

4. District Wide Issues

4.1 Natural Environment

4.1.1 Introduction

The natural environment of the District consists of a variety of systems including rivers, lakes, downland basins, wetlands, bush remnants, uplands, mountains and shorelines. This combination plays a significant role in the quality of life in the District by providing recreation, economic, residential, conservation and servicing opportunities.

Over recent years there has been increasing recognition of the value of the natural environment with respect to its values and qualities. In particular there has been a strong recognition of the value of the District's visual resource and landscapes and indigenous character and the importance of these to the community's well being, living environments and as a foundation for the visitor industry.

Where development is undertaken regard needs to be given to the District's indigenous biodiversity, the life supporting capacity of air, water and soil and the visual resource.

4.1.2 Resources, Activities and Values

The resources and values of the natural environment of the District and the activities that interact with those resources and values are described in various parts of this District Plan, namely:

- **Part 4** Section 2 **Landscape and Visual Amenity**
- **Part 4** Section 3 **Takata Whenua**
- **Part 4** Section 4 **Open Space and Recreation**
- **Part 4** Section 6 **Surface of Lakes and Rivers**
- **Part 4** Section 8 **Natural Hazards**
- **Part 4** Section 10 **Earthworks**
- **Part 5** **Rural Issues, Objectives and Policies**

4.1.3 Issues

Additional relevant issues are found in the following Parts of the District Plan:

Landscape and Visual Amenity	-	Part 4.2
Takata Whenua	-	Part 4.3
Surface of Lakes and Rivers	-	Part 4.6
Natural Hazards	-	Part 4.8
Earthworks	-	Part 4.10
Rural Areas	-	Part 5.3

i Nature Conservation Values

The nature conservation values within the District, namely the indigenous flora and fauna and the natural character of the lakes and rivers and other natural features are continuing to be modified.

The District is subject to pressures from growth, development and everyday living.

The quality of life in the District cannot be sustained unless the protection of the natural resources from which that quality derives are protected.

Despite continuing modification since the arrival of humans, the District has a diverse range of habitats - forests, shrubland, alpine herbfields, tussock grasslands, lakes and rivers - supporting an array of indigenous plants and animals.

The upland areas to the west still contain many areas dominated by indigenous vegetation. Near the main divide beech forest predominates with snow tussocks on the upper slopes above the bush line, and alpine plants on the tops. Many of these upland areas to the west of the District form part of Mount Aspiring National Park. Other mountainous areas such as the lower McKerrow Range and the Dingle Burn area adjacent to Lake Hawea are also in Department of Conservation stewardship. There are no major threats to the beech forest or alpine ecosystems in these areas although adverse influences are exerted on individual species by introduced pests such as deer, possums, and rodents.

To the east, the downland lake basins have undergone more extensive modification. Maori settlement did occur around the inland lake basin areas and also during this time much of the original podocarp and beech forests in the basins were destroyed by fire. The arrival of European settlers and the introduction of sheep in the 1860's led to major burning of native vegetation and scrub to enable stock to graze. Settlers began planting a wide variety of exotic trees such as firs, larch, pines, poplar, willow, hawthorn, gorse and broom. However, there are some significant remaining pockets of indigenous vegetation, particularly dominated with Kanuka.

Generally areas above 1070m are among the least modified environments in the District. Due to thin and infertile soils and severe climatic factors, establishment and growth rates in plant life are slow, and these areas are sensitive to modification. In addition, these areas have high natural character and are frequently visually vulnerable.

The braided riverbeds of the District are important as habitat to fish, including trout and salmon, and birdlife, such as the rare banded dotterels, wrybill plover and black fronted terns. All these birds nest on the riverbeds. The National Water Conservation (Kawarau) Order (which includes Lake Wakatipu and its tributaries) recognises the outstanding ecological, scenic, and recreational characteristics of these lakes and rivers.

Lake Hawea has no Council reserve land as the raising of the lake for electricity purposes has submerged the previous Crown land strips. Nevertheless, provision exists for walking between the low and high water marks when lake levels permit. The margins of the rivers, streams, lakes and wetlands are recognised as being critical areas, not only in providing habitat, but also acting as a buffer to the lakes and rivers from land use activities.

The Council has a responsibility under the Act to recognise and provide for the protection of significant indigenous vegetation and significant habitats of indigenous animals. The Council wishes to protect and maintain these areas as having significant nature conservation value so that they may be enjoyed by future generations.

ii Air Resources

The use of land and the management of land use activities can and does adversely affect air quality within the District.

The Regional Council has the principal role in the control and management of emissions of contaminants to air. However, the District Council is responsible for achieving integrated management of the effects of the use of land, including the effects of land use on air resources. The Council also has powers under the Local Government and Health Acts to promulgate bylaws in relation to air quality.

The nature of the basins and valleys and the occurrence of still air conditions in winter can result in smoke accumulating with associated concerns relating to visual amenity and health risks. Air emissions from vehicles can also accumulate in and around the settlements. Reduced use of vehicles through consolidation of urban development can assist in reducing such emissions.

4.1.4 Objectives and Policies

Additional relevant objectives and policies are found in the following Parts of the District Plan:

Landscape and Visual Amenity	-	Part 4.2
Takata Whenua	-	Part 4.3
Surface of Lakes and Rivers	-	Part 4.6
Natural Hazards	-	Part 4.8
Rural Areas	-	Part 5.4

Objective 1 - Nature Conservation Values

The protection and enhancement of indigenous ecosystem functioning and sufficient viable habitats to maintain the communities and the diversity of indigenous flora and fauna within the District.

Improved opportunity for linkages between the habitat communities.

The preservation of the remaining natural character of the District's lakes, rivers, wetlands and their margins.

The protection of outstanding natural features and natural landscapes.

The management of the land resources of the District in such a way as to maintain and, where possible, enhance the quality and quantity of water in the lakes, rivers and wetlands.

The protection of the habitat of trout and salmon.

Policies:

- 1.1 *To encourage the long-term protection of indigenous ecosystems and geological features.*
- 1.2 *To promote the long term protection of sites and areas with significant nature conservation values.*
- 1.3 *To manage the sensitive alpine environments from the adverse effects of development.*
- 1.4 *To encourage the protection of sites having indigenous plants or animals or geological or geomorphological features of significant value.*
- 1.5 *To avoid the establishment of, or ensure the appropriate location, design and management of, introduced vegetation with the potential to spread and naturalise; and to encourage the removal or management of existing vegetation with this potential and prevent its further spread.*
- 1.6 *To allow development which maintains or enhances the quality of the environment in areas identified as having rare, endangered, or vulnerable species of plants or animals of national significance, or indigenous plant or animal communities that are of outstanding significance to the nation.*
- 1.7 *To avoid any adverse effects of activities on the natural character of the District's environment and on indigenous ecosystems; by ensuring that*

opportunities are taken to promote the protection of indigenous ecosystems, including at the time of resource consents.

- 1.8 *To avoid unnecessary duplication of resource consent procedures between the Council and the Otago Regional Council.*
- 1.9 *To encourage the provision of information about the District's indigenous ecosystems, in order to increase the appreciation and understanding of the District's indigenous ecosystems by both residents and visitors.*
- 1.10 *To maintain and, if possible, enhance the survival chances of rare, vulnerable or endangered species in the District.*
- 1.11 *Encouraging the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.*
- 1.12 *To maintain the site-specific, geological and geomorphological features that are of scientific importance.*
- 1.13 *To maintain or enhance the natural character and nature conservation values of the beds and margins of the lakes, rivers and wetlands.*
- 1.14 *To consider taking appropriate esplanade reserves of adequate width to protect the natural character and nature conservation values around the margins of any of the District's rivers, lakes, wetlands and streams should any subdivision occur of small lots or any development for residential, recreational or commercial purposes.*
- 1.15 *To identify areas, in co-operation with land occupiers and owners, the Regional Council, conservation and recreation organisations, for the setting aside of esplanade reserves or strips.*
- 1.16 *To encourage and promote the regeneration and reinstatement of indigenous ecosystems on the margins of lakes, rivers and wetlands.*
- 1.17 *To encourage the retention and planting of trees, and their appropriate maintenance.*

1.18 To manage and protect the sensitive alpine environments by avoiding, remedying or mitigating any adverse effects of development.

1.19 To identify for inclusion in Appendix 5, areas of significant indigenous vegetation and significant habitats of indigenous fauna.

1.20 That following the completion of a schedule of areas of significant indigenous vegetation and significant habitats of indigenous fauna, and its formal inclusion within the Plan, there will be a review of site standards (a) (i), (ii) and (iii) of Rule 5.3.5.1(x) to determine whether or not these standards within the Rule are required in all the circumstances.

Implementation Methods

- (i) The provision of rules to manage activities which include earthworks, tree planting, clearance of vegetation, or the establishment of buildings or structures in areas of significant indigenous vegetation and significant habitats of indigenous fauna and the alpine environment above 1070m.
- (ii) In relation to rare, vulnerable or endangered species:
 - (a) to work with other agencies to determine the correct management strategies to protect the species or their habitats;
 - (b) to assess, in conjunction with other agencies, the need to protect any species that are further identified;
 - (c) to require, through the resource consent process, land management activities to locate away from identified sites, where there is a potential to adversely affect these species and/or their habitats.
- (iii) In relation to significant indigenous plants/or animals within the District, Region, or nationally:
 - (a) to encourage the retention of corridors and links between areas of habitat and along streams and road verges;
 - (b) to work with other agencies to determine the implications of land management practices and their effects on wetlands;

- (c) to control, by way of the resource consent process, earthworks, vegetation clearance, tree plantings and buildings that have the potential to adversely affect significant natural communities and sensitive alpine environments and permitted activities subject to defined criteria.
- (iv) The taking of esplanade reserves or strips on subdivision, where appropriate.
- (v) To consider amending the reserve contribution requirements, where physical protection of indigenous plants and animals, or geological features, is undertaken as part of the conditions of a consent application.
- (vi) To consider conditions on resource consents to remedy or mitigate adverse effects of an activity, such as allowing development in some areas of diminished nature conservation value in return for contributions or enhancement of other more significant nature conservation areas.
- (vii) The use of resource consent procedures to control activities that may have adverse effects on the natural character of the District's environment and on remaining indigenous vegetation and habitat.
- (viii) To encourage relevant agencies to:
 - (a) remove or manage plant species that spread in an uncontrolled way.
 - (b) pursue the implementation of the Protected Natural Areas programme through direct negotiations with the land occupiers and owners concerned.
 - (c) appropriate land management techniques to assist the protection of indigenous ecosystems, geological features, and to safeguard water quality.
 - (d) development of cost-effective monitoring techniques to assess status of indigenous plants or animals identified in areas of significant value.
 - (e) the use of Heritage Orders as necessary.

- (ix) To encourage the dissemination of information about the indigenous ecosystems of the District.
- (x) The provision of rules to manage the adverse effects of structures in, on, under, or over the beds and margins of lakes, rivers and wetlands in terms of section 13(1)(a) of the Act.
- (xi) Educate the public about the value of trees and their appropriate maintenance, through the provision of information about what are appropriate trees in certain urban locations and how to maintain trees.
- (xii) Adopt criteria (Part II Appendix 5) to enable the identification of areas of significant indigenous vegetation and significant habitats of indigenous fauna in the District.
- (xiii) Conduct an ecological assessment of the District to update existing databases and information (including verification of ecological values and boundaries of areas listed in existing databases) and to identify significant areas in parts of the District for which little or no information and data exists.

Explanation and Principal Reasons for Adoption

The District is fortunate to have many areas which are of particular nature conservation value, some of which harbour nationally significant species.

The Council recognises the need to include rules to control activities which may have adverse effects on areas or sites that contain indigenous ecosystems, or geological features, of significant value to the District. Activities involving vegetation clearance, land disturbance through earthworks, and the planting of trees can destroy indigenous plants and animals directly, or indirectly through the modification of habitat.

The Council also considers that rules are necessary to control activities which occur on the District's riverbeds and margins, so the habitats of birds, trout, salmon and indigenous fish species occupying these areas and their natural character are protected. In addition, the process of setting aside marginal strips, and esplanade reserves or strips is likely to continue with subdivision.

The Council recognises that, in some instances, activities will require resource consents from both the District and Regional Councils. In order to avoid duplication of processes and inconvenience to land occupiers and owners, it may in some instances be practical to transfer the power to administer the consents to the one authority.

Identification of appropriate trees for different urban environments would help promote retention of indigenous ecosystems and ensure that potential tree planters make an informed and educated decision when planting trees. Further, information of appropriate maintenance would avoid situations requiring removal of trees that have grown too large.

Objective 2: Air Quality

Maintenance and improvement of air quality.

Policies:

- 2.1 *To ensure that land uses in both rural and urban areas are undertaken in a way which does not cause noxious, dangerous, offensive or objectionable emissions to air.*

Implementation Methods

- (i) The assessment of resource consents for land uses in terms of their potential to generate air emissions.
- (ii) The implementation of bylaws, as necessary, to reduce nuisance from air emissions.

Explanation and Principal Reasons for Adoption

The protection of air through controls on air emissions is primarily a role for the Otago Regional Council. However, the District Council has the opportunity to control land uses in both rural and urban areas in a way which ensures they do not cause noxious, dangerous, offensive or objectionable emissions to air by means of resource consent procedures and regulatory bylaws under the Local Government Act and the Health Act.

4.1.5 Environmental Results Anticipated

- (i) No increase in areas of erosion or contamination.
- (ii) The management of the location of land use activities to ensure the maintenance and protection of water availability and quality.
- (iii) Enhancement of lakes and rivers and their margins as ecological and amenity assets.
- (iv) Limitations on the effects of emission to air as a result of the control of land use activities which are generators of pollutants.
- (v) Protection and enhancement of the range and quality of natural ecosystems and the environment supporting them.
- (vi) The survival of indigenous plants and animals in their natural habitats.
- (vii) Maintenance of the natural character and landscape amenity of the rural area.
- (viii) Retention of geological features of value.
- (ix) Reduced exposure to risk of safety and property damage from natural hazards and a density of development consistent with the degree of risk from hazards prevailing in areas where development can take place.
- (x) Enhanced quality of the lakes and river margins and the recreational experience and public access opportunities this brings.
- (xi) Improved public awareness of the unique and valuable natural areas and assets of the District.
- (xii) Retention and enhancement of the life-supporting capacity of soils, including a robust, diverse and intact vegetation cover.

4.2 Landscape and Visual Amenity

4.2.1 Introduction

The District relies, in large part for its social and economic well being on the quality of the landscape image and environment and has included provisions in the District Plan to avoid development which would detract from the general landscape image and values. The District is a series of landscapes distinctive in their formation. Buildings, tree planting and roading can all change the character of an area and provides for social, recreation and economic activity.

Whilst the built environment is significant, important elements are those related more to the non-urban environment and the open space areas. These are generally:

- the rural hinterland;
- the semi-enclosed rural valleys and basins;
- the hill and mountain slopes;
- the ridgelines; and
- the lakes and rivers.

4.2.2 Resources and Values

The District covers a vast, predominantly mountainous region. The mountains are rugged in appearance and form a dramatic backdrop to the valley floors and terraces. Remnant beech forest covers much of the higher reaches, while in the lower area the valley floors and terraces have been converted to pastoral land use and settlement. Most major settlements i.e. Queenstown, Kingston, Frankton, Glenorchy, Wanaka and Hawea, are situated on the lakeshores.

The District has three main water bodies, being Lakes Wakatipu, Wanaka and Hawea. The Kawarau River drains Lake Wakatipu, and the Clutha River drains Lakes Wanaka and Hawea. Fast flowing mountain streams are characteristic of the headwaters of these lakes. Elsewhere in the District steep gorges have been created, most notably the Shotover and Kawarau Gorges.

The landscape of the District consists of a variety of landforms including mountain slopes, ice-sculptured rock, rocky islands, moraine, tailings, river delta, river flats, lake beaches, fans, scree slopes, terraces, river gorges, valley floors and lake basins.

All these landforms have distinctive visual characteristics which can be described in terms of:

- the underlying geology;
- landform type;
- water and drainage patterns;
- vegetation cover; and
- human activities and patterns.

The main components of the landscape are:

- **The Mountain Slopes** - The dominant characteristic of the mountain slopes are their pyramidal forms and angular lines. The ice-sculptured landforms, moraines and rocky islands are distinctive because of their sharply raised conical form. This characteristic is particularly well exemplified in the Cardrona Low Hills.
- **The Terraces** - The middle or outwash terraces and the Cardrona Terraces are characterised by sloping flat surfaces, broken by regular drainage channels with a prominent vertical riser. The low terraces are generally variable in appearance because of farming influences. The predominant features of the low terraces are the gently raised sloping forms and straight lines.
- **The Flats, Fans and Deltas** - The dominant characteristic of fans, river flats, lake beaches and river delta is their flat or gently sloping form. In situations where the vegetation is consistent, texture is also important. River terraces generally have a flat form and are often characterised by their medium to coarse texture, which results from agricultural activities or the presence of settlement.
- **Vegetation Cover, Texture and Pattern** - The texture and pattern of the landscape is for the most part, determined by the vegetation cover. The

mountain slopes which have retained their beech forest cover tend to have a consistent pattern and medium texture. Where the forest and native scrub remains in pockets, the pattern is more irregular and the texture is coarser. Mountains which are bare of most vegetation cover and have scree slopes, rock outcrops and tussock, are coarse in texture.

The low terraces, river terraces and river flats have more varied vegetation cover, resulting from variation in land uses. The texture tends to be medium to coarse. Some terraces and fans which have relatively unmodified tussock grassland cover have a fine texture. River gorges generally have pockets of remnant bush and rock outcrops, giving a coarse texture.

4.2.3 Activities

The District covers a large geographical area and contains a wide range of activities. These may alter the landscape and affect the visual quality of the environment. If the characteristics of the activity and the landscape are similar then there will be visual harmony. If the characteristics of the activity and the landscape are different, then visual conflicts or adverse impacts can occur. In the context of the District a number of activities have the potential to impact adversely on the landscape and visual amenity.

- i **Settlement** - Structures may be visible in the landscape due to their form and colour. As the presence of structures increases, the apparent level of modification in a landscape and its overall quality may change. The popularity of the District means that there is a demand for new settlement areas and there are pressures for growth at most of the existing settlements. Uncontrolled expansion of settlements may change the existing landscape. The location and impact of new development must be managed to ensure that the changes that occur do so in a manner which respects the character of the landscape and avoids any adverse effects on the visual qualities of the landscape.
- ii **Rural Structures** - The visual impact of structures is increased when their form and colour contrast with the surroundings and when they are located in visually sensitive areas such as on skylines, ridges, hills, prominent slopes, or shorelines.

- iii **Signs** - Signs and advertising are visual aspects of development and can represent modification of the landscape. They are necessary as information providers, associated with tourism and recreation, but can interfere with the very landscape qualities they promote.
- iv **Roads and Tracks** - The need for access to and within the District is paramount for agriculture, viticulture, tourism and local convenience. Roads are a significant part of the visitor experience, such as in Skippers Canyon and along the shorelines of lakes and rivers. Roads, particularly on prominent slopes may adversely affect landscape values.
- v **Utilities** - Additional settlement, whether scattered or consolidated, creates increased demands for electricity, communications, and other utilities. Utilities are seen as lines and forms in the landscape. Their location relative to existing patterns and visually sensitive areas and details of design are important in determining their effect on the landscape and control to prevent or mitigate adverse effects is required.
- vi **Mining/Extraction** - Quarries and the disposal of waste may be directly associated with increases in development and settlement. Contrast in colour and form with the surrounding landscape makes these activities highly visible, and their presence can have an adverse effect on the quality of the landscape. Location, shape of the working area, and progressive restoration are important in reducing the visual impact of these activities.
- vii **Tree Planting** - Diversification of farming practices, soil conservation, conversion of arable land into forestry production and amenity planting may alter the landscape.
- viii **Farming** - Pastoral and arable production are significant land uses in the District, and the variety of enterprises is increasing. Diversification has meant horticulture and particularly viticulture has become a significant element of the visual landscape.
- ix **Recreation and Visitor Activity** - The visual landscape has made this District a "special experience" for thousands of visitors and the permanent residents. Tourism and recreation have become central to

the prosperity of the District, and this is likely to continue bringing increased pressure and demands on the landscape.

4.2.4 Issues

The District's landscapes are of significant value to the people who live, work or visit the District, and need to be protected from inappropriate subdivision, development and use. Increasing development and activity makes the District's landscape particularly vulnerable to change.

The landscapes of the district broadly fall into three separate categories - outstanding natural landscapes and features, visual amenity landscapes and other landscapes. The following significant resource management issues in respect of landscape generally, and by category, have been identified:

(1) General Landscape Issues

The landscape provides both a backdrop to development as well as the economic base for much activity. Because of the quality of the landscape and the important role it plays in the District's economy it is necessary to ensure that subdivision, development and associated activities are managed to avoid, remedy or mitigate any adverse effects resulting from the pattern of development and the location, siting and appearance of buildings.

The visual effect of subdivision, development and associated activities may be increased when the form and colour of structures contrast with the surroundings and when they are located in visually sensitive areas. The demand for housing and other developments in the rural area is growing and poor location, siting and appearance of these developments threaten to increase the level of inappropriate modification of the rural landscape. The hill and mountain slopes surrounding the lakes assume greater importance because of their role in providing a setting for the lakes. Likewise the views from roads within the District assume increasing importance as they give visual access to the mountains, lakes and landscape that, in turn, are integral to the economic wellbeing of the District, and provide a sense of place to both visitors and residents.

(2) Protection of Outstanding Natural Landscapes and Features

The outstanding natural landscapes are the romantic landscapes - the mountains and the lakes - landscapes to which Section 6 of the Act applies. The key resource management issues within outstanding natural landscapes are their protection from inappropriate subdivision, use and development, particularly where activity may threaten the landscapes openness and naturalness.

(3) Maintenance and Enhancement of Visual Amenity Landscapes

The visual amenity landscapes are the landscapes to which particular regard is to be had under Section 7 of the Act. They are landscapes which wear a cloak of human activity much more obviously - pastoral (in the poetic and picturesque sense rather than the functional sense) or Arcadian landscapes with more houses and trees, greener (introduced) grasses and tend to be on the District's downlands, flats and terraces. The extra quality that these landscapes possess which bring them into the category of 'visual amenity landscape' is their prominence because they are:

- adjacent to outstanding natural features or landscapes; or
- landscapes which include ridges, hills, downlands or terraces; or
- a combination of the above

The key resource management issues for the visual amenity landscapes are managing adverse effects of subdivision and development (particularly from public places including public roads) to enhance natural character and enable alternative forms of development where there are direct environmental benefits.

(4) Other Rural Landscapes

The other rural landscapes are those landscapes with lesser landscape values (but not necessarily insignificant ones) which do not qualify as outstanding natural landscapes or visual amenity landscapes.

4.2.5 Objective and Policies

Objective:

Subdivision, use and development being undertaken in the District in a manner which avoids, remedies or mitigates adverse effects on landscape and visual amenity values.

Policies:

1 Future Development

- (a) To avoid, remedy or mitigate the adverse effects of development and/or subdivision in those areas of the District where the landscape and visual amenity values are vulnerable to degradation.
- (b) To encourage development and/or subdivision to occur in those areas of the District with greater potential to absorb change without detracting from landscape and visual amenity values.
- (c) To ensure subdivision and/or development harmonises with local topography and ecological systems and other nature conservation values as far as possible.

2 Outstanding Natural Landscapes (District-Wide/Greater Wakatipu)

- (a) To maintain the openness of those outstanding natural landscapes and features which have an open character at present.
- (b) To avoid subdivision and development in those parts of the outstanding natural landscapes with little or no capacity to absorb change.
- (c) To allow limited subdivision and development in those areas with higher potential to absorb change.
- (d) To recognise and provide for the importance of protecting the naturalness and enhancing amenity values of views from public roads.

3. Outstanding Natural Landscapes (Wakatipu Basin)

- (a) To avoid subdivision and development on the outstanding natural landscapes and features of the Wakatipu Basin unless the subdivision and/or development will not result in adverse effects which will be more than minor on:
 - (i) Landscape values and natural character; and
 - (ii) Visual amenity values- recognising and providing for:
 - (iii) The desirability of ensuring that buildings and structures and associated roading plans and boundary developments have a visual impact which will be no more than minor, which in the context of the landscapes of the Wakatipu basin means reasonably difficult to see;
 - (iv) The need to avoid further cumulative deterioration of the Wakatipu basin's outstanding natural landscapes;
 - (v) The importance of protecting the naturalness and enhancing the amenity values of views from public places and public roads.
 - (vi) The essential importance in this area of protecting and enhancing the naturalness of the landscape.
- (b) To maintain the openness of those outstanding natural landscapes and features which have an open character at present.
- (c) To remedy or mitigate the continuing effects of past inappropriate subdivision and/or development.

4. Visual Amenity Landscapes

- (a) To avoid, remedy or mitigate the adverse effects of subdivision and development on the visual amenity landscapes which are:

- highly visible from public places and other places which are frequented by members of the public generally (except any trail as defined in this Plan); and

- visible from public roads.

- (b) To mitigate loss of or enhance natural character by appropriate planting and landscaping.
- (c) To discourage linear tree planting along roads as a method of achieving (a) or (b) above.

5. Outstanding Natural Features

To avoid subdivision and/or development on and in the vicinity of distinctive landforms and landscape features, including:

- (a) in Wakatipu; the Kawarau, Arrow and Shotover Gorges; Peninsula, Queenstown, Ferry, Morven and Slope hills; Lake Hayes; Hillocks; Camp Hill; Mt Alfred; Pig, Pigeon and Tree Islands;

- unless the subdivision and/or development will not result in adverse effects which will be more than minor on:

- (i) Landscape values and natural character; and
- (ii) Visual amenity values

- recognising and providing for:

- (iii) The desirability of ensuring that buildings and structures and associated roading plans and boundary developments have a visual impact which will be no more than minor in the context of the outstanding natural feature, that is, the building etc is reasonably difficult to see;
- (iv) The need to avoid further cumulative deterioration of the outstanding natural features;

- (v) The importance of protecting the naturalness and enhancing the amenity values of views from public places and public roads;
- (vi) The essential importance in this area of protecting and enhancing the naturalness of the landscape.

6. Urban Development

- (a) To avoid new urban development in the outstanding natural landscapes of Wakatipu basin.
- (b) To discourage urban subdivision and development in the other outstanding natural landscapes (and features) and in the visual amenity landscapes of the district.
- (c) To avoid remedy and mitigate the adverse effects of urban subdivision and development where it does occur in the other outstanding natural landscapes of the district by:
 - maintaining the open character of those outstanding natural landscapes which are open at the date this plan becomes operative;
 - ensuring that the subdivision and development does not sprawl along roads.
- (d) To avoid remedy and mitigate the adverse effects of urban subdivision and development in visual amenity landscapes by avoiding sprawling subdivision and development along roads.

7. Urban Edges

To identify clearly the edges of:

- (a) Existing urban areas;
- (b) Any extensions to them; and
- (c) Any new urban areas

- by design solutions and to avoid sprawling development along the roads of the district.

8. Avoiding Cumulative Degradation

In applying the policies above the Council's policy is:

- (a) to ensure that the density of subdivision and development does not increase to a point where the benefits of further planting and building are outweighed by the adverse effect on landscape values of over domestication of the landscape.
- (b) to encourage comprehensive and sympathetic development of rural areas.

9. Structures

To preserve the visual coherence of:

- (a) outstanding natural landscapes and features and visual amenity landscapes by:
 - encouraging structures which are in harmony with the line and form of the landscape;
 - avoiding, remedying or mitigating any adverse effects of structures on the skyline, ridges and prominent slopes and hilltops;
 - encouraging the colour of buildings and structures to complement the dominant colours in the landscape;
 - encouraging placement of structures in locations where they are in harmony with the landscape;
 - promoting the use of local, natural materials in construction.
- (b) visual amenity landscapes

- by screening structures from roads and other public places by vegetation whenever possible to maintain and enhance the naturalness of the environment; and
- (c) All rural landscapes by
- limiting the size of signs, corporate images and logos
 - providing for greater development setbacks from public roads to maintain and enhance amenity values associated with the views from public roads.

10. Utilities

To avoid, remedy or mitigate the adverse effects of utilities on the landscapes of the district by:

- avoiding siting utilities in outstanding natural landscapes or features in the Wakatipu Basin (except on Slope Hill in the vicinity of the current utilities)
- encouraging utilities to be sited away from skylines, ridgelines, prominent locations, and landscape features
- encouraging utilities to be co-located wherever possible
- encouraging utilities to be located along the edges of landforms and vegetation patterns
- encouraging or requiring the alignment and/or location of utilities to be based on the dominant lines in the landscape
- requiring that structures be as unobtrusive as is practicable with forms appropriate for the landscape and finished in low reflective colours derived from the background landscape
- requiring that transmission lines (where technically and economically feasible) be placed underground.

11. Forestry and Amenity Planting

Subject to policy 16, to maintain the existing character of openness in the relevant outstanding natural landscapes and features of the district by:

- (a) encouraging forestry and amenity planting to be consistent with patterns, topography and ecology of the immediate landscape.
- (b) encouraging planting to be located so that vegetation will not obstruct views from public roads and discouraging linear planting near boundaries of public roads.

12. Transport Infrastructure

To preserve the open nature of the rural landscape by:

- encouraging the location of roads, car parks and tracks along the edges of existing landforms and vegetation patterns.
- encouraging shoreline structures, such as jetties, to be located only where they are visually contained by the topography, e.g. coves or bays.
- by encouraging imaginative roading designs including a range of carriageway widths, different surface materials, grass berms and protection of existing mature trees where these can enhance the quality of design and the visual experience.
- discouraging roads and tracks on highly visible slopes.
- requiring that all construction be with minimum cut and fill batters and that all batters be shaped in sympathy with, existing landforms.
- requiring that all disturbed areas be revegetated at the end of construction.
- encouraging where appropriate car parks to be screened from view.
- requiring the adverse effects of large expanses of hard surface car parks be avoided by planting and earthworks.

13. Mining

To maintain the rural or natural qualities of the landscape by:

- placing a limit on the size of the open area of any quarry, landfill site, refuse dump, or extraction site.
- encouraging the activity in suitable areas away from any visually sensitive locations.
- requiring that the area be progressively restored during the life of the operation.
- controlling the form of the open area and of any waste heaps or long term stockpiles to ensure that they are compatible with the forms in the landscape.
- requiring restoration to be finished to a contour sympathetic to the surrounding topography and revegetated with a cover appropriate for the site and setting.

14. Soil Conservation Planting

To minimise any adverse effects on the visual amenity by:

- encouraging the use of a limited range of species for soil conservation and planting.
- encouraging the use of existing native species for soil conservation and planting.

15. Retention of Existing Vegetation

To maintain the visual coherence of the landscape and to protect the existing levels of natural character by:

- (a) Encouraging the retention of existing indigenous vegetation in gullies and along watercourses;

- (b) Encouraging maintenance of tussock grass-lands and other nature ecosystems³ in outstanding natural landscapes.

³ to Section 4.1 on nature conservation values.

16. Wilding Trees

To minimise the adverse effect of wilding trees on the landscape by:

- supporting and encouraging co-ordinated action to control existing wilding trees and prevent further spread.

17. Land Use

To encourage land use in a manner which minimises adverse effects on the open character and visual coherence of the landscape.

Implementation Methods

The Objective and associated Policies will be implemented through a number of methods including:

i District Plan

- (a) Provision of rules to control the height, external appearance and general location of all buildings in the rural areas.
- (b) Provision of standards to manage new roads and tracks in the rural areas.
- (c) To control by way of resource consents, activities that involve earthworks, vegetation clearance and plantings and which have the potential to adversely affect landscape values.
- (d) To take into consideration the potential adverse effects of land use on landscape values at the time of subdivision.

ii Other Methods

- (a) Provide and publish guidelines to encourage development and activities to take place in a manner complementary to, and in harmony with, the landscape.
- (b) Bylaws to regulate signs.
- (c) Landscape criteria interpretation will be aided by three small companion publications to this Plan:
 - Examples of Landscape Concepts
 - Examples of Mitigation and Enhancement of Ecological Systems
 - Do's and don'ts of Forestry (Landscape and Wilding Spread).
- (d) The Council will compile a bibliography, to be updated annually, ensuring public access to the publications cited, of reports and publications relevant to the district landscape issues:
 - All landscape reports on landscapes of the District;
 - Ecological matters within the District;
 - All community workshop reports which reflect the aspirations of small local communities in terms of landscape;
 - Strategic reports reflecting the wider community aspirations in terms of landscape.
- (e) To provide guidelines on the prevention and control of wilding species within the District.

Explanation and Principal Reasons for Adoption

The landscape is outstanding and is vital to the wellbeing and economy of the District, the region and the nation. Sustainable management must be

undertaken in a manner which gives priority to ensuring the protection of the landscape and visual amenity.

The landscape policy provisions are carried through in other sections of the Plan relating to subdivision, use and development. It is the purpose of these policies to ensure that all development has an overriding regard to those wider visual and landscape considerations which are fundamental to the sustainable management of the District's natural and physical resources and the way in which the community provides for its social, cultural and economic well being.

In a District of the size and topographical diversity of Queenstown-Lakes there are always pressures on the physical environment due to growth, development and everyday living. However, the quality of this development and activity will not be sustained unless the protection of the District's natural resources and in particular the visual and landscape values of those resources can be assured. This is because the quality of life and development in the District is in large part dependent upon the quality of the visual and landscape character within which it operates and from which it benefits.

4.2.6 Environmental Results Anticipated

Implementation of the policies and methods relating to Landscape and Visual Amenity will result in:

- (i) The protection of outstanding natural landscapes and features from inappropriate subdivision, use and development.
- (ii) Maintenance and enhancement of openness and naturalness of outstanding natural landscapes and features.
- (iii) Strong management of the visual effects of subdivision and development within the visual amenity landscapes of the District.
- (iv) Enhancement of natural character of the visual amenity landscapes.

- (v) A variety in the form of settlement pattern within visual amenity landscapes based upon on the absorption capacity of the environment.
- (vi) Protection of the visual and landscape resources and values of the rivers and lakes.
- (vii) Improved public awareness and acceptance of the fundamental importance and value of the landscape to the well being of the District.

4.3 Takata Whenua

4.3.1 The Lakes Region

Traditionally the Lakes region of Otago has been important to Kai Tahu whanui. Hapu would travel to predetermined sites throughout the region to mahika kai to gather resources for their own use, as well as for trade. The hunting of moa, weka, eels, ducks, the digging of fern root and ti root, gathering of taramea, and precious stone resources such as pounamu, silcrete, were a main focus of activity. Such seasonal paths were of great distance and duration, the parties generally arriving back out on the coastal region prior to winter.

Traditions point to some permanent residence in the interior near lakes Wakatipu, Wanaka and Hawea, for example:

- i **Queenstown** - A kaika was located near Queenstown called Tahuna, where a Kati Mamoe chief Tu Wiri Roa was born and grew to manhood. Tu Wiri Roa had a daughter Haki Te Kura, whom is immortalised by swimming across Lake Wakatipu a distance of some five kilometres or more. Another settlement, Te Kirikiri pa, once occupied the site where the Queenstown Gardens is now. The Kati Mamoe had a kiaka near the Kawarau Falls called O Te Roto, and another kaika, Takerehaka, was sited near Kingston.
- ii **Wanaka** - At Wanaka, a kaika called Parakarehu, was sited near present day Penrith. Takikarara kaika was situated on the peninsula between

Roy and Dublin Bays. Settlements and campsites existed at Makarora and Matukituki.

- iii **Hawea** - Hawea had a number of sites where small settlements and campsites were utilised seasonally. Manuhaea was an important eeling kaika at the neck of the lake. As occurred with a number of other sites around the edge of Lake Hawea, the old kaika of Manuhaea was flooded when the Hawea dam was constructed.

A number of Maori trails traversed the inland area of Otago. A major route into the interior from the coast was by way of the river Matau (Clutha) from the coast to Wanaka, or diverting at the junction of the Kawarau and the Matau and following the Kawarau river to the Wakatipu. The Murihiku Maori used a trail that took them to the southern arm of Wakatipu. Linking trails to the West Coast, Milford Sound and also between the Lakes were numerous.

Canoes and mokihi provided an important means of transport on the major lakes of Wakatipu, Wanaka and Hawea, particularly important in the transport of pounamu from the heads of the lakes Wakatipu and Hawea.

The naming of the land and linking the tribal whakapapa to the land and resources is the essence of the tino rangatiratanga Kai Tahu enjoy over the whenua.

4.3.2 The Treaty of Waitangi

Sections 6, 7 and 8 of the Act contain specific obligations in relation to the Treaty of Waitangi and Maori interests. The Act identifies, as a matter of national importance which the Council must recognise and provide for, the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taoka. The Act also states that the principles of the Treaty of Waitangi must be taken into account when managing the use, development and protection of natural and physical resources.

The Treaty of Waitangi is the founding document forming the basis of New Zealand society. Kai Tahu rangatira participated in the signings that took place in Te Waipounamu (South Island). The Otago chiefs Karetai and Korako signed at Pukekura (Taiaroa Head) on 13 June 1840.

The tino rangitiranga of Kai Tahu extends over all that area in a line south of Kahurangi on the West Coast and Te Parinui O Whiti (White Cliffs, Marlborough) on the East Coast of Te Waipounamu (South Island), and includes the Queenstown-Lakes District.

In relation to the District Plan, all principles of the Treaty of Waitangi are important. However, two strong themes have emerged in the expression of the Treaty principle; partnership and active protection of resources of importance to Maori in accord with Maori cultural and spiritual values. In order to obtain the information necessary for these principles to be fulfilled, consultation is required.

The settlement of the Kai Tahu Claim to the Waitangi Tribunal is presently under negotiation with the Crown. The outcome of negotiations is likely to see a return of assets and resources that will provide Kai Tahu with a base from which their economic and cultural future will be developed. Kai Tahu as a result of settlement may acquire a range of resources in the Queenstown-Lakes District in which case the iwi would develop potential use options for such resources.

4.3.3 Resource Management Issues

Many of the issues identified in relation to takata whenua overlap with general concerns regarding the quality of the environment, especially in relation to water quality and public access to lakes and rivers. These concerns show that there is much common ground shared between Maori and many non-Maori in the District.

i **Kaitiakitanga (Guardianship)**

The cultural ethos of Kai Tahu is closely linked and supported by the kaitiakitanga concept. The ability to provide guardianship to resources, both physical and spiritual, is natural to the Maori value system. In Kai Tahu cultural concepts the iwi are bound to earth and sky through their whakapapa and traditions. All things have a common bond. To deny or to neglect the responsibility of providing kaitiakitanga to the natural world of land, air and water is to deny takata whenua/iwi their identity.

ii **Cultural Proprietary Rights**

The ownership and management of takata whenua cultural history and knowledge resides with the iwi, Kai Tahu.

iii **Waahi Tapu and Waahi Taoka (Sacred Places, Treasured Resources)**

Places and resources of cultural significance to Kai Tahu, such as waahi tapu and waahi taoka require recognition and protection through the District's Plan, policies and decision-making.

To Kai Tahu burial places of tupuna (ancestors) are sacred places, to be protected from disturbance. Traditional knowledge of and the location of waahi tapu in the Queenstown-Lakes District is held by few individuals. The locations of the pounamu (greenstone) collection sites are also considered by Kai Tahu to be waahi tapu. Some of the finest finished pounamu taoka are sourced to the inaka deposits of the upper Wakatipu catchments.

Waahi taoka are all things that have importance to iwi. Taoka signifies the whakapapa tree of the world. Waahi taoka are the many parts that form the branches of the natural world. It is the interconnectedness and commonality with the environment and the maintenance of that relationship through customary practices that is treasured. Taoka are a source of personal, collective, emotional and spiritual strength to iwi.

A number of waahi taoka exist in the District such as:

Archaeological Sites

Old settlements and camp sites

Earth ovens

Middens

Stone gathering sites (pounamu, silcrete, chert, and porcellinite)

Resources

Native vegetation

Water resources

Weaving materials (flax, raupo, cabbage trees)

Places/Values

Placenames
Canoe landing sites
Mountains and landscape
Tracks and trails
Traditions

iv Mahika Kai (Places of Food Production or Procurement)

The loss and degradation of traditional sources and habitat of mahika kai through drainage, pollution and loss of access is of concern to Kai Tahu.

Mahika kai is the custom of procuring or producing food resources. Kai Tahu had well established seasonal activity of gathering the abundant resources available in the District. Such resources as the long and short finned eels, giant kokopu, wai koura (freshwater lobsters), birds such as weka, kereru, parera and other birds, were caught and preserved in their own fat. The moa was a prized food resource that was hunted in the interior of Otago.

Ti (cabbage tree) root was another source of food that was gathered. The ti root was cooked in earth ovens, while the leaves of the ti tree while being edible were also utilised for making sandals. Ti were traditionally established near kaika nohoaka (settlements).

While traditional practice of mahika kai gathering in the Lakes region is much reduced in the present day, this nonetheless does not reduce the traditional role that Kai Tahu have to ensure that mahika kai resources are retained or regenerated so that future generations may practice the gathering of mahika kai as and when their tupuna (ancestors) did, or develop a commercial use based on traditional mahika kai resources.

v Wai (Water)

To Kai Tahu, water is a taoka. In the creation traditions, a form of water was the source from which all life began. The water sources that fed the District's lakes were of pristine quality. The lakes themselves were noted for their purity. The discharge of effluent and contaminants into streams, lakes, rivers and underground waters is of concern to Kai Tahu.

vi Repo Raupo (Wetlands)

Wetlands serve a number of functions important to iwi, by assisting in the maintenance of water quality and wildlife habitat. The drainage and loss of wetlands is of concern to Kai Tahu.

vii Ingoa Rarangi (Place Names)

The naming of the land was an important way in which Kai Tahu tupuna recorded the history. Traditions, places of resources, settlements, events and ancestors were recorded in the names, an oral map of the history.

viii Rakau (Trees)

A tree or trees may be of such stature due to its venerable age or large size that it has much mana (prestige) and is worthy of protection. Some trees may have a name because of traditions and events associated with a particular area. The use of native trees, in particular the titri, is known in some Kai Tahu customs and this is also likely to have occurred in the District.

ix Tauraka Waka (Canoe Landing Sites)

The retention of traditional tauraka waka sites is of cultural importance to Kai Tahu. The sites could be kept alive through the placing of a traditional waka on the District's lakes.

x Cultural Facilities

At some point in the future Kai Tahu may wish to support the establishment of a cultural centre in the District. Such a facility would be a focal point for cultural activities. In Maori protocol it is the manawhenua, Kai Tahu, who have authority on all matters pertaining to cultural development and interpretation of customs. Kai Tahu retain the prerogative to advise on the integrity of any proposal that relates to the use and interpretation of traditional takata whenua values in the District.

xi Mining

The natural bed and banks of many rivers in the District have been significantly modified through mining activity. Such activity has the potential to destroy archaeological sites known and unknown.

xii Protection of Water Resources

The discharge of effluent into lakes and rivers is culturally offensive to Kai Tahu. Manawhenua values also do not condone the siting of landfills or the dumping of rubbish into or near lakes and rivers, including wetlands and groundwater.

4.3.4 Objectives and Policies

Objective 1 - Kaitiakitanga (Guardianship)

Recognition and provision for the role of Kai Tahu as customary Kaitiaki in the District.

Policies:

- 1.1 *To ensure the kaitiaki role of iwi, via the appropriate Runanga, is achieved through on-going consultation on policy development relating to the natural and physical resources of the District.*
- 1.2 *To incorporate communication protocols for ensuring appropriate kaitiaki runanga are consulted on all relevant cultural matters in the District in accordance with Section 93 of the Act.*
- 1.3 *To recognise the “Kai Tahu Ki Otago: Natural Resource Management Plan” as a resource which can form the basis for consultation between Kai Tahu Runanga and Council (Section 74 of the Act).*

Explanation and Principal Reasons for Adoption

Consultation procedures can be developed between the Council and the appropriate runanga to ensure that iwi values are recognised and provided for appropriately as policies are being developed relating to natural and physical resources. Through the use of continuing dialogue between iwi and the Council, a system of consultation will be achieved that meets the needs of both partners. The “Kai Tahu Ki Otago; Natural Resource Management Plan” provides greater detail and clarity to the issues, values and resources important to iwi.

Objective 2 - Cultural Proprietary Rights

The use and interpretation of Tribal history remaining under the kaitiakitanga of iwi, Kai Tahu.

Policy:

- 2.1 *To undertake consultation with the appropriate Kai Tahu authority or Runanga, when matters of interpretation of Kai Tahu histories for either commercial or public use are being considered.*

Explanation and Principal Reasons for Adoption

It is the responsibility of Kai Tahu runanga and kaumatua to manage and protect the integrity of tribal history and custom, for current and future generations. History to Kai Tahu is alive and vibrant. The relationship of Kai Tahu with tradition and history remains as it did to generations before, a source of tribal identity, pride and mana.

Kai Tahu recognises the interest the wider community has in Kai Tahu history and traditions, as is evident by the range of community groups and individuals who consult the iwi on cultural matters.

The perceived lack of a Kai Tahu presence in the District has contributed to weak ties between Manawhenua and the wider community of the District, and as a result there is a greater likelihood of cultural misinterpretation.

Objective 3 - Waahi Tapu and Waahi Taoka

Recognition and protection of places of burial, other waahi tapu, and all waahi taoka, as places of cultural and traditional importance to Kai Tahu.

Policies:

- 3.1 *To recognise waahi tapu and waahi taoka, and protect them from disturbance and interference from modification through earthworks, mining, and other development.*
- 3.2 *Should any koiwi takata (Maori bone remains) be unearthed, to implement procedures for the management of such finds and unearthings consistent with the Kai Tahu policy for the management of koiwi takata.*
- 3.3 *To establish appropriate communication contact points between the Council and the kaitiaki runanga for the District to ensure information and consultation occurs.*

- 3.4 *To recognise cultural sites where traditional stone resources, such as pounamu, were collected as waahi tapu.*
- 3.5 *To make provision for the use of the site location tables in the Kai Tahu ki Otago: Natural Resource Management Plan in the management and protection of waahi tapu.*
- 3.6 *To develop a listing of waahi taoka known to iwi in consultation with relevant Kai Tahu runanga.*

Explanation and Principal Reasons for Adoption

The Kai Tahu Ki Otago: Natural Resource Management Plan contains site location tables for waahi tapu.

Kai Tahu Ki Otago: Natural Resource Management Plan contains site location tables though the use of the site location tables in the Kai Tahu ki Otago: Natural Resource Management Plan the approximate site of a waahi tapu would be registered in the District Plan. This could be an early warning system to the Council and landowners. Information on the exact location would be retained by iwi/runanga, but such information would be available to Council on application, if it is established that a waahi tapu exists near a proposed development.

In addition to known waahi tapu some as yet unidentified areas will exist, and have fallen from the tribal memory due to the breakdown of traditional mahika kai gathering practices of the past. Such sites come under the provisions of the Historic Places Act 1993, and are also covered by the Resource Management Act 1991.

Kai Tahu have developed a policy for the management of koiwi takata, the policy procedures to be followed when discoveries of koiwi takata are made. It is important to be aware of the procedures so that early and prompt action can be arranged in the event of unearthings or discovery of koiwi takata.

Through information in the District Plan, the use the site location tables in the Kai Tahu ki Otago: Natural Resource Management Plan and consultation procedures, the protection of waahi tapu and waahi taoka can be achieved.

Objective(s) 4 - Mahika Kai

- 1** *The retention of the high quality of the mountain waters, and the retention and improvement of the water quality of the tributaries and water bodies of the District through appropriate land management and use.*
- 2** *The limitation of the spread of weeds, such as wilding trees.*

Policies:

- 4.1 *To recognise, by Council policy and decision-making, the importance of mahika kai to the culture and relationship Kai Tahu share with the indigenous resources traditionally gathered in the District.*
- 4.2 *To adopt performance standards for land use activities, including mining, which minimise their adverse effects on the landscape.*
- 4.3 *To encourage the protection of indigenous ecosystems, by assisting in the provision of information to the community, recreationalists, land managers and local landholder groups concerning the location of significant areas of indigenous vegetation and habitat and the appropriateness of land management practices.*
- 4.4 *To encourage land uses and management practices which ensure the vegetation cover is maintained in order to assist in sustaining the life supporting capacity of the soil.*
- 4.5 *To encourage control of noxious plants.*
- 4.6 *To encourage fish enhancement programmes that lead to the restocking of indigenous fish species in the lakes and rivers of the District.*
- 4.7 *To promote the monitoring and development of measures that control the spread of harmful organisms through the waters of the District.*
- 4.8 *To maintain and enhance public access to the District's public forests and lakes and rivers and wetlands, having regard to their traditional importance as mahika kai.*

Explanation and Principal Reasons for Adoption

Mahika kai was an essential element of survival for the early Maori, who survived on resources that were entirely indigenous. The significant loss of this resource is an indication of the degree of modification and introduction of exotic flora and fauna that has occurred. The range of stocks of native biota that exist can measure the health of the environment.

Objective 5 - Wai (Water)

The management of the land resource and associated waste discharges in such a way as to protect the quality and quantity of water in the District to a standard consistent with the human consumption of fish, swimming and protects the mauri (life force) of the lakes and rivers.

Policies:

- 5.1 *To recognise the importance of the concept of mauri (life force) as it applies to lakes and rivers.*
- 5.2 *In the development and upgrading of public sewage treatment and disposal systems and in the development of new and extended settlements.*
- 5.3 *To adopt performance standards or require resource consents for land use activities, including mining, in order to minimise the adverse effects on the quality of the District's water resources and associated habitat.*
- 5.4 *To encourage, where appropriate, the creation and enhancement of wetlands.*

Explanation and Principal Reasons for Adoption

The use and management of the land resource has a direct influence on the quantity and quality of the lakes and rivers in the District. The management of the riparian margins and catchments will require the maintenance and enhancement of undisturbed vegetation to act as purifiers of the water resource. The avoidance of direct discharges of effluent into lakes and rivers is central to the culture of Kai Tahu. The management of land activities such

as mining, urban expansion and subdivision to mitigate any adverse effects is essential.

Objective 6 - Repo Raupo (Wetlands)

The maintenance and enhancement of existing wetlands and their re-establishment, where practicable.

Policies:

- 6.1 *To recognise the important part wetlands play in maintaining the health of lakes and rivers and habitat for plant and fish life.*
- 6.2 *To encourage the re-establishment of wetlands where practicable.*

Explanation and Principal Reasons for Adoption

The Council has the ability to make provision for and promote the retention and expansion of wetlands in the District Plan. Wetlands serve a number of important functions important to iwi by assisting in the maintenance of water quality and wildlife habitat.

Objective 7 - Ingoa Rarangi (Place Names)

The continued and enhanced use of traditional Kai Tahu place names as an educational resource to explain the cultural and historical relationship of Kai Tahu to the environment.

Policies:

- 7.1 *When the use of the Maori language is being considered for streets or places, to consult and involve Kai Tahu in the process.*
- 7.2 *To broaden the interpretation of "heritage" values to include traditional Maori place names.*
- 7.3 *To give consideration to the recognition of traditional place names.*

Explanation and Principal Reasons for Adoption

The recognition and retention of traditional Kai Tahu place names is an ongoing recognition of the District's heritage and the relationship of Kai Tahu with the resources, lands and places of the District. Inappropriate use of

Maori place names can be offensive to the values and importance of places recorded through Kai Tahu names.

Objective 8 - Rakau (Trees)

The protection of specific native trees that are of cultural importance to Kai Tahu.

Policy:

8.1 To recognise that some specific native tree or trees may be of cultural significance to Kai Tahu.

Explanation and Principal Reasons for Adoption

The Kai Tahu Ki Otago: Natural Resource Management Plan contains information regarding trees or groups of trees that have historical and cultural significance to Kai Tahu.

Objective(s) 9 - Protection of Water Resources

1 *The collection, treatment, storage and disposal of wastes in a way that minimises the adverse effects on the natural resources of the District.*

2 *Minimising the quantities of waste requiring disposal within the District.*

3 *To continue to implement programmes to reduce the discharge of untreated or partially treated waste to lakes and rivers.*

4 *To avoid, remedy or mitigate the adverse effects of eutrophication.*

Policies:

9.1 To consult with the appropriate Kai Tahu Runanga when developing waste management strategies for the District.

9.2 To ensure all waste is treated to a high standard.

9.3 To recognise and promote land use regimes that do not contribute to the eutrophication of the District's lakes and rivers.

Explanation and Principal Reasons for Adoption

Manawhenua values do not condone the siting of landfills, the dumping of rubbish or the disposal of untreated human wastes into or near lakes and rivers, including wetlands and groundwater. The management of land within the catchments of lakes and rivers is the principal source of discharges that contribute to the eutrophication of lakes and rivers.

Implementation Methods

(i) To continue the process of consultation with Kai Tahu, via the appropriate runanga, in relation to:

- policy development;
- interpretation of Kai Tahu history;
- protection of waahi tapu and waahi taoka;
- protection of mahika kai;
- the use of Maori place names;
- the establishment of cultural facilities;
- waste management strategies.

(ii) To use the Kai Tahu Ki Otago: Natural Resource Management Plan as a resource forming the basis for consultation between the runanga and the Council.

(iii) To establish and implement procedures for the management of any unearthed koiwi tangata.

(iv) To recognise, through the assessment of resource consents, sites, areas or other taoka of value to Kai Tahu.

(v) To include the protection of sites of cultural value in the District Plan, when and as advised by the takata whenua.

(vi) Improvements to the extent of, and operation of, public and community sewage treatment and disposal systems, and landfill systems.

- (vii) The provision of information at boat ramps to contain the spread of lagarosiphon.

4.3.5 Environmental Results Anticipated

- (i) Activity and development which takes into the account the principles of the Treaty of Waitangi in terms of the protection of waahi tapu, waahi taoka and mahika kai, and use of natural and cultural resources.

4.4 Open Space and Recreation

4.4.1 Resources, Activities and Values

i Recreational Activities within the District

The District provides a wide range of recreational opportunities. Its outstanding natural environment of lakes, rivers, mountains and basins provide an ideal setting for a variety of outdoor recreational activities. These are internationally recognised as the basis for the District's importance as a visitor destination, as well as encouraging residents to settle in the District. The climate is conducive to outdoor recreation and its proximity to Mt Aspiring and Fiordland National Parks provides further opportunities for outdoor recreation.

Within the townships, there are opportunities for indoor recreational and community activities, such as libraries, swimming pools, community halls, as well as outdoor venues for more formal sporting activities.

Open space is an important recreational and community resource. It can provide visual relief and amenity amongst the developed residential and commercial environments; opportunities for education regarding the natural environment; as well as active use (e.g. walking and cycling) and passive use (e.g. children's play, picnicking, sitting and contemplation) for both residents and visitors.

The District's abundant lakes and rivers provide the basis for both private and commercial recreational activities.

ii Functions of Open Space and Recreation Areas

Most areas of reserve and public land can be divided into the following categories:

- (a) visual amenity (such as gardens and tree plantings, areas of indigenous vegetation and views).
- (b) children's play (such as play equipment and neighbourhood parks).
- (c) active sports (such as team sports, running, skiing, tramping, golf and water sports).
- (d) passive use of open space (such as sitting, picnicking, enjoying a view).
- (e) waterfront access (such as lakeside and riverside walkways and beaches, access to lakes and rivers for fishing, picnicking and water-based sports).
- (f) linkages (such as walking tracks and cycle ways).
- (g) built facilities (such as halls, clubrooms, swimming pools and libraries).
- (h) heritage sites and features.
- (i) nature conservation (such as water margins, wetlands and indigenous vegetation).
- (j) commercial opportunities (such as heliskiing, bungy jumping and guided nature walks).

iii Significance of Open Space and Recreation Areas

Open space and recreation areas will also vary in their significance to residents and visitors to the District. Some areas will be of importance to the whole District or even of regional or national importance. These include the National Park, scenic and recreation reserves, the lakes, rivers and mountains, which attract people to the District.

Other areas will be of importance to the local community. These include the sportsfields and playgrounds, community halls and areas of open space and planting. Within the larger townships of the District there are also neighbourhood areas such as children's playgrounds and walkways.

4.4.2 Issues

i Public Access to and Along the Lakes and Rivers

Opportunities for public access to and along lakes and rivers is not adequate in all localities to provide for the current and foreseeable needs of residents of and visitors to the District.

The maintenance and enhancement of public access to and along the lakes and rivers is a matter of national importance under the Act. The setting aside of public reserve along the banks of lakes and rivers has the functions of providing for public access and waterfront activities, protecting nature conservation values of the margins, and maintenance of water quality and aquatic habitats. Means available under the Act include designations, provision at the time of subdivision for esplanade reserves or strips, or access strips or the establishment of esplanade or access strips by agreement with landowners. These may be sufficient to provide for public access along and to lakes and rivers, but may be less effective in protecting the natural values of such areas. The District Plan can also be used to implement rules to control the effects of activities, which are likely to adversely affect the natural values of the margins of lakes and rivers.

Although the maintenance and enhancement of public access to and along lakes and rivers is a matter of national importance under the Act, public access to lakes and rivers in some exceptional circumstances may not always be possible.

ii Environmental Effects of Recreation Activities

Recreational activities may have positive and adverse effects on the amenities of their surrounding environment and on the enjoyment of people partaking of other recreational activities in the vicinity.

These may include effects:

- on adjoining residential areas;
- on wildlife;
- on waahi tapu, waahi taoka and mahika kai values;
- on motorised vehicles and parking areas;
- on indigenous vegetation;
- on people wishing to use reserves and other open space areas;
- on public health, water quality and the pleasantness of an area.

iii Effects on the Range and Quality of Recreational Opportunities

Residents of and visitors to the District currently have the opportunity for a wide range of recreational experiences. However, conflicts do occur between such activities with a loss or degradation of the quality and range of recreational opportunities available, particularly those involving remote experiences or peace and tranquillity.

Residents in the District and visitors require a range of recreation opportunities to meet their needs. Individuals who come to the District principally for adventure recreation, may also seek opportunities to pursue more passive types of recreation in tranquil surroundings. Equally some visitors come to the District mainly to enjoy the scenery and natural environment. Peace and a feeling of remoteness are often qualities sought by these people.

iv Contributions Towards Public Open Space from Subdivision and Development

The subdivision and development of land creates the opportunity for various activities to be established, the more common one being residential and visitor accommodation. If communities continue to grow in size and population through subdivision and building development, without providing for the recreation and open space needs of the community, adverse environmental effects will become apparent. These include:

- A lack of neighbourhood parks in new subdivisions;
- An inadequacy of neighbourhood parks in areas with growing numbers of units/town houses, where infill housing and redevelopment is taking place;

- Overcrowding of existing active recreation and sporting areas and facilities throughout the District, as a result of increased resident and visitor population, including waterfront areas, walkways and cycle ways;
- Lack of visual relief in the form of green open space and plantings among the built environment either residential or business;
- Lack of open space for the leisure needs of workers in, and visitors to, the District's town centres and business areas.

v Litter and Waste

Wherever people gather for outdoor recreational activity, there is the potential for litter and human effluent to be disposed of in a way which adversely affects public health, water quality and the pleasantness of an area. Where recreational sites are frequently used and in public ownership, the Council or other community groups have usually provided toilet and rubbish disposal facilities. This is the case around the District's popular lakeshore areas, for example. More isolated sites can pose difficulties with the disposal of litter and effluent and, where use is repeated or frequent, the above adverse effects can arise.

4.4.3 Objectives and Policies

Objective 1 – Provision of Reserves

Avoid, remedy or mitigate the adverse effects on public open spaces and recreational areas from residential growth and expansion, and from the development of visitor facilities.

Policies:

1.1 *To require provision of public open space and recreation reserves through subdivision and development by the imposition of development contributions via the Council's Long Term Community Plan Development Contributions Policy.*

(i) additional neighbourhood parks, District sportsfields and active recreation areas (including waterfront areas, walkways and cycle

ways) needed as a result of additional household, visitor accommodation and business growth across the District,

(ii) additional open space needed for visual relief and plantings among the built environment and for the leisure requirements of people to the District's town centres and business areas.

1.2 *To ensure that, where a subdivision or development creates a site on either side of Oban Street south of Mull Street a 5 metre wide strip of land shall be taken adjacent to the road (allowing for an accessway) as Local Purpose Reserve, except that:*

Where a Local Purpose Reserve has already been taken as part of a previous subdivision, no further land shall be taken from those sites as a part of any further subdivision or development

And

Where a beautification strip is provided within the Glenorchy Township Zone at the time of subdivision or development, the Council shall offset the value of this land against the development contribution payable under the Local Government Act 2002.

Implementation Methods

- (i) Designation of Council reserves under the Plan, where considered necessary, to enable the continued recognition and function of the sites for recreational and open space purposes.
- (ii) Resource consent procedures to enable the consideration of the effects of activities on the range of recreation opportunities available.
- (iii) **Other Methods:**
 - (a) to continue to maintain and develop a wide range of public open space, recreational areas and amenities within the District, in consultation with other agencies, as appropriate.

- (b) to continue to improve the visual amenity of public lands throughout the District through planting, street improvements and the appropriate siting and external appearance of buildings and amenities.
- (c) to involve the community in decisions regarding the siting, use and design of open space and recreation areas.
- (d) to use development contributions received for public recreation and open space to acquire and develop land and facilities for such purposes.

Explanation and Principal Reasons for Adoption

The subdivision and development process will assist the Council in acquiring further reserves. It will allow the Council to improve and maintain the quality and amenities of existing recreation and open space areas. These new or improved recreation areas and amenities will serve the growing population.

Objective 2 - Environmental Effects

Recreational activities and facilities undertaken in a way which avoids, remedies or mitigates significant adverse effects on the environment or on the recreation opportunities available within the District.

Policies:

- 2.1 *To avoid, remedy or mitigate the adverse effects of commercial recreational activities on the natural character, peace and tranquillity of the District.*
- 2.2 *To ensure the scale and location of buildings, noise and lighting associated with recreational activities are consistent with the level of amenity anticipated in the surrounding environment.*
- 2.3 *To ensure the adverse effects of the development of buildings and other structures, earthworks and plantings in areas of open space or recreation on the District's outstanding natural features and landscapes or significant natural conservation values are avoided, remedied or mitigated.*

2.4 *To avoid, remedy or mitigate any adverse effects commercial recreation may have on the range of recreational activities available in the District and the quality of the experience of people partaking of these opportunities.*

2.5 *To ensure the development and use of open space and recreational facilities does not detract from a safe and efficient system for the movement of people and goods or the amenity of adjoining roads.*

2.6 *To maintain and enhance open space and recreational areas so as to avoid, remedy or mitigate any adverse effects on the visual amenity of the surrounding environment, including its natural, scenic and heritage values.*

2.7 *To avoid, remedy or mitigate the adverse effects of commercial recreation activities on the District's indigenous vegetation.*

Implementation Methods

- (i) Designation of Council reserves under the Plan, subject to prescribed standards for activities on the reserves.
- (ii) Rules in the Plan ensuring that the adverse effects of commercial recreational activities are avoided, remedied or mitigated.
- (iii) **Other Methods:**
 - (a) To improve the visual amenity of public lands throughout the District, through planting, street improvements, and the appropriate siting and external appearance of buildings and facilities.
 - (b) To complement the use of District Plan procedures by the use of procedures and management plans under the Reserves Act and by encouraging other agencies to use procedures under their empowering legislation, to manage the layout, design and allocation of activities on publicly-owned open space and recreation areas.

Explanation and Principal Reasons for Adoption

These policies acknowledge the likely adverse effects of recreational activities and will form the basis for rules to set performance standards, or, require resource consents for activities which may compromise public opportunity to use and enjoy recreation areas and public open space or adjoining land. The Council has designated all the major public reserves, other than small neighbourhood reserves within the residential areas, which will ensure that all activities in these areas will be available for the future use of residents and visitors.

The designations contain conditions which are intended to limit the adverse effects on neighbours of use of these reserves. General recreation activity is also provided for in residential areas and some outdoor recreation is provided for in the rural areas.

The Council also recognises that most public recreation and open space areas are controlled by other legislation and wishes to avoid unnecessary duplication of procedures.

Objective 3 - Effective Use

Effective use and functioning of open space and recreational areas in meeting the needs of the District's residents and visitors.

Policies:

- 3.1 *To recognise and avoid, remedy or mitigate conflicts between different types of recreational activities, whilst at the same time encouraging multiple use of public open space and recreational area wherever possible and practicable.*
- 3.2 *To ascertain and incorporate the needs of communities by encouraging effective public participation in the design, development and management of public open space and recreational areas.*
- 3.3 *To encourage and support increased use of private open space and recreational facilities in order to help meet the recreational needs of the District's residents and visitors, subject to meeting policies relating to the environmental effects of recreational activities and facilities.*

Implementation Methods

- (i) Designation of Council reserves under the Plan, subject to prescribed standards for activities on the reserves.
- (ii) Rules in the Plan controlling the establishment of various recreational activities throughout the District, subject to compliance with prescribed standards or resource consent conditions.
- (iii) To use development contributions on subdivision where appropriate to facilitate the increased use of open space areas and recreation facilities.
- (iv) **Other Methods:**
To complement the use of District Plan procedures by the use of procedures and management plans under the Reserves Act, by encouraging other agencies to use procedures under their empowering legislation, to manage the layout, design and allocation of activities on publicly-owned open space and recreation areas.

Explanation and Reasons

The Resource Management Act requires the efficient and effective use of land resources, including public open space and recreation areas. The potential for multiple use of such land and facilities is restrained by the compatibility of various uses. However, the Council does not favour monopoly use of public areas by particular recreational interests. The Council will encourage a high level of public consultation in all matters relating to the use and management of land held as reserve. Private recreation facilities and open space are seen as complementary to reserves and facilities owned and managed by the Council or other public interests.

Objective 4 - Esplanade Access

A level of public access to and along the District's rivers, lakes and wetlands, adequate to provide for the current and foreseeable recreational and leisure needs of residents and visitors to the District.

Policies:

- 4.1 *To negotiate access strips to lakes and rivers.*

- 4.2 *To acquire, where practicable, at the time of subdivision or other appropriate opportunity, esplanade reserves of adequate width to provide for public access and the protection of water quality and nature conservation values.*
- 4.3 *To take, where practicable, esplanade reserves of adequate width to provide for public access and the protection of conservation values along the margins of any of the District's lakes, wetlands, rivers and streams should any subdivision occur of lots of less than 4 hectares in area or any development for residential, recreational or commercial purposes.*
- 4.4 *To consider, where practicable, the setting aside of esplanade strips, for the purpose of public access, where practicable, whenever subdivision occurs of lots of more than 4 hectares in area, along the margins of lakes and rivers.*
- 4.5 *To have regard to any adverse effects along the margins of the District's lakes, rivers and wetlands when considering resource consents.*
- 4.6 *To recognise that public access to lakes and rivers in some exceptional circumstances may not always be possible, including access to areas of waahi tapu or areas of mahika kai value or access to defence areas during temporary military training activities.*
- 4.7 *To consider the need for vehicle parking at public access points along esplanade reserves, esplanade strips, marginal strips and access strips when the purpose of those reserves and strips is for public access or recreation and are adjacent to arterial roads.*

Implementation Methods

- (i) Rules requiring the setting aside of esplanade reserves for small lot subdivisions within the District and requiring Council consideration of the need for esplanade strips or access strips whenever subdivisions occur.
- (ii) The use of resource consent procedures to consider activities that may have adverse effects on public access to and along the margins of lakes, rivers and wetlands.

(iii) Other Methods:

- (a) To identify, through consultation with appropriate parties of interest, priorities for public access to and along lakes and rivers, and to use any available opportunities to negotiate and promote such access.
- (b) To encourage the Crown to ensure that secure provisions are made for public access to and along lakes and rivers whenever opportunities are available to other agencies.
- (c) To consult with other agencies prior to the negotiation of access strips.
- (d) To continue to liaise with the Crown regarding the ownership of the land around the shores of Lake Hawea.

Explanation and Principal Reasons for Adoption

The Council wishes to ensure public access to lakes and rivers with important recreational and conservation values. However, the Council does not consider the setting aside of esplanade reserves and strips along the margins of rivers and lakes is always the best method of achieving this. In some areas access to the major rivers and lakes is difficult and the Council will seek to negotiate access strips for public access whenever subdivision occurs.

The Council considers it is important that the margins of the tributaries to Lake Hayes are eventually brought into public ownership. The use and management of these margins can then be more effectively controlled to reduce sediment and nutrient inflows to the lake.

Given the large number, length and nature of lakes and rivers within the District and the likelihood the majority of subdivisions adjoining these lakes and rivers will be for lots greater than 4ha in area, the Council does not consider it to be cost-efficient to acquire esplanade reserves or strips for public access on all lakes and rivers. The Council will assess the requirements on a case by case basis.

4.4.4 Environmental Results Anticipated

- (i) A diversity in the type and size of open spaces and recreational facilities, equitably distributed throughout the District, to produce the following outcomes:
 - (a) A small increase in the amount of public open space and improved distribution and quality.
 - (b) Provision of a wide range of recreational opportunities in recognition of the diversity of community recreational needs.
 - (c) The provision and development of additional public open spaces and recreation areas where there is growth and development.
 - (d) Enhancement of open space areas within the town centres.
 - (e) Open spaces and recreational facilities that are convenient and accessible to users.
- (ii) Gradual enhancement of public access to the District's major rivers and lakes, where there are significant conservation or recreational values.
- (iii) Recreational activities which do not adversely affect the environment.

4.5 Energy

4.5.1 Resources, Activities and Values

Queenstown-Lakes District, like the rest of the country, is largely reliant on non-renewable energy resources, for undertaking a wide range of activities throughout the District. This is particularly so in the areas of transportation, industry and agriculture.

The consumption of energy is increasing nationally, mainly due to the increased use of natural gas. Much of this is used in the production of electricity and synfuel, with substantial accompanying energy losses. Hydro-

electricity is New Zealand's main source of electricity supply, however other energy demands met by fossil fuels, oil and gas.

i Wind and Solar Energy

There will be some sites where wind and solar resources can be utilised for the supply of local energy requirements and the Council strongly supports individual solar units.

ii Hydro-Electricity

The District encompasses some of the country's larger lakes and rivers which combine to form a significant resource in terms of existing and potential hydro-electric power generation capabilities.

iii Possible Future Hydro-Electricity Development

Investigations are ongoing into the potential for development of additional hydro-electricity within the District.

Detailed investigations have been made of several hydro-electricity generation projects on the Upper Clutha River, but no decisions have yet been made to proceed with the construction of any of these.

In addition, the existing Lake Hawea control facility could be modified to allow the generation of electricity.

4.5.2 Issue

- **The conservation and efficient use of finite energy resources is necessary to ensure the needs of future generations can be met.**

The Act requires the Council to sustain the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations and to avoid the adverse effects of activities on the environment. The Council must also have regard to the efficient use and development of natural and physical resources, including energy, and their probable finite characteristics.

Efficient use of energy resources now will assist in extending their life, improve their availability for future generations, and allow time for the development of more sustainable, renewable energy sources.

As existing energy resources in New Zealand reach their capacity and the limits of their reserves, there will be pressure for the exploration of new energy sources, such as the construction of new hydro-electricity stations. This can result in adverse effects on the environment such as loss of habitats, heritage values, land and recreational resources.

The management of the country's energy resources is principally directed through government policy and may be the subject of national policy statements under the Act. However, the Council has a responsibility to address local energy issues and to adopt methods which will encourage increased efficiency in energy use, energy conservation and the use of renewable energy sources.

4.5.3 Objectives and Policies

Objective 1 - Efficiency

The conservation and efficient use of energy and the use of renewable energy sources.

Policies:

- 1.1 *To promote compact urban forms, which reduce the length of and need for vehicle trips and increase the use of public or shared transport.*
- 1.2 *To promote the compact location of community, commercial, service and industrial activities within urban areas, which reduce the length of and need for vehicle trips.*
- 1.3 *To encourage residential sites to be large enough to enable buildings to be constructed to take the greatest advantage of solar energy for heating, both active and passive.*
- 1.4 *To control the location of buildings and outdoor living areas to reduce impediments to access to sunlight.*
- 1.5 *To encourage and support investigations into alternative and further public transport options both within the urban areas and throughout the District.*

- 1.6 *To promote increased awareness of the need for energy conservation and efficient use of energy resources, particularly solar energy, active and passive.*
- 1.7 *To encourage the use of energy efficient and non-air polluting heat sources in existing and new dwellings and workplaces (e.g. solar energy, effluent enclosed fireboxes).*
- 1.8 *To promote "carbon sinks" by encouraging the retention of remaining areas of indigenous forest vegetation and minimising the restrictions on the plantings of exotic trees to those necessary to avoid any significant adverse visual effects on the environment.*

Implementation Methods

Objective 1 and associated Policies will be implemented through a number of methods including:

i District Plan

- (a) Provision of rules to control site sizes for residential units, shading of adjoining properties and orientation of outdoor living areas.
- (b) Use of zoning and the delineation of defined zone boundaries to ensure compact urban and peri-urban forms and the compact location of community, commercial, service and industrial activities.
- (c) Through the rules to permit exotic forestry as-of-right except where controls are necessary to avoid any adverse effect on the environment.
- (d) By providing for and encouraging convenient, safe and attractive walkways and cycle ways throughout the townships and suitable locations within the rural area, e.g. Wakatipu Basin.

ii Other Methods

- (a) promote the dissemination of information regarding energy conservation, the efficient use of energy and waste reduction, in a form that can be understood and be useful to the community.

- (b) investigate and undertake improvements that can be made to the energy efficiency of the operation of the Council's vehicle fleet, building and service facilities.
- (c) promote and implement roading designs which assist in reducing fuel consumption.

Explanation and Principal Reasons for Adoption

The Council's main area of influence with respect to energy conservation relates to the location and design of land-use activities, subdivisions and buildings. The location of land-use activities relative to one another can be a significant determinant in the length and number of vehicle trips undertaken. Trips between home and work, school, community and commercial activities, for example, can be reduced if these activities are in close proximity to each other or at least grouped together. In a rural area, such as Queenstown-Lakes District, it is physically possible for activities to be spread over a large area of the District. The Council's policies seek to keep the District's urban areas compact. This relates to both existing and new urban areas. The policies also seek to ensure that the benefits of compact and convenient activities apply in the community and business centres. Similarly, the Council's control over roading location, design, gradients and construction can assist in reduction in fuel consumption.

The location and design of sites and buildings can also assist in minimising the impediments to the use of solar energy. The size of sections created on subdivision can ensure that there is ample space available on the site for the construction of buildings that can take the greatest advantage of solar energy. Difficulties with the variable size and shape of existing sections and areas of land available for subdivision make it impracticable to require the design of subdivisions and buildings to achieve a prescribed orientation to the sun. However, guidelines will be used to provide information about the opportunities available.

Forests are important "sinks" which trap and breakdown greenhouse gases. Districts with a large rural hinterland are the most likely location for future carbon "sinks". Woodlots for firewood are temporary "sinks" but are a renewable non-fossil source of domestic heat. Any adverse consequence in terms of air pollution is overcome by high temperature insulated fireboxes, which combust the greater part of the wood and are virtually smokeless.

Objective 2 - Hydro-Electricity

Recognise existing hydro-electricity facilities and enable future hydro-electricity facilities to be considered while ensuring protection for the environmental quality and amenity values of the surrounding land resources, visual amenity, rivers and riverbeds.

Policies:

- 2.1 To recognise and protect the water and recreation resource of the major lakes and rivers in the District.
- 2.2 Subject to 1 above, and having regard to the important visual and recreational values of the major lakes and rivers, to recognise the strategic location of the District for the generation of hydro-electricity and to plan in a positive manner for existing and future activities related to electricity generation.
- 2.3 To make specific provision in the District Plan for the power stations and control structures at Lake Hawea, Roaring Meg (Kawarau River), Glenorchy and Wye Creek.
- 2.4 To enable the establishment of hydro-electricity developments, subject to plan change and or resource consent procedures and taking into account:
 - effects relating to the amenity, character and value of the water resource for other activities;
 - effects relating to the natural and physical environment;
 - the social and economic effects of energy development;
 - the provision of infrastructure to support energy developments;
 - the values of the takata whenua.

Implementation Methods

Objective 2 and associated Policies will be implemented through a number of methods including:

(i) District Plan

- (a) Rules to assess any new hydro-electricity projects.

- (b) Special zone for hydrogeneration activities.

Explanation and Principal Reasons for Adoption

The District contains significant resources which can be utilised for the generation of hydro-electricity. Clear provision needs to be made in the District Plan for the sustainable use and development of the existing and approved activities. New activities would need to take account of the significant effects that such development may have on the natural and physical environment, and in particular the passive and active recreation values of the District's lakes and rivers.

4.5.4 Environmental Results Anticipated

Implementation of the policies and methods relating to Energy will result in:

- (i) More efficient use of energy for development and transportation.
- (ii) Increased public awareness of the need for and methods of energy conservation.
- (iii) Increased use of and encouragement for non-pollutant energy forms in both transport and urban development.
- (iv) Encouragement of the use of renewable energy resources for new development.
- (v) Increased use of solar energy.
- (vi) Reduction in the need for and impact of hydro-development on the major "white-water" and lake resources of the District.
- (vii) Reduction in air pollution.
- (viii) Reduction in carbon dioxide emissions.
- (ix) Minimising the need for, and distance of vehicle trips.
- (x) Sustainable management of existing hydro generation facilities and an effects based approach to any new development

4.6 Surface of Lakes and Rivers

4.6.1 Resources, Activities and Values

The very name of the District - Queenstown-Lakes - indicates the central role played by the lakes and rivers in the existence of the District. The lakes and rivers provided sources of food and natural resources and pathways across the island for the takata whenua of the area. They also formed pathways for early European explorers and settlers. The rivers brought with them the gold that swelled population numbers in the District. The lakes and rivers have long been the focus of recreation and enjoyment for New Zealanders and overseas visitors.

The outstanding natural environment of the District is dominated by mountains, lakes and rivers. The abundant and varied lakes and rivers provide the basis for a wide range of recreational opportunities, both private and commercial, from jet-boating and rafting to angling, picnicking and swimming. The changing moods and aspects of the lakes and rivers, particularly combined with the District's other magnificent scenery, provide ceaseless opportunities for viewing, contemplation and enjoyment. These lakes and rivers are nationally and internationally recognised as one of the principal bases for the District's importance as a visitor destination, as well as one of the reasons for residents to settle and stay in the area.

The lakes and rivers of Queenstown-Lakes District all flow into the Clutha River. The three major lake catchments of Wakatipu, Wanaka and Hawea feed the Clutha River, joined by the Cardrona River and other smaller streams before the Clutha leaves the District. With the District's excellent climate, the lakes and rivers are very popular for a wide range of recreational activities. The rivers and lakes are also outstanding natural features, with high natural and scenic values, providing habitats for a range of indigenous and acclimatised bird and fish species.

i **The Kawarau River** is a major tributary of the Clutha River, draining Lake Wakatipu from the head of the Frankton Arm. The river flows through almost continuous gorges, with long sections of white water at the Nevis Bluff Rapids. Hydro-electric development was proposed, but in its 1991 submission on the Proposed Water Conservation Order,

Electricorp confirmed that there are no longer any intentions to build dams on the main stem of the Kawarau.

The large volume and steep fall of the Kawarau, two characteristics that made it a candidate for hydro-electric development, also make it a valued recreational and scenic resource. This river is one of the few remaining unmodified whitewater rivers in New Zealand. The main recreational uses are rafting, bungee jumping, jetboating, kayaking and more recently body-surfing. The river is used intensively for commercial recreation but because of its width and the different requirements of the various boating activities there are little conflicts between the activities. Jetboats operate from the Frankton Arm down to the confluence with the Arrow River. Below that point the rapids are too rough for commercial jetboating but suitable for rafting, surfing and kayaking. Fishing is important from the outlet from Lake Wakatipu to the confluence with the Shotover River.

ii **Lake Wakatipu** lies to the west of the Remarkable Ranges and is a long, narrow "S"-shaped lake with a barren and windswept appearance. The main rivers flowing into the lake are the Dart, the Rees, and the Greenstone, while there is only one outflow, the Kawarau River leaving the lake from Frankton Arm.

Lake Wakatipu is a popular holiday and visitor destination, adjoining the towns of Queenstown, Glenorchy and Kingston. All forms of recreational boating are undertaken on the lake. The shores of the lake are popular for lakeside picnicking, swimming and passive recreation. The lake is extensively used for recreational fishing both from the lakeshores and by boat. Commercial use of the lake has increased enormously over the last 20 years, with jetboat operations, small boats for hire, lake cruising and fishing guiding and paragliding.

iii **The Dart and Rees Rivers** enter the head of Lake Wakatipu from the north. The Dart River originates near Mt Aspiring. It is a glacial river flowing through a number of short gorges before entering Lake Wakatipu over braided river flats. The Rees River lies between the Forbes and Richardson Mountains, joining the lakeshore near Glenorchy. The Rees is a popular fishing venue for local and overseas anglers. The Dart main stem with its highly braided nature and discoloured water, due to glacial

melt, is not a highly regarded fishery. The Dart is used by commercial jetboat, rafting and kayaking operators and along much of its upper reaches it runs alongside the Dart-Rees track, a popular tramping route. Both rivers are scenically attractive.

- iv **The Von, Lochy, Greenstone and Caples Rivers** are all tributaries to Lake Wakatipu, flowing into the lake from the west and south. The Greenstone flows from the Livingstone Mountains. In its lower reaches it joins the Caples River, a small shallow flowing waterbody in a grassy river valley. These rivers flow into the lake just west of Pigeon Island. The Von and Lochy Rivers are situated further to the south-east, the Von entering Lake Wakatipu near Mt Nicholas Station, and the Lochy at Halfway Bay.

These rivers are all remote and at present provide a wilderness experience and very good fly fishing. The rivers are not used for commercial boating operations at present. Inaccessibility and their limited size is likely to continue to be a deterrent to motorised and even non-motorised use of these rivers. Their scenic quality has been described as at least impressive, and in the case of the Greenstone River, exceptional.

- v **The Shotover River** is divided into a number of sections, each of which have different resource characteristics and activities.
 - (a) **The Upper Shotover** is that section of the river above the Edith Cavell Bridge. The Shotover flows south from the Harris and Richardson Mountains, through the rapids of Skippers Canyon.
 - (b) **Shotover Canyon** is defined as that stretch between the Edith Cavell Bridge and Tucker Beach. In two sections, the river is deeply incised into spectacular, narrow, rock gorges separated by a more open river section.

A commercial jetboating business started on this stretch of the river in 1965. In 1986 the Shotover Jet Company obtained the rights to the sole use of this section of the river until 2004 through the provisions of the Lakes District Waterbodies Authority (Shotover River) Empowering Act 1985. After the Earnslaw, the Shotover Jet

carries the most passengers of any of the commercial operators using waterbodies in the District. Trips are made everyday weather permitting, with boats departing every 15 minutes. There is only one section on the river where the boats can pass in safety. Up to four boats, 2 in tandem, operate on this stretch of the river at the same time using a strict protocol controlling passing to avoid collisions.

A sole concession was issued for the Shotover Canyon section of the river on the grounds that it is unsafe to have more than one operator. Commercial and private jetboaters, rafters and canoeists are excluded unless they have the company's permission. Jetboaters are the most affected as the river in this section is generally not sufficiently exciting for rafting or kayaking. Private jetboaters are provided for insofar as the company allows private boats to follow one of the Shotover jetboats up from Tucker Beach. Although the Shotover Canyon does not have very exciting kayaking water, it still provides a pleasant recreational experience for novice and intermediate canoeists. Canoeists cannot venture onto the water until the commercial jetboating has finished for the day. By that time there is often insufficient daylight for the canoe/kayak trip.

- (c) **The Lower Shotover** is defined as that section below Tucker Beach to the confluence with the Kawarau - a few kilometres below the Lake Wakatipu outlet. It is highly braided and very shallow except during high flows. Because it does not contain any white water it is not attractive for rafting or kayaking but it is suitable for jetboating.

Several rafting operators conduct raft trips from Deep Creek in summer, and from the Boulders in winter, to a point just above the Edith Cavell Bridge. At present only one commercial jetboater operates from Deep Creek up to the Skippers Bridge. Above this there are regular commercial rafting, kayaking and river bug trips. While there is 17km of boating in Skippers Canyon, difficult rapids make jetboat passage difficult at either end. Bungy jumping from the Skippers Bridge and the pipeline bridge are recent attractions,

with the need for a boating operator to recover people after the jumps.

- vi **Lake Hayes** lies in a shallow depression created by glacial action, which also formed the surrounding landscape. The main inflow to the lake is Mill Creek draining the Wakatipu Basin to the north of Lake Hayes. Hayes Creek drains the lake to the south into the Kawarau River.

Lake Hayes is a regionally important wildlife habitat for native and introduced birds. It is also an important fishery, particularly for brown trout and perch. Mill Creek provides spawning beds for brown trout and is also a valuable food source. Fly fishing is the predominant type of fishing on the lake, although trolling for fish is permitted provided no mechanical device is used. Motorised boats are permitted on Lake Hayes, which is popular for swimming, picnicking, yachting, rowing, wind-surfing and canoeing.

- vii **The Clutha River** flows east from Lake Wanaka outlet to the junction with the Hawea and Cardrona Rivers at Albert Town, then through large bends to the District boundary below the Luggate bridge. The river is wide and deep, flowing swiftly from bank to bank, with easy rapids. It is one of the few uncontrolled river outlets in the country from a large lake. It provides a scenic natural environment with a sense of remoteness, yet is readily accessible from Wanaka.

The Clutha is a nationally important trout fishery, with the Deans Bank area between the Wanaka outlet and Albert Town being recognised internationally for trout angling (both brown and rainbow trout). The river is a recreational fishery of high use, valued for its above average catch rate and fish size, as well as for its scenic qualities. It is also a nationally important trout spawning area.

Two commercial jetboat operations use the river from Lake Wanaka to below Albert Town. The Clutha is also popular for private, recreational jetboating. Although it is not exciting for experienced jetboaters, the Clutha River is easily navigable by the average boater. Rafting, kayaking, canoeing, drift diving and bodysurfing are popular with private recreationalists and school groups, with limited, but growing commercial kayaking, rafting and bodysurfing. These commercial operations rely on

the grandeur of the river and the peaceful scenic surroundings for the experience offered to their clients. Swimming is mostly limited to an area between an island and the true right bank at Albert Town above the bridge. The riverbank walkway between Outlet and Albert Town is a popular route for walking, picnicking and mountain biking. For Albert Town residents, the Clutha is part of the scenic view from many riverside properties and the camping area.

- viii **Lake Wanaka** is a large, deep, glacial lake with a surface area of 180km², running generally northwards from the township of Wanaka at Roys Bay. The main inflows to the lake are the Makarora River at the north end and the Matukituki River at the south-west side. Generally steep-sided and narrow, the lake opens out into a series of large bays and inlets containing shallower water in the southern reaches of the lake.

Lake Wanaka is an extremely popular holiday area and is of growing popularity for permanent residence and retirement. All forms of recreational boating are undertaken on the lake. A marina in Roys Bay adjoins the boat launching ramps. The area is popular for lakeside picnicking, camping, swimming and passive recreation. Walking tracks are maintained around the lakeside from beyond Waterfall Creek to the Lake Outlet. Commercial use of the lake includes jetboat operations; launches for lake cruises and guided fishing; hire of jet-skis and small boats; and paragliding; mostly concentrated on and near the main jetty in Roys Bay. Recreational fishing is primarily for brown and rainbow trout and quinnet salmon, by trolling, spin and fly fishing.

- ix **Lake Hawea** is a medium-sized, deep, glacial lake with a surface area of 138km², running generally northwards from the township of Lake Hawea. It is separated from Lake Wanaka by a narrow 1.6km wide ridge known as "The Neck". Main inflows to the lake are the Hunter River at the north end and the Dingle Burn and Timaru Creek at the eastern side. The lake has been dammed at its outflow to the Hawea River and is used as a storage lake for the Roxburgh hydro-electric station. The lake level has been raised significantly above its natural level, although lake levels have varied markedly over recent years, with severe dust problems at times.

Lake Hawea is a popular holiday area and is growing in popularity for permanent residence and retirement. It provides a scenic setting for the township of Lake Hawea, lakeside rural properties and camping areas.

A variety of recreational boating activities take place on the lake. Lake Hawea is particularly popular for experienced wind-surfers in high winds. Lakeside picnicking, swimming and passive recreation is principally undertaken on the main beach at Lake Hawea township and around the motor camp. Fishing for brown and rainbow trout and quinnnet salmon is largely of a recreational nature.

- x **The Hawea River** - Flow in the Hawea River is controlled by the dam at the outlet from Lake Hawea. The normal summer flow is now low and the river is braided in places, particularly near its confluence with the Clutha River. When water is being released from the dam, white water rapids and pressure waves are created.

The Hawea River is a popular and important trout fishery, despite the alterations to river flows as a result of the dam. The river provides spawning grounds for brown and rainbow trout. At normal low flow the river is predominantly used for fly-fishing. Being a shallower and gentler river than the Clutha River, the Hawea is well used by family groups for picnicking, camping, swimming and floating. Rafting, kayaking, canoeing, drifting and bodysurfing are popular with private recreationalists and school groups, with limited commercial bodysurfing and kayaking. A jet sprint course was recently established adjacent to the main river in the river bed towards the Clutha River confluence.

- xi **The Makarora, Young and Wilkin Rivers** - The Makarora River flows from the Main Divide into the head of Lake Wanaka. Thick bush encloses the river in its upper reaches within Mt Aspiring National Park. The river opens out into river flats and becomes shallow and braided in its lower reaches before the lake. The Makarora's two main tributaries, the Young and Wilkin Rivers flow east from the National Park. The Wilkin River leaves the Park at Kerrin Forks, from where it flows more placidly over a shingle bed through grassy flats to the Makarora.

The Wilkin and Young Rivers support nationally significant trout fisheries of sufficient quality to attract anglers seeking a scenic, wilderness fishing

experience. Both are important trout spawning rivers. Commercially guided angling occurs on the Young and Wilkin Rivers. Commercial jetboat operations are limited to the lower Makarora River and the lower Wilkin River to Kerrin Forks.

Commercial jetboats are also used by trampers and anglers for access. Private, recreational jetboating is typical on the lower Makarora, and lower Wilkin Rivers to Kerrin Forks. The upper Makarora River is used for limited commercial kayaking. The Makarora and Wilkin Rivers have occasionally been rafted.

- xii **The Hunter River, Dingle Burn and Timaru Creek** - The Hunter River flows from the Main Divide to the head of Lake Hawea. Most of the river flows over shingle river flats, becoming braided and very shallow in its lower section before entering the lake.

The Hunter River is regarded as a nationally important fishery. It is valued for its remoteness, scenic beauty and solitude. Only the river mouth can be reached without a boat. The Hunter River is an important spawning area for Lake Hawea. It may be jetboated up to Fergusson Creek. The river is potentially available for rafting and kayaking, but access is difficult to the upper reaches.

The Dingle Burn and Timaru Creek also feed Lake Hawea on the eastern side of the lake. These are both small streams. The Dingle Burn flows through extensive areas of indigenous forest and is a significant angling river, and valued for its remoteness.

- xiii **The Matukituki and Motatapu Rivers** - The Matukituki River flows from Mt Aspiring to the south-western shore of Lake Wanaka. The West Branch contains exciting white water with steep bouldery rapids. From about the confluence of the East and West Branches the river becomes very braided and shallow to the lake. The entire valley has impressive scenic values. The Motatapu River is the main tributary of the Matukituki. The lower reaches are easy and shallow.

The Matukituki River is an interesting jetboating river close to Wanaka township and is often used by boaters over the summer period. It offers scenic boating and is exciting, but without major rapids. The Matukituki

River is a significant trout fishery, including important spawning areas. The braided nature of the river allows, but does not ensure, separation of anglers and boats. There is excellent white water kayaking immediately above the limit for jetboating on the Matukituki River at the branch of the east-west confluence to Raspberry Hut (and has been recorded as far as the end of the road). Below this point the river is a popular scenic kayaking trip for less experienced canoeists. Similarly, the Motatapu River is popular for easy kayaking in its lower reaches. Rafting and drifting are undertaken on the easier sections of both rivers. A growing commercial kayaking operation is established on the Matukituki River.

xiv The Cardrona River flows from the Crown Range to join the Clutha River at Albert Town opposite the Hawea River confluence. The River's flow is often low, with water extracted from the lower reaches for irrigation. The flow sometimes ceases in its lowest reaches in the summer. The river valley and its small tributaries were subject to extensive gold mining in the early 1860's, with some mining still continuing at times. The Cardrona is popular with family groups for picnicking, camping, swimming and floating, particularly in the lower reaches.

xv Water Conservation (Kawarau) Order 1993

A Water Conservation Order has been drafted for the Kawarau catchment, which includes the Kawarau main stem, and catchments such as the Nevis, Shotover, Lochy, Von, Dart and Rees rivers, and Lake Wakatipu. It provides for the preservation of waters in their natural state and for the protection of outstanding characteristics of other waters not in their natural state. There is a high proportion of conservation land within the sub-region including Mount Aspiring National Park and numerous reserves. The headwaters of the Nevis catchment include areas of wetland and water bodies with a low degree of modification at high altitudes, and a scenic white water gorge in the lower end.

4.6.2 Issues

Activities on the surface of lakes and rivers can and do have adverse effects on the amenity of their surrounding environment, the quality and enjoyment of recreational activities, natural and wildlife conservation values, and public health and safety.

The continued pleasantness, integrity, diversity and safety of the lakes and rivers are essential to the economic welfare of the District and to the enjoyment of the District's natural resources by residents and visitors both now and in the future. Overcrowding and over-use of the lakes and rivers can result in adverse effects, which could undermine the characteristics valued in the District's lakes and rivers. The District Plan must seek to promote the sustainable management of the District's lakes and rivers, in a way which enables their use and enjoyment, but also protects their functioning for future generations and avoids or mitigates any adverse effects of their use.

The District Council has responsibility under Section 31(e) of the Resource Management Act 1991, to control any actual or potential effects of activities in relation to the surface of water on the District's rivers and lakes, for the purpose of giving effect to the Act.

The Council must also recognise and provide for those matters of national importance under Section 6 of the Act, relative to the District's rivers and lakes. This entails not only the preservation of the natural character of the lakes and rivers, but also the protection of areas of significant indigenous vegetation, significant habitats of indigenous fauna, and the recognition of the relationship between Maori culture and traditions with the District's lakes and rivers. Section 7 of the Act also requires the Council to have particular regard to the maintenance and enhancement of amenity values and the quality of the environment, and the protection of the habitat of trout and salmon.

Historically safety and navigation on inland lakes and rivers have been controlled under the Harbours Act 1950 and the Water Recreation Regulations 1979. In 1983, by Order in Council, the Lakes District Waterways Authority was established to administer lakes and rivers in the District. The Order in Council gave the authority power to make by-laws under the Harbours Act 1950 for the safety of navigation.

Recreational activities on the District's lakes and rivers are varied and intensive. The following potential adverse effects of water based recreational activities, have been identified:

- degradation of natural conservation and wildlife values;
- conflict with other recreational activities;
- noise;
- reduction in navigational safety;
- litter and other wastes generated in the area;
- alienation of areas of the shoreline with recreational facilities and structures.

Where it is intended to occupy the beds of lakes or rivers vested in the Crown, it is necessary to obtain the approval of the appropriate agency, being the government department responsible for the management of the beds of lakes and rivers.

i Natural Conservation and Wildlife Values

The potential for conflict between natural conservation and wildlife values and recreational activities is considerable on several of the District's lakes and rivers. Most of the District's rivers are important fish spawning and/or nursery rearing areas for the river and lake fisheries. The noise, vibration and wash from jetboats and the wash from rafts may disturb fish and spawning areas and affect angling success and the fisheries generally. The extent to which boating disturbance affects the fishery as a whole has not been fully investigated by research. Jetboating is already limited on the Rees River between April and July inclusive in order to protect fish spawning areas.

The braided riverbeds of the Dart and Rees Rivers provide outstanding habitat for at least 20 species of bird. The District's lakes and rivers also provide a diverse habitat for many species of birds, which live near and depend upon the lakes and rivers for survival. They may be disturbed by noise, vibration and wash from regular and increasing recreational activities. In particular the wrybill plover and the black-fronted tern, which use the shingle banks of the riverbed for nesting and rearing young. There is concern that jetboating, particularly major jetboat events during October to December, can endanger nesting birds and fledglings by swamping the nests and immature birds. However, the evidence regarding this at present is still inconclusive, with surveyed changes to riverbed bird populations being generally what would be expected for a dynamic braided river environment.

Lake Hayes suffers from eutrophication (nutrient enrichment). The poor water quality is as a result of the physical characteristics of the land and soil resource and the effects of land-use practices over a long period of time. The recreational and wildlife values of the lake and its surroundings are dependent on the maintenance of good water quality.

Refer also Policies Part 5.1

ii Conflicts between Different Recreational Activities

Because of the intensity of use and the popularity of the District's lakes and rivers, the potential for conflict between the various users of the lakes and rivers is significant. Overall, the specific requirements of the different activities mean that potentially incompatible activities are often naturally separated. However, there is potential for conflict between the expectations of the various water users and some forms of control are needed to ensure that the different users are able to satisfy their needs. It is also recognised that recreational users, e.g. trampers and fishers, sometimes use jetboats to access recreation areas.

There are three broad categories of lakes and rivers which provide complementary recreational opportunities throughout the District:

- wilderness resources, with outstanding natural characteristics in terms of wild and scenic beauty; aesthetic coherence; biological diversity; ecosystem form, function and integrity; sense of isolation; and recreational amenity;
- multiple use resources which offer a semi-wilderness experience; and
- resources which are close to population centres and which provide for active recreation in a non-wilderness context.

There are numerous examples of the conflicts that can occur between the different water-based recreational activities. Primarily the conflicts involve the noise and disturbance from motorised craft adversely affecting the recreational experiences of more passive users of the lakes and rivers, such as anglers, walkers, picnickers, swimmers and kayakers. Noise and wash from jetboats on the rivers, for example, may

cause disturbance to other recreational users at all river levels. Although it passes quickly, the noise from jetboats can be a significant detraction. This is particularly so where the noise detracts from an otherwise peaceful and scenic atmosphere of the river valleys and from a sense of remoteness.

Where the Dart River adjoins the Rees/Dart tramping track, jetboating use of these upper stretches of the river has resulted in conflicts with the remote recreational experience of trampers on the track. In the Von, Lochy, Greenstone and Caples Valleys, increased use of helicopters to transport anglers and trampers is likely to detract from the wilderness values sought by other users of these more distant lakes and rivers. On the Clutha River, multiple use of the river by various users has been tried in the past with speed and time limits for motorised craft. However, there may be no potential for multiple use of this river in a way that is acceptable to all parties. Jetboating, even with speed and time restrictions, may inevitably adversely affect such a nationally regarded fishery or the experience sought by users of that significant waterbody. The complex speed and time limits also create uncertainty for river users and enforcement difficulties for the Council.

Where different water users become concentrated, such as in the more accessible bays and arms of the lakes, the potential for conflict between the various users increases. The main bodies of the three large lakes are exposed and not heavily used. However, activities are concentrated in and around Frankton Arm, Queenstown Bay and adjoining bays on Lake Wakatipu; the southern bays of Lake Wanaka, particularly Roys Bay; and the southern end of Lake Hawea. As a relatively small and enclosed area, the Frankton Arm faces conflicts between the different boating users. These problems are not always present as the lake is only used intensively over the summer holiday period. Roys Bay is an area of intensive recreational activity, with a concentration of commercial boating activities as well as a mix of private active and passive recreation. This has resulted in concerns about congestion, loss of enjoyment particularly for more passive lake users, and the adequacy of existing rules separating the different activities. The adequacy of the existing controls separating boating and other activities is also a matter of concern at Lake Hawea, where lakeshore and water activities are

concentrated at the main beach at Lake Hawea township and the Hawea camping ground.

iii Noise

Special events such as races, having consent of the Council, which are limited in duration and frequency, are exempt from all noise limits.

Noise from motorised craft on the water affects all people on the water or near the margins. Due again to the intensity of use and the popularity of the District's lakes and rivers, there are several areas where concerns have arisen regarding the adverse effects of lake and river noise. Where the rivers or lakes are large; there is separation between boating and other users on the boatable waters; and there is little or no development alongside the water margins, there are few concerns regarding noise. This is generally the case with the main bodies of the large lakes and the main stems of the wider rivers, such as the lower Shotover, the Matukituki and the Makarora.

Frankton Arm, which is surrounded by residential development and is used for both commercial and private recreational boating, is subject to noise from some motorised craft. The main area of concern for residents is not the temporary peak in noise levels over the brief summer holiday period, but the continual exposure to the noise of the commercial jetboats en route to the Kawarau River. Their noise is also a concern in the upper reaches of that river, where it is close to a growing area of residential development.

Lakes Wanaka (in Roys Bay) and, to a lesser extent, the southern end of Lake Hawea are also areas of intensive boating activity in close proximity to residential areas and other activities. Noise from motorised boats and personal watercraft in Roys Bay is causing some disturbance to other water and lakeside users and Wanaka township generally. Similarly, the main water-ski lane at the Lake Hawea main beach is in front of residential properties, with some noise disturbance. In these cases, the noise effects generally occur only during the busy summer period. However, that is also the time when many of the residential properties are also occupied and other lakeside activities are occurring.

Where the rivers are more narrow or confined, noise from motorised boats is the main cause of disturbance to other recreational users of the lake and river and its margins, as discussed above. In addition, residents at Albert Town are affected by the noise of motorised boats, including personal watercraft, passing through Albert Town.

It is possible to establish permitted noise levels for motorised craft and the Council has been requiring commercial and private operators to comply with noise limits based on standardised testing of each boat.

Refer also to Appendix 3

iv Navigational Safety

The relationship between navigational safety and resource management matters is close. These measures need to read in conjunction with the relevant legislation, e.g. Harbours Act, Maritime Safety Act and Council By-laws. Clearly matters affecting the environment and the management of the lakes and rivers resources where this impinges on the adverse effects of activities need to be covered in the District Plan.

Although there are safety concerns as a result of the congestion of water users on the lakes at peak periods, the existing regime of speed limits, launching ramps and water-ski lanes as managed through bylaws seems to be sufficient, provided that it is adequately enforced. Most of the rivers can also accommodate existing and likely foreseeable levels and types of activity within the existing framework of safety controls.

The District does contain some difficult stretches of river, which are under pressure for intensive use, especially from commercial operations. At some point, the level of use of those stretches of the rivers could be such as to give rise to adverse environmental effects and safety. The point at which this occurs, however, will depend on the physical characteristics of the river and the nature of the activities. This matter is most appropriately controlled through the District Plan.

v Litter and Waste

Wherever people gather for outdoor recreational activity, there is the potential for litter and human effluent to be disposed of in a way which adversely affects public health, water quality and the pleasantness of an area. Where recreational sites are frequently used and in public

ownership, the Council or other community groups have usually provided toilet and rubbish disposal facilities. This is the case around the District's popular lakeshore areas, for example. More isolated sites can pose difficulties with the disposal of litter and effluent and, where use is repeated or frequent, the above adverse effects can arise. Congestion at the put-in and take-out points for the rafting operations on the Shotover and Kawarau Rivers can reduce the pleasantness of the areas and the recreational experience, particularly with lack of adequate toilet facilities, lack of privacy for changing and an accumulation of litter and debris.

vi Structures and Facilities

The use of lakes and rivers inevitably involves demand for the construction of structures and facilities alongside or in the margins of the lakes and rivers. These can involve jetties, launching ramps, toilet and changing facilities and administrative facilities for commercial operations. Such facilities and structures may result in adverse environmental effects relating, for example, to their visual impact; the concentration of pedestrian, vehicle and boating activity; oil and fuel spillages; noise; and the alienation of the foreshore from general public use. The construction of structures and facilities can also have an adverse effect on the natural character and amenity of the margins of lakes and rivers. Most of the margins of the District's lakes and rivers are in public ownership, either administered by the Council or the Crown. Public processes are, therefore, involved with the preparation of management plans, which might allocate land for facilities, or for the leasing of land for facilities.

Frankton Arm, Queenstown Bay and Roys Bay, in particular, are under pressure for space for jetties, marinas, launching ramps, sites for various commercial operations and, more recently, houseboats. The Foreshore Management Plan for Sunshine Bay, Queenstown Bay, Frankton and Kelvin Peninsula addresses many related issues, including the use of the foreshore although it should be noted that this District Plan supersedes the Foreshore Management Plan in so far as it applies to water areas. The Wanaka Lakeside Reserves and Lakeshore Management Plan also establishes a framework for the distribution of facilities, structures and commercial activities around the lakeshore of Roys Bay and its environs. The need for, and location of, further marina berths, both in Frankton Arm and in Roys Bay, are matters of concern to local residents, in terms

of their visual impact, associated congestion and loss of public access to the foreshore. Both of these Management Plans are continually being reassessed and detailed design studies being undertaken for specific areas of the foreshore in terms of the Management Plans.

vii Differentiation between Private and Commercial Users

The waterbodies of the Queenstown-Lakes District are extensively used for both commercial and private recreational activities. In some cases there is uncertainty as to whether a boating activity is commercial or private. The current Bylaw differentiates between private and commercial water users. The rationale behind this differentiation is entirely safety-orientated, and is likely to be continued to be enforced through a local navigational safety bylaw, rather than the District Plan.

All motorised boats, for example, make noise, cause wash and travel at high speeds affecting the environment in the same way. Similarly, all rafts and kayaks require putting in and out of the water and intrude to some degree into the wilderness qualities of remote areas.

At some times of the year, particularly in summer, the commercial operators can be outnumbered by the private boats, with the commercial operators being predictable, known elements and the private boaters being more of a concern with respect to safety and consideration of others. However, at other times of the year and on many waterbodies, the numbers of commercial operators completely outnumber the private users, such that the effect of private boating is insignificant by comparison.

There appear to be two reasons for distinguishing between private and commercial operators in terms of their environmental effects. These reasons, however, will not apply to all activities or to all waterbodies:

- (a) Firstly, on some waterbodies, such as the Shotover, Kawarau and Dart Rivers, the number of boating trips undertaken by the commercial operators totally outnumbers any private recreational use. The adverse effects from surface of water activities on these waterbodies is substantially as a result of the numbers of commercial trips and the continuation of these trips throughout the

year. Private recreational use alone would be minor and seasonal with little potential for adverse effects on the surrounding environment.

- (b) Secondly, some of the commercial boats, such as jetboats, hovercraft, steamship, are quite different from recreational boats with greater potential for adverse effects on the surrounding environment. The commercial jetboats, for example, are mostly significantly larger boats with more powerful engines. Their noise has the potential to have effects upon the environment.

Enforcing controls through the District Plan on private recreational water users would also be difficult unless such controls clearly permit or prohibit activities with simple, enforceable performance standards. It would not be practical to require private boat owners to obtain resource consents before going out fishing or cruising on the waterbodies. Controls over private water users need to specify clearly what activities can and cannot take place on each waterbody without resource consents being involved, and what performance standards must be met.

4.6.3 Objectives and Policies

Objectives

Recreational activities undertaken in a manner which avoids, remedies or mitigates, their potential adverse effects on:

- ***natural conservation values and wildlife habitats,***
- ***other recreational values,***
- ***public health and safety,***
- ***takata whenua values, and***
- ***general amenity values.***

Policies:

- 1 *To identify the different types of lakes and rivers in the District and the different recreational experiences offered by these lakes and rivers, in terms of:*

- (a) *outstanding natural characteristics, wild and scenic beauty, aesthetic coherence, biological diversity, ecosystem form, function and integrity, sense of isolation and recreational amenity;*
- (b) *multiple use and proximity to population centres.*
- 2 *To enable people to have access to a wide range of recreation experiences on the lakes and rivers, based on the identified characteristics and environmental limits of the various parts of each lake and river.*
 - 3 *On each lake and river, to provide for the range of recreational experiences and activities which are most suited to and benefit from the particular natural characteristics.*
 - 4 *To avoid or mitigate the adverse effects of frequent, large-scale or intrusive activities such as those with high levels of noise, vibration, speed and wash.*
 - 5 *To avoid the adverse effects of motorised craft in areas of high passive recreational use, significant nature conservation values and wildlife habitat.*
 - 6 *To ensure that any controls that are imposed on recreational activities through the District Plan are certain, understandable and enforceable, given the transient nature of many of the people undertaking activities on the District's lakes and rivers and the brief, peak period of private recreational activity.*
 - 7 *To avoid and protect the environment from the adverse noise effects of motorised watercraft.*
 - 8 *To avoid the adverse effects of activities by discouraging their development on:*
 - *Von, Lochy, Greenstone and Caples Rivers*
 - *Timaru Creek and Dingle Burn*
 - *Hunter River*
 - *Young River*
 - 9 *To recognise the whitewater values of the District's lakes and rivers and, in particular, the values of the Kawarau River as one of the few remaining major unmodified whitewater rivers in New Zealand, and to support any measures to protect this characteristic of rivers.*
 - 10 *To protect the special qualities of the Clutha River upstream of Albert Town bridge and those recreational activities which benefit from those characteristics.*
 - 11 *To reduce the adverse effects of noise and intrusion on the remote characteristics of the Dart/Rees tramping track and to retain safe operating conditions between river users on the upper reaches of the Dart River.*
 - 12 *To avoid adverse effects on the public availability and enjoyment of the margins of the lakes and rivers.*
 - 13 *To ensure that the location, design and use of structures and facilities which pass across or through the surface of any lake and river or are attached to the bank of any lake and river, are such that any adverse effects on visual qualities, safety and conflicts with recreational and other activities on the lakes and rivers are avoided or mitigated.*
 - 14 *To ensure the availability of the Shotover River for private craft with regard to commercial operations and safety issues.*
 - 15 *To avoid unnecessary duplication of resource consent procedures between the District and Regional Councils.*
 - 16 *To encourage the use and development of marinas and marina activities in a way which avoids and, where necessary, remedies and mitigates adverse effects resulting from marina activities on the environment.*
 - 17 *To ensure that the number of commercial boating operators and/or boats on waterbodies does not exceed levels where the safety of passengers cannot be assured.*

Refer to Policy 9 and 10 of Part 4.3 Takata Whenua

Implementation Methods

(i) District Plan

- (a) The provision of rules, including performance standards to control the use of the surface of the lakes and rivers.
- (b) To specify limits on the scale of commercial boating activities, beyond which the Council's consent will be required, in order that consideration may be given to potential adverse effects and the need to impose conditions on their operation. The limits will vary depending on the identified characteristics of the lake and river and the nature and effects of the activity.
- (c) To specify rules limiting or prohibiting motorised boating craft in areas of high passive recreation use, significant nature conservation values and wildlife habitat.
- (d) To require all motorised craft operating on the District's lakes and rivers to meet specified noise emission standards.
- (e) To restrict motorised boating on the Clutha River upstream of the Albert Town bridge to six race days per year.
- (f) To limit the total number of motorised boating trips and hours on the upper reaches of the Dart River.
- (g) To prevent the use of boats for accommodation, except for overnight recreational accommodation.
- (h) To indicate the locations where such structures and facilities are or are not considered to be suitable.
- (i) To limit number of commercial boating operators and/or boats on waterbodies where the safety of passengers cannot be assured if unlimited commercial use was available.

Other Methods

- (a) To retain and continue to administer and control navigational safety and speed matters principally through local Bylaws, Regulations or equivalent mechanisms under the Harbours Act and its successor, including the licensing of commercial operators of boats and other craft using the lakes and rivers, except where the safety of passengers cannot be assured if unlimited use was available.
- (b) To support the use of the Foreshore Management Plans and associated design studies, as the principal means of controlling the distribution and allocation of areas for the on-shore bases, structures and facilities for activities on the surface of lakes and rivers.
- (c) To review the Foreshore Management Plan for Sunshine Bay, Queenstown Bay, Frankton and Kelvin Heights and the Wanaka Lakeside Reserves and Lakeshore Management Plan; and to use the Wanaka Management Plan to limit the number of commercial water-related concessions operating from the lakeshore in the Dunganon Street vicinity to 4.
- (d) To continue to seek the transfer of the foreshore land surrounding Lake Hawea from the Crown to the Council; and upon transfer of the land to prepare a comprehensive Foreshore Management Plan, integrating the management of the foreshore and the adjoining lakes and rivers.
- (e) To co-ordinate with adjoining territorial authorities where activities on the lakes and rivers cross territorial boundaries, including the co-ordination of resource consent procedures.
- (f) Where resource consents are required for the same activities to both the District and Regional Councils, such as for structures on the shores and beds of the lakes and rivers, to consider the transfer of the power to hear and determine applications for resource consents and to administer such consents to one of the Councils.
- (g) To provide information and education material to the public on Councils Waterways Bylaws.

Explanation and Principal Reasons for Adoption

To ensure that the potential adverse effects of activities on the District's lakes and rivers are kept at a minor level with respect to wildlife, natural, recreational, visual, amenity and safety values, some controls over water-based activities are considered to be necessary. In many instances the specific demands of different activities means that potentially incompatible activities have different requirements. However, particularly in the case of motorised craft or regular commercial activities, the potential for conflicts with other values has meant that some form of controls is necessary.

There are different types of lakes and rivers within the District, which provide different and complementary recreational experiences and which require different types of controls. The Council considers that it is important to protect the range of different water-based opportunities available in the District. The District Plan establishes different sets of management strategies depending on the identified characteristics of each lake and river and the range of experiences and activities that are most suited to and benefit from the identified natural characteristics.

Motorised craft, in particular, with their greater speeds and noise levels, generally larger wake and ability for more frequent trips, have the greatest potential to conflict with other users or values of the lake and river or the adjoining land. The effects will vary depending on the characteristics of the lake and river. However, the effects will be most acute in areas of high passive recreational use; significant natural conservation values and wildlife habitat; and/or wilderness characteristics, where the noise and wake particularly are seen to intrude into or adversely affect these activities or values. Even frequent or larger-scale use of some lakes and rivers by non-motorised craft can intrude into the experience sought by other users or potentially affect wildlife values and natural characteristics. For these reasons, resource consents are required by the Plan for frequent, larger-scale or more intrusive water-based activities, in order that consideration can be given to their potential adverse effects and conditions imposed on the scale and nature of the activities as necessary. In some instances where motorised craft will in most circumstances be incompatible with the values defined for the lake and river, motorised craft will be excluded from these lakes and rivers.

Controls in the Plan have differentiated between private and commercial operations in terms of their environmental effects. This has been based on the following:

- Firstly, on some waterbodies such as the Shotover, Kawarau and Dart Rivers, the number of boating trips undertaken by the commercial operators totally outnumbers any private recreational use. The effects of activities on these waterbodies is substantially as a result of the numbers of commercial trips and the continuation of these trips throughout the year. Private recreational use alone would be minor and seasonal with little potential for adverse effects on the surrounding environment.
- Secondly, some of the commercial boats, such as the jetboats, hovercraft, steamship, are quite different from recreational boats with greater potential for adverse effects on the surrounding environment. The commercial jet boats, for example, are mostly significantly larger boats with more powerful engines. Their noise has the potential to have effects on the environment. The imposition of noise emission limits on commercial motorised craft will assist in reducing the impact of individual craft, but may not ameliorate the effect of the continuous noise from regular trips on the same waterbody throughout a day.

Enforcing controls through the District Plan on private recreational water users is also difficult unless such controls clearly permit or prohibit activities with simple enforceable performance standards. It is not considered practical or sensible to require private boat owners to obtain resource consents before they go out fishing or cruising on the waterbodies. Control over private water users need to specify clearly what activities can and cannot take place on each waterbody without resource consents being involved, and what performance standards must be met. For these reasons, where controls are considered necessary over private boat operations, prohibited activity controls have been used or clearly specified hours, seasons or areas of operation.

Several of the District's rivers are predominantly wilderness environments with access possible only by foot or helicopter. The river flows are insufficient for jetboating most of the time. These include the Von, Lochy, Greenstone and Caples Rivers and Timaru Creek and the Dingle Burn. The Makarora, Young, Wilkin and Hunter Rivers are predominantly wilderness rivers with difficult

access, particularly in their upper reaches. The rivers are particularly suitable for remote recreational experiences. They complement the opportunities provided by rivers closer to Queenstown and Wanaka, which are more heavily used and which can accommodate such use without detracting from a wilderness experience. Even where the rivers flow through grazing lands, they retain qualities particularly suited to remote recreational experiences – majestic scenery, adjoining native forest, clear waters and nationally – significant trout fishing. Noise and disturbance from power-boats could adversely affect these qualities. Commercial rafting and kayaking could adversely affect wilderness or fishery values if high levels of use were ever reached. Although the Makarora, Wilkin and Hunter Rivers are used for jetboating, a significantly increased scale of jetboating activity would be incompatible with the wilderness characteristics of the area. For these reasons, commercial use of these rivers will be strictly controlled and only irregular and occasional use permitted of the wilderness waterbodies.

The number of boats operating on specified stretch of waterbody can affect people's enjoyment of the water resource and their ability to provide for their own safety. On some waterbodies, the confined nature of the waterbody or visibility limitations mean that close communication between all operators is essential for safety to be assured. This is not always practical or possible to achieve with an unlimited number of competing operators. Where the safety of passengers cannot be assured if unlimited use was available, controls regarding the number of commercial operators on a waterbody have been included in the District Plan.

The Kawarau River provides for a range of recreational opportunities. The different natural characteristics of the sections of the river - above and below the Arrow River confluence - prevent much of the potential conflict between different activities by naturally dividing activities on the river. Below this point the river is particularly suitable for rafting and kayaking, being one of the few remaining major unmodified whitewater rivers in New Zealand, and the Council seeks to support the retention of this characteristic and the activities and values which benefit from it.

The major issue regarding boat users on Lake Wakatipu is the noise of motorised craft on Frankton Arm and in Queenstown Bay, en route to the Kawarau and Shotover Rivers.

The special qualities of the Clutha River - its large volume, uncontrolled outlet, clear water, outstanding fishery, natural peaceful surrounds and accessibility - make it particularly suited to those recreational activities requiring and benefiting most from these qualities. Angling, non-powered boating, riverside walking and picnicking are the most suited activities to this river. In addition, the environment of Albert Town is most protected by such activities. The Council considers there is an incompatibility between motorised craft and passive activities on the upstream stretch of the river. Downstream of Albert Town, the Clutha River is large enough and the pressures for use less intense, so that a wider variety of uses can be accommodated. For these reasons, motorised boating on the upper reaches of the Clutha River has been restricted.

The Dart and Rees Rivers provide a semi-wilderness environment, with a mix of forest, farming areas and riverbed. The council considers that multiple use of these rivers is possible. The issues on the Dart revolve around the safety of commercial jetboating above the Beansburn and the effects of the noise and intrusion of jetboating on the remote tramping experience on the Dart/Rees tramping track. A limit of 26 boat trips a day and on the hours of operation of commercial jetboats has been accepted by the Council as necessary to protect the recreational experience and tranquillity of the area for other users, particularly trampers.

Use of moored boats on the lakes for permanent or long-term residence is of concern to other lake and lakeshore users. While the environmental effect of one houseboat may be small, the cumulative effects can be adverse in respect of the visual impact, effluent disposal and the use of a "public" lake for private residential purposes. For these reasons, the use of boats as permanent residences has been excluded.

The Foreshore Management Plans provide good guidelines for future development of foreshores for structures, facilities and commercial activities. The Council does not have any reason to depart from these guidelines. The District Plan will be used as the means of controlling the effects of such structures and facilities.

Marinas are considered important bases providing landing, storage and loading facilities for residents as well as providing convenient access points for visitors. In effect they are a transitional area between land and water -

thus having effects on land such as car parking and the surface of water such as the structures themselves. Marinas have the advantage of concentrating resources which mitigate the effects of many such structures spread over lakes and rivers. It is equally important that the adverse effects of marina use and development, such as visual insensitivity and congestion in inappropriate areas is avoided, remedied or mitigated.

4.6.4 Environmental Results Anticipated

- (i) Use of the District's rivers and lakes for a wide range of recreational and commercial activities, consistent with the particular natural characteristics of each lake and river and its environmental limits.
- (ii) Retention of opportunities for remote experiences, peace and tranquillity on and adjoining lakes and rivers within the District, including some lakes and rivers reasonably close to settlements.
- (iii) Opportunities for adventurous, active recreation on lakes and rivers close to settlements.
- (iv) Minimal adverse effects of activities on the significant natural conservation values of lakes and rivers.
- (v) Reduction in noise nuisance from motorised boating on the lakes and rivers.
- (vi) The avoidance or mitigation of adverse effects on safety.
- (vii) Retention of the remaining whitewater values of the District's lakes and rivers.
- (viii) Continued public availability and enjoyment of the margins of lakes and rivers, their natural characteristics and visual amenity.

4.7 Solid and Hazardous Waste Management

4.7.1 Introduction

The production of solid and hazardous wastes is an unavoidable by-product of human activities, and therefore provisions need to be made for the collection, storage, treatment or disposal of these wastes within the District. The amounts of waste produced in the District may be minimised by implementing the methods discussed below. However, wastes will still be produced and require disposal in a manner which minimises the potential for adverse environmental effects.

4.7.2 Issues

Under the Act, both regional and territorial authorities have waste management responsibilities. The respective roles are unclear, and with respect to some waste issues, uncertain. The Otago Regional Council has, however, clarified these roles and responsibilities through its Regional Policy Statement and Regional Plan: Waste. The Regional Council is able to provide an integrated regional overview of the management of the waste stream. It is responsible for the control and management of the effects from the discharge or disposal of waste. The Regional Council also intends to continue monitoring the effects of waste treatment and disposal within Otago Region, provide advice and information and co-ordinate the clean up of pollution spills.

The primary role of the District Council, in terms of the Regional Policy Statement and the Regional Plan: Waste, is the provision of facilities for the collection, recycling and disposal of wastes. The Council must determine appropriate land use controls under its District Plan relating to the effects of the disposal of wastes, including the long-term storage and/or disposal of hazardous substances. The Council is also involved in undertaking the operational aspects of waste spill clean up.

The Council has a role through the District Plan of achieving integrated management of the effects of the use of land and associated natural and

physical resources. The Council must consider ways to avoid, remedy or mitigate the potential adverse effects of the collection, treatment or disposal of wastes in the District. This applies equally to existing and past landfills or other waste disposal facilities, and also requires that consideration is given to ensuring high environmental quality, and the health and safety of present and future generations.

Existing waste management problems in the District relate to past and present waste management practices, including: discharges of contaminants from existing and past disposal and storage sites, limitations on the facilities available at existing disposal sites, off-site environmental effects of waste management practices, and the production of increasing amounts of solid and hazardous wastes requiring collection, treatment, storage or disposal.

The overriding issues for waste management within the District are set out below:

Minimisation of waste quantities produced in the District and requiring subsequent disposal

The Regional Policy Statement and Regional Plan: Waste advocates a co-ordinated approach to waste management between all responsible authorities. Waste minimisation is a key strategy in the management of Otago's wastes.

The "Waste Analysis Protocol" is the recommended system for the common identification and quantification of wastes within the region. The waste analysis protocol is a standard system for the acquisition of information about the types and quantities of waste produced in an area. It has been developed by the Ministry for the Environment to provide a nationally consistent basis for analysing wastes. This information is important to ensure that appropriate waste management facilities are provided for the types of waste produced in the District, and in the identification of opportunities for recycling, re-use or waste reduction.

Attitudes to waste have moved from concerns relating to disposal methods alone, to a wider focus on waste management as a process whereby waste is treated as a residual resource, rather than an undesirable problem. The guiding principles of good waste management

are summarised in the following integrated approach to waste management, which comprises:

- Reduction - reducing the amount of waste generated;
- Reuse - the reuse of otherwise waste resources;
- Recycling - reprocessing of waste materials to form useful resources;
- Recovery - recovery of resources such as energy from waste materials;
- Safe storage, management and disposal of residual wastes.

Application of an integrated waste management approach in the District would be beneficial in terms of reducing the amount of waste generated and needing to be disposed of in the District. While reducing the quantity of wastes produced in the District is an important step, there will always be a certain amount of waste produced which will require disposal. A landfill is the usual end point of those wastes which have no potential for recovery.

Ensuring the location and operation of appropriate facilities for the collection, storage and disposal of waste generated in the District

The Council has prepared a District "waste management strategy" to co-ordinate waste management within the District. This strategy is primarily concerned with the provision of waste collection and disposal facilities, recognising the need to identify the types and quantities of wastes produced in the District, and to implement practical minimisation of waste within the District, as discussed below.

The District waste management strategy is reviewing the existing network of waste collection and disposal facilities within the District. The aim of the strategy is to ensure that the people of the District have easy access to a waste collection or disposal facility appropriate to their needs, and that the potential for any adverse effects from these facilities is minimised.

The appropriate location and good management of landfill sites is important to assist in the avoidance of the potential adverse effects of solid and hazardous waste disposal. The Council has designated a

District wide sanitary landfill at Victoria Flats off State Highway No. 6 in the Wakatipu Basin.

To facilitate the disposal of domestic refuse, the Council is establishing satellite transfer stations. Waste will be collected from the transfer stations and then transported, where practicable, to a sanitary landfill site.

The environmental effects of waste management practices in the District and their avoidance, remedy or mitigation

Waste by itself, and as it breaks down, gives rise to discharges to land, water and air. These can all adversely affect the environment and cause nuisance to people. Territorial authorities may assume responsibility for the collection, recycling and disposal of wastes under the Local Government Act 1974. In the management of waste the Council needs to ensure the adverse effects are avoided, remedied or mitigated.

Regard for the values of the takata whenua in respect of waste management practices

The takata whenua have particular concerns relating to waste management in the District. These relate to the Council's responsibility under Part II of the Act, and are general principles which may be summarised as follows: undertake consultation with the takata whenua on waste management issues, ensuring that waste management initiatives are consistent with the Treaty of Waitangi, and respecting the Maori cultural values of:

- traditional mahika kai (food gathering areas);
- waahi taoka (places of special significance to Maori);
- kaitiakitanga;
- Maori values and interests in wai (water) and water resources.

4.7.3 Objectives and Policies

Objective 1

The collection, treatment, storage and disposal of solid and hazardous wastes in a manner which meets the needs of current

and future generations of residents and visitors to the District, and avoids, remedies or mitigates adverse effects on the environment.

Policies:

- 1.1 *To ensure that the effects on the environment and other adverse effects on soil, groundwater and water contamination and other adverse effects on the health, safety and amenity values of residents, visitors and environment from the disposal wastes are avoided, remedied or mitigated.*
- 1.2 *To minimise the quantities of waste requiring collection, treatment, storage or disposal within the District and to maximise opportunities for reuse, recycling and recovery of materials from the waste stream.*
- 1.3 *To ensure the safe and efficient collection, treatment, storage and disposal of all solid and hazardous wastes within the District.*

Implementation Methods

The Objectives and associated Policies will be implemented through a number of methods including the following:

(i) District Plan

- (a) Rules in the Plan requiring consent to be obtained for:
 - (i) new landfills or other waste management facilities.
 - (ii) the treatment and disposal of liquid wastes on the surface of land, and for the composting or processing of any other wastes, other than the wastes produced from a single dwelling.

(ii) Other Methods

- (a) Allocate Council resources through the annual planning process in order to:

- (i) To apply for the necessary consents for a landfill site and transfer station.
 - (ii) Investigate the potential, and where possible reduce the adverse effects of inefficient disposal.
 - (iii) Close and take appropriate after-care management of tips and dumps to reduce the adverse effects of waste disposal.
- (b) Identify, in consultation with the Otago Regional Council, closed and existing landfills within the District.
- (i) Investigate suitable locations for the development of new landfill sites and other waste management facilities, to meet the solid waste disposal needs of the District.
 - (ii) Utilise the Waste Analysis Protocol, in conjunction with the Regional Council, to undertake a comprehensive survey of the types and quantities of wastes produced in the District.
 - (iii) Determine appropriate methods to apply an integrated waste management approach, to minimise the quantities of waste requiring disposal in the District.
- (c) Co-operate with the Regional Council in order to:
- (i) Effectively monitor the quantities and types of waste produced in the District, including monitoring the transport, use, storage or disposal of hazardous substances and hazardous wastes.
 - (ii) Investigate and implement the most appropriate option for the storage and subsequent disposal of the District's hazardous wastes able to be handled by the Council.
 - (iii) Provide information on the safe storage and disposal of hazardous wastes in the District.

(iv) Undertake waste management education programmes when and where appropriate.

(d) Undertake consultation with the takata whenua and Treaty partners in the District, on appropriate and culturally acceptable waste management initiatives in the District.

(e) To give consideration to transferring the power to administer resource consents for landfills required by both the District and Regional Councils, to one of the Councils.

Explanation and Principal Reasons for Adoption

Apart from the need to designate for waste collection, treatment, storage or disposal facilities, including new sanitary landfills in the District Plan, all the other objectives may be met by alternative methods. When assessing a site for a future landfill site regard must be had to the compliance of any proposed facilities with the Regional Policy Statement, the Regional Plan: Waste and the MFE "Landfill Guidelines" (1992).

The Regional Council has considerable expertise and overall responsibility for the integration of waste management within the region, the Council will therefore continue to co-operate with the Regional Council to address hazardous waste management issues and overall waste management responsibilities.

Finally it is vital that the Council fully addresses its Treaty obligations and therefore undertaking consultation with the takata whenua on waste management issues is essential.

4.7.4 Environmental Results Anticipated

Implementation of the policies and methods relating to solid waste management will result in:

- (i) Waste management in the District is carried out in a way that most effectively minimises the potential adverse effects to the people and the environment of the District.

- (ii) Ensuring the location and operation of appropriate waste disposal facilities for the collection and storage or disposal of all liquid, solid and hazardous wastes generated in the District.
- (iii) Minimisation of waste quantities produced in the District and requiring subsequent disposal as liquid, solid or hazardous wastes.
- (iv) Waste management strategies which respect the values of the takata whenua in the District.

4.8 Natural Hazards

4.8.1 Resources, Activities and Values

The communities in the District are at potential risk from the following natural hazards:

- Flooding and inundation
- Erosion and Deposition, including landslip and rock fall
- Land Instability
- Earthquakes
- Severe Climatic Extremes - Drought, Snowfall, Wind
- Alluvion, avulsion or subsidence

4.8.2 Issue

Property and people within the District have the potential to be threatened and adversely affected from damage or loss as a result of natural hazards, particularly flooding.

Under the Act, responsibility for controlling the use, development or protection of land for the purposes of avoiding or mitigating natural hazards is shared partly by the Regional Council and the District Council. They also both have responsibilities under civil defence legislation. The Otago Regional Council has, however, stated the respective roles and responsibilities in its Regional Policy Statement.

Flooding, erosion, deposition, landslides and rockslides are natural hazards in the District that can be avoided or mitigated by providing “protection” (e.g. stopbanks, retaining walls), or by guiding communities away from areas exposed to these hazards. Drought is more difficult to avoid because the impact of drought is closely related to the availability and use of water.

Flooding with the District has been widespread, but frequent flooding has generally been confined to the braided riverbeds or low terraces adjacent to the high country rivers of Matukituki, Makarora, Shotover, Rees, Dart and Cardrona. The levels of Lakes Wakatipu and Wanaka have also risen in the past to inundate low-lying parts of the towns. Development in the District is therefore constrained to some extent by flooding, particularly at Makarora.

The steep mountain slopes in the District are prone to instability. Large deep-seated landslides are widespread, particularly on the mountain slopes near Queenstown. Some of the steeper mountain sides and rock bluffs may give rise to rock falls, while the majority of the mountain slopes will be subject to shallow landslides or gully erosion which can cause problems with foundation excavations. Landslides, rockslides and gully erosion is caused by high rainfall saturating the steep slopes.

4.8.3 Objective and Policies

Objective 1

Avoid or mitigate loss of life, damage to assets or infrastructure, or disruption to the community of the District, from natural hazards.

Policies:

- 1.1 *To increase community awareness of the potential risk of natural hazards, and the necessary emergency responses to natural hazard events.*
- 1.2 *To continually develop and refine a hazards register in conjunction with the Otago Regional Council, as a basis for Council decisions regarding subdivision and building development.*

- 1.3 *In conjunction with the Otago Regional Council to continually assess the need for additional protection measures either through the District Plan or as protection works.*
- 1.4 *To ensure buildings and developments are constructed and located so as to avoid or mitigate the potential risk of damage to human life, property or other aspects of the environment.*
- 1.5 *To ensure that within the consent process any proposed developments have an adequate assessment completed to identify any natural hazards and the methods used to avoid or mitigate a hazard risk.*
- 1.6 *To discourage subdivision in areas where there is a high probability that a natural hazard may destroy or damage human life, property or other aspects of the environment.*
- 1.7 *To avoid or mitigate the likelihood of destruction or damage to residential units and other buildings constructed or relocated into flood risk areas.*

Implementation Methods

Objective 1 and associated Policies will be implemented through a number of methods including the following:

(i) District Plan

- (a) The provision of rules to control development in areas identified as being at risk of flooding.
- (b) The provision of rules to ensure all new buildings for residential, recreation or visitor accommodation activities are assessed in terms of damage or danger from natural hazards, particularly slope stability and earthquake.

(ii) Other Methods

- (a) To prepare and maintain a District Civil Defence Plan in terms of the Civil Defence Act 1983.

- (b) To advise and inform the community of potential natural hazards and how to be prepared for civil defence emergencies.
- (c) To include information collected during the resource or building consent process, and any other information obtained through research, on the Council's hazards register.
- (d) To ensure liaison with the Otago Regional Council continues so a co-ordinated monitoring approach can measure the degree to which the long term trends in land use practices and patterns may increase the vulnerability to natural hazards such as flooding, drought, fire, and earthquakes.
- (e) In conjunction with the Otago Regional Council, to ensure that emergency response procedures are in place to mitigate the effects of a natural hazard.
- (f) In conjunction with the Otago Regional Council, to investigate hazard protection works where this is considered to be a preferred option.
- (g) To ensure Council staff take adequate consideration of appropriate earthquake and fire hazard standards and proximity to active faultlines during the building consent process.
- (h) To encourage adequate maintenance of drains and culverts to prevent flooding.

Explanation and Principal Reasons for Adoption

To minimise loss of life, damage to assets and disruption to the community, on-going research will be required to identify the extent and frequency of natural hazards and methods to mitigate risks to the community. The District Council is not involved in primary research of this nature but it is in a position continually to collate information and advise and inform the community of new findings. A hazards register is being continually updated which informs the community of the known hazard potentials of a given area. This is used both

in the consent processes under the Resource Management Act 1991 and the Building Act 1991. The Council also considers that a co-ordinated approach between agencies is needed to monitor how the long term trends in land use practises and patterns may increase the vulnerability of communities to natural hazards. Emergency response plans are being continually refined to help the community in times of a disaster.

Education about the consequences of earthquakes, drought, and fire is considered the most practical means to mitigate these hazards. In addition, education about water use is also required. With respect to earthquakes and fire, the Building Code under the Building Act 1991, which the Council administers, sets standards so buildings will take into account the risk of buildings to earthquakes and fire. However, the Council will also ensure buildings and other structures are located away from or mitigate the effects of active faults that may rupture in the future.

River Flooding

The large deltas of the Rees/Dart, Makarora, Hunter and Matukituki Rivers are locations which could be attractive for developments, but which are susceptible to flooding. In addition, the District's lake edges are also at risk from flooding, if the water entering the lakes from the surrounding rivers can not be carried away by the outlet. The floodplains of the Shotover River and Cardrona River are well defined, and because of this, development has been controlled in these areas.

The Council recognises that controls on the building or relocation of residential units are required to limit or control the nature of development in floodable areas. However, there may be situations where a number of assets may be reliant on protection works such as stopbanks or groynes. Where removal of these assets is unacceptable due to practical difficulties then establishment and maintenance of protection works, which would be financed either by the people concerned, or the Council, or the Otago Regional Council, depending on the circumstances.

Land Instability

Large areas of the District are subject to problems in respect of land stability including landslides, rockslides, gully erosion and other land instability problems.

Past experience indicates that despite the construction of protective retaining walls, if a major storm or an earthquake occurs buildings will still be vulnerable to slope movement. The greater the value of the asset the greater the costs will be if damage occurs. Therefore limiting development or establishing the appropriate mitigation measures in these areas will limit the potential loss and damage to property.

Geological information shows a number of active faults in the District. In considering an application for a building the Council will require a site assessment showing how the building would mitigate or avoid the risk of being directly damaged due to a fault rupture.

4.8.4 Environmental Results Anticipated

Implementation of the policies and methods relating to natural hazards will result in:

- (i) The collation and provision of clear information outlining the natural hazards risks to all sites with potential to be adversely affected by natural hazard occurrences in the District.
- (ii) The implementation of emergency response procedures, in conjunction with the Regional Council, whenever there is a significant risk to people and property from natural hazards in the District.
- (iii) The location of new subdivision and development away from areas at high risk from natural hazards.
- (iv) Reduce incidence and severity of localised flooding and land slip.

4.9 Urban Growth

4.9.1 Introduction

The manner and rate in which urban growth occurs has a major bearing on resource use, social and economic well being and environmental quality. The District has faced major changes in the past as a result of cyclical urban growth pressures.

The District is a desirable place to live and work in, as witnessed by continued population growth. The people and communities who make up the District are facing new and different challenges. The fundamental consideration is to ensure continued growth is managed in a way which sustains the District's resources, character and amenities.

4.9.2 Issues

The Council can play an important role in the sustainable management of growth as it relates to other important District wide issues, including protection and enhancement of the landscape and avoiding the adverse effects of development on the natural and physical resources of the District. It is not possible to be precise about the level of growth to be planned for, but increased growth is anticipated in:

- i tourism and visitor numbers
- ii hotels and visitor accommodation
- iii housing demand
- iv increased range and scale of retail activity
- v increased demand for educational and recreational facilities such as schools.

The District Plan anticipates that most of the growth will occur within the existing and proposed residential zoned areas. This growth will comprise both residential and visitor accommodation units. Urban growth will result in changes to the natural and built environment and has the potential to affect the character of the District in terms of its impact on landscape amenity, provision of infrastructure, and the social and economic well being of the community.

The principal issues identified are:

- (a) the management of urban growth in order to protect water resources and ground water recharge, safeguard the life supporting capacity of soils, wetlands and air, avoid natural hazards including sheer slopes and flood plains and protect and enhance landscape values and visual amenity.

- (b) the lifestyle preferences of the District's present and future population.
- (c) the effects of urban growth on the identity, cohesion, and economic and social well being of the existing residential, farming and settlement communities.
- (d) the effects of expanding visitor accommodation development on the retention of residential housing and neighbourhoods.
- (e) the provision of efficient public transport services for the benefit of both residents and visitors.
- (f) how best to accommodate urban growth.
- (g) the effect on energy use.
- (h) the effect on access to facilities and services, i.e. health, education and shops.
- (i) the effect on the major infrastructure resources such as the airports, sewerage, treatment works, landfills, recreation facilities.
- (j) the needs of the takata whenua. (*Refer to Section 4.3*)

4.9.3 Objectives and Policies

Objective 1 - Natural Environment and Landscape Values

Growth and development consistent with the maintenance of the quality of the natural environment and landscape values.

Policies

- 1.1 *To ensure new growth occurs in a form which protects the visual amenity, avoids urbanisation of land which is of outstanding landscape quality, ecologically significant, or which does not detract from the values of margins of rivers and lakes.*
- 1.2 *To ensure growth does not adversely affect the life supporting capacity of soils unless the need for this protection is clearly outweighed by the*

protection of other natural or physical resources or important amenity values.

Implementation Methods

Objective 1 and associated policies will be implemented through a number of methods:

i District Plan

- (a) Comprehensive policy and rules to ensure protection and enhancement of the District's important natural resources and amenities.
- (b) Identification of a pattern of land uses through zoning and policy supporting a strategy of urban consolidation.
- (c) Subdivision and development policies which safeguard the life supporting capacity of the District's soils and outstanding landscape areas.
- (d) Residential and urban zones which protect the existing urban areas.
- (e) To provide strong policy direction to ensure opportunities exist for new urban growth.

Explanation and Principal Reasons for Adoption

The Council recognises the need for opportunities to be provided for urban growth, in a location and form which preserves the significant natural resource and amenity values of the District.

The various communities in the District have indicated they wish the Council to protect the environment. This is seen to include rivers and lakes, the sustainable management of land, and scenic and visual amenities.

The pattern of urban growth is important to sustainable management of the District's natural resources in terms of protecting or enhancing matters such as water and air quality, the life supporting capacity of soils and ecological values.

Objective 2 - Existing Urban Areas and Communities

Urban growth which has regard for the built character and amenity values of the existing urban areas and enables people and communities to provide for their social, cultural and economic well being.

Policies:

- 2.1 *To ensure new growth and development in existing urban areas takes place in a manner, form and location which protects or enhances the built character and amenity of the existing residential areas and small townships.*
- 2.2 *To cluster growth of visitor accommodation in certain locations so as to preserve other areas for residential development.*
- 2.3 *To protect the living environments of existing low-density residential areas by limiting higher density development opportunities within these areas.*

Implementation Methods

Objective 2 and associated policies will be implemented through a number of methods including:

i District Plan

- (a) Identification of a rural-urban interface for larger towns and small settlements in order to enhance the character of urban areas.
- (b) Residential zones and visitor accommodation zones that protect the character and functioning of urban areas to include identification and protection of appropriate lower-density residential areas.
- (c) Zoning provision to provide for new urban growth so as to achieve a sustainable balance between residential and visitor accommodation activities.

Explanation and Principal Reasons for Adoption

The character of urban areas is dependent on the relationship of those areas to the landscape and compact nature of settlement within the landscape. Proposals for new urban growth and development should seek to enhance that relationship. Much of the mountain, hill and lakeshore areas have outstanding landscape value and are the key to the District's identity and its social and economic well being.

The policies focus on the social well being of the communities and in particular residential or "community cohesion". Within a management regime which focuses more on the physical effects of activities it is easy to overlook the importance of community well being and social effects. There are many factors which contribute to community well being including, commonality of aspirations, outlook, purpose and interests. Each of these interacts with the others to give rise to a sense of community at both a general level, or at a residential neighbourhood level.

One of the major issues to have impacted on the character and form and functioning of future urban growth is the protection of the current low-density and high-density residential living environs from displacement by visitor accommodation activities. It would seem feasible to accommodate a significant part of future urban growth within the current High Density Residential Zones, provided that a clear separation of residential neighbourhoods from visitor accommodation activities can be achieved in parts of those zones.

The vitality of town centres depends upon the presence of sufficient numbers of residents interacting with each other and with visitors. High density residential areas, close to town centres yet free of visitor accommodation activities, offer perhaps the best means to retaining our urban vitality.

The residential areas of the District in both large and small towns have developed a sense of well being through the cohesion of residential activity and the character of the living environments, particularly as they relate to the topography, residential density and outlook. The Council has determined that influencing the form and location of urban growth is a part of managing the effects of growth.

Objective 3 - Residential Growth

Provision for residential growth sufficient to meet the District's needs.

Policies

3.1 *To enable urban consolidation to occur where appropriate.*

3.2 *To encourage new urban development, particularly residential and commercial development, in a form, character and scale which provides for higher density living environments and is imaginative in terms of urban design and provides for an integration of different activities, e.g. residential, schools, shopping.*

3.3 *To provide for high density residential development in appropriate areas.*

3.4 *To provide for lower density residential development in appropriate areas and to ensure that controls generally maintain and enhance existing residential character in those areas.*

Implementation Methods

Objective 3 and associated policies will be implemented through a number of methods:

(i) Through the District Plan:

- (a) The identification of a pattern of land uses supporting a strategy of urban consolidation and a compact urban form for the existing settlements with greater opportunities for a variety of living environments (e.g. residential densities) in existing and new settlement areas.
- (b) Ensuring opportunities for urban growth consistent with identified environmental outcomes for the District and individual communities.
- (c) Providing for a variety of residential densities within the urban areas.

- (d) Management of the location of new urban growth and residential development.

Explanation and Principal Reasons for Adoption

It is important to the social and economic well being of the District that new growth is undertaken in a manner which sustains and enhances the natural resources, water, soil, air, amenity values, landscape, and aspirations of the community. The Council recognises the need for additional residential activity and has chosen to accommodate urban growth through policies of consolidation, because this is considered to be more cost effective and efficient in terms of infrastructure.

Consolidation can occur by peripheral expansion of the existing residential areas, increased density within the existing residential areas, or opportunities for new settlement. Consolidation is considered by the Council to be the most sustainable urban growth option as it enables the protection of landscape values, soil and water resources, low density living environments, the cohesion and character of existing towns and urban areas, the efficient use of energy and infrastructure and regard for major infrastructure such as airports and state highways.

Objective 4 - Business Activity and Growth

A pattern of land use which promotes a close relationship and good access between living, working and leisure environments.

Policies:

- 4.1 *To promote town centres, existing and proposed, as the principal foci for commercial, visitor and cultural activities.*
- 4.2 *To promote and enhance a network of compact commercial centres which are easily accessible to, and meet the regular needs of, the surrounding residential environments.*
- 4.3 *To recognise and promote the established commercial character of the Commercial Precinct which contributes to its ability to undertake commercial, health care and community activities without adversely affecting the character and amenity of the surrounding environment.*

Implementation Methods

Objective 4 and associated policies will be implemented through a number of methods:

(i) District Plan

- (a) Identification of a land use pattern, existing and future, supporting a pattern of urban consolidation.
- (b) The location of town centres convenient to living environments.
- (c) Encouraging and providing opportunities for activities that are able to co-exist.
- (c) Zoning for new consolidated urban areas.
- (d) Zoning to distinguish high density residential from visitor accommodation development adjacent to town centres or to existing or probable public transport routes.

(ii) Other Methods

- (a) Provision of works and services in the existing town centre areas, e.g. roading improvements.
- (b) Protection and enhancement of existing urban heritage features and areas to retain the amenity and attractiveness of the existing town centre.

Explanation and Principal Reasons for Adoption

One of the important factors in managing urban growth is the interrelationship between the work place, living environments and leisure activities. While the Council does not expect all people to use the facilities nearest to their residence, there are valid resource management reasons why the opportunities should be available. These include ease of access between home and facilities (shopping) for those who have limited access to transport, providing for a range of transport options.

The District contains a range of compact commercial centres, which are the focus for much economic activity, and their well being is an essential part of the consolidation strategy. These centres must remain accessible and vibrant.

In addition to the above, the Council recognises the longer term retail needs of the community as well as the need to protect and enhance the amenity values the Queenstown Town Centre.

Objective 5 - Visitor Accommodation Activities

To enable visitor accommodation activities to occur while ensuring any adverse effects are avoided, remedied or mitigated.

Policy:

- 5.1 *To manage visitor accommodation to avoid any adverse effects on the environment.*
- 5.2 *To avoid, remedy or mitigate adverse effects of letting of residential units for short-term accommodation on residential coherence and amenity through a registration process and standards.*
- 5.3 *To ensure that the costs and regulatory obligations of visitor accommodation activities are appropriately borne and complied with by visitor accommodation providers.*

Implementation Methods

Objective 5 and the associated policies will be implemented through a number of methods:

(i) District Plan

- (a) Provision for visitor accommodation sub-zones.
- (b) Provisions controlling visitor accommodation activity.
- (c) Provision for a registration process for the letting of residential units for limited short-term accommodation.

Explanation and Principal Reasons for Adoption

The value of the visitor industry to the District is recognised and is a major factor in generating urban growth in terms of the demand it places on infrastructure, the need for housing and the extent of retail expenditure.

The Act requires the Council to ensure that the adverse effects of any such increase in visitor accommodation are avoided, remedied or mitigated.

Objective 6 – Frankton

Integrated and attractive development of the Frankton Flats locality providing for airport operations, in association with residential, recreation, retail and industrial activity while retaining and enhancing the natural landscape approach to Frankton along State Highway No. 6.

Policies:

- 6.1 *To provide for the efficient operation of the Queenstown airport and related activities in the Airport Mixed Use Zone.*
- 6.2 *To provide for expansion of the Industrial Zone at Frankton, away from State Highway No. 6 so protecting and enhancing the open space and rural landscape approach to Frankton and Queenstown.*

Implementation Methods

Objective 6 and associated policies will be implemented through a number of methods:

(i) District Plan

- (a) Provision for the airport designation and related activities.
- (b) Retention of open space and rural zoning along the greater part of the State Highway 6 approach to Frankton and Queenstown.

Explanation and Principal Reasons for Adoption

The Frankton Flats is an important area in terms of providing for the growth necessary to ensure the social and economic well being of present and future generations.

Extensive research into alternative options for the airport operation has been completed and these demonstrate unequivocally that the airport should remain on its current site.

Frankton is a preferred location for new school facilities. Reviews by the Ministry of Education conclude that a new primary school is needed in the area. A secondary school is also anticipated for the area.

Expansion of industrial activity at Frankton is possible in a manner which does not detract from the amenities of other uses or the surrounding natural and physical resources.

It is recognised that Frankton is located at a central point in terms of the arterial road network and as such development can take place in a manner which can be efficiently accessed.

Objective 7 – Queenstown Airport - Noise Management

Maintain and promote the efficient operation of Queenstown Airport and set appropriate noise limits in order to protect airport operations and to manage the adverse effects of aircraft noise on any Activity Sensitive to Aircraft Noise.

Policies

7.1 To ensure appropriate noise boundaries are established and maintained to enable operations at Queenstown Airport to continue and to expand over time.

7.2 To manage the adverse effects of noise from aircraft on any Activity Sensitive to Aircraft Noise within the airport noise boundaries whilst at the same time providing for the efficient operation of Queenstown Airport.

7.3 To manage the adverse effects of noise from Queenstown Airport by conditions in Designation 2 including a requirement for a Noise Management Plan and a Queenstown Airport Liaison Committee.

Implementation Methods

i District Plan

The identification of airport noise boundaries within the District Plan Maps

The inclusion of rules to manage any Activity Sensitive to Aircraft Noise around the Airport.

Regular monitoring of airport noise in accordance with the conditions attached to Designation 2 to ensure compliance with the airport noise boundaries.

Queenstown Airport Corporation Limited shall offer to fund retrofitting over time of sound insulation and mechanical ventilation of any Critical Listening Environments within existing buildings containing an Activity Sensitive to Aircraft Noise in the Air Noise Boundary to achieve an Indoor Design Sound Level of 40 dB Ldn. Retrofitting shall be based on the 2037 Noise Contours and shall be offered at the time the Projected 65 dB AANC reaches the property.

Queenstown Airport Corporation Limited shall offer to part fund retrofitting over time of mechanical ventilation of any Critical Listening Environments within existing buildings containing an Activity Sensitive to Aircraft Noise located between the Air Noise Boundary and the 2037 60 dB AANC Noise Contour. This ventilation is to enable windows and doors to remain closed to achieve the Indoor Design Sound Level if required. Retrofitting shall be based on the 2037 Noise Contours and shall be offered at the time the Projected 60 dB AANC reaches the property.

All retrofitting shall be conducted in accordance with the conditions attached to Designation 2.

ii Other Methods

Consultation with residents and dissemination of information on the current levels of airport noise and future intentions.

Explanation and Principal Reasons for Adoption

Queenstown Airport is a significant asset to the region. It provides a transportation hub for residents, visitors and business travellers and offers both domestic and international scheduled flights. The Airport also facilitates and supports a number of local tourist and aviation related businesses.

The Airport has been established at its current location in Queenstown since 1936. Since then the Airport has faced pressure from urban development. It is essential that such development is managed in a way that protects the current and future ability of the Airport to operate efficiently. It is also reasonable that noise boundaries are established for aircraft operations at the Airport in order to appropriately mitigate adverse effects on any Activity Sensitive to Aircraft Noise in the surrounding environment.

Being within the township of Frankton, Queenstown Airport has some existing residential neighbours. It is recognised that the anticipated growth in operations at Queenstown Airport will necessitate sound insulation and mechanical ventilation works to Critical Listening Environments within some existing, new or altered buildings in order to mitigate the effects of aircraft noise.

Queenstown Airport Corporation Limited will undertake regular monitoring to ensure that the owners or occupiers of existing buildings containing an Activity Sensitive to Aircraft Noise within the Projected 65 and 60 dB AANCs are offered appropriate noise mitigation in accordance with Designation 2.

The noise boundaries are also necessary to ensure new noise sensitive development does not occur in inappropriate locations, and new and alterations and additions to existing buildings are designed to achieve the Indoor Design Sound Level.

Objective 8 – Queenstown Airport – Urban Growth Management

Manage urban growth issues on land in proximity to Queenstown Airport to ensure that the operational capacity and integrity of the Airport is not significantly compromised now or in the future.

Policies

- 8.1 To protect the airport from reverse sensitivity effects of Activities Sensitive to Aircraft Noise.
- 8.2 To prohibit all new Activity Sensitive to Aircraft Noise within the Rural, and Industrial Zones located within the Outer Control Boundary at Queenstown Airport and to limit such uses in the Frankton Flats (A) Zone.

8.3 To prohibit all Residential, Visitor Accommodation and Community Activities within that part of the Remarkables Park Zone within the 2037 60dB Noise Contour at Queenstown Airport.

8.4 To ensure that Critical Listening Environments of all new and alterations and additions to existing buildings containing Residential, Educational Facilities and Visitor Accommodation in the Remarkables Park Zone in the areas identified in Figure 2 – Airport Measures in the District Planning Maps achieve an Indoor Design Sound Level of 40 dB Ldn, based on the 2037 Noise Contours.

8.5 To ensure that any Critical Listening Environments of all new and alterations and additions to existing buildings containing an Activity Sensitive to Aircraft Noise located in the existing Residential zones, and the Frankton Flats (A) Zone within the Queenstown Airport Outer Control Boundary are designed and built to achieve an Indoor Design Sound Level of 40 dB Ldn, based on the 2037 Noise Contours.

Implementation Methods

i District Plan

The provision of rules to prohibit or otherwise control any Activity Sensitive to Aircraft Noise in the Rural, Residential, Industrial, Frankton Flats, Airport Mixed-Use and Remarkables Park zones.

Where appropriate the provisions of specific zone based rules, standards and sound insulation and ventilation construction tables in Appendix 13 to ensure that any Critical Listening Environments of new and alterations and additions to existing buildings containing any Activity Sensitive to Aircraft Noise are designed to achieve an Indoor Design Sound Level of 40 dB Ldn, based on the 2037 Noise Contours.

ii Other Methods

Consultation with Queenstown Airport Corporation on any Plan Change or other land use proposal affecting land within the Outer Control Boundary.

Explanation and Principal Reasons for Adoption

Some types of activity on land adjacent to the Airport may give rise to issues of reverse sensitivity. It is essential for the current and future operation of Queenstown Airport that appropriate measures are taken in regard to noise sensitive activity in the vicinity of the Airport to ensure reverse sensitivity issues are avoided. The Airport is a key strategic asset for the district and makes a significant contribution to the district's economic, social and cultural well-being. Appropriate management of land use activities on land around the Airport in order to protect its ongoing function and operation is imperative. Such land use management will also manage the adverse effects on residential amenity, in particular indoor amenity, and community well-being by avoiding unnecessary exposure to higher than desirable levels of aircraft noise.

4.9.4 Environmental Results Anticipated

Implementation of the policies and methods for management relating to urban growth will result in:

- (i) Urban growth and residential growth provided in a form which recognises the social and economic well being of the residential community.
- (ii) Avoidance of development in locations that will adversely affect the landscape values of the District.
- (iii) A primary emphasis on urban consolidation.
- (iv) Avoidance of costly extensions to, or the duplication of public services or infrastructure.
- (v) Improved and sustainable use of urban facilities including shops, recreation and community facilities.
- (vi) Safeguarding the life-supporting capacity of the soils.
- (vii) Protection of the amenity of the residential areas.

- (viii) Commercial and community development which reflects and takes advantage of the outstanding natural setting.

4.10 Earthworks

4.10.1 Resources, Activities and Values

The topography of the Queenstown Lakes District often means that land modification, through earthworks, generally precedes the development of land. Some modification of the natural landscape is inevitable in order to provide safe and stable building platforms and roads with a suitable gradient. For example, in Queenstown, extensive excavation is often required to enable the further development of steep land. This has the potential to cause problems in terms of stability of adjacent properties, run-off and de-watering. Filling may also be used to increase the height of building platforms. This has the potential to alter the natural form of the landscapes, and has the potential to adversely affect the amenity values of neighbouring properties, and can alter drainage patterns.

Earthworks have the potential to alter landforms, landscapes and natural features to such an extent that the identity, amenity values and character of an area can be changed permanently. Therefore, while earthworks are temporary, their effects are often both significant and long term.

4.10.2 Issues

Sediment and soil run-off associated with earthworks have the potential to adversely affect water quality and the amenity values of neighbouring properties.

The direct results of sediment run-off include damage to neighbouring properties, the blocking of drains and the sedimentation of waterways.

The factors that affect the amount of sediment run-off are rainfall, soil erodability, slope length and slope gradient. The closer the earthworks operation locates to a waterway, the more immediate the potential impact.

Earthworks, either through excavation or filling, have the potential to permanently alter the natural shape and form of the landscape, particularly in areas of Outstanding Natural Features and Outstanding Natural Landscapes.

Potential adverse effects from earthworks on landforms and landscapes range from the widespread practice of remodelling the land for subdivisions, cut and fill operations, to more minor earthworks such as ground contouring for building platforms or driveways. Cut and fill operations can adversely affect privacy, cause physical domination and over-shadowing if located too close to neighbouring property boundaries, and have the potential to permanently alter the form and shape of Outstanding Natural Features and Outstanding Natural Landscapes.

Earthworks, including filling and excavation, have the potential to affect land instability and the potential for flooding.

Earthworks activities have the potential to weaken soil structure and exacerbate soil instability, subsidence, and soil erosion. This may be caused by incorrectly placed excavated fill, unsupported excavations, inherent weak rock strata combined with steep slopes, or steep slopes stripped of vegetation. Excavations close to the boundary also have the potential to reduce the overall stability of the soil of the adjacent property. Particularly in Queenstown, the excavation of sites to develop building platforms has the potential to undermine neighbouring properties.

Earthworks may also cause or exacerbate flooding by altering the natural profile of landforms, including the modification of stormwater run-off channels and catchment topography. The effects of modifying the landscape, if carried out inappropriately may cause downstream flooding and inundation. Further, by placing impervious structures beneath ground level, the potential for flooding is increased through the process of 'de-watering'.

Earthworks have the potential to adversely affect amenity values by creating noise and dust emissions.

Earthworks activities can emit high levels of noise, vibrations and dust. Dust emissions can cause irritation to people living nearby, and in some cases can cause adverse health effects such as asthma.

Earthworks operations cause noise emissions through the use of large machinery, vehicle movements and in some cases blasting. These are particularly disturbing to amenity values if they occur early in the morning or late at night.

Earthworks can disturb cultural heritage sites, including Waahi Tapu and Waahi Taoka, and archaeological sites.

Waahi Tapu and Waahi Taoka and archaeological sites in the District can be destroyed through the excavation and filling of land. A process of identifying these sites needs to be established so that the adverse effects of earthworks can be avoided.

Earthworks associated with tracking on highly visible slopes have the potential to adversely affect amenity values and permanently alter the landform.

Earthworks associated with the formation of tracks on highly visible slopes have the potential to have an adverse effect on the landscape and/or feature, particularly in areas of Outstanding Natural Landscapes and Outstanding Natural Features.

Earthworks have the potential to affect groundwater.

Earthworks have the potential to adversely affect the groundwater resource by either exposing the groundwater or by reducing the depth of the protective mantle that overlies the aquifer, which reduces the filtering capacity of the protective mantle. In the Wakatipu Basin the risk of aquifer contamination the filtering capacity of the protective mantle. In the Wakatipu Basin the risk of aquifer contamination due to excavation is particularly high, because in parts the protective soil mantle is very thin.

4.10.3 Objectives and Policies

Objectives

To avoid, remedy or mitigate the adverse effects from earthworks on:

- (a) **Water bodies**
- (b) **The nature and form of existing landscapes and landforms, particularly in areas of Outstanding Natural Landscapes and Outstanding Natural Features.**
- (c) **Land stability and flood potential of the site and neighbouring properties**
- (d) **The amenity values of neighbourhoods**
- (e) **Cultural heritage sites, including waahi tapu and waahi taoka and archaeological sites**
- (f) **The water quality of the aquifers.**

Policies:

1. *To minimise sediment run-off into water bodies from earthworks activities through the adoption of sediment control techniques.*
2. *To avoid the location of earthworks in close proximity to water bodies. Where this can not be avoided, to ensure that sediment control measures are put in place to minimise sediment run-off.*
3. *To minimise the area of bare soil exposed and the length of time it remains exposed.*
4. *To avoid or mitigate adverse visual effects of earthworks on outstanding natural landscapes and outstanding natural features.*
5. *To avoid earthworks including tracking on steeply sloping sites and land prone to erosion or instability. Where this can not be avoided, to ensure techniques are adopted that minimise the potential to decrease land stability.*
6. *To protect the existing form and amenity values of residential areas by restricting the magnitude of filling and excavation.*

7. *To ensure techniques are adopted to minimise dust and noise effects from earthworks activities.*
8. *As far as practicable, to protect Waahi Tapu, Waahi Taoka, and other archaeological sites from potential disturbance resulting from earthworks.*
9. *To notify Kai Tahu ki Otago where earthworks are proposed in areas identified in either the District Plan or the Natural Resource Management Plan as significant to iwi.*
10. *To notify the NZ Historic Places Trust where proposed earthworks may affect archaeological sites.*
11. *To ensure that work is suspended and Kai Tahu ki Otago and the NZ Historic Places Trust are notified when archaeological remains are observed or unearthed during earthworks activities.*
12. *To avoid contaminating the water aquifers of the Queenstown Lakes District.*

Implementation methods

(i) District Plan

- (a) The inclusion of rules controlling the effects of earthworks activities in the Residential, Rural Living Areas, Townships, Town Centre, Business and Industrial, and Special Zones.

(ii) Other methods

- (a) The provision of sediment control guidelines, which provide information on sediment control techniques, and best management practices for earthworks activities.
- (b) Advise and provide information to local community groups, landholders and organisations
- (c) Coordination with Te Runanga O Ngai Tahu, Kai Tahu ki Otago and the NZ Historic Places Trust in the identification and protection of sites of cultural heritage value.

- (d) Advise and provide information to all those proposing to undertake earthworks with detailed information of the Wakatipu aquifers and mantle as provided by the Otago Regional Council.

Explanation and Principal Reasons for Adoption

The Council recognises that most development requires some modification of the natural environment through earthworks, and that such operations have the potential to cause adverse environmental effects. Consequently, the Council has adopted an approach that enables development, while ensuring adverse environmental effects are minimised. This is achieved through placing controls on earthworks activities that are of a large magnitude, are on a steep site, close to neighbouring property, or within close proximity to a water body or within an Outstanding Natural Feature or Outstanding Natural Landscape.

Earthworks that comply with the site standards are a permitted activity. While the effects from such earthworks may be minor, the cumulative effects may be significant. It is therefore considered important that landowners are made aware of techniques they can adopt to minimise adverse effects.

Section 35 of the Act requires the Council to undertake such research or gathering of information necessary to effectively carry out its functions. Monitoring is an important mechanism for feedback inherent to the Council fulfilling its responsibilities for review or refinement of the District Plan. It is, in effect, the process of information collection and recording. This includes gathering information and maintaining records in respect of resource management matters and the state of the environment, and the compliance with resource consents granted by the Council. A crucial element for effective monitoring is to set objectives, policies or some other mechanism through which it is possible to evaluate both the extent to which resource management objectives and policies contained in the District Plan are being met and also whether the monitoring system is delivering sufficient information to enable this assessment to be undertaken effectively.

Section 75 of the Act sets out the matters to be included in the District Plan. This includes a requirement to state the procedures to be used to:

- (a) review the provisions of the District Plan; and

4.11 Monitoring, Review and Enforcement

4.11.1 Issues

i Monitoring and Review

The processes of monitoring and review are integral to the Council's responsibilities under the Act.

The review was carried out in relation to all resource management issues of the District prior to the preparation of this District Plan, and will be carried out again, in full, prior to the review of the Plan required by the Act. In addition throughout the life of this District Plan various resource management matters need to be subject to ongoing review to assess the extent to which the integrated management of effects of land and resource use is being achieved. At times this may require focusing on particular issues or environmental effects while at other times certain areas of the District may form the focus.

- (b) monitor the effectiveness of the Plan as a means of achieving its objectives and policies

The Council has a statutory obligation to undertake a complete Review of its District Plan at least every ten years (Section 79). However, monitoring procedures may indicate a necessity to refine the provisions of the District Plan prior to the next Review. Should the Council decide to take action on the basis of monitoring and review of the District Plan it may do so by way of a Plan Change, undertaken in accordance with the First Schedule of the Act.

ii Enforcement

No person may use or subdivide land in the District in a manner that contravenes a rule in the District Plan, unless having existing use rights or expressly allowed by a resource consent granted by the Council.

Under Section 38 of the Act the Council may authorise persons to carry out the functions and powers of an enforcement officer. Such officers may serve abatement notices against persons who are breaching the

Act, a rule in the District Plan or a resource consent, or operating in a manner which is having an adverse effect on the environment. In relation to noise contravening Section 16 of the Act, an abatement notice may require the adoption of the best practicable option of ensuring that the emission of noise from land or water does not exceed a reasonable level. If abatement notices are not acted on, the Environment Court may issue an enforcement order requiring compliance.

There are a number of environmental effects arising from activities which it is not practicable to control by performance standards at this stage. In particular, dust and vibration are all matters which are sufficiently complex in their effect, components and measurement to make the establishment of meaningful and effective performance standards impossible. However because these effects can be of considerable annoyance and affect health it would be quite inappropriate for the Council to take no part in controlling these effects. The Council does have available to it enforcement procedures which enable it to consider each situation and determine whether there is an effect of such intensity or character that it is likely to be objectionable, noxious, offensive or dangerous to the extent that it is likely to have an adverse effect on the environment.

4.11.2 Objectives and Policies

Objective 1

A District Plan which addresses relevant issues and concerns consistent with the purpose and principles of sustainable resource management.

Policies:

- 1.1 *To monitor the state of the environment against the anticipated environmental outcomes stated in the Plan, as a means of determining whether the District Plan is achieving what it is intended to.*
- 1.2 *To use a range of monitoring procedures to monitor and review the achievement of the Plan's objectives and policies.*

- 1.3 *To monitor the compliance of activities or developments with their conditions of consent.*
- 1.4 *To monitor the consistency of the District Plan with regional and national policy statements, and its effectiveness in implementing the objectives and policies of these policy statements.*
- 1.5 *To respond to new resource management issues and difficulties with the District Plan by way of review and possible changes to the District Plan.*
- 1.6 *To co-operate with the Regional Council, other agencies, territorial authorities and scientific organisations to achieve co-ordinated and mutually beneficial monitoring information.*
- 1.7 *To encourage larger organisations to prepare, and make available to the Council, environmental management strategies which may form the basis for monitoring programmes.*
- 1.8 *To undertake public consultation in monitoring and review procedures, as a means to better understanding of resource management concerns.*

Explanation and Principal Reasons for Adoption

These policies have been developed to meet the requirements of Sections 31, 35 and 75(1)(i) of the Act. The Council will initiate and/or accept requests for Plan changes where the need for such are demonstrated through monitoring and review procedures. Co-operation between larger organisations and the Council is seen as a means to more efficient monitoring programmes. The Council will otherwise encourage public input into monitoring and review procedures.

Objective 2

Land and water surface uses that are consistent with the provisions of the District Plan and the principles of sustainable resource management.

Policies:

- 2.1 *To use available powers under Part XII of the Act to ensure that activities comply with the Act (in particular the requirement to avoid, remedy or*

mitigate adverse environmental effects), the District Plan and any resource consents granted.

- 2.2 To use enforcement powers, where appropriate, in response to problems brought to the attention of the Council by both the general public and the Council's own monitoring programmes.

Explanation and Principal Reasons for Adoption

The Council has prepared the District Plan as a means to achieving the sustainable management of natural and physical resources. It is anticipated that the monitoring programme undertaken by the Council will highlight situations in which abatement notices or enforcement orders may be required.

4.11.3 Monitoring Procedures

For each Section of the District Plan setting out the District's issues, objectives and policies, a set of environmental results anticipated has been specified. These form the basis for the monitoring specified below for each topic area, targeted according to the above priorities.

The annual monitoring programme will be determined each year through the Annual Plan. Changes in funding available, work priorities and particular circumstances will influence the specific nature of the monitoring programme each year. On-going analysis of monitoring data collected will also enable an assessment of the nature of the monitoring being undertaken to determine whether it is providing appropriate information to assess the achievement of the Plan's objectives and policies.

Monitoring will be undertaken through the following different procedures:

- i **Council Records:** The Council is required under the Act to keep and monitor information collected through its regulatory and other responsibilities, such as resource and building consents and a register of complaints received. Analysis of these will provide information regarding development within the District and attitudes to any adverse effects of that development. Monitoring of compliance with resource consent conditions will assist in assessing the adequacy and appropriateness of Plan policies and rules.

- ii **Department of Statistics and Quotable New Zealand:** The Council will continue to obtain updated data from these and other important sources of demographic, building, agricultural and business information.
- iii **Surveys:** Every 3-5 years the Council will survey the District's community regarding its attitudes towards particular resource management issues. The Council will also continue to undertake traffic, parking and noise level surveys and recreational user surveys.

- iv **Annual Planning Process:** The District's Annual Planning Process provides the opportunity for the public to comment on the draft annual plan each year. Comments from this process are sometimes relevant to resource management issues, which can be included within the District Plan. The Council will also establish a separate programme to monitor the state of the environment generally (Section 35). The annual details of this programme will be included in the Annual Plan. Information for this programme will help identify new or changing issues of relevance to the District Plan, and trends between the state and health of the environment and land use activities.

- v **Regional Council Monitoring Programme:** The Regional Council undertakes a comprehensive monitoring programme in relation to its own areas of responsibility. Many of these are of relevance to the Council's District Plan, such as ground and surface water quality and availability, soil erosion and soil health, vegetation cover and flooding risks. The Regional Council's Annual Monitoring Report provides an important source of information. The Council will continue to liaise with the Regional Council regarding the mutual benefits of monitoring information.

- vi **Liaison with Other Councils:** Other Councils, particularly those which include rural areas share many of the same resource management issues. The Council may seek to encourage liaison and co-operation between these Councils and a pooling of resources to undertake particular jointly funded monitoring and research.

- vii **Scientific Organisations:** The Council may maintain liaison with scientific organisations, particularly those undertaking research relating to resource management issues in the rural areas. The Council may consider opportunities that become available to support and provide assistance to research organisations undertaking relevant monitoring

and research investigations, and may continue to monitor the outcomes of such research.

viii Land occupiers and owners: In many instances, the most effective monitoring can be undertaken by land occupiers and owners themselves, such as the monitoring of vegetation and soil condition in the rural areas. The Council may take an active role in providing support and assistance to landholder groups undertaking their own monitoring and in facilitating the provision of information regarding monitoring techniques to such groups. The larger organisations owning land and/or facilities within the District already undertake their own environmental monitoring programmes. The Council will seek a co-operative approach with these organisations where their information can be usefully integrated into the Council's own monitoring programme.

4.11.4 Monitoring of Key Environmental Results

Using the range of monitoring procedures specified under 4.10.3 above, the following will be components of the Council's long term programme to monitor and review the achievement of the Plan's objectives and policies. These components will be reassessed, amended and added to, on an on-going basis to ensure that they are providing appropriate information to assess the achievement of the Plan's objectives and policies.

i Natural Environment

- Changes to indigenous ecosystems and natural habitats of indigenous plants and animals.
- Changes in the level of protection afforded to sites of nature conservation value through land acquisition, the use of covenants or agreements, or resource consent provisions.
- Changes to the quality of the natural character of lake and river margins.

- Distribution and change of distribution of exotic species with potential to spread and naturalise.
- Community views regarding the importance of protecting nature conservation values and the nature of those community values.

ii Landscape Values

- Changes in the level of permanent protection afforded to areas of landscape value.
- Community attitudes regarding the importance of retaining or enhancing landscape values.
- The extent to which the policies of urban consolidation have been achieved.
- The extent to which new utilities have been located and designed to be sympathetic to the landscape.
- Distribution and change of distribution of new forestry projects and soil conservation planting.
- Costs of compliance and implementation of the Plan's provisions.

iii Takata Whenua

- Level of takata whenua involvement with resource management decision making.
- As for natural environment above.
- As for heritage values below.

iv Heritage Values

- Changes to number and condition of remaining heritage buildings.

- Residents' views regarding level of involvement of the Council with heritage protection.
 - Degree of implementation of protection measures - resource consents, use of incentives, conservation covenants, etc.
 - Effects on and changes to archaeological sites as a result of building development and land use changes.
 - Satisfaction of takata whenua with procedures instituted regarding archaeological sites.
- v Natural Hazards**
- Physical damage from any hazard events.
 - Effectiveness of response procedures.
 - Changes in levels of risks from hazards due to improved protection works or property development in areas at risk.
 - Changes in knowledge and understanding about the likelihood of the occurrence of natural hazards.
 - Effectiveness of building floor heights and locational controls in avoiding damage.
- vi Transport**
- Traffic volumes and routes.
 - Pedestrian/cycle/public transport usage.
 - Accident records - number and severity.
 - Residents' views regarding amenity and safety of streets, accessibility of commercial and community facilities.
- Residents' views regarding local traffic management schemes - both before and after implementation.
- vii Subdivision**
- Complaints regarding traffic issues.
 - Rate and extent of new subdivisions.
 - Ability to service new subdivision and development adequately and efficiently.
 - Capacity of public services to accommodate additional development.
 - Efficiency of use of existing public services.
 - Need for extensions to new public services.
 - Nature of conditions being imposed on subdivision consents, compared with the provisions of the District Plan.
 - Residents' views regarding the character, extent and effects of new subdivisions.
 - Degree of protection of trees, natural features, margins of lakes and rivers achieved through subdivision.
 - Extent of subdivision in hazard-prone areas.
- viii Recreation and Open Space**
- Increase in the number and location of esplanade reserves and strips and access strips held by the Council.
 - Change in the number of hectares of reserves held by the Council, their location, distribution and proximity to the District's population.
 - Proportion of population in settlements who do not live within 400m of a neighbourhood recreation reserve.

- Improvements to reserve development and facilities.
- Use of recreation facilities.
- Complaints regarding adverse effects of recreational activities.
- Residents' views regarding availability of recreational opportunities and open space; and environmental effects of recreational activities.
- Surveyed noise levels.
- Surveyed traffic volumes.
- Residents' views regarding environmental effects of activities on the surface of lakes and rivers.
- Use of lakes and rivers for recreational and commercial activities.
- Reported adverse effects on natural values of activities on the surface of lakes and rivers.
- Accident records involving recreational activities.

ix Energy

- Changes in the area of tree plantings.
- Changes in the area of indigenous tree cover retained.
- Changes to the extent of settlements.
- Changes to the density and distribution of residential activities within and adjoining settlements.
- Changes to the distances regularly travelled by residents and visitors and per capita fuel consumption.
- Costs of compliance and implementation of the Plan's provisions.

x Utilities

- Increase in areas served by reticulated sewer, stormwater and water supplies.
- Ease and efficiency of servicing new subdivisions and developments.
- Proportion of settlements with utility wires and cables underground.
- Complaints regarding adverse effects of utilities.
- Residents' views regarding the effect of utilities on local amenity values.
- Costs of compliance and implementation of the Plan's provisions.

xi Waste Management

- Operational and environmental standards of landfills.
- Using the waste analysis protocol, survey of changes in the types and quantities of wastes disposed of annually.
- Changes in the types and quantities of waste recycled.
- Reduction in the life of existing landfills.
- Changes in groundwater quality in the vicinity of landfills.
- In conjunction with the Regional Council, survey of the use and disposal of hazardous substances.

xii Hazardous Substances

- In conjunction with the Regional Council, the preparation and updating of an inventory of the use and manufacture of hazardous substances.
- Recording of any spillages, pollution and other incidents.

- Effectiveness of responses to spillages, pollution and other incidents.
- xiii Signs**
- Complaints received regarding adverse effects of signs.
 - Changes in amenity levels in areas containing signs.
 - Records of traffic accidents in rural areas and their relationship to signs.
- xiv Residential, Rural Living and Urban Areas**
- Changes in the density and distribution of buildings, including residential activities.
 - Changes in the extent of settlements and the contrast between settlements and their surrounding rural areas.
 - Changes in population size and density.
 - Changes in number of residential units.
 - Changes in the amount of vacant land available in each zone.
 - Improvements and development of public open space.
 - Complaints regarding adverse effects of non-residential activities.
 - Residents' views regarding the environmental effects of non-residential activities and their perception of residential areas.
 - Surveyed noise levels.
 - Surveyed traffic volumes.
 - Changes in the availability of services and facilities within the townships.
- Number and type of non-complying activities approved by the Council.
- xv Town Centre, Business and Industrial Areas**
- Frequency of use of, and noise levels from, the Queenstown Airport.
 - Changes in business floorspace quantity, distribution and type.
 - Changes in the location of different types of business activity.
 - Changes in the amount of vacant land available in each zone.
 - Availability of public parking in business areas.
 - Surveyed traffic volumes.
 - Surveyed noise levels in and adjoining business areas.
 - Changes in the number and location of residential units in business areas.
 - Complaints regarding adverse effects of business activities on properties in neighbouring zones.
 - Residents' views regarding the environmental effects of business activities and the availability, convenience and accessibility of business activities.
 - Views regarding the quality of design and amenity of the town centre areas.
- xvi Rural Areas**
- Changes in the extent and degree of subdivision of land containing versatile soils.
 - Changes in the extent of building and curtilage development on land of versatile soils.
 - Changes in general subdivision patterns.

- Changes in the nature and extent of non-land-based activity in the rural areas.
- Surveyed noise levels.
- Surveyed traffic volumes.
- Residents' views regarding the nature of rural amenity values.
- Changes in the extent of settlements and the contrast between settlements and their surrounding rural areas.
- Change in the nature, scale and location of farming, forestry and other land-based rural activities.
- Number and type of non-complying activities approved by the Council.
- Changes in vegetation cover and condition and soil condition. (Further research is needed to develop cost effective techniques for such monitoring.)
- Trends evident between land use practices and the state of vegetation and soil condition.
- Costs of compliance and implementation of the Plan's provisions.

4.11.5 Review Procedures

Section 73 of the Resource Management Act 1991 requires that the Queenstown Lakes District Council have at all times a District Plan. The Council is obliged to commence a full review of its District Plan not later than 10 years after this Plan becomes operative. It is, therefore envisaged this document will be in force for at least the next decade.

However, as changes occur to the environment it may be desirable to make amendments to this Plan in order to respond to the new issues and condition. This can be done either in part by introducing a Plan Change or in full by way

of a total review. Any person may apply for a change to this Plan, or the Queenstown Lakes District Council may itself initiate a change. In considering the need to review or change this Plan, the Queenstown Lakes District Council will have regard to:

- Changes in legislation dealing with resource management;
- Improved knowledge and understanding of the environment;
- Changes in technology and market conditions;
- The development of National Policy Statements, Regional Policy Statements and Plans, and review of these documents;
- The development and review of other resource management plans including Kai Tahu Ki Otago: Natural Resource Management Plan, the Conservation Management Strategy for Otago, and reserve management plans;
- Changes to the Historic Places Register.

Any review or change to this Plan will be carried out in accordance with the provision of the First Schedule to the Resource Management Act 1991.