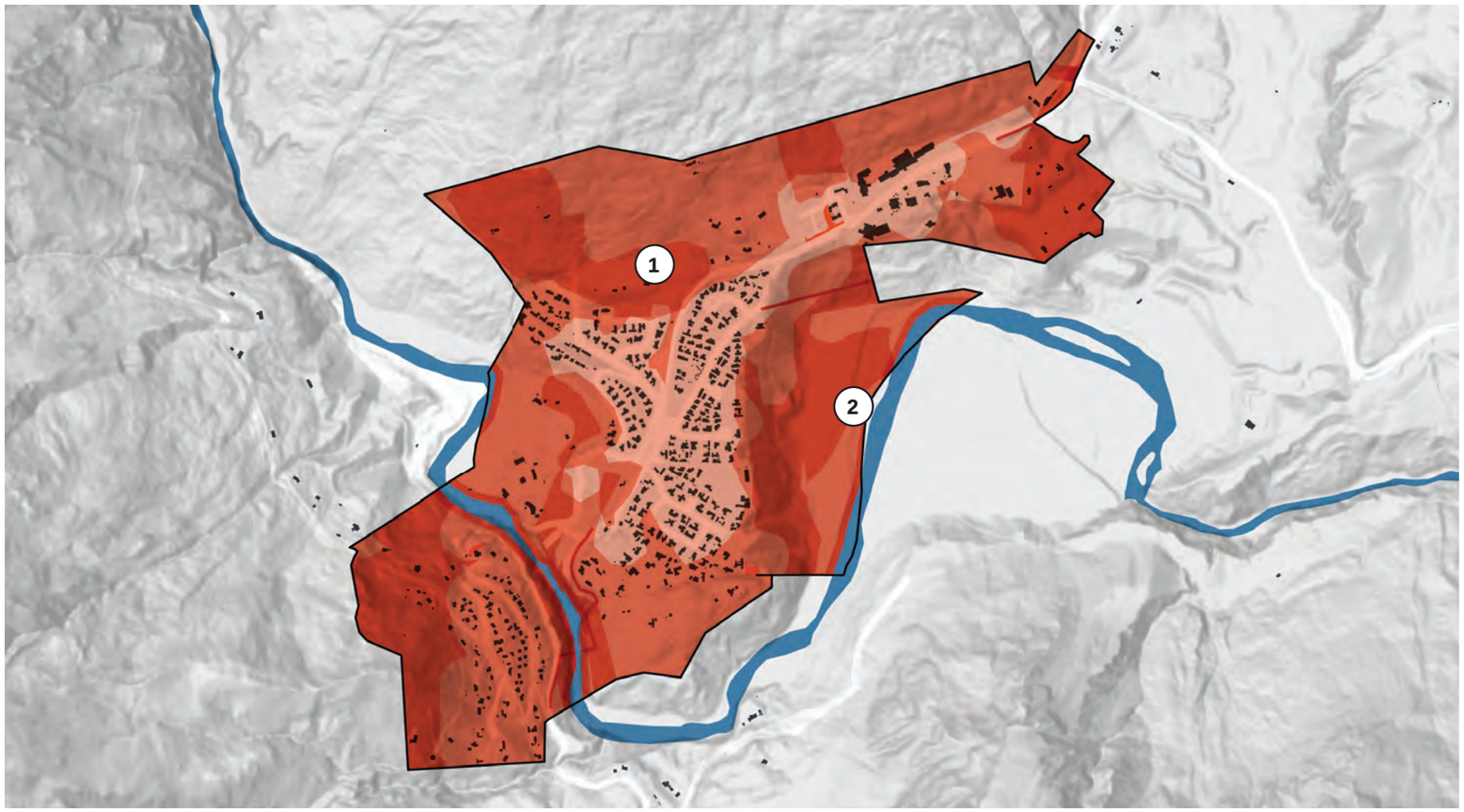


Figure 73: Arthurs Point summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

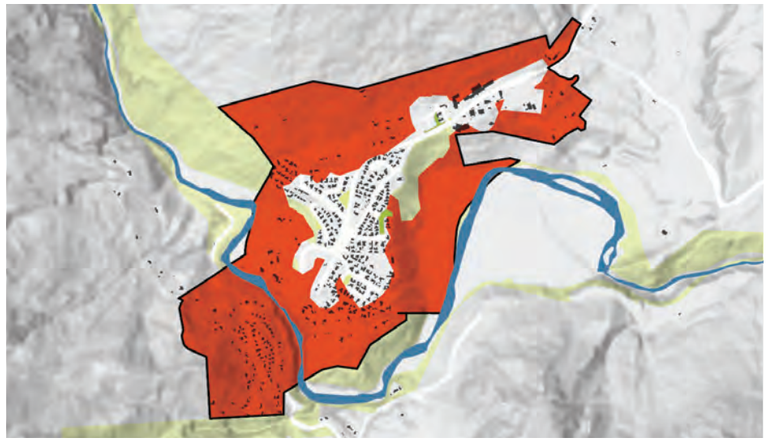
	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.5	480	0	700 - 1,000	- 0.1

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
0	480	-0.5	700 - 1,000	-1

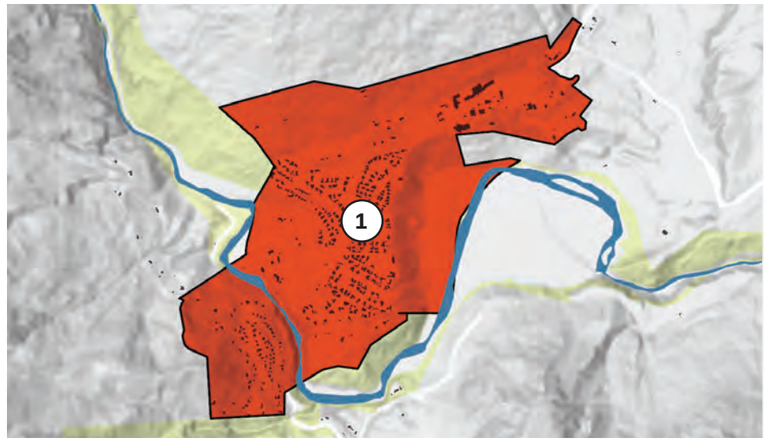
SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



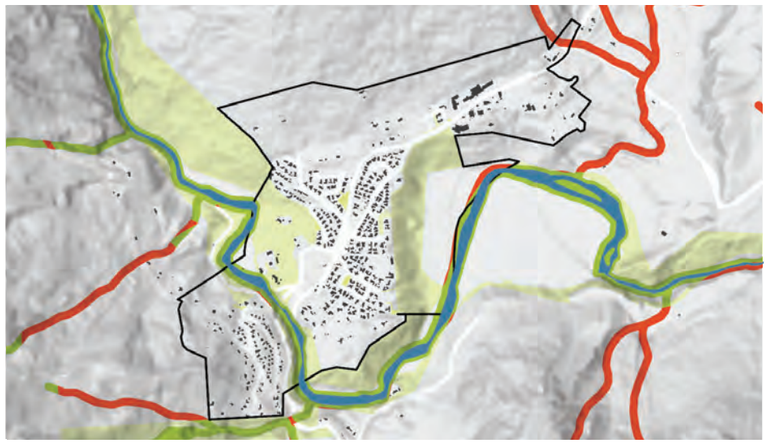
WALKABILITY OF COMMUNITY PARKS



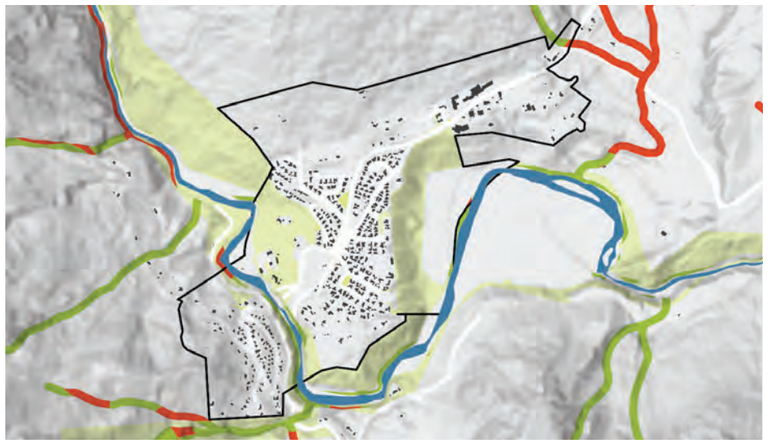
CONNECTIONS



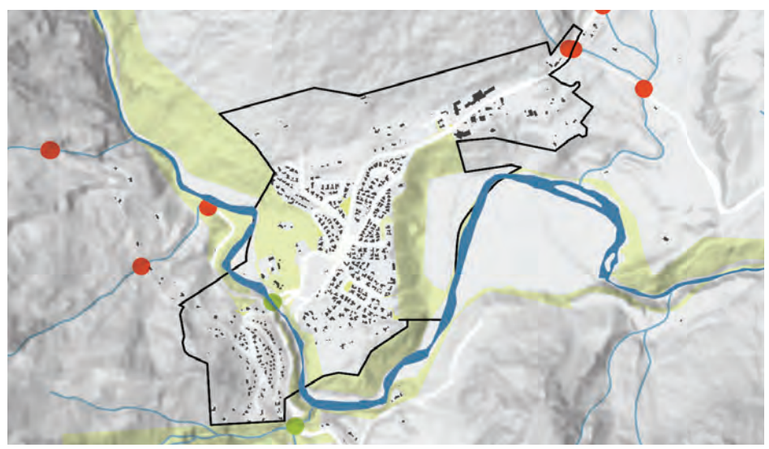
PUBLIC ACCESS TO WATER



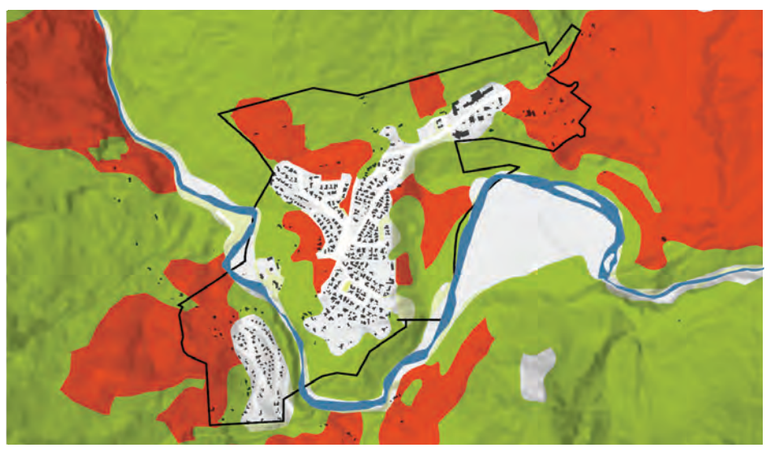
INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



9 KĀ MURIWAI | ARROWTOWN

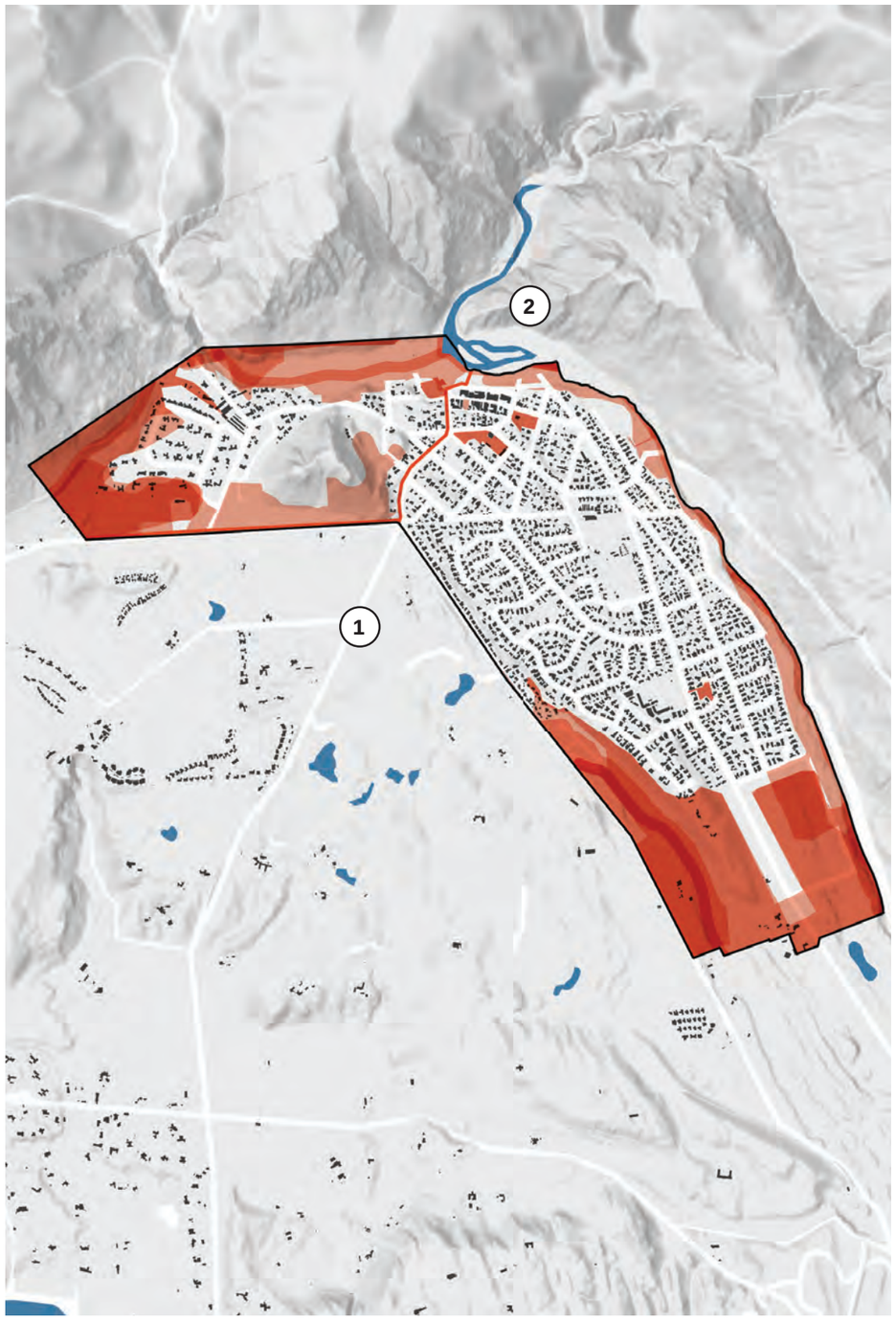
SUMMARY OF GAPS

1. There is a trail gap associated with connecting Arrowtown south towards Queenstown.
2. The primary gap is exotic hardwood and shrubland associated with the Arrow River and north of the Arrow River.

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
4.2	1,410	0	1,500 - 1,750	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
6.8	1,410	0	1,500 - 1,750	0



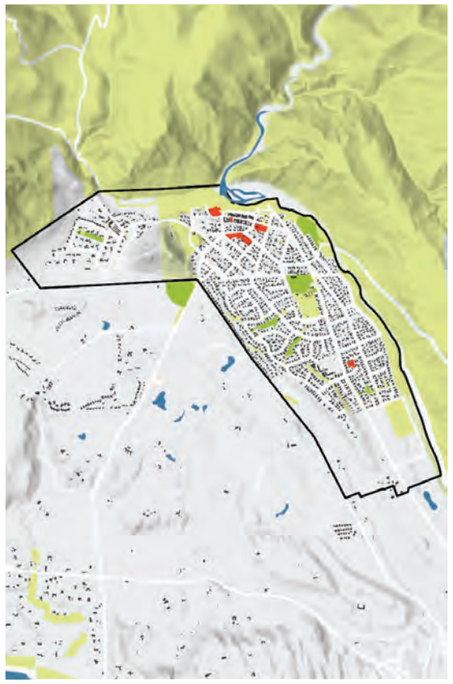
LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

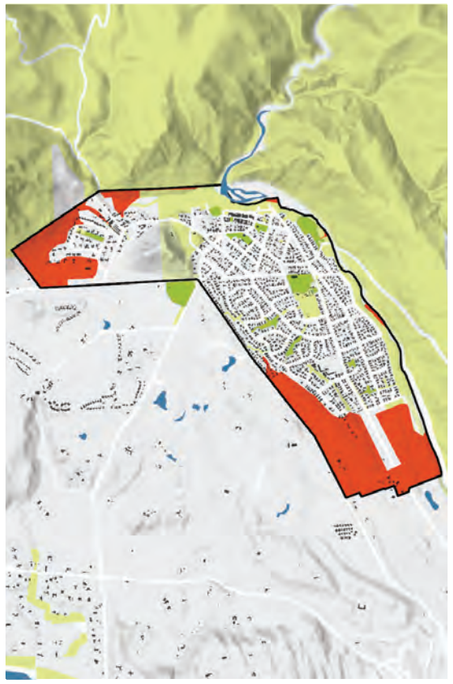
** please refer to the table on page 31-32 for definition of gaps for each component.*

Figure 74: Arrowtown summary of gaps

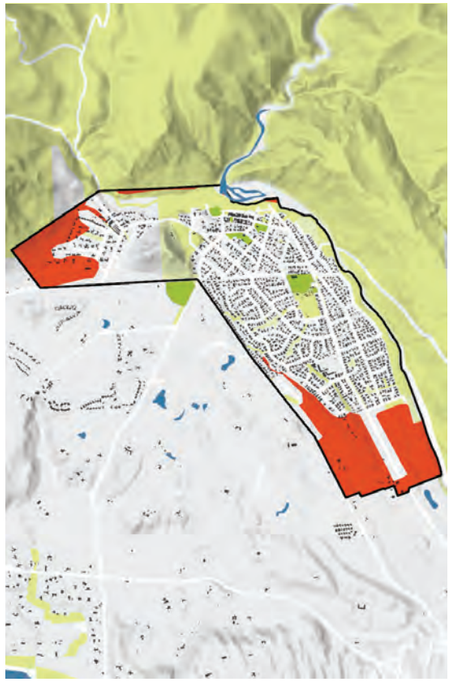
SIZE OF PARKS



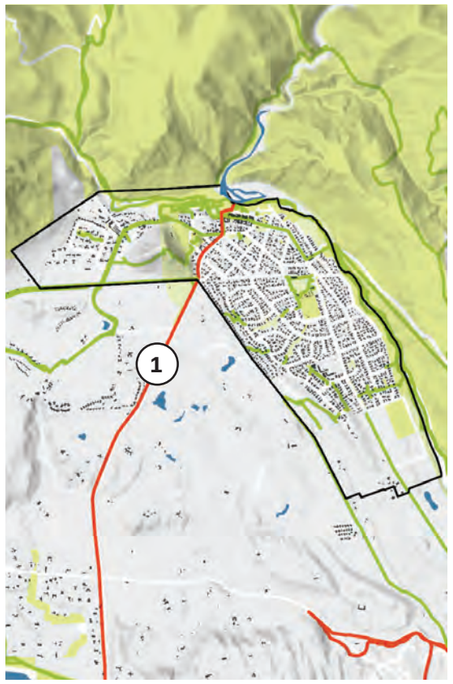
WALKABILITY OF LOCAL PARKS



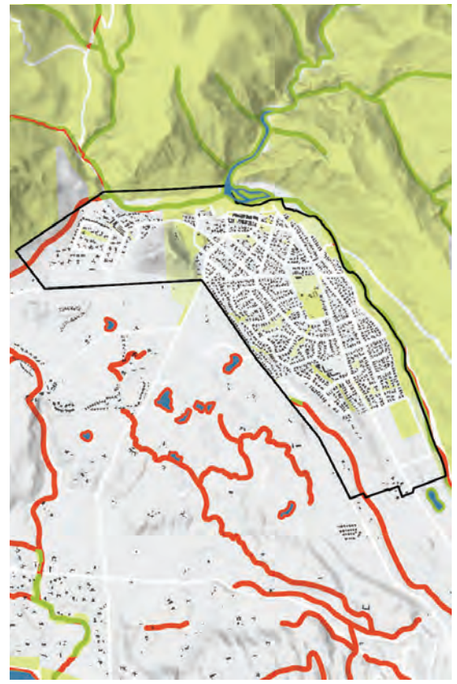
WALKABILITY OF COMMUNITY PARKS



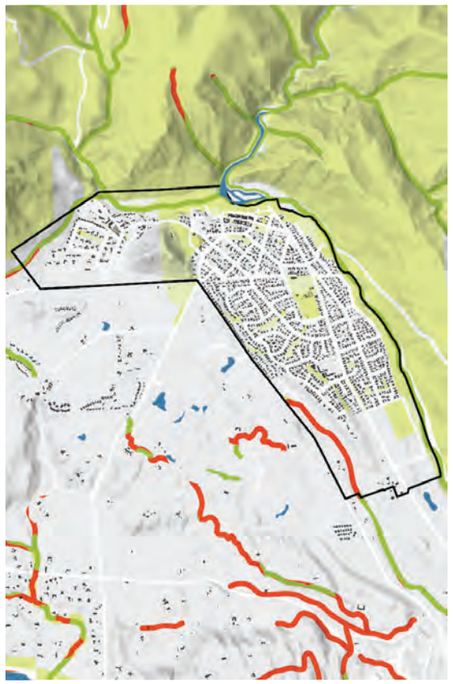
CONNECTIONS



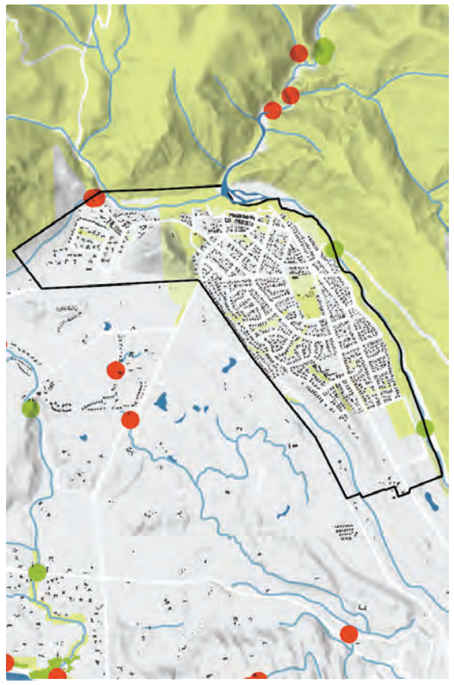
PUBLIC ACCESS TO WATER



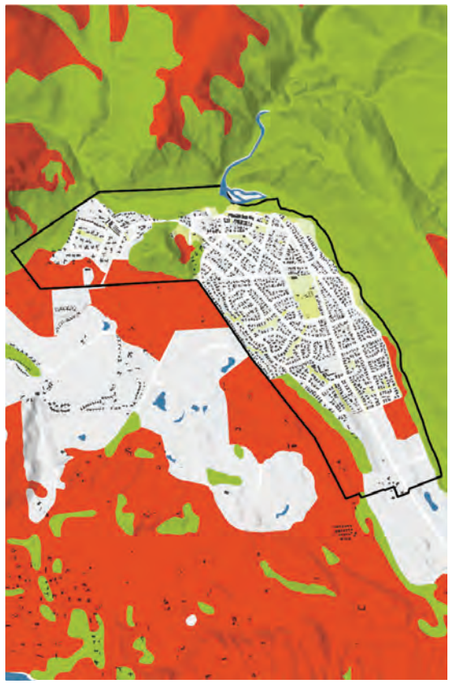
INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



10 TĀHUNA | GLENORCHY

SUMMARY OF GAPS

1. Whilst Glenorchy has adequate local and community park provision for the short and long term, it is not distributed evenly across the area. The area to the south-east is not within a walking distance to local or community parks.
2. The waterways to the south of Glenorchy are dominated by deciduous hardwoods.



Figure 75: Glenorchy summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.8	220	0	300-400	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
9.6	220	0	300-400	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



11 TAKEREHAKA | KINGSTON

SUMMARY OF GAPS

1. Whilst Kingston has adequate local and community park provision for the short and long term, it is not distributed evenly across the area. The area to the south-east is not within a walking distance to a local parks.
2. The waterways to the north and south of the townships are in private ownership and are not accessible, and are also planted with exotic grasslands and hardwoods rather than indigenous vegetation.



Figure 76: Kingston summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.8	235	0	550 - 1000	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
2	235	0	550 - 1000	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



12 TAKE KĀRARA | WĀNAKA & 13 THREE PARKS

SUMMARY OF GAPS

1. Whilst Wānaka Central and Three Parks has adequate local and community park provision for the short and long term, it is not distributed evenly across the area. Wānaka Central has little access to local parks along Ballantyne Road and to the south along Riverbank Road. Wānaka Central also has little access to community parks in the south. Three Parks has little access to local parks, and the southern area has little access to community parks.
2. There is a trail gap running along Cardrona River.
3. Bullock Creek is classified and treated as a stormwater channel.
4. The majority of the areas to the south of Wānaka are undeveloped grasslands, and have little ecological value.
5. Cardrona River is dominated by exotic grasslands and forest.



Figure 77: Wānaka Central and Three Parks summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
4.8	935	0	2,250 - 4,500	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
25.3	935	0	2,250 - 4,500	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



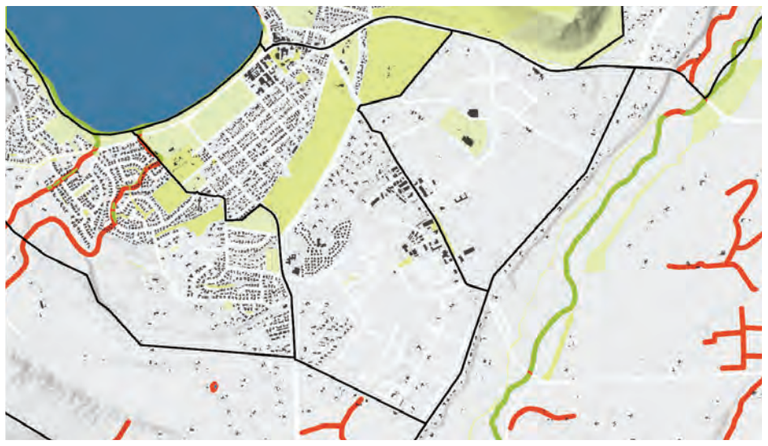
WALKABILITY OF COMMUNITY PARKS



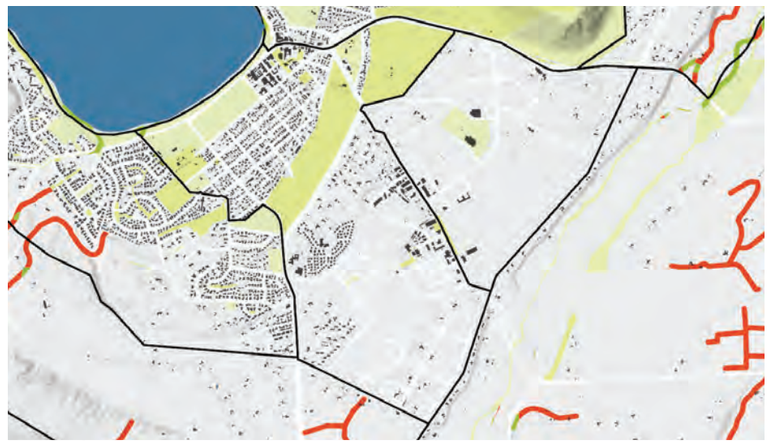
CONNECTIONS



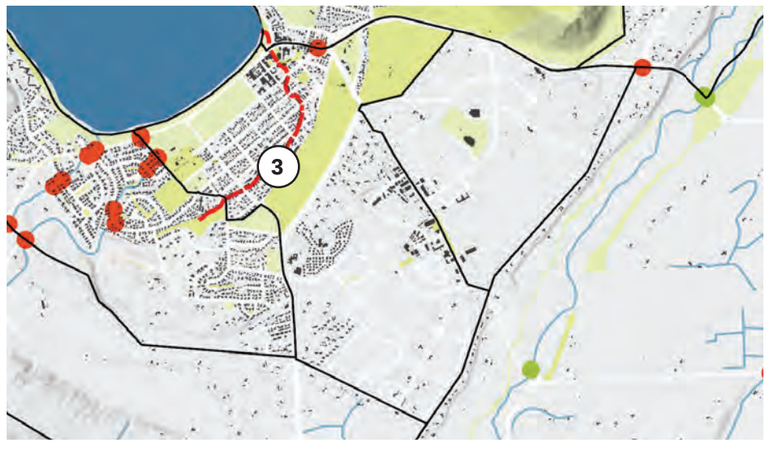
PUBLIC ACCESS TO WATER



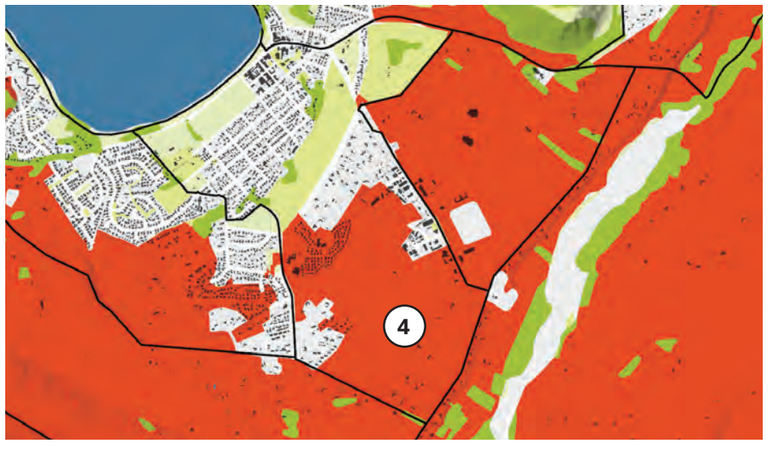
INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



14 WĀNAKA NORTH

SUMMARY OF GAPS

1. Whilst Wānaka North has adequate local and community park provision for the short and long term, it is not distributed evenly across the area. The local and community parks are located to the south-west, and so areas to the north and east have less access to parks.
2. Wānaka North has a good trail network, but it is currently missing a north-south connection, connecting Wānaka Central to Beacon Point.
3. Sticky Forest is dominated by exotic forest.

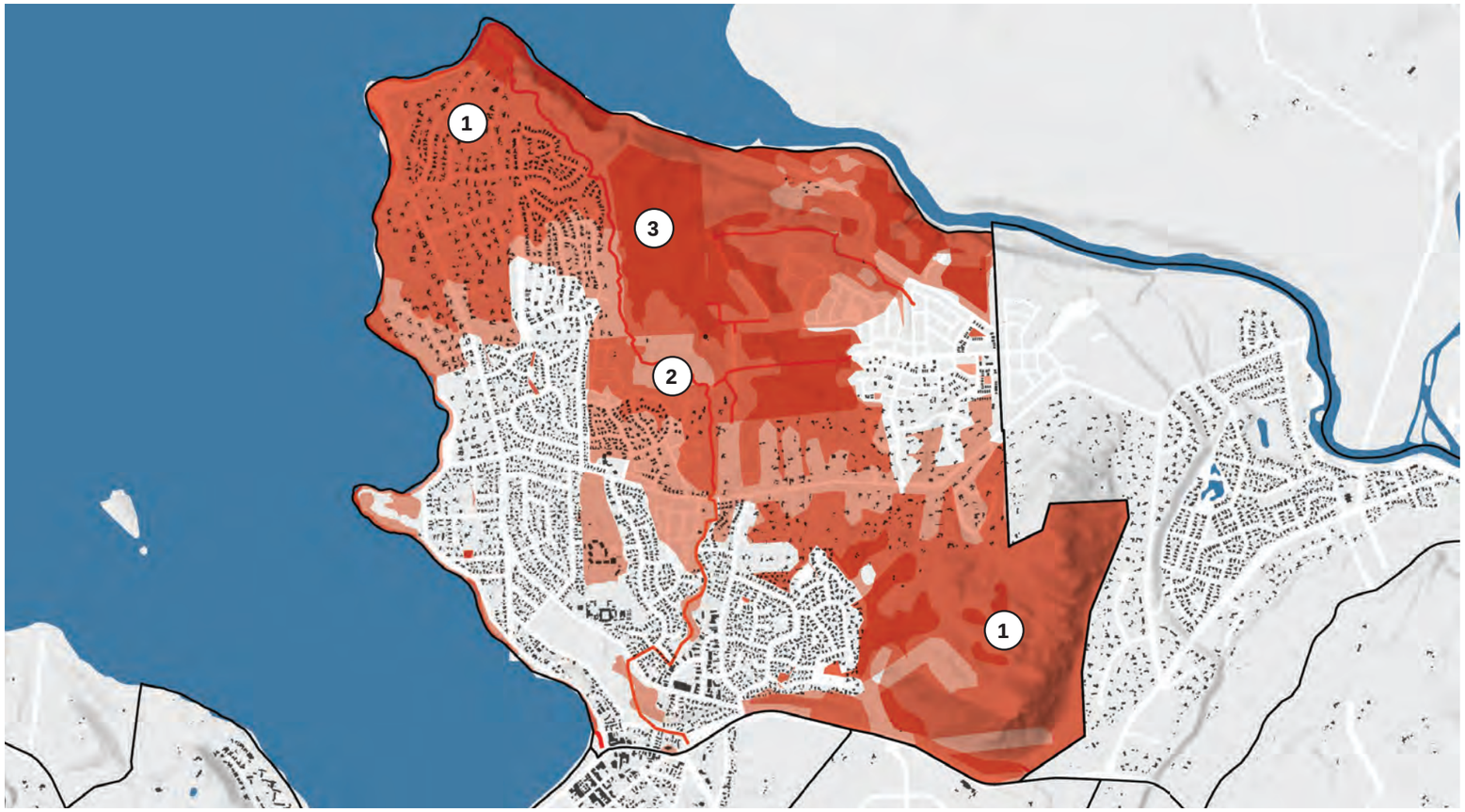


Figure 78: Wānaka North summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

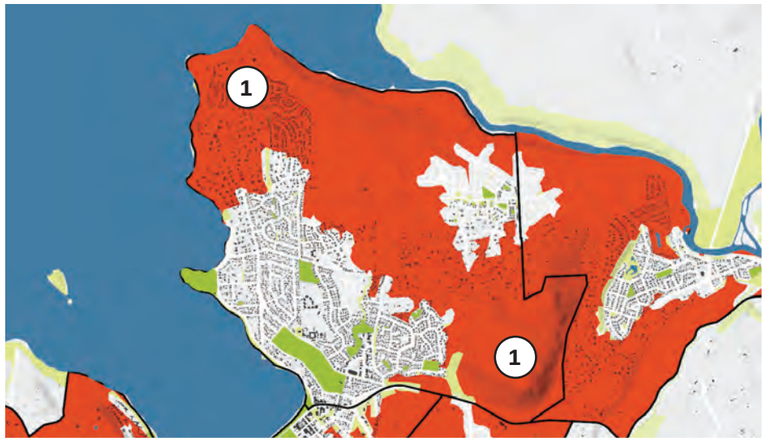
	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
6	3,118	0	4250 - 6,500	0

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
33.8	3,118	0	4250 - 6,500	0

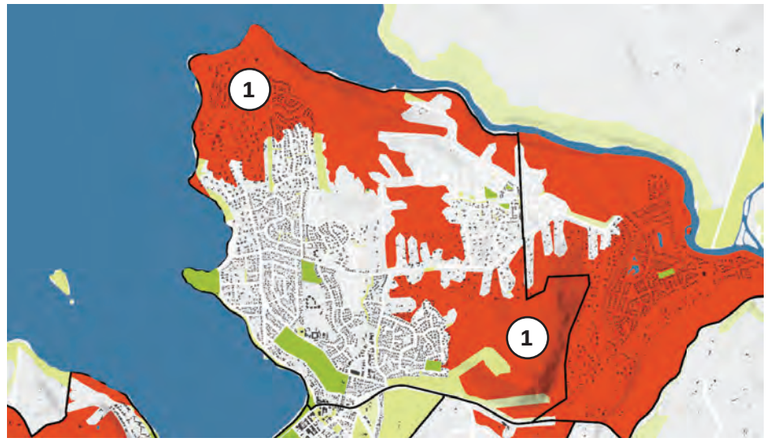
SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



15 WĀNAKA WEST & 16 WĀNAKA SOUTH

SUMMARY OF GAPS

1. Whilst Wānaka West and Wānaka South have adequate local and community park provision for the short term, they do not have enough for the projected 2050 households. An additional 5.7ha of local parks are needed, and an additional 3ha of community parks are needed.

2. There is currently no local parks in the northern areas.

3. Currently, Wānaka South is largely undeveloped, and therefore there are no local or community parks here.

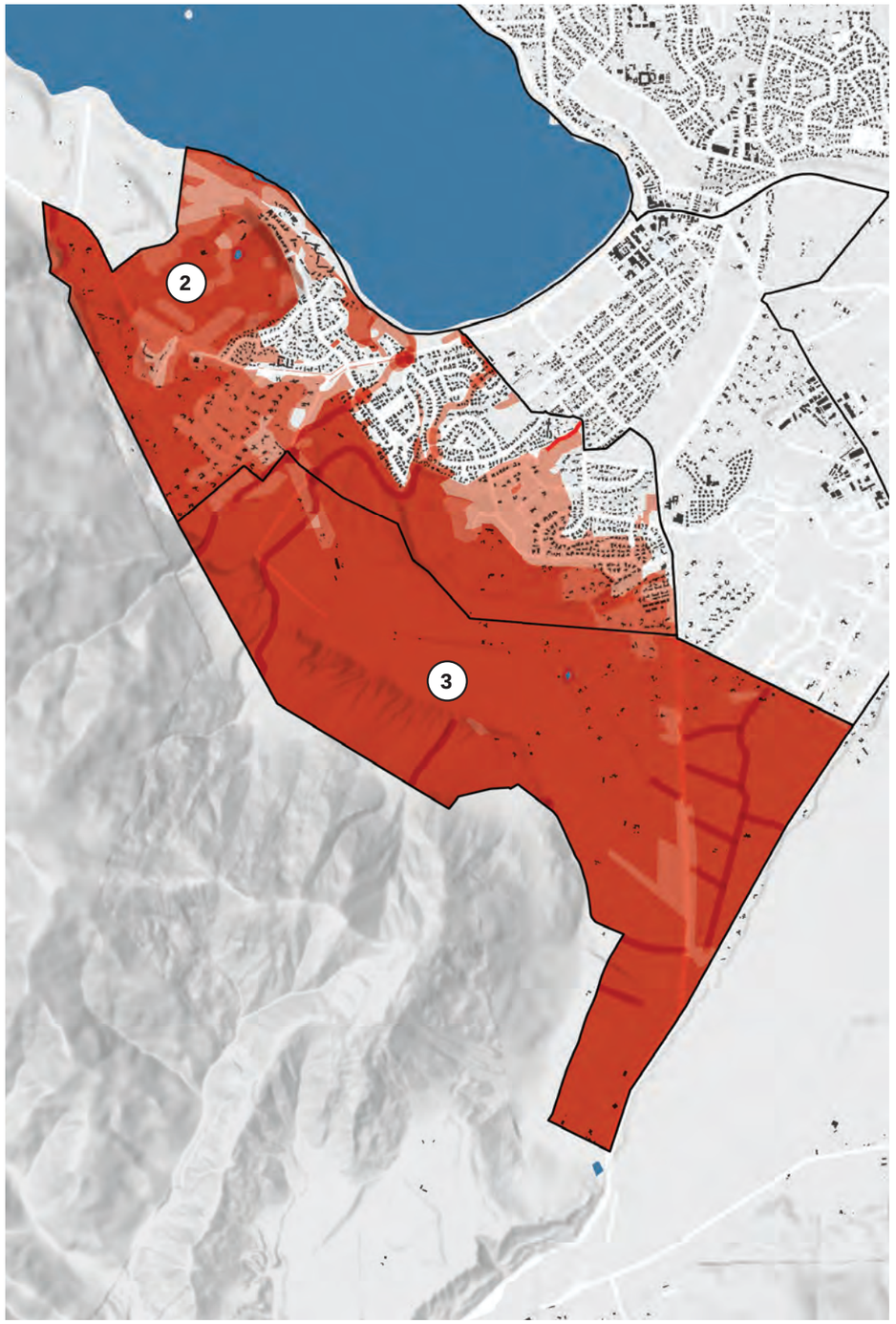


Figure 79: Wānaka West and South summary of gaps

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
3.2	1,355	0	3,750 - 8,900	-0 - 5.7

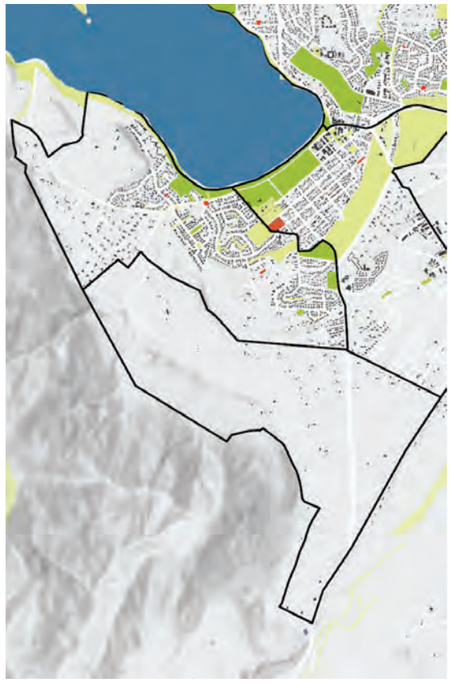
	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
5.8	1,355	0	3,750 - 8,900	-3

LEGEND

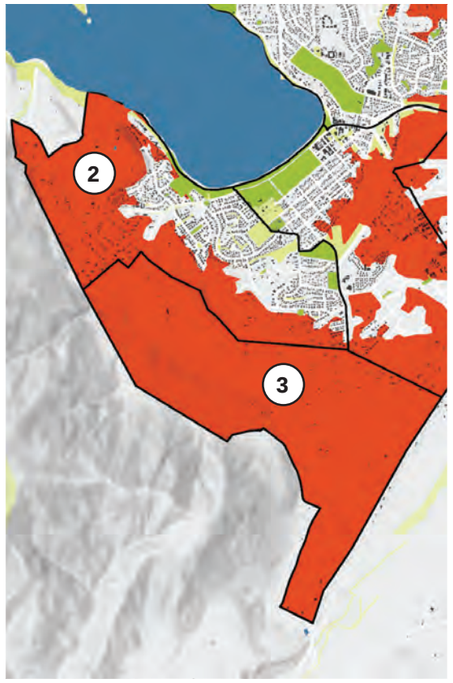
- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

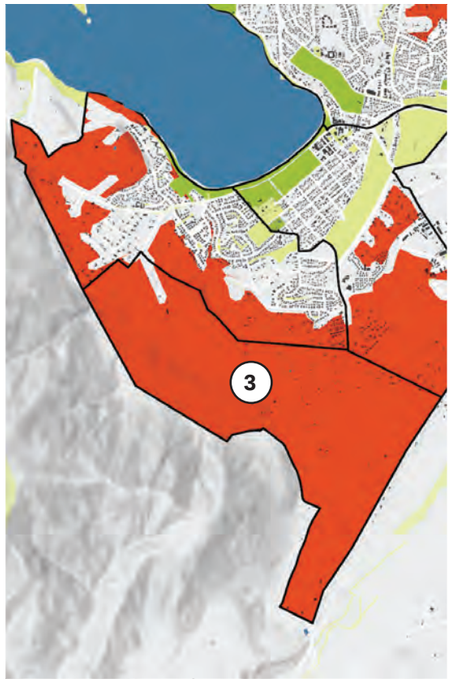
SIZE OF PARKS



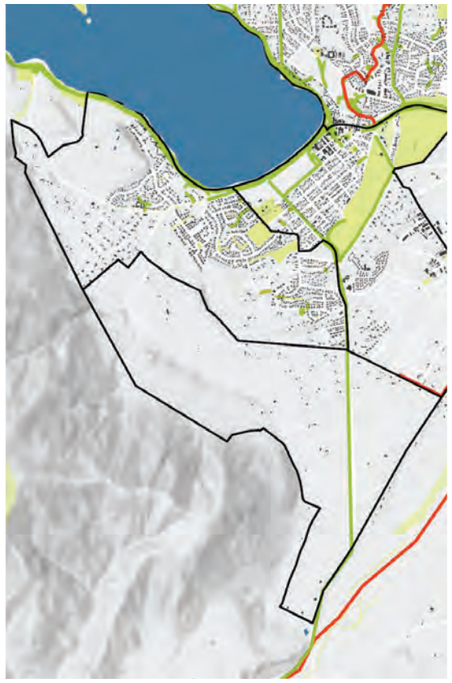
WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



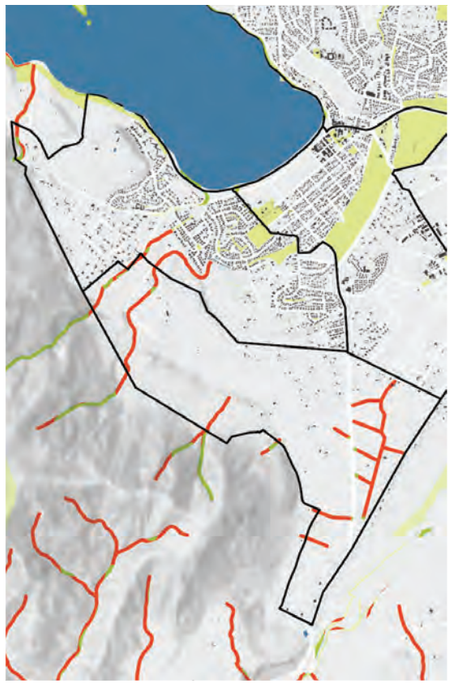
CONNECTIONS



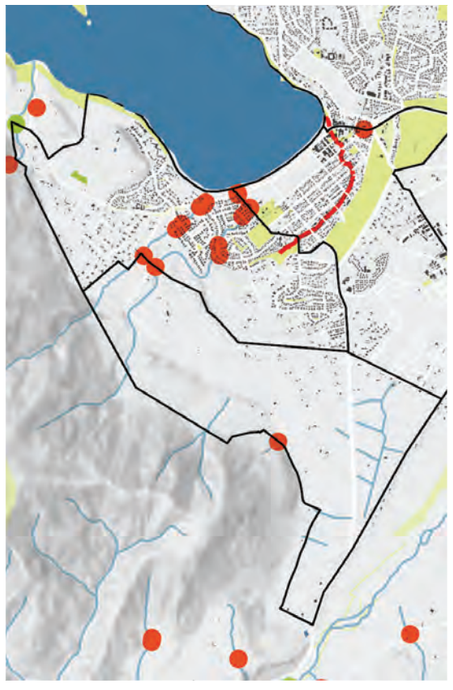
PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



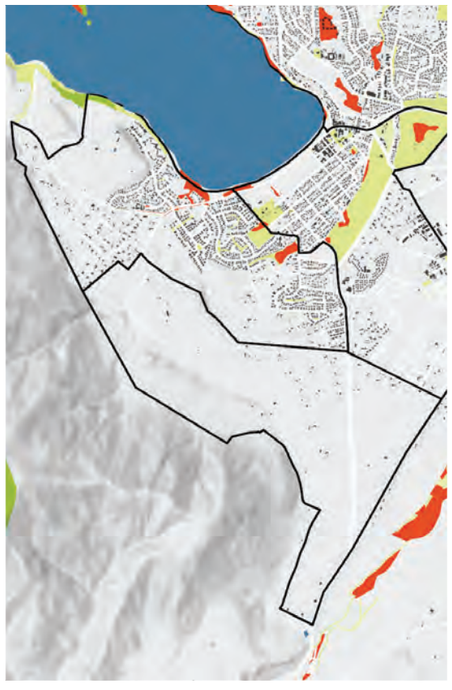
FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



17 ALBERT TOWN

SUMMARY OF GAPS

1. Whilst Albert Town has adequate local and community park provision for the short term, it does not have enough for the projected 2050 households. An additional 1ha of local parks are needed, and an additional 1.6ha of community parks are needed.
2. The majority of Albert Town is outside of a walkable distance to a local park, especially to the north, south and west of Albert Town.
3. The majority of Albert Town is outside of a walkable distance to a community park.
4. Albert Town currently has several trail gaps which would connect the area wider to Wānaka, Hawea and Luggate.
5. Cardrona River is dominated by exotic grasslands and forest.

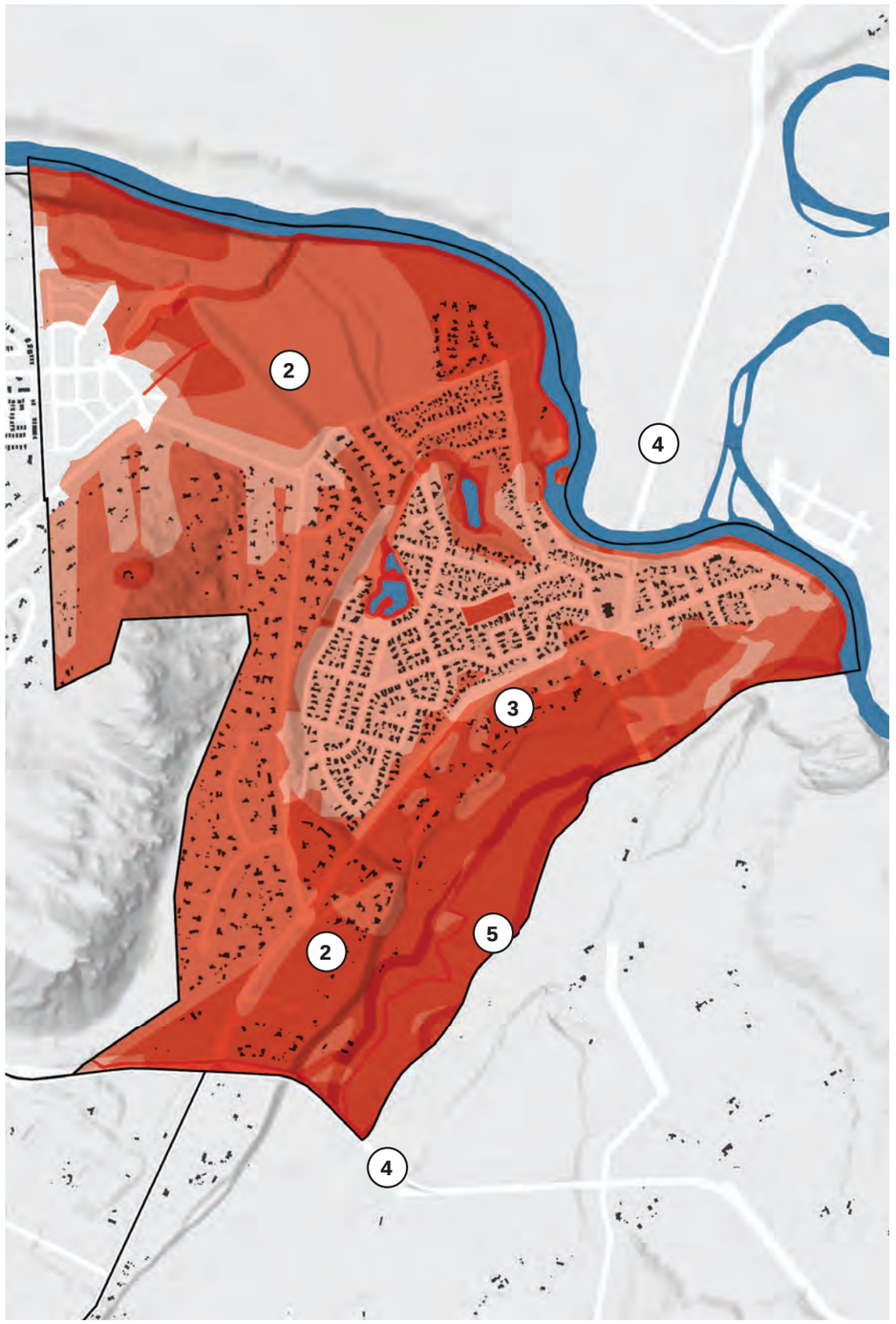


Figure 80: Albert Town summary of gaps

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
2.4	1,045	0	1,500 - 2,600	-0.1 - 1

	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
1	1,045	0	1,500 - 2,600	-0.5 - 1.6

LEGEND

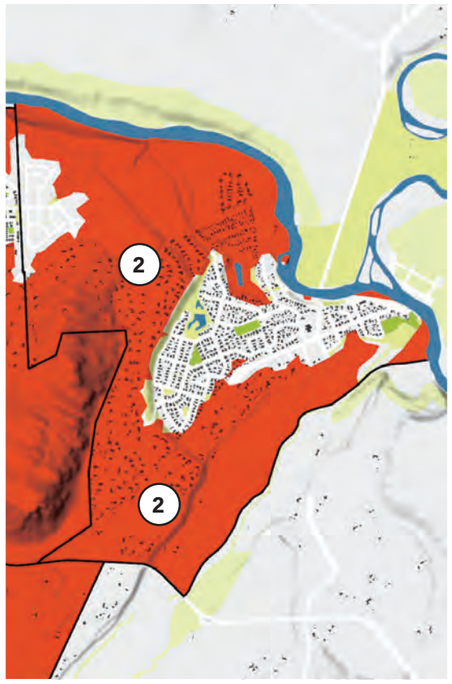
- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

SIZE OF PARKS



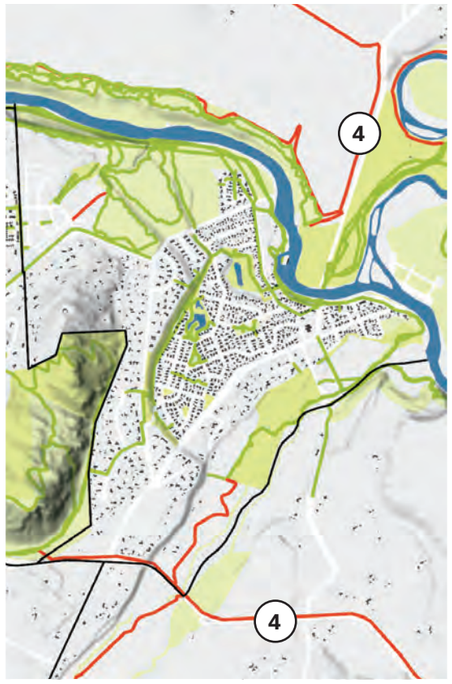
WALKABILITY OF LOCAL PARKS



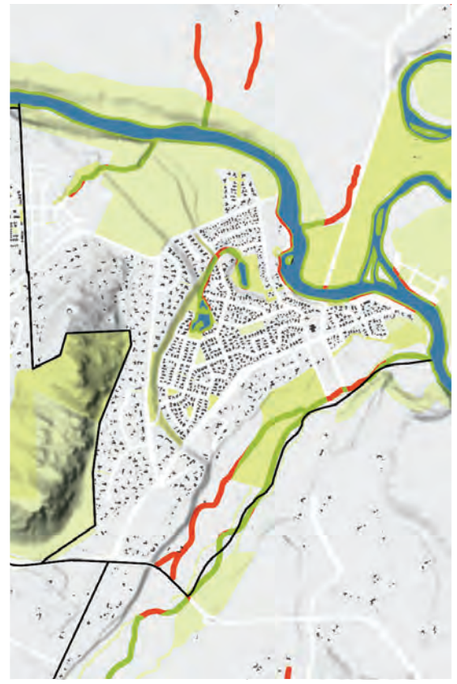
WALKABILITY OF COMMUNITY PARKS



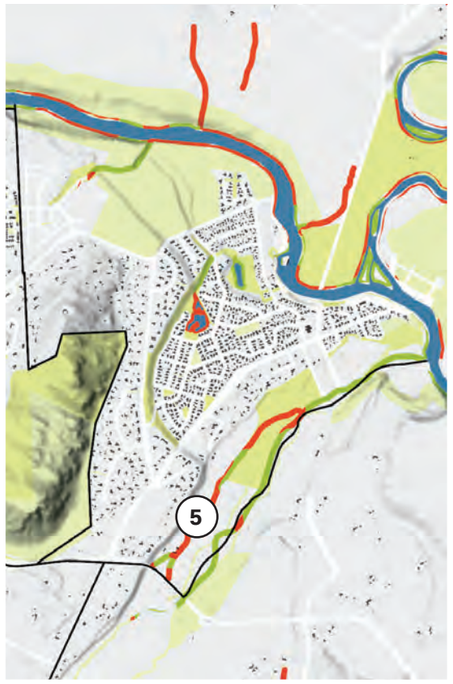
CONNECTIONS



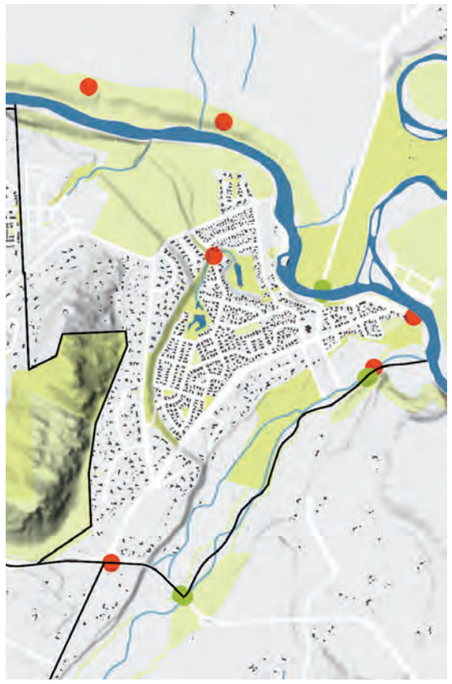
PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



18 LUGGATE

SUMMARY OF GAPS

1. Whilst Luggate has adequate community park provision for the short and long term, it does not have enough local parks for the existing population or projected 2050 households. An additional 0.8ha of local parks are needed.
2. Luggate currently has a trail gaps which would connect the area to Wānaka.
3. Luggate Creek has areas of exotic vegetation within it's riparian corridor.



Figure 81: Luggate summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.1	230	-0.1	550 - 1200	-0.3 - 0.8

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
2.6	230	0	550 - 1200	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



19 LAKE HĀWEA

SUMMARY OF GAPS

1. Whilst Hawea has adequate community park provision for the short and long term, it does not have enough local parks for the existing population or projected 2050 households. An additional 2.6ha of local parks are needed.
2. The east of Hawea has little access to both local and community parks.
3. There is a trail gap following the waterway on the southern side of Hawea, connecting Hawea River south.



Figure 82: Hawea summary of gaps

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.1	745	-0.5	1700 - 3600	-1.2 - 2.6

	2020		2050	
Current Community Park Provision (ha)	Households	Community Park Gap (ha)	Households	Community Park Gap (ha)
3.4	745	0	1700 - 3600	0

SIZE OF PARKS



WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND



20 CARDRONA

SUMMARY OF GAPS

1. Whilst Cardrona has adequate local and community park provision for the short term, it does not have enough local parks for the projected 2050 households. An additional 0.7ha of local parks are needed.
2. Currently, Cardrona has very few trails. There are lots of trail gaps, most importantly along the Cardrona River. There are also trail gaps connecting the hills to the west of the village to Cardrona River, and connecting to the new development area to the north.
3. Cardrona River, and associated waterways, are dominated by exotic grasslands and forest.

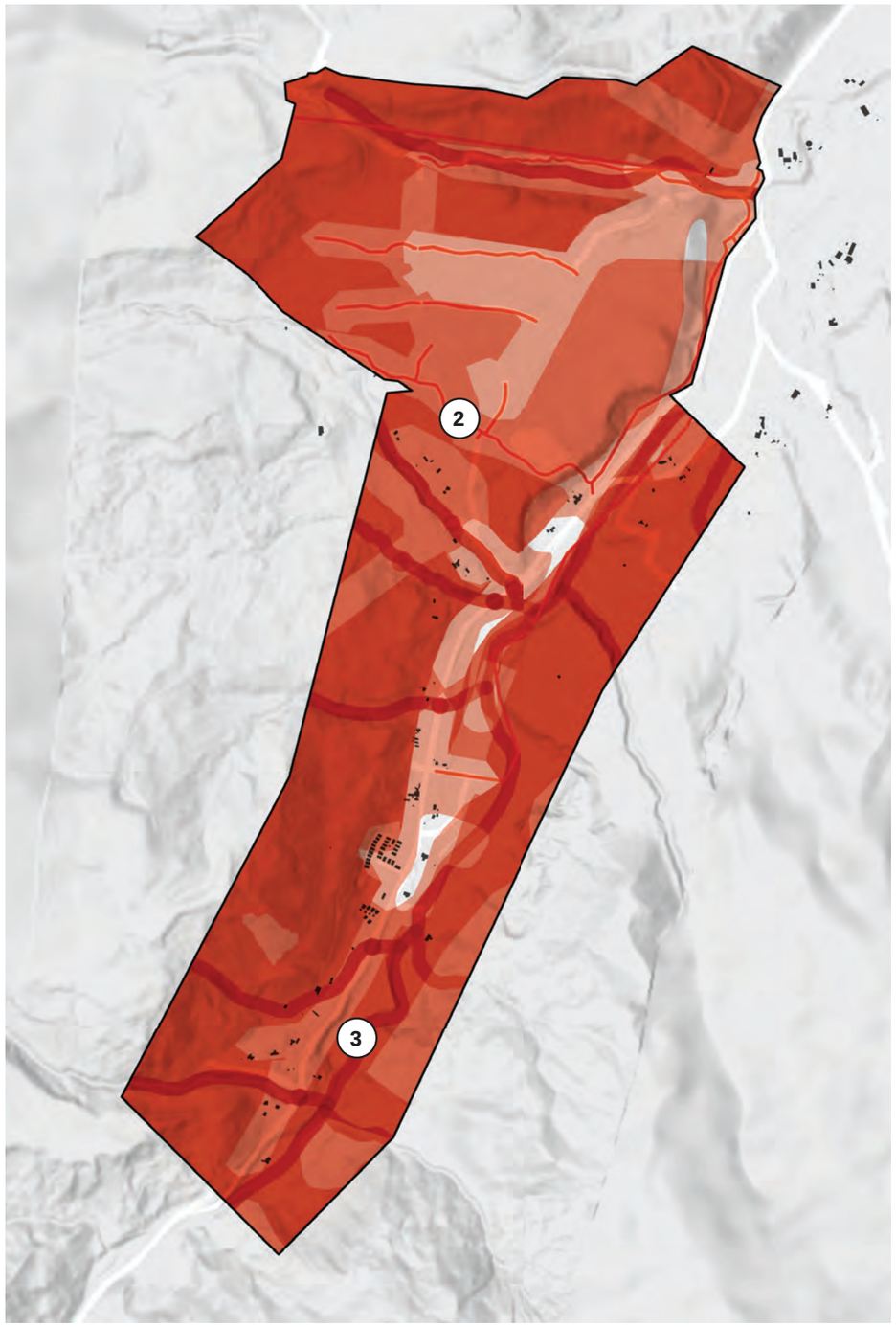


Figure 83: Cardrona summary of gaps

PARK PROVISION

	2020		2050	
Current Local Park Provision (ha)	Households	Local Park Gap (ha)	Households	Local Park Gap (ha)
0.5	485	0	850 - 1600	-0.1 - 0.7

	2020		2050	
Current Commu-nity Park Provision (ha)	Households	Commu-nity Park Gap (ha)	Households	Commu-nity Park Gap (ha)
1.6	485	0	850 - 1600	0

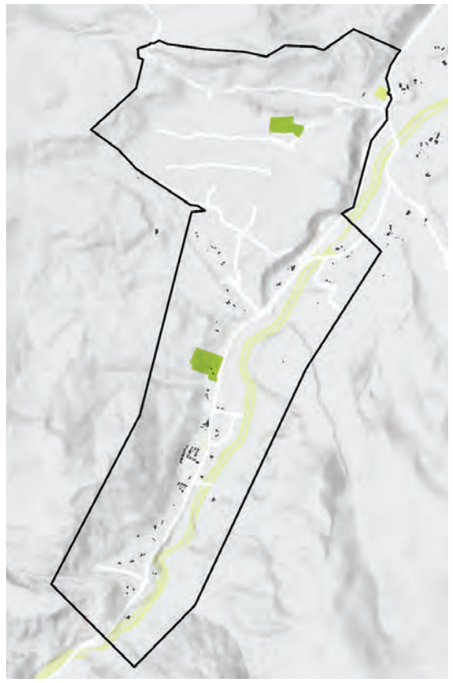
3

LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

** please refer to the table on page 31-32 for definition of gaps for each component.*

SIZE OF PARKS



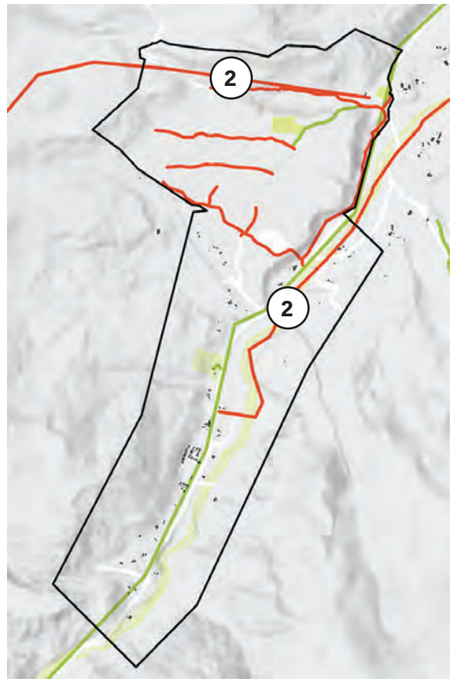
WALKABILITY OF LOCAL PARKS



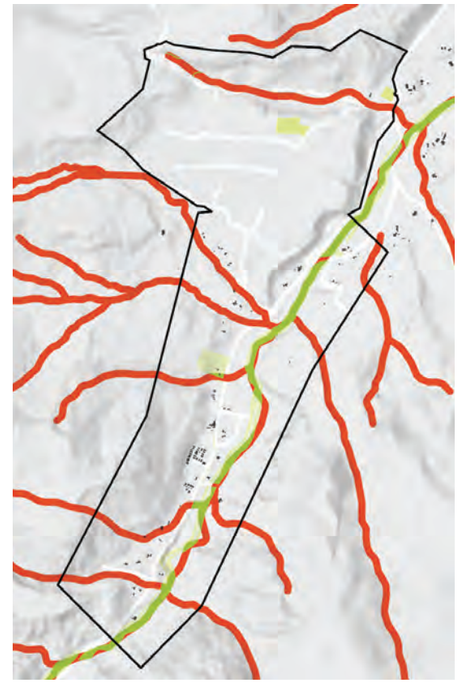
WALKABILITY OF COMMUNITY PARKS



CONNECTIONS



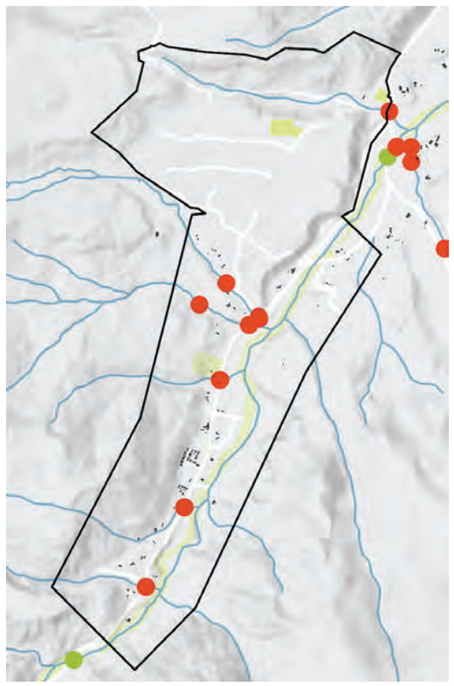
PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



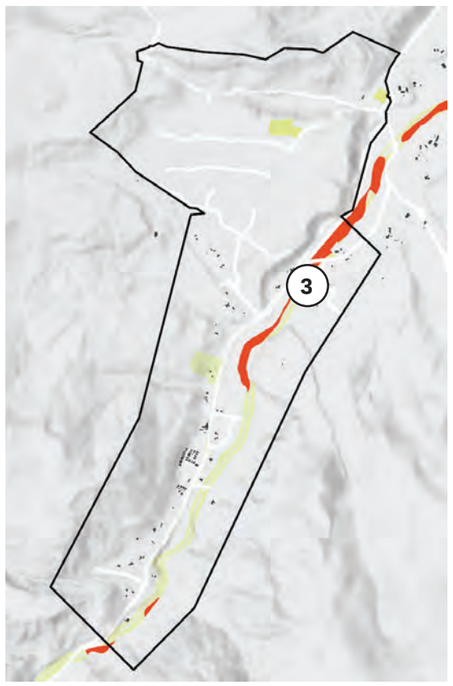
FRESHWATER ECOLOGICAL CONNECTIVITY



TERRESTRIAL ECOLOGICAL CONNECTIVITY



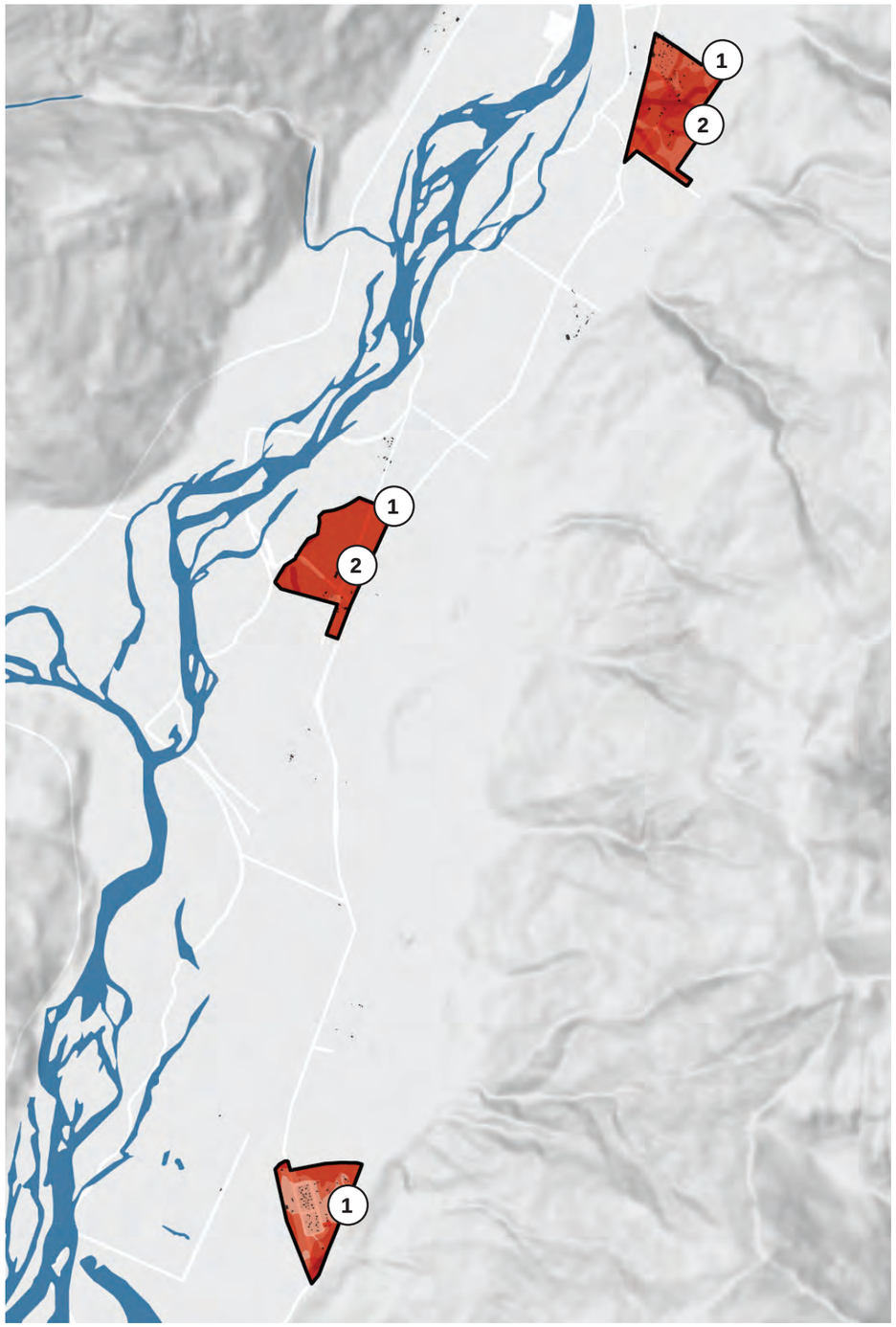
EXOTIC VEGETATION IN PUBLIC LAND



21 MAKARORA

SUMMARY OF GAPS

1. There are no community parks in Makarora.
2. There is one local park in Makarora, which is located in the southern most park of Makarora. The two northern parts of the settlement do not have local parks.
3. The valley in which Makarora sits is primarily exotic grasslands, meaning that there are very few riparian corridors connecting the waterways to Makarora River.



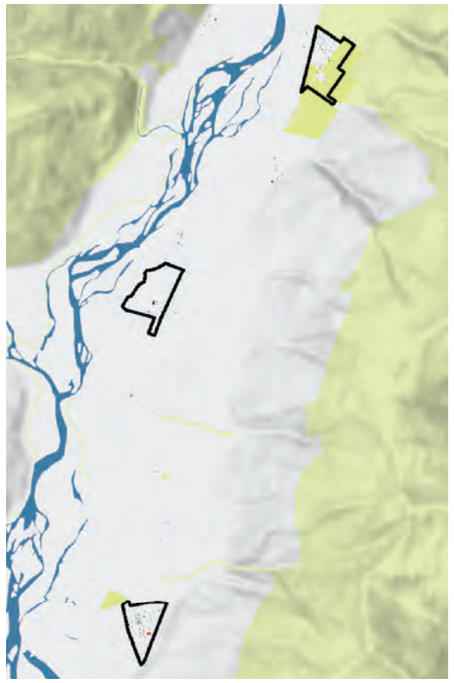
LEGEND

- Components that do not meet requirements and are therefore gaps*
- Components that do meet requirements*
- All open spaces

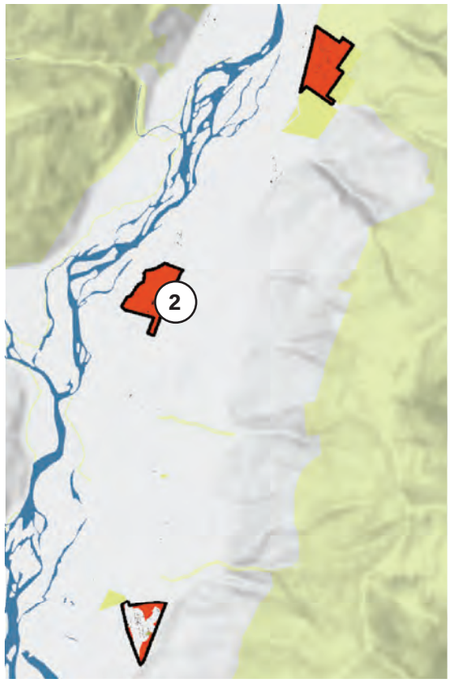
** please refer to the table on page 31-32 for definition of gaps for each component.*

Figure 84: Makarora summary of gaps

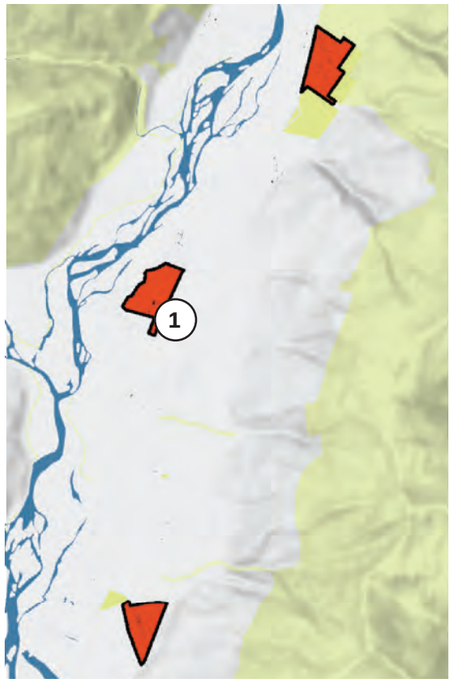
SIZE OF PARKS



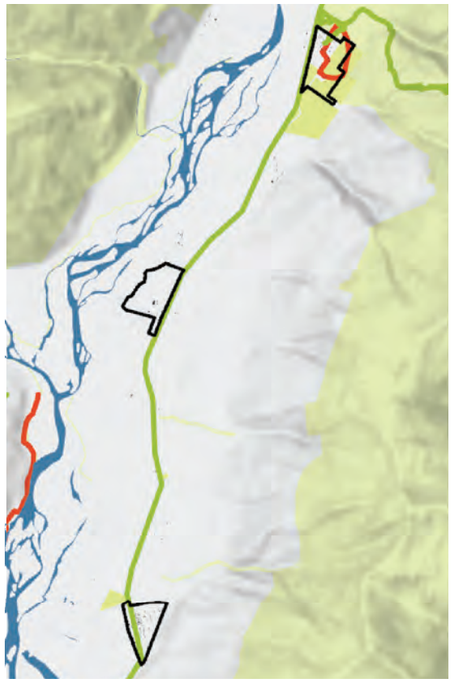
WALKABILITY OF LOCAL PARKS



WALKABILITY OF COMMUNITY PARKS



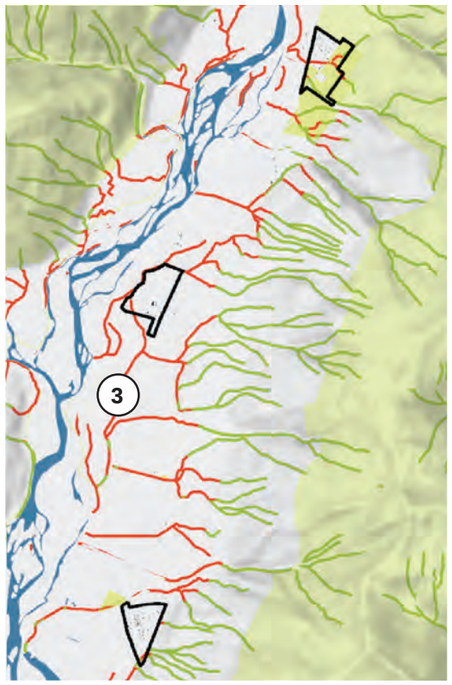
CONNECTIONS



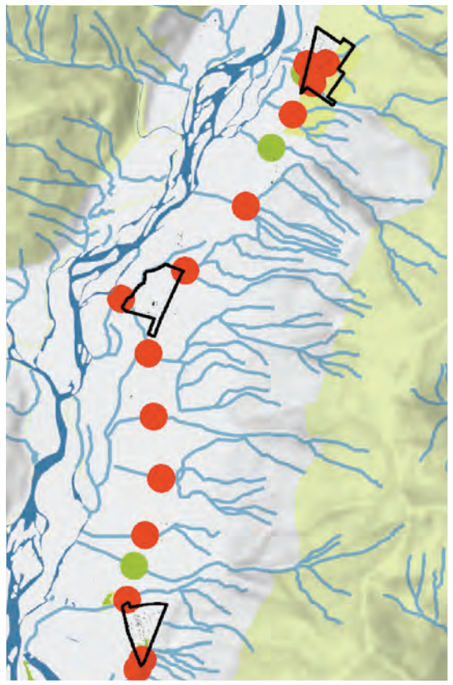
PUBLIC ACCESS TO WATER



INDIGENOUS VEGETATION IN RIPARIAN CORRIDORS



FRESHWATER ECOLOGICAL CONNECTIVITY

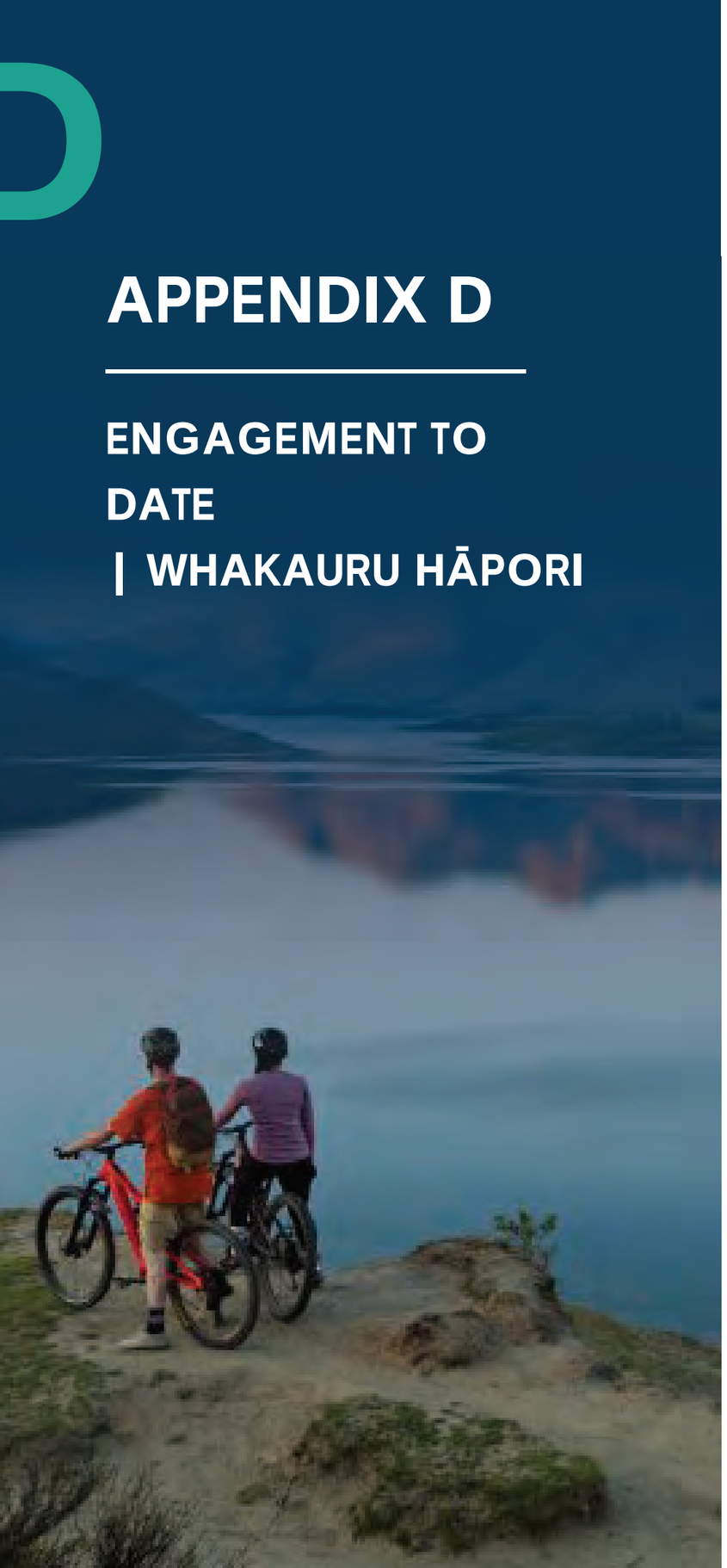


TERRESTRIAL ECOLOGICAL CONNECTIVITY



EXOTIC VEGETATION IN PUBLIC LAND





APPENDIX D

ENGAGEMENT TO DATE | WHAKAURU HĀPORI

ENGAGEMENT OVERVIEW

To inform the Blue Green Network Plan, the project team engaged with a wide range of people and groups at each stage of the project to understand and interpret what a Blue Green Network is and does and what issues and opportunities they associate with the Blue Green Network.

Hui and wānanga with the Ngāi Tahu environmental entities, Aukaha and Te Ao Mārarma Incorporated (TAMI), were held at project initiation stage, to explore and confirm a Ngāi Tahu interpretation of a Blue Green Network; what cultural values frameworks could be applied; and how an approach to the project could be developed that would provide meaningful outcomes in the context of Te Ao Māori.

The project team spent two days visiting waterways and open spaces around towns, settlements and development areas in the Whakatipu and Upper Clutha Basins. This enabled them to talk with QLDC Parks and Recreation staff on the ground to gain a more in depth understanding of the current state of the Blue Green Network and ground truth places of interest identified through desktop research and mapping.

The Grow Well | Whaiora Partners (QLDC, Aukaha, TAMI, ORC, and New Zealand Government) met early with the project team, so they could understand what a Blue Green Network could deliver for the District; how it would integrate with their relevant strategies, polices or initiatives; explore their aspirations and challenges; and provide strategic direction to test and refine with key stakeholders.

Two Key stakeholder workshops followed, providing an opportunity to consiker Blue Green Network values and attributes from a community representative perspective. Workshop participants were encouraged to express their ‘on the ground’ knowledge in considering the Blue and Green Network at local scale, through mapping existing features and connections; noting their places of interest; and the activities that they were interested in or had knowledge about. They then tested and refined the draft desktop gap analysis, which the project team prepared in advance of the workshop.







OVERVIEW OF ENGAGEMENT ACTIVITIES

1 EARLY ENGAGEMENT

To work with project partners to establish vision and objectives, and to understand their issues aspirations, and priorities for the Whakatipu and Upper Clutha Blue Green Network.

HUI WITH KĀI TAHU (CROWN PARTNERS) ENVIRONMENTAL ENTITIES

Hui with Kāi Tahu representatives, Aukaha and Te Ao Marama Incorporated (TAMI), to discuss project goals, outcomes and

SITE VISIT

Site visits to Priority Development Areas and settlements, in conjunction with QLDC client group and key staff – to better understand specific local issues and opportunities, undertake a quality assessment including photographic documentation of the

WĀNANGA I

Wānanga with Kāi Tahu representatives, Aukaha and TAMI to review and test information gathered, discuss gap analysis and scope vision.

PROJECT PARTNER WORKSHOP

Workshop to collectively establish project vision, objectives and principles, review gap analysis and identify future opportunities and aspirations. Workshop attendees include:

- QLDC client group
- Aukaha and Te Ao Marama Incorporated reps (on behalf of Kāi Tahu)
- Reps from QLDC teams
- Government Agencies e.g. DOC, LINZ, Otago Regional Council, Ministry of Housing and Urban Development, MOE

2 KEY STAKEHOLDER AND PARTNER ENGAGEMENT

To test outcomes of early engagement with key stakeholders and understand their issues, aspirations and priorities for Whakatipu and Upper Clutha Blue Green Network.

WHAKATIPU PARTICIPATORY DESIGN WORKSHOPS

Workshop with local key stakeholders from BGN Focus Areas

- Local Community Boards and Councillors
- Government Agencies e.g. DOC, LINZ, ORC, MOH, MOE
- Non-profit, community and sport and recreation organisations
- Youth and schools
- Environmental Groups
- Community Associations
- Tourism entities
- Aukaha and TAMI Reps

UPPER CLUTHA PARTICIPATORY DESIGN WORKSHOPS

Workshop with local key stakeholders from BGN Focus Areas

- Local Community Boards and Councillors
- Government Agencies e.g. DOC, LINZ, ORC, MOH, MOE
- Non-profit, community and sport and recreation organisations
- Youth and schools
- Environmental Groups
- Community Associations
- Tourism entities
- Aukaha and TAMI Reps

WĀNANGA II AND III

Wānanga with Kāi Tahu representatives, Aukaha and TAMI and Mana Whenua, to identify future development needs for a Blue Green Network, including any additional places or associations that are not within the Priority Development Areas to achieve protection and access for mana whenua.

PROJECT PARTNER WORKSHOP

Workshop to collectively review feedback from participatory design workshops and Wānanga and review draft open space network plan prior to Community Consultation.

3 *FUTURE COMMUNITY ENGAGEMENT*

To explain project drivers, technical data and emerging blue green network plan with wider community. Seek further feedback/input and provide people with the opportunity to ask questions and have their say.

COMMUNITY CONSULTATION

Approved draft Blue Green Networks Plans circulated for community engagement for feedback. Community consultation process and method to be confirmed.

COMMUNITY DROP IN SESSIONS

Drop in session to receive feedback on approved draft Blue Green Networks Plans

SPATIAL PLAN GEN 2.0 COORDINATION

Finalised Blue Green Networks Plans and supporting report issued to the Spatial Plan Gen 2.0 team to incorporate

LEGEND

DENOTES PARTNERING WITH KĀI TAHU

IAP2 LEVEL OF ENGAGEMENT:

COLLABORATE
CONSULT
INVOLVE
INFORM

SITE VISITS

The project team spent two days visiting waterways and open spaces around towns, settlements and development areas in the Whakatipu and Upper Clutha Basins. This enabled them to talk with QLDC Parks and Recreation staff on the ground to gain a more in depth understanding of the current state of the Blue Green Network and ground truth places of interest identified through desktop research and mapping.





KEY WHAKATIPU OBSERVATIONS

- Expansion of the Blue Green Network needs to be proactively informed by Council, rather than developer-led, especially around waterways.
- Need landscape scale ecological and waterway connections to be realised on the ground through site-based development. Tools to do that are limited and need more weight in development planning and implementation. Lost opportunities are incredibly expensive (often impossible) to retrofit post- development.
- Need to consider the cumulative effects of smaller developments and that they collectively form part of the wider Green Blue Network.
- Take ownership of the planning and management of foreshores and waterways to reduce the “no man’s land” approach and to ensure a well-connected blue network.
- More demand from local schools to access and utilise Council land for open space, due to pressures on schools from increased enrolment numbers.
- Several waterways, including rivers and creeks, across Whakatipu that are not currently well-managed, but provide opportunities to enhance biodiversity and ecological outcomes.
- Lack of connection between waterways in urban areas (e.g. Fernhill and Queenstown Hill) and Lake Whakatipu.
- Risk of land locking public reserves with development (e.g. Ben Lomond).
- Recognise the regionally significant Matakauri Wetland, which feeds into Horne Creek and Lake Whakatipu. There is huge potential to enhance and improves connections along the Horne Creek waterway to daylight more sections, increase biodiversity, provide educational and cultural opportunities and improve the overall function of the Blue Green Network through the area.
- There are several community lead initiatives with positive outcomes in Arthurs Point, utilising DOC land. However, these are often informal, such as trail connections and revegetation.
- Some large areas of open space exist in newer urban areas, such as in Lake Hayes and Shotover Country. However, they provide limited opportunities for enhancement due to flood zone constraints or infrastructure restrictions on built forms, such as high voltage powerlines.
- Need to ensure there is integrated thinking with active transport planning and trails networks, to ensure convenient access to services or recreation areas and continuous pathways along waterway edges. Places like Park Ridge, Jacks Point, Hanley’s Farm and Homestead Bay in the Te Tapuae / Southern Corridor have struggled to provide a connected pathway to Te Kirikiri / Frankton.

KEY UPPER CLUTHA OBSERVATIONS

- Older more established residential areas, such as old Wānaka West, provide good levels and diversity of open space. More recent residential growth areas, such as Three Parks, rely on larger Sports Grounds like the Wānaka Recreation Centre that are not always fit for purpose.
- Incremental or staged approaches to developments results in poor integration of open space. This can mean that developers avoid the trigger for providing open space and instead requires QLDC to be proactive in purchasing land for parks, which is not always possible or feasible.
- Need to consider buffers around Significant Natural Areas where they are adjacent to residential development, such as Northlake.
- Trail connections can become fragmented between key residential areas and community facilities or open spaces without network planning.
- Increase the importance of local parks to add relief for residents in more dense urban areas.
- Nature-based stormwater solutions are hard to connect and rehabilitate once land ownership is fractured.
- Northlake have provided pocket parks throughout the medium density area instead of providing one large local park. Currently seems to be working well and providing residents with good functioning open space as an extension of their private open spaces.
- Lots more development growth is planned in the Upper Clutha area, including Wānaka South, Luggate, Cardrona and Hawea. It is important to ensure the Blue Green Network is planned for and integrated into these areas rather than retrofitting.
- Opportunity for connected pathways and associated ecological enhancement along the Rivers. Needs proactive planning to ensure opportunities are not lost as development extends out from townships.

PARTNERS WORKSHOP

The Grow Well | Whaiora Partners (QLDC, Aukaha, TAMI, ORC, and New Zealand Government) met with the project team, so they could understand what a Blue Green Network could deliver for the District; how it would integrate with their relevant strategies, polices or initiatives; explore their aspirations and challenges; and provide strategic direction to test and refine with key stakeholders.

The group started by discussing strategy, policy and imitative gaps. They then worked through a series of exercises to carry out a network level SWOT and then ways to resolve any weaknesses and threats. They finished with identifying network priorities.

The group identified that older parts of some of the settlements had noticeably more diverse, high quality and better-connected open spaces. Examples given were Glenorchy, Arrowtown and Wānaka Township. However, there appeared to be inequity of access to higher quality public open spaces, trails and facilities between different geographic areas and periods of development. This results in different communities enjoying a higher quality of life than others. The infill of existing urban areas and expansion into previously undeveloped areas are not delivering high quality open spaces and trail networks. Also, opportunities are not being taken to leverage off the development process to enhance adjacent waterways or connect recreational links. There needs to be more consistency in taking a collaborative approach to open space, recreation and environmental outcomes being delivered across both public and private landholdings through a long-term view.

The group identified the need for integration of the Green Blue Network into key statutory and regulatory documents, such as the District Plan. This would ensure that every opportunity is taken to deliver on the concept of connected networks to deliver environmental, urban form and community outcomes. There is also significant economic value in showcasing what a Blue Green Network woven into the urban environment could look like and what it has the potential to deliver for the environment, community and visitors.

The current difficulties and cost in managing large areas of public parks and other green open spaces that comprise the current Blue Green Network was acknowledged. Also highlighted was the difficulty in obtaining more land to address ‘missing links’ in a potential network through new development and negotiations with landowners.



STAKEHOLDER WORKSHOPS

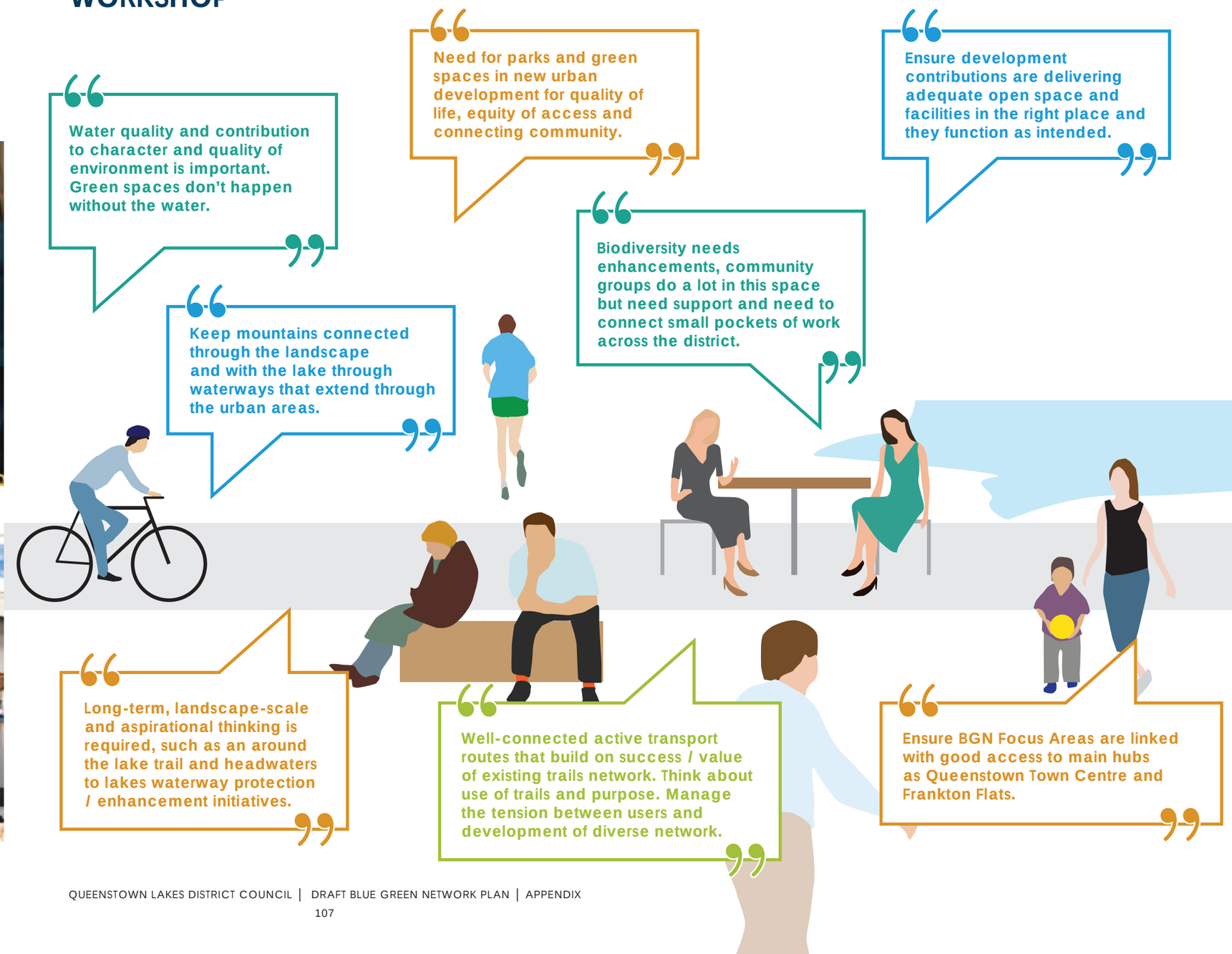
Two Key stakeholder workshops provided an opportunity to consider Blue Green Network values and attributes from a community representative perspective. Workshop participants were encouraged to express their 'on the ground' knowledge in considering the Blue and Green Network at local scale, through mapping existing features and connections; noting their places of interest; and the activities that they were interested in or had knowledge about. They then tested and refined the draft desktop gap analysis, which the project team prepared in advance of the workshop.

The group worked through a series of three exercises to consider values and attributes of the Blue Green Network, identify strategic network connections on a series of large-scale maps and then identify gaps in the network and consider solutions to resolve these.





WHAKATIPU STAKEHOLDER WORKSHOP



UPPER CLUTHA STAKEHOLDER WORKSHOP

Start with environment first and what's needed, don't start with development. The value is in a connected network and keeping in mind the concept of a chain – "only strong if no broken links".

Need for the open space network to cater for everyone and ensure deliberate approach to open space network avoiding ad hoc decisions and need to retrofit poorly planned development.

Landscape scale opportunities such as a green, accessible buffer along the Clutha, Hawea and Cardrona Rivers. This links mountains to lakes (e.g. ecology and recreation) and active transport / trails providing connections within and between communities.

Seek support from rural / farming communities for Blue Green Network initiatives on private land.

River corridors provide opportunities for connecting communities, recreation, water quality protection and biodiversity enhancement. However, their full potential has not currently been realised.







Unique volunteer nature in Upper Clutha who currently champion and deliver initiatives.















A lot more development is planned in Upper Clutha so it is important to make sure they deliver parks and provide opportunities to protect, enhance and connect waterways and vegetation.



Re-establish waterway paths lost through early subdivision and development.



E

APPENDIX A

GLOSSARY | PAPAKUPU



Active Travel: Refers to modes of transportation that involve physical activity, primarily walking, cycling, and other forms of non-motorized movement. This approach emphasizes the use of human-powered methods for commuting and recreation, contributing to both individual health and environmental sustainability.

Amenity: Feature or service that enhances the comfort, convenience, or attractiveness of a particular place or environment.

Aquatic biodiversity: Refers to the variety and variability of life forms found in aquatic environments, including freshwater and marine ecosystems.

Ara Tawhito: Traditional Māori trails used for resource access and travel.

Biodiversity: Refers to the variety and variability of life on Earth, encompassing all living organisms, including plants, animals, fungi, and micro-organisms, as well as the ecosystems they form and the genetic diversity within these species.

Bioswales: Landscaped, shallow channels designed to capture, convey, and filter stormwater runoff. They are typically filled with vegetation, soil, and sometimes gravel, which help slow down water flow, allowing it to infiltrate the ground and filter out pollutants.

Blue Network: Encompasses the water catchments from the mountains to the lakes and beyond and all the waterways in between.

Community Park: A Community Park is an area of open space on flat or undulating land that provides a variety of informal recreation experiences for residents across a neighbourhood/suburb. They are often well known by the wider community, are primarily used for the community for informal recreation, social, cultural and leisure activities and can have other complementary values, such as landscape amenity and playgrounds.

Cumulative: Something that is increasing or accumulating over time, resulting from the addition of various parts or elements. It indicates a total that builds up from individual contributions or effects.

Daylighting: process of uncovering and restoring streams, rivers, or other watercourses that have been previously buried or diverted into culverts, pipes, or other underground structures.

Ecological Corridors: Also known as wildlife corridors or green corridors, are protected or managed areas that facilitate the movement and migration of species between different habitats. They play a crucial role in maintaining biodiversity and ecosystem health by connecting fragmented habitats.

Ecological Steppingstone: Small, often isolated patches of habitat that serve as temporary refuge or resting sites for wildlife as they move between larger, more suitable habitats. They play a crucial role in facilitating connectivity within fragmented landscapes.

Ecosystems: Complex networks of living organisms (plants, animals, micro-organisms) interacting with each other and their physical environment (soil, water, air) in a specific area

Green Network: Is the open space land and vegetation patterns across the landscape

Green Infrastructure: Strategic approach to managing stormwater and enhancing urban and rural environments through the integration of natural systems and processes.

Greenfield Development: construction or redevelopment of new buildings and infrastructure on undeveloped land, typically in rural or suburban areas.

Greenways: A greenway is a linear open space or corridor that is designed for various uses, primarily focused on providing recreational opportunities, promoting ecological health, and enhancing connectivity between different areas.

Hui: Gathering or meeting.

Kaitiakitaka: Means guardianship, protection, preservation or sheltering. It is a way of managing the environment, based on the traditional Māori world view.

Ki Uta Ki Tai: A Kāi Tahu philosophy meaning "from the mountains to the sea," emphasizing ecosystem connectivity.

Local Park: A Local Park is an area of open space that is easily accessible for the immediate community, within easy walking distance to residents in the area. It provides a basic informal recreation experience for nearby residents

Mahinga Kai: literally means 'to work the food' and relates to the traditional value of food resources and their ecosystems, as well as the practices involved in producing, procuring, and protecting these resources

Manaakitaka: Hospitality, kindness, generosity, support - the process of showing respect, generosity and care for others.

Mana o Te Wai: A principle prioritizing the health and well-being of water for the environment and communities.

Mauri: The life force or essence in all living things that must be protected.

Nature-Based Solutions: Approaches using natural processes to address environmental challenges.

Natural Systems: Refers to a complex network of interconnected elements that occur in nature without significant human interference.

Open Spaces: Refers to undeveloped land or areas that are free from buildings and significant human-made structures, providing a natural environment for recreational, aesthetic, ecological, and social purposes.

Parks: A park is a designated area of land set aside for public enjoyment, recreation, and preservation of natural resources. Parks can vary in size, design, and purpose, serving various community needs and environmental objectives.

Pocket Park: Pocket Parks are areas of greenspace that are either very small (less than 0.3ha) and/or are often not fully accessible as the land is maybe steep or located in gullies

Public Conservation Land: Government-managed areas that protect cultural and natural resources

Recreation Reserves: Areas for outdoor activities, supporting both environmental and community health.

Reserve: A reserve refers to a designated area of land that is set aside for specific purposes, often to protect natural resources, conserve biodiversity, or preserve cultural and historical sites.

Resilience: Ability of an individual, community, system, or organism to withstand, adapt to, and recover from challenges, stressors, or adverse conditions.

Riparian: Interface between land and a river or stream. Riparian areas are the ecosystems adjacent to waterways, characterized by unique soil and vegetation types that thrive in the presence of water.

Riparian Buffer Zones: Vegetated areas located alongside rivers, streams, lakes, or other water bodies. These zones play a critical role in protecting aquatic ecosystems and maintaining water quality.

Riparian Planting: Planting along waterways to reduce erosion and improve water quality.

Sports Fields: Sports fields are designated outdoor areas specifically designed and constructed for playing various sports and athletic activities. These fields can vary in size, surface material, and design based on the type of sport they accommodate.

Stakeholder: Is any individual, group, organization, or entity that has an interest in or is affected by a particular project, decision, or outcome. Stakeholders can be involved at various levels and can influence or be influenced by the processes and results of a given situation.

Stormwater: Refers to water that originates from precipitation events, such as rain or snowmelt, and flows over the ground.

Tāonga Species: Species that were present in New Zealand prior to the first European contact with Māori in 1642.

Terrestrial Biodiversity: Refers to the variety and variability of life forms found on land ecosystems.

Tributaries: Smaller streams, rivers, or bodies of water that flow into a larger river, lake, or body of water.

Tūpuna: Grandparent or ancestor.

Wāhi Tūpuna: Ancestral sites of importance, often linked to Kāi Tahu creation narratives and cultural heritage.

Wānanga: To meet and discuss, deliberate, consider.

Whanaukataka: The relationships that exist between each of these levels, all of which are inextricably linked.

QUEENSTOWN
LAKES DISTRICT
COUNCIL

Grow Well
Whaiora