7. SURFACE WATER QUANTITY

7.1 Introduction

This Chapter deals with resource use conflicts related to the quantity of water in surface water bodies. Out-of-stream uses involving the taking, damming and diversion of water can change the quantity of water in these water bodies, impacting on flow regimes and water levels. This can affect the people and communities who are reliant on this water, its life supporting capacity, water quality, and in stream values.

The West Coast generally receives frequent and plentiful rainfall. Annual rainfall increases as one moves south down the West Coast due to the influence of the Southern Alps. The upper Grey River valley and Reefton areas are noted as receiving the least rainfall during Summer, and have a number of catchments where groundwater contributes little to the base flows during Summer. Seasonally, for the northern half of the region, rainfall and river flows are highest during Spring and lowest during Summer. Conversely for South Westland, rainfall and river flows are highest during Summer and lowest during Winter. The high and intense rainfall produces frequent flash floods in the regions rivers which usually contain relatively high base flows. Flows that are affected by large lakes or are mainly spring fed are more stable, and generally have smaller floods.

Note: The provisions in this chapter are in addition to those in Chapter 3, which seek to maintain or enhance the natural and human use values supported by lakes and rivers.

7.2 Objectives

7.2.1 To retain flows and water levels in water bodies sufficient to maintain their in stream values, natural character, and life supporting capacity.

Explanation

This Objective seeks to maintain sufficient flows and water levels in rivers and other water bodies to provide for in stream values, natural character, and life supporting capacity.

7.2.2 To provide for the water needs of the West Coast's industries, network utility operators, and community water supplies.

Explanation

The economic, social and cultural wellbeing of the West Coast's people and communities rely on their access to securing suitable quantities of water. Network utility operators also require access to water to ensure the continued maintenance and operation of infrastructural networks thereby providing for the economic, social, and cultural wellbeing of the West Coast's people and communities. The present and reasonably foreseeable needs for water will need to be met, provided any adverse effects are sustainably managed. This includes existing users who rely on current takes of water, as well as future users.

7.2.3 To promote the efficient use of water.

Explanation

Efficient use of water occurs when the volume of water taken is sufficient to meet the needs of the use, with the least possible wastage, or overestimation of need.

7.2.4 To avoid, remedy or mitigate adverse effects on the quality of source and receiving water, including its ecology and mauri, where such water is subject to any inter-stream or inter-catchment transfer.

Explanation

New transfers may result in changes to receiving and source water quality, or the introduction of species to areas where they are not already present and the loss of values associated with the source water body.

7.2.5 To avoid, remedy or mitigate any adverse effects of managed flows in rivers, or from fluctuating levels of controlled lakes.

Explanation
Modified flows from activities including damming, diversion from rivers, and flow augmentation can cause adverse effects where the flows or variations in flows may not provide for the requirements of natural and human use values, existing lawful uses, or may adversely affect bed or bank stability. Levels in controlled lakes are subject to fluctuations due to the active management of the lake. Lake levels are altered through a control structure such as a dam. The management of flows and controlled lake levels may be required to ensure that any adverse effect of fluctuating lake levels is avoided, remedied or mitigated.

7.3 Policies

Note: General Policies for the management of flows are outlined in Policies 7.3.1 – 7.3.7, while specific Policies for the management of flows associated with run of the river dams are outlined in Policies 7.3.8 – 7.3.14. For other dam schemes, Policies 7.3.1 – 7.3.7 may apply as well.

Policies Applying to the Taking of Water

7.3.1 Takes from rivers where the total volume of water allocated is less than 20% of the river's mean annual low flow will require no minimum flow.

Explanation
Water in a river may already be allocated to a number of uses including lawfully established takes, takes that are permitted under the Rules of this Plan, and takes provided for under Section 14 of the RMA. When only a small proportion of the available water in a river is taken, there is little need for a consent condition restricting use at low flows because of the low risk of adverse effects due to the taking. The costs of administering minimum flows are high, and it is not cost effective to set minimum flows on takes that have a low risk of causing effects.

The need for gaugings to determine mean annual low flow (MALF) will be at the discretion of Council staff. MALF is determined at the point of take, but needs to take account of the cumulative water takes at other points in the catchment. Once calculated, the MALF for a river will be fixed for the duration of the plan. For smaller streams with high in stream values the location and rate of take and the seasonal timing of the take can be controlled by conditions on the consent.

Note: General policies for the management of flows are outlined in Policies 7.3.1-7.3.7, while specific Policies for the management of flows associated with the run of the river dams are outlined in Policies 7.3.8-7.3.14. For other dam schemes, Policies 7.3.1-7.3.7 may apply as well.

7.3.2 Where Policy 7.3.1 does not apply, a minimum flow based on 75% of the mean annual low flow will be applied as a consent condition.

Explanation
Where more than 20% of any stream has been allocated, a minimum flow will be applied to any new consent for taking water. In the absence of detailed hydrological information, minimum flow assessments can be based on a percentage of the MALF. A minimum flow of 75% of MALF will provide for the natural character, and life supporting capacity of the aquatic ecosystem. In small streams (less than 250l/s MALF) with documented significant trout spawning values, Fish and Game New Zealand may be considered an affected party. Where multiple takes occur, rationing may need to occur before minimum flow is reached.

7.3.3 To consider granting an application for a resource consent to take water from a river, subject to a minimum flow lower than that specified in Policy 7.3.2, on a case-by-case basis, provided:

(a) Any adverse effects on in stream values or natural character of the source water body or any other connected water body are avoided, remedied or mitigated; and

(b) Any adverse effects on lawfully existing takes of water are no more than minor; and

(c) The application if granted, together with the cumulative effect of other existing lawful takes, avoids, remedies or mitigates adverse effects on the life supporting capacity of any waterbody.

Explanation

This Policy provides criteria for the granting of consents to take water as an exception to the requirements of Policy 7.3.2. This will generally require the applicant to undertake assessment methods on a site specific basis to determine a flow regime that provides for all in stream values including ecological and human use values. Scientific assessments are the most accurate method of determining low flow habitat requirements. However, it is recognised that scientific assessments will not always be appropriate or practical. The cumulative effects of multiple takes will also be considered.

Where adverse effects are considered to be unavoidable, a resource consent may be declined or, if granted, may be subject to conditions requiring unavoidable adverse effects to be remedied, mitigated or to be appropriately compensated for. This Policy is adopted to enable consideration of applications for the taking of water as an exception to the requirements of Policy 7.3.2 where such a take will have no more than a minor effect.

7.3.4 Minimum flows required by Policies 7.3.2 or 7.3.3 will not apply to existing community water supply takes identified in Schedule 7B.

Explanation
Under low flow conditions, priority is given to protecting takes for existing community water supply. This policy exempts scheduled existing community water supplies from restriction in terms of the minimum flow requirements applied to other takes. New community takes and any increase in the current level of take will be considered under Policies 7.3.1 to 7.3.3.

This Policy is adopted to enable continued operation of Schedule 7B existing community water supplies. Human health and safety are dependent on a reasonable supply of water and imposing minimum flows on existing takes may compromise human health and safety unnecessarily.

7.3.5 To suspend the taking of water when minimum flows have been reached.

Explanation
When the flow in any river is at or below that minimum flow, all takes that are subject to that minimum flow will be suspended. Conditions relating to minimum flows and suspension will be placed on resource consents for water takes. Permitted activity takes are not restricted by any minimum flows.

7.3.6 To promote the efficient use of water and to consider the need to cap the overall allocation from any water body.

Explanation
The efficient use of water will be assessed on a case by case basis as it is not possible to establish a definition of efficiency that is appropriate or applicable for all potential water. For irrigation applications rate of take should be determined based on area to be irrigated, soil type, and vegetation.

In the future, demand for water may necessitate a cap on further allocation. If this is deemed necessary, the Council will formally resolve that no further permits to take water will be granted in that catchment.

7.3.7 To monitor the taking and use of water, requiring the volume and rate of take to be measured as or where appropriate.

Monitoring water use enables better management of the resource. For significant takes, Council may require the instantaneous rate and weekly volume to be monitored. Monitoring is unlikely to be useful for short term or non-consumptive takes.

7.3.8 To approve an application to transfer a consent holder's interest in a resource consent to take and use water in terms of Section 136(2)(b)(ii) of the Resource Management Act, providing:

(a) The transfer is within the same catchment as the original consent; and

(b) The total take from the water body following transfer does not exceed that occurring prior to the transfer, as a result of the transfer; and

(c) There are no more than minor adverse effects on any other take or on any in stream values, as a result of the transfer.

Explanation

Section 136(2)(b) of the Resource Management Act provides for the transfer of the whole or any part of a consent holder's interest in a consent for the taking and use of water to another person on another site, or to another site, if both sites are in the same catchment (either upstream or downstream). Rule 40 allows takes to transfer downstream as a permitted activity, subject to conditions. If a consent holder wishes to transfer upstream or to a tributary a resource consent is needed and this policy will apply, in order that any potential adverse effects can be properly assessed.

National Direction – National Policy Statement for Freshwater Management 2020 (NPSFM)

Part 1 Preliminary provision 1.7(1) of the NPSFM provides that Implementation Requirement 3.24(1) (Rivers) must be added to regional plans without using the public consultation process in Schedule 1 of the Resource Management Act 1991 (the RMA).

Under Section 55(2A) of the RMA, Implementation Requirement 3.24(1) (Rivers) is accordingly included in this Plan as Policy 7.3.8A below.

7.3.8A The loss of river extent and values is avoided, unless the Council is satisfied:

(a) That there is a functional need for the activity in that location; and

(b) The effects of the activity are managed by applying the effects management hierarchy.

Note: The terms "loss of….values", "functional need", and "effects management hierarchy", are defined in clause 3.21 of the NPSFM. These definitions as used in the above policy relate only to Policy 7.3.8A and do not apply to the rest of the Plan.

Policies for Lake Levels, Damming, Diversion, and Augmentation

7.3.9 Where lake levels are already controlled, to recognise and provide for the purpose of that control if limits are to be placed on operating levels.

Explanation

Some of the West Coast's lakes are controlled through the use of dams for specific purposes. The purposes of existing controls are to be recognised and provided for when considering resource consents that affect lake levels. Limits on operating levels may be imposed, where necessary, in accordance with Policy 7.3.9. This Policy ensures that the purpose of controlling any lake where such control already exists is not unduly compromised. Given the investment in dams and associated structures, it would be inappropriate to prevent the use of the dammed water for the purpose for which it was dammed.

7.3.10 To limit the operating levels of any controlled lake, where appropriate, to avoid or mitigate adverse effects on:

(a) The matters referred to in Policy 3.3.1, 3.3.2 and 3.3.7;

(b) Riparian values;

(c) Lakeshores and public access;

(d) Bed stability; and

(e) The needs of the West Coast's people and communities.

Explanation

Changes in the levels of lakes and the rate of change can adversely affect the matters identified in (a) to (e) of the Policy. It is important to consider new proposals to manage lake levels and new consents for existing dams, in order that appropriate conditions can be set to avoid or mitigate these adverse effects. These conditions will address extremes in lake levels, and the rates of change of such levels.

7.3.11 In regulating the management of controlled flows, other than in association with a small dam or any dam designed to contain contaminants, to have regard to:

(a) The matters identified in Policy 3.3.1, 3.3.2 and 3.3.7;

(b) The periodic release of water at appropriate flow rates, where necessary to remove excess algal growth or accumulated sediment;
(c) The existing needs of consumptive users of water; and
(d) The extent to which the water body has been modified by resource use and development.

Explanation
This Policy identifies the measures that may be required in managing controlled flows, to avoid or mitigate adverse effects. Dams designed to contain contaminants and small dams permitted by this plan are excluded. Where the controlled flow conditions could lead to the river's natural and human use values identified in Chapter 6, or uses of that water, being compromised, discharge flows can be modified to avoid or mitigate those effects. This may be achieved through setting maximum and minimum levels of flow, and through control of the range or rate of change of flows. The natural and human use values downstream of any existing dam not designed to pass water will be maintained by continuing the existing operating regime. The measures identified in the Policy would be introduced upon conditions on the relevant resource consents.

7.3.12 To require, where necessary, desirable and practicable, provision for fish migration.

Explanation
Where the Council requires a resource consent for damming or diversion of water, it will consider requiring the person to provide means for the upstream and downstream passage of fish including eels. There are situations where passage may not be necessary, if fish are not present; or desirable, if a dam is preventing upstream migration of predatory trout into a threatened native fish habitat, for example. These need to be assessed on a case-by-case basis. In cases where retrofitting a fish pass to a dam is impracticable, alternative remedial measures that enable migration will be considered.

7.3.13 In considering resource consents for flow augmentation proposals involving any transfer of water between streams or catchments, regard will be had to avoiding, remedying or mitigating effects on:
(a) Flora or fauna, including the introduction of new species;
(b) Water quantity and quality; and
(c) Tangata whenua cultural values;
in the source and receiving waters.

Explanation
Augmentation of surface water flows for the purposes of this policy occurs where water is brought into a catchment or stream for subsequent release. When considering any relevant resource consents required for new augmentation schemes, regard must be had to avoiding the adverse effects identified in this policy. In relation to pest species preference will be given to avoiding their introduction.

7.3.14 When considering diversions associated with disturbance of riverbeds, priority will be given to avoiding, in preference to remedying or mitigating, adverse effects on surface flows.

Explanation
When considering diversion associated with riverbed disturbance, priority must be given to avoiding adverse effects, in preference to remedying or mitigating them. The avoidance of adverse effects on the quantity of surface flows will be sought in the first instance.

Where adverse effects are considered to be unavoidable, a resource consent may be declined or, if granted, may be subject to conditions requiring unavoidable adverse effects to be remedied, mitigated, or appropriate financial contribution made.

The West Coast has a history of diversions associated with mining of riverbeds, where subsequent to the re-instatement of the river to its original course, post-mining, flows disappear into gravels.

7.3.15 Financial contributions, works or services may be required to offset, remedy or mitigate any unavoidable adverse effect of the taking, damming or diversion of water.

Explanation
The taking, damming or diversion of water can result in unavoidable adverse effects on the natural and human use values supported by a water body. Where such effects occur, financial contributions, works or services may be required as a condition of a resource consent to offset, remedy or mitigate the effects.

7.3A Transitional Policies – National Policy Statement on Freshwater Management

The National Policy Statement for Freshwater Management 2011 (NPS) contains four objectives and seven policies in relation to freshwater quantity.

Policy B7 of the NPS, and direction under section 55(2A) of the Resource Management Act 1991 (RMA), requires every regional council to amend regional plans (without using the process in Schedule 1 of the RMA) to the extent needed to ensure that plans include Policy B7 of the NPS.

Policy B7 of the NPS is accordingly included in this Plan as Policies 7.3A.1 to 7.3A.3 below.

7.3A.1 When considering any application the consent authority must have regard to the following matters:

(a) the extent to which the change would adversely affect safeguarding the life-supporting capacity of freshwater and of any associated ecosystem; and

(b) the extent to which it is feasible and dependable that any adverse effect on the life-supporting capacity of fresh water and of any associated ecosystem resulting from the change would be avoided.

7.3A.2 Policy 7.3A.1 applies to:

(a) any new activity; and

(b) any change in character, intensity or scale of any established activity –

that involves any taking, using, damming or diverting of fresh water or draining of any wetland which is likely to result in any more than minor adverse change in the natural variability of flows or level of any freshwater, compared to that which immediately preceded the commencement of the new activity or the change in the established activity (or in the case of a change in an intermittent or seasonal activity, compared to that on the last occasion on which the activity was carried out).

7.3A.3 Policy 7.3A.1 does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management took effect on 1 July 2011.

7.4 Methods

7.4.1 The Council will seek to ensure that the effects of stormwater and drainage from new subdivisions is considered at the planning stage, at the same time as waste disposal, water supply and natural hazards.

7.4.2 Where the cumulative volume allocated from a river for permitted and/or consented takes reaches or exceeds 15% of MALF the Council will review the application of Rules 37, 38, and 39 to the affected river, and a plan change may be required to address the issue.

8. SURFACE WATER QUALITY

8.1 Introduction

Water quality can be adversely affected by discharges of contaminants resulting from human activities. There are two main types of discharge that can affect water quality, namely "point source", those that occur at a definable place, often through a pipe or drain, and "non-point source", those that enter a water body from a diffuse source, such as land runoff or infiltration.

This Chapter addresses point source discharges to surface water only. In the region many discharges are directly to water, including treated dairy effluent, municipal sewage discharges, and industrial effluent (mining, ports, and dairy companies).

Where water quality is adversely affected by these discharges, this reduces the ability of lakes and rivers to support the needs of people and communities, and aquatic life. There is a particular concern in relation to discharges of human sewage to water, which Poutini Ngäi Tahu find culturally offensive.

Sometimes water quality can be affected by a large water take, where that take reduces the assimilative capacity of the water body. Adverse effects due to a contaminant discharge should be mitigated in the first instance by reducing the level of contaminant being discharged, rather than by managing takes to alter the assimilative capacity of the water body.

Note: The provisions in this Chapter are in addition to those in Chapter 5, which seek to maintain or enhance the natural and human use values supported by surface water bodies.

8.2 Objectives

8.2.1 To maintain or enhance the quality of the West Coast's water.

8.3 Policies

8.3.1. The West Coast Regional Council will manage the swimming areas identified in Schedule 9 for contact recreation purposes (Class CR) and all other surface water bodies in the region for aquatic ecosystem purposes (Class AE).

Explanation

Aquatic ecosystem and contact recreation standards are set in the Third Schedule of the RMA (see below). Contact recreation water bodies are identified in Schedule 9, and all other water bodies will be managed for aquatic ecosystem purposes. AE and CR classes do not exclude other water quality classes being applied if identified as appropriate through the resource consent process.

- Class AE Water (being water managed for aquatic ecosystem purposes)
  (1) The natural temperature of the water shall not be changed by more than 3° Celsius.
  (2) The following shall not be allowed if they have an adverse effect on aquatic life:
  (a) Any pH change:
  (b) Any increase in the deposition of matter on the bed of the water body or coastal water;
  (c) Any discharge of a contaminant into the water.
  (3) The concentration of dissolved oxygen shall exceed 80% of saturation concentration
  (4) There shall be no undesirable biological growths as a result of any discharge of a contaminant into the water

- Class CR Water (being water managed for contact recreation purposes)
  (1) The visual clarity of the water shall not be so low as to be unsuitable for bathing.
  (2) The water shall not be rendered unsuitable for bathing by the presence of contaminants.
  (3) There shall be no biological growths as a result of any discharges of a contaminant into the water.

In some streams on the West Coast the AE standards are unable to be met due to high acidity (both naturally occurring and caused by historic mining activities). This is reflected in Policy 8.3.2.

8.3.2. Rivers which have acid drainage issues will be managed as follows:

(a) Activities that reduce pH of receiving waters must avoid, remedy or mitigate acidity effects and should achieve the natural pH level of the affected river wherever practicable; and

(b) Activities that increase dissolved iron concentrations or the concentration of any other metal or non-metal in the receiving water must avoid, remedy or mitigate adverse effects and the natural metal/non-metal concentration of the receiving water should be achieved wherever practicable.

Explanation

Acid drainage issues will be identified when a resource consent is applied for. Mining activities can cause or exacerbate acid drainage from certain rock types. Some rivers have naturally high acidity and elevated heavy metal levels due to geology. In addition to the requirements of Policies 8.3.3 to 8.3.7 and Chapter 6 Policies (and instead of Policy 8.2.1), this Policy identifies specific parameters that need particular attention if Objective 8.2.1 is to be met. In addition to acidity, contaminants such as iron and manganese; and acid soluble aluminium, zinc, arsenic, nickel, cadmium, chromium, copper, and lead; and sulphate, calcium, and magnesium can lead to serious and long term effects on the aquatic ecosystem. Where natural contaminant levels are high the aim is to require that mining activities avoid, remedy or mitigate effects to maintain water quality as close as practicable to natural conditions. The relevant guideline levels for metals are a developing science and ANZECC guidelines are not necessarily relevant if better localised information is available.

8.3.3 To encourage the remediation of orphan sites as a method to enhance existing water quality and offset adverse effects from new mining developments.

Explanation

This Policy provides a management framework for 'orphan' areas that have existing acid rock drainage issues.

8.3.4 When considering applications for new resource consents for existing discharges of contaminants to water, to have regard to opportunities to enhance the existing water quality of the receiving water body at any location for which the existing water quality can be considered degraded in terms of its capacity to support its natural and human use values.

Explanation

There is the opportunity, with new resource consents for existing discharges, to achieve an enhancement in water quality. This can occur when the consent holder re-examines the discharge activity and makes use of technological advances in the reduction, reuse, recycling, or treatment of contaminants. The Council will have regard to these opportunities when considering resource consents to discharge contaminants to water.

This Policy applies to any location for which the existing water quality can be considered degraded in terms of its capacity to support its natural and human use values.

8.3.5 When considering applications for resource consents to discharge contaminants to water to have regard to:

(a) The nature of the discharge and the sensitivity of the receiving environment to adverse effects;

(b) The financial implications, and the effects on the environment of the proposed method of discharge when compared with other options;

(c) The current environmental mitigation technology and the likelihood that the proposed method can be successfully applied;

(d) The cumulative effects of discharges of contaminants and the assimilative capacity of the water body and actual or potential effects in the coastal marine area;

(e) Any relevant industry codes of practice or guidelines relating to the management of potential discharges; and

(f) The best practicable option for the treatment and disposal of sewage effluent, including the use of land disposal or wetland treatment.

Explanation
When considering the avoidance, remedy, or mitigation of the adverse effects of the discharge of contaminants to land or water under a resource consent, the Council will consider matters identified in (a) to (f) in the Policy. This ensures the recognition of any environmental mitigation technology constraint upon the adoption of alternative treatment or discharge methods, and the best practicable option, cumulative effects and assimilative capacity, and downstream effects on the coastal marine area. With respect to (a) for example, discharges from alluvial mining operations are often temporary in nature. They can be constructed ponds which form part of the treatment system and can occur with minimal effect. Regarding clause (f), the term "wetland treatment" refers to either artificially developed or natural wetlands. A sewage effluent discharge into a Schedule 1 or 2 wetland requires a resource consent.

8.3.6 Mixing zones will be required for the discharge of contaminants to water. These will be limited to the extent necessary to take account of:

(a) Water quality classes;
(b) The size and sensitivity of the receiving environment;
(c) The matters identified in Policy 3.3.1;
(d) The physical processes acting on the area of discharge; and
(e) The particular discharge, including contaminant type, concentration, and volume.

Explanation
Discharges of contaminants authorised under resource consents must meet any water quality standard set in respect of receiving waters after "reasonable mixing". Reasonable mixing occurs in a mixing zone, an accepted area of non-compliance. Matters (a) to (e) of the Policy will be considered in the determination of the size of any mixing zone. In some cases devices may need to be installed to accelerate mixing.

8.3.7 The duration of any new resource consent for an existing discharge of contaminants will take account of the water quality class as listed in Policy 8.3.1 after reasonable mixing, and any anticipated adverse effects of the discharge on an affected water body, and:

(a) Will be up to 35 years where the discharge will meet the water quality class for the duration of the resource consent; or where the discharge achieves Polices 8.3.2 or 8.3.3 or 8.3.4. Or except where the purpose of the Act requires otherwise and/or where mitigation, remediation or offsetting achieves enhancement of water quality within the receiving water body or another water body in the Region;
(b) Will be no more than 15 years where the discharge does not meet the water quality class but will progressively meet that standard within the duration of the resource consent; and
(c) Will be no more than 5 years where the discharge does not meet the water quality class; No resource consent, subsequent to one issued under (c), will be issued if the discharge still does not meet the water quality class.

Explanation
Resource consents to discharge contaminants may be issued for up to 35 years under the RMA. The duration of new resource consents for existing discharges under this Plan will be set having regard to the effect of the matters listed in this Policy.

If a commitment is made to meet the water quality class progressively within the duration of the resource consent, the duration of such resource consents would not exceed 15 years, in accordance with (b). In recognition of any environmental mitigation technology constraints on those proposing to undertake the discharge, a short duration resource consent, which does not exceed 5 years, may be granted in accordance with (c), in which time they must comply with the water quality class. Discharges that do not comply by the time the resource consent has expired will not be granted a further resource consent for the discharge.

8.3.8 With respect to discharges from any new stormwater reticulation system, or any extension to an existing stormwater reticulation system, to require:

(a) The separation of sewage and stormwater;
(b) The prevention of contamination by industrial or trade waste; and
(c) The use of techniques to trap debris, sediments and nutrients present in runoff.

Explanation
In terms of the Plan's rules for permitted and discretionary activities for new discharges, or extensions to the catchment area of existing discharges from reticulated stormwater systems, the requirements of (a) to (c) will apply, as required.

8.3.9 To promote and enable the progressive upgrading of the quality of water discharged from existing stormwater reticulation systems where appropriate.

Explanation
The Council will encourage the operator of any existing stormwater reticulation system to improve the quality of stormwater discharged from the system where appropriate. Measures that can be taken to achieve this improvement include:
(a) The separation of sewage and stormwater;
(b) The prevention of contamination by industrial or trade waste; and
(c) The use of techniques to trap debris, sediments and nutrients present in runoff.

Priority will be given to improving discharges to those water bodies where water quality classes cannot be met and natural and human use values are adversely affected. Such measures may not be necessary where an existing discharge meets water quality classes or is having no more than a minor adverse effect on any natural or human use value supported by an affected water body. Resource consents for stormwater may be issued that allow time for water quality classes to be met. This recognises financial and technical constraints associated with these types of discharges.

8.3.10 To avoid the damming and subsequent inundation or diversion of water over contaminated land where it would result in an increased risk of contamination of water or, where avoidance is not practicable, to either require the removal or treatment of the contaminated land flow path management.

Explanation
There is the potential for adverse effects on water quality where land contaminated by hazardous substances comes into contact with water. Such effects may occur:
(a) Within a reservoir created by the damming of a water body;
(b) Within diverted water where the water passes over contaminated land; or
(c) Downstream of that reservoir or diverted water.

When considering any resource consent for new proposals for damming or diversion of water, the Council must be satisfied that the activity would not result in water being contaminated by its coming into contact with sites associated with hazardous substances. The Council maintains a register of these sites on the West Coast. Policy 8.3.10 does not apply to dams designed for the storage of contaminants.

8.3.11 To require the holder of any consent for a dam constructed for the purposes of storage of contaminants to completely remedy any adverse effect of the failure or overtopping of the dam structure, either during or after its construction.

Explanation
Where a resource consent is required for damming of water for the purpose of storing contaminants, the consent authority will require the person erecting the dam to plan for and provide measures, including bonds under Section 108 of the RMA, for the complete remediation of any loss or damage caused by the uncontrolled release of contaminants. There is a risk of such releases where the dam constructed to store the contaminants fails or is overtopped, either during or after its construction. The construction of dams is covered in Chapter 4.

8.3A Transitional Policies – National Policy Statement on Freshwater Management

The National Policy Statement for Freshwater Management 2011 (NPS) contains two objectives and four policies in relation to freshwater quality.

Policy A4 of the NPS, and direction under section 55(2A) of the Resource Management Act 1991 (RMA), requires every regional council to amend regional plans (without using the process in Schedule 1 of the RMA) to the extent needed to ensure that plans include Policy A4 of the NPS.

Policy A4 of the NPS is accordingly included in this Plan as Policies 8.3A.1 to 8.3A.3 below.

8.3A.1 When considering any application for a discharge the consent authority must have regard to the following matters:

(a) The extent to which the discharge would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water including on any ecosystem associated with fresh water; and

(b) The extent to which it is feasible and dependable that any more than minor adverse effect on fresh water, and on any ecosystem associated with fresh water, resulting from the discharge would be avoided.

8.3A.2 Policy 8.3A.1 applies to the following discharges (including a diffuse discharge by any person or animal):

(a) a new discharge; or

(b) a change or increase in any discharge –

of any contaminant into fresh water, or onto or into land in circumstances that may result in that contaminant (or, as a result of any natural process from the discharge of that contaminant, any other contaminant) entering fresh water.

8.3A.3 Policy 8.3A.1 does not apply to any application for consent first lodged before the National Policy Statement for Freshwater Management took effect on 1 July 2011.

8.4 Methods

8.4.1 The Council will encourage operators of existing stormwater reticulation systems to utilise techniques that will assist to reduce the level of contaminants discharged from the systems.

8.4.2 The Council will encourage district councils, communities and property owners to install reticulated systems for sewerage, where it is appropriate and feasible, in any site where the conditions are such that on-site waste treatment could result in an adverse effect on water bodies, particularly those specifically identified in this Plan.

10. GROUNDWATER

10.1 Introduction

Groundwater is water that occupies or moves through cavities and geological formations and permeable layers or porous material beneath the ground surface. It is an important resource to many West Coast communities, where it serves a number of recognised uses, including domestic and public water supply, stock drinking water, irrigation and industrial uses. This water is largely accessed from shallow aquifers. High rainfall on the West Coast assists recharge of these aquifers. The region also has groundwater in cave and karst systems, which have recreational, cultural, ecological, and aesthetic values.

There is often a hydrological connection between surface water and groundwater. Where the connection is significant, there needs to be recognition of the fact that the use of surface water can affect groundwater, and vice versa. Takes of groundwater can adversely affect other existing groundwater takes through bore interference, and impact on hydraulically linked surface water. Bore interference relates to groundwater takes that lower water levels in a neighbouring bore so that they may be unable to take the water they require, or their pumping costs may increase. Shallow bores that are adjacent to surface water bodies may share water through freely draining gravels. This connection means that lower groundwater levels prevents surface water users from taking their authorised amount of water, or damages the ecological values of the water body. The potential for interference between bores, or between a bore and a surface water body is related to the proximity of the bore to neighbouring bores or a surface water body, the transmissivity within the aquifer and the rate at which water is taken.

The effects of inappropriate land, water use and development on groundwater quantity and quality are often long term, and in some cases may be permanent. It is therefore important that particular consideration be given to the protection of aquifers for the continued benefit of present and future generations.

10.2 Objectives

10.2.1 To sustain existing uses of the West Coast's groundwater, by protecting water quantity and quality and avoiding depleting surface water flows.

Explanation

Groundwater is an important resource in certain areas of the West Coast as it provides water for domestic and public water supply, stock drinking water, industry and irrigation. This Objective seeks to sustain these consumptive uses for the continued benefit of present and future generations.

10.2.2 To minimise conflict between competing uses of groundwater.

Explanation

The taking of water through one bore can reduce the amount of water available at other nearby bores through reductions in groundwater levels. This creates the potential for conflict among users of groundwater bores. This Objective seeks to avoid such conflict by minimising the potential for bore interference.

10.2.3 To avoid, remedy or mitigate adverse effects on surface water bodies associated with groundwater takes.

Explanation

Hydraulically linked surface water bodies can be adversely affected by the taking of groundwater. Effects include contamination and the lowering of water levels. When considering groundwater takes, regard must be had to avoiding, remedying, or mitigating adverse effects.

10.3 Policies

10.3.1 In managing any activity involving the taking of groundwater to ensure that adverse effects are avoided, remedied, or mitigated.

Explanation
Groundwater and surface water can be adversely affected by the taking of groundwater. This requires consideration of connectivity and transmissivity between water bodies. When considering these activities, regard must be had to avoiding, remedying or mitigating adverse effects.

10.3.2 In managing the taking of water from any groundwater aquifer, priority will be given to the avoidance of:
(a) The total take from all bores exceeding the annual renewable yield of the aquifer; and
(b) Depletion of any surface water resource.

Explanation
The taking of groundwater can have adverse effects on both groundwater and surface water resources. When considering the taking of water from any groundwater aquifer, priority will be given to avoiding the adverse effects identified above. If the adverse effects of the taking are considered to be unavoidable, they must be remedied or mitigated. The way in which takes of groundwater affect surface water resources is influenced by the degree to which an aquifer allows water to pass through it (its transmissivity) and the degree to which it is connected to surface water.

10.3.3 In managing the taking of groundwater:
(a) To have regard to avoiding adverse effects on existing groundwater takes, unless the approval of affected persons has been obtained; and
(b) To give priority to avoiding adverse effects on community water takes listed in 7B.

Explanation
This Policy recognises that the taking of groundwater can result in the lowering of water levels in a neighbouring bore. Conditions on a resource consent to take groundwater may limit the instantaneous take of groundwater in order to maintain existing access to water in neighbouring bores. This access includes groundwater takes for community supply outlined in Schedule 7B.

10.3.4 To ensure that the quantity of water granted, under a resource consent for the taking of water, is no more than that required for the intended use of that water having regard to the local conditions.

Explanation
When considering applications for resource consents to take water, the actual quantity required for the intended use of the water taken must be reflected in any consent granted, to avoid over allocating the resource.

10.3.5 To manage the taking of water from any bore such that groundwater contamination by sea water intrusion is avoided.

Explanation
Where pumping from a bore near the coast reduces the water level in an aquifer so that sea water enters the aquifer, contamination occurs. This Policy envisages setting minimum water levels when considering resource consent applications to take groundwater from bores near the coast.

10.3.6 In granting resource consents to take water from any aquifer, to require the volume and rate of take to be accurately measured and groundwater quality to be monitored as or where appropriate.

Explanation

Monitoring groundwater use enables management of the resource for existing and potential users. Requiring the rate, weekly volume and quality of groundwater taken from any bore to be monitored will provide data to determine changes in water quantity or quality in each aquifer.

11. GEOTHERMAL WATER

11.1 Introduction

The West Coast region contains geothermal resources that provide opportunities for geothermal heat and energy use. The geothermal springs of the West Coast are low temperature geothermal systems derived from tectonic activity along the Alpine and Hope Faults. They are very different to the fluids of volcanic geothermal systems found in the central North Island, which are generally much hotter and of a different chemical composition.

Current geothermal resource use in the region is from surface discharges. There are a number of small hot springs in the region, located on the lower slopes of the western flanks of the Southern Alps. Many of these geothermal springs are located within public conservation land and require a Concession from the Department of Conservation before they can be utilised commercially. These include springs within public conservation land in the Wanganui Valley, as well as a spring in the headwaters of the Haupiri River. This spring was the site of a commercial spa developed by the Crown about the turn of last century which has since fallen into disuse.

The major commercial use of geothermal resources occurs at the Maruia Springs, located in the upper reaches of the Maruia River. The surface discharge is tapped and developed as a commercial spa. Some West Coast geothermal water resources, the 'waiwera' of Te Tai Poutini, are used by Poutini Ngäi Tahu for customary cultural purposes.

The taking, using, damming, or diversion of heat or energy from water or from the material surrounding geothermal water requires consent from the Council unless it is provided for by Section 14 of the Act. Activities that do not require consent include:

- Taking and use for: an individual's reasonable domestic needs, or the reasonable needs of an individual's animals for drinking water, where neither activity has or is likely to have an adverse effect on the environment; or
- The heat or energy is taken or used in accordance with tikanga Mäori for the community benefit of the tangata whenua of the area and does not have an adverse effect on the environment.

Bearing this in mind the following objectives and policies are only likely to apply in circumstances relating to commercial or recreational operations.

11.2 Objective

11.2.1 To manage the use of West Coast's geothermal resources by avoiding, remedying or mitigating adverse effects on the environment associated with that use.

Explanation

Any taking, use, damming, diversion, or discharge of geothermal water must be carefully managed to minimise any adverse effect.

11.3 Policies

11.3.1 To manage effects of the use of geothermal water for heat and energy using the following principles and standards:

(a) Preserve geothermal surface features and ecosystems;

(b) Recognise that geothermal takes can result in effects on spring flows;

(c) Allocate available resources according to the level of understanding of system dynamics;

(d) Require efficient use by individual geothermal extractions by ensuring the amount allocated in terms of energy or thermal equivalents does not exceed an amount adequate to service the use sought.

Explanation

The principles above are adopted to avoid, remedy or mitigate adverse effects arising from geothermal water use.

11.3.2 To enable the discharge of geothermal water to water already influenced by geothermal inputs, and to enable re-injection of geothermal fluid provided it is returned into the same geothermal system from which it was taken at a location or depth where the temperature is similar to that of the discharge.

Explanation
Discharge of geothermal water is generally appropriate into water bodies influenced by geothermal inputs as effects are likely to be minor. Policies in Chapter 8 will also apply. Although it would not generally be used for use of spring water emerging at the surface, re-injection of fluids may be appropriate should a bore be put to take the geothermal water from depth at a higher temperature and pressure.

11.3.3 In granting resource consents to take geothermal water, to require the volume and rate of take to be accurately measured and quality of water body receiving wastewater to be monitored as or where appropriate.

Explanation
Monitoring water use enables better management of the resource. For significant takes, Council may require the instantaneous rate and weekly volume to be monitored. Monitoring the effects of discharges enables unforeseen adverse effects to be detected.