Tasman Resource Management Plan

PART IV: RIVERS AND LAKES

Management of Activities in the Beds of Rivers and Lakes

CONSULTATION PAPER

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PART IV RIVERS AND LAKES

1. INTRODUCTION TO PART IV

Part IV of the Tasman Resource Management Plan will apply to all activities carried out in the beds of rivers and lakes.

Chapter 27 is to address the effects of activities on or in beds and bank, proposes objectives and includes policies and methods for implementing policies. It covers the bed and banks of all rivers and lakes and the bed of a river is described in the RMA as; "the space of land which the waters of the river cover at its fullest flow without overtopping its banks, and a lake bed means the space of land which the waters of the lake cover at its highest level without exceeding its margin.

Chapter 28 will state the rules applying to activities carried out in the bed of rivers and lakes and Chapter 29 will give guidance for the information that may be required to accompany any application to carry out an activity in the bed of a river.

2. TANGATA WHENUA

As part of the process of preparing Part IV Staff have initiated consultation with local iwi through the resource management bodies Tiakina te Taiao and Manawhenua ki Mohua.

Iwi were asked to supply their views in relation to this part of the Plan. Reports were prepared for Council by iwi[1]. The iwi reports and further consultation have been used to inform issue descriptions and development of policies.

In developing Part IV, Council must have regard to any planning documents recognised by iwi, and at the moment the applicable plans are the Eel Management Plan, "Te Waka a Maui me ona Toka Mahi Tuna: South Island Eel Management Plan and the Te Tau Ihu Mahi Tuna: Nelson Marlborough Eel Management Plan.

An iwi environmental management plan is yet to be prepared for the Tasman District, but there is a possibility of a collaborative process with some Council funding support for this document.

Iwi has informed Council that with Part IV in looking at rivers in such a narrow way, i.e. by focusing on Section 13 activities, is not consistent with the approach of the tangata whenua. However, the remaining parts of the TRMP must be considered alongside Part IV in an integrated way: and overall the purpose of the RMA for sustainable management aligns closely with the philosophical viewpoint or kaupapa of Maori. Kaitiakitanga has twin outcomes in conservation and sustainable use, and the two are compatible rather than irreconcilable.

1 Tangata Whenua statement on Part IV (Lakes and Riverbeds) of the Tasman Resource Management Plan.. November 2006 and Manawhenua ki Mohua Consultation Paper July 2006

For most iwi related issues, differences are in relation to preferred options and management methods selected rather than basic disagreements with the definition of the issue or the need for action. (See section 14 for more discussion on iwi issues)

3. STATUTORY FRAMEWORK and BACKGROUND

The Council has functions under the Resource Management Act 1991 (RMA) to control of the use of beds of rivers and lakes (Section 13) and control of the use of the surface of water in any lake or river (Section 9).

The following activities are restricted unless permitted by a rule in Part IV, or by resource consent:

1. Use, erection, reconstruction, placement, alteration, extension, removal or demolishment of a structure or part of a structure in, on, under or over the bed.

2. Excavation, drilling, tunneling or other disturbance of the bed.

3. Introduction or planting any plant or part of any plant in, on, or under the bed.

4. Deposition of any substance in, on, or under the bed.

5. Reclamation or drainage of the bed.

The following activities which are otherwise permitted might also be regulated by a rule in the Plan:

1. Entry or passage across the bed of any river or lake.

2. Disturbance, removal, damage or destruction of any plant or part of any plant, or the habitats of any such plants or of animals in, on or under the bed.

The Council also has duties and functions under the Soil Conservation and Rivers Control Act (SCRCA). The activities carried out under the SCRCA are subject to the RMA and will be subject to the regulatory framework to be provided by Part IV.

The objectives of the Soil Conservation and Rivers Control Act 1941 are:

- The promotion of soil conservation;
- The prevention of soil erosion;
- The prevention of damage by floods; and
- The utilisation of lands in such a manner as will tend towards the attainment of these objectives.

The SCRCA provides the Tasman District Council with the ability to provide works and services in a river in order to meet these objectives.

The day to day river works and services required under the SCRCA and provided by the TDC are carried out in accordance with a draft Rivers Activity Management Plan (RAMP).

The Council also has the Tasman Regional Policy Statement (TRPS) has been prepared as a strategic resource management plan to promote sustainable resource management in the Tasman District. The (TRPS) policies that apply to lake and river beds are:

- The Council will seek to maintain the stability and efficiency of river channels and floodway land.

- Council will avoid, remedy or mitigate adverse effects of activities in river and lake beds on intrinsic, recreational, cultural, and other instream values of rivers, lakes and streams.

- The Council will avoid or minimise conflicts between recreation and other activities on the surface of rivers and lakes.

These policies form the broad framework for managing the river and lake beds in the district and TRMP provisions that manage activities in the beds of rivers and lakes must not be inconsistent with these.

3.1 Rivers and Artificial Water Courses

Part IV covers activities in rivers. The RMA defines a river as follows:

"River *– means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)."*

The distinction between a farm drainage canal and a river is not always entirely clear. The distinction is important as the term river is used in a number of places in the plan, including in relation to setbacks of buildings. It will also need to be well understood so that the implications of the Part IV proposals and associated changes to existing parts of the plan in respect of water quality and contaminant management are clear.

Although originally constructed as artificial watercourses to provide drainage, farm drainage canals or ditches can also acquire important biodiversity and aquatic habitat values over time. Adverse effects on this aquatic habitat can be avoided or mitigated with good practice methods of drainage maintenance (see also section 8.4). Drains also display similar flow variability to natural rivers, including flood responses, and contribute to the state of water quality in receiving rivers and streams.

Council has no definitive information about the relative importance of individual farm drainage canals to the region's aquatic biodiversity. However, such habitats are known to be very valuable in cumulative terms despite the potential for widely variable aquatic habitats in farm drains around the district

Some watercourses clearly identifiable as rivers today may have been modified in some way in the past and acquired a different set of aquatic habitat values over time. This illustrated by the Little Sydney Stream, many of the watercourses in the Moutere and some watercourses in the Riwaka area which all were originally constructed as drainage networks to drain large areas of former wetland. Council and landowners periodically clear some of them to ensure their drainage function is maintained.

Artificial watercourses fall outside the scope of Part IV and they include farm drainage canals (or ditches) and those built alongside roads to convey water away from the road surface. Sometimes these roadside water tables also intercept runoff water from adjacent land.

What is useful in clarifying understanding about this issue is a consideration of the distinction between 'a modified watercourse' in comparison with artificial watercourses such as farm drainage canals and the extent to which each is covered by the provisions of Part IV.

A **modified watercourse** may have been subject to works or modifications for a variety of purposes including straightening to improve access or workability of a block of land, mitigate flooding effects and erosion, as well as to improve drainage, including drainage of former wetlands. There are features common to modified watercourses that include being:

- part of a river, stream or creek that has been channelled or diverted; or
- part of a wetland or swamp through which water has been channeled or diverted to flow either permanently or intermittently and which connects with other naturally occurring bodies of water; or
- a watercourse that has a natural headwater of either a channel or spring, and generally follows the path of a historical natural watercourse or reasonably defined drainage channel that functions naturally by providing a connection between surface and groundwater, and is capable of providing habitat for flora and fauna.

A **roadside water table (or drain)** is an artificial watercourse that runs along a road used by vehicles and has as its primary function the drainage of surface water from roads. Uncommonly, some modified watercourses may run alongside part of a road.

A **farm drainage canal** (or ditch) is entirely constructed for rural land drainage purposes with no part being a natural or modified watercourse or river and which does not incorporate naturally occurring bodies of freshwater. It would usually have been constructed specifically to enhance production from farm land by improving land drainage.

These aspects of modified watercourses and artificial watercourses such as farm drainage canals or ditches and roadside water tables can be included in the Plan as definitions to help explain the scope of Part IV.

Provisions in Part IV will not apply to any disturbances in farm drainage canals. However, activities on land adjacent to farm drainage canals and other artificial water courses (particularly stock and vehicle access and bank erosion and damage) can all affect water quality. Point source discharges into the water that is in a drainage canal is regulated through existing and proposed Part VI rules because that water is natural water and is subject to constraints under Section 15 of the Act.

Discharges from a ditch or drain into a receiving river are also subject to the land drainage discharge rule 36.4.2 in Part VI which considers contaminant discharges). Water quality effects from farm drainage canals (ditches) are thus controlled at the point of discharge of the drainage canal to the receiving river.

There is some overlap between diversion and discharges relating to construction of land drainage canals and artificial watercourses and discharges from land drainage canals and artificial watercourses. This aspect is considered in more detail in Section 11.

There are times when active management of drains or roadside drains (watertables) is required to maintain its drainage functions, and where these are not done, reduced or impaired drainage on neighbouring properties may occur.

Part IV cannot require works to maintain rivers or artificial watercourses to be carried out as this is not part of the functions and powers specified by the RMA. The aim of Part IV is to manage the adverse effects of activities that are carried out in river beds. However, Council is undertaking a related investigation to examine options for managing this aspect of drain management.

4. RESOURCE OVERVIEW

Tasman District's major river systems or catchments are:

- The Waimea Catchment comprises the Wai-iti River catchment (270 km^2) and Wairoa River catchment (463 km^2) which drain steep hill country and join approximately 1km downstream of the Brightwater Bridge to become the Waimea River. The Q50 flow of the Wairoa River at the gorge is 1407 m^3/s. The Q50 flow of the Wai-iti River at Brightwater is 481 m^3/s. The river plain formed by the Waimea River is intensively farmed and also supports many of the urban centres in the Tasman District.

- The Motueka River catchment covers an area of 2170 km^2. The upper Motueka drains from the mountainous Red Hills Ridge (1629 km^2) and Beebys Knob (1436 km^2) area. The river flats and terraces in this area are narrow. The Motupiko and Tadmor Rivers drain the head of the Moutere Depression to be joined at Tapawera by the Wangapeka and Baton Rivers, two major tributaries that drain the watershed in the western most corner of the catchment. The river flows in a narrow valley below Tapawera to follow the foot of the Western Nelson Range (Mt Arthur Range) in a north easterly direction towards Tasman Bay. The Q50 flow of the Motueka River at Woodstock is 2,038 m^3/s.

  The Lower Motueka River receives run-off from the catchments of the Stanley Brook, Dove, Orinoco, Waiwhero and Brooklyn Stream. These rivers and streams are bounded by wide flats and terraces backed by strongly rolling slopes which rapidly give way to the moderately steep slopes that form the eastern Motueka catchment boundary. The river plains have historically been used for horticultural production. Stopbanks have been installed on the Lower Motueka River up as far as Peach Island, primarily to protect Motueka Township and surrounding infrastructure.

- The river network in the Riwaka Delta catchment comprises streams modified for land drainage purposes (Little Sydney, Scott's Drain, Hamilton Drain), and the Riwaka River. The river system is relatively small with the Q50 at the south branch being 104 m^3/s, and Q50 at the north branch being 80 m^3/s. The drainage system runs into the Riwaka estuary via tidal gate structures.

- The main Aorere River catchment drains from the alpine regions of the Kahurangi National Park. Its larger tributaries, the 15, 17, and 19 Mile Creeks (which join the Aorere upstream of Bainham) and the Kaituna River (whose confluence is downstream of Devil's Boot), drain from the steep bush clad Wakamarama Range. The Aorere passes through steep rock gorges before discharging into the flat valley area used predominantly for dairy cattle and sheep farming. The land in these lower catchment reaches is alluvial and highly susceptible to erosion. The Aorere River is one of the largest rivers in the District with a Q50 flow of 3067 m^3/s.

- The Takaka River catchment drains a mountainous region of around 855 km^2 into the lower reaches of the Takaka Valley which comprises arable land. The main tributaries to the Takaka River are the Cobb River (on which the Cobb Dam is located) and the Waingaro and Anatoki which join the main river near Takaka. The Waingaro is the largest of the contributing rivers with a Q50 of 1145 m^3/s compared with 681 m^3/s from the Anatoki (2km upstream of the confluence with the Takaka) and 693 m^3/s from the Takaka (at the Waingaro confluence).

- The Buller River catchment is the largest catchment in the District. This catchment includes the water flowing from Lake Rotoiti and Lake Rotoroa (via Gowan River), Lake Matiri (via the Matiti River) and other significant rivers such as the Owen, Mangles, Matakitaki and Maruia Rivers. The Buller River flows into the West Coast Region at Boundary Creek (also known as Eight Mile Creek) upstream of Lyell and then reaches the sea at Westport.

The remaining groups of waterways include:

- West Coast Rivers draining into the Tasman Sea include the Paturau, Sandhills Creek, Webb Stream, Anatori River, Turimariwi, and Big River that drain the Wakamarama Ranges.
- Golden Bay streams from Puponga to Wainui Bay
- Abel Tasman streams from Wainui Bay to Riwaka
- Streams flowing into the Moutere and Wainui Estuaries
- Streams draining the Richmond ranges

5. ACTIVITIES IN, ON, UNDER AND OVER RIVERS AND LAKES

There is an extensive range of activities that may be carried out in river and lake beds in the District. These activities may include:

- Use, erection, reconstruction, placement, alteration, extension, removal or demolition of structures:
- Excavation, drilling, tunnelling, or other activities that disturb the bed;
- Introduction or planting of plants;
- Deposition of substances in, on or under the bed;
- Reclamation or drainage of the bed;
- Entering or passing across the bed by stock and vehicles;
- Disturbance, removal, damaging or destroying plants.

The types of structures located in river and lake beds include:

- Dams – the most common type are earth dams but excluding natural earthquake dams;
- Weirs, fords and culverts;
- Bunds to create wetlands;
- Bridges and their abuttments;
- Irrigation pumps and associated pipes and screens and intake structures;
- Debris deflection structures;
- Cables, pipelines and poles;
- Floodgates and tide gates;
- Flood protection stopbanks, and bank protection structures such as groynes and gabion baskets;
- Jetties;
- Platforms for public access;
- Hydrological monitoring equipment and associated structures Including staff gauges;
- Structures related to recreational activities including maimai and whitebait stands

Most of the structures listed above are found in river beds. Most lakes in the District are essentially unmodified by structures apart from jetties and boat ramps in some lakes such as Lake Rotoiti, and Lake Rotoroa. Lake Cobb is also a controlled lake, being managed by the Cobb Dam.

In addition to the bed related activities outlined above, there are various surface water activities carried out on rivers and lakes throughout the District. This may include rafting, kayaking, fishing, swimming, game-bird shooting and, on the larger rivers and lakes, boating.

6. SUMMARY OF ISSUES

Each activity carried out in the bed of a river or lake can have a range of effects. The discussion of issue is in terms of the kinds of effects that might be caused, rather than considering issues in relation to specific activities.

There are some specific activities that are significant in terms of their potential to cause adverse effects and the frequency with which they are carried out or both.

Policies and methods are recommended to addresses the following resource management issues:

- Adverse effects on ecosystems, including on the passage of fish, bird breeding, and on wildlife habitat;
- Erosion, degradation, accretion and aggradation of river and lake beds and banks; and changes to river channel morphology;
- Impacts on water quality;
- Exacerbation of hazards including from dams;
- Impacts on landscape and amenity values (including recreational values);
- Impacts on Mauri and Wairua of water

Some water body values are identified as being particularly significant by being part of the Water Conservation Orders for the Motueka and Buller Rivers and their tributaries.

7. PART IV OBJECTIVES

7.1 Objective 1

Activities in, on, under or over the beds of rivers and lakes are carried out in a way that avoids, remedies or mitigates adverse effects on:

(a) Bed and bank stability through erosion, degradation, accretion, and aggradation, and the associated flow on effects,
(b) Ecosystems,
(c) Water quality;
(d) River channel morphology (channel size and shape) and the associated flow on effects,
(e) Existing structures and property through causing or exacerbating natural hazards;
(f) Landscape and amenity values (including recreational values);
(g) The relationship of Maori with their culture and traditions;
(h) Identified values within Water Conservation Order areas.

7.2 Objective 2

To maintain and enhance the uses and values of rivers and lakes that may be adversely affected by activities in the beds of rivers and lakes including:

(a) the uses and values of water bodies identified in Schedule 30.1[2];
(b) the uses and values of lakes and rivers located in water conservation order areas;
(c) the stability and efficiency of river channels and floodway land;
(d) the stability of structures in the beds of rivers and lakes;

8. ISSUE 1 ADVERSE EFFECTS ON ECOSYSTEMS

8.1 Description of the Issue

Activities including placement of structures, disturbances of the bed, mechanical clearance of aquatic plants, introduction of plants, deposition of substances, reclamation, and drainage may adversely affect aquatic ecosystems.
Adverse effects on ecosystems may include:

- Impacts on habitat of aquatic and terrestrial flora and fauna,
- Smothering of invertebrates and spawning areas due to sedimentation;
- Removing/reducing shelter, shade and detrital food source for aquatic life (vegetation loss);
- Impacts on fish breeding and spawning areas for part of the year;
- Disruption of fish passage

[2] Schedule 30.1 may be amended during the development of Part IV. (See also section 15. Schedule 30.1 is provided as an attachment for your information). The intention is to expand the uses and values in Schedule 30.1 (which only apply to the quantity of water resources at the moment) to include river and lake bed uses and values. .

- Fish stranding;
- Disturbance to bird nesting and rearing in some locations and for part of the year;
- Effects on mauri and wairua

8.2 Aquatic Habitat

There are 20 species of native fish in Tasman, nine of which migrate to and from the sea as a critical part of their life-cycle.

The following six species found in the Tasman District are classified as nationally "threatened" by the Department of Conservation:

- giant kökopu
- shortjaw kökopu
- dwarf galaxias
- Northern flathead galaxias"
- brown mudfish
- longfin eel

It is probable that two additional species, the torrentfish and bluegill bully will soon be a part of this list.

A nationwide reduction in natural habitat is responsible for the decline of our threatened native fish. In the Tasman District for example, over 95 % of the pre-European wetland has now been drained.

Long-fin eel (tuna) are the most widespread of any freshwater fish species in Tasman but are listed as in significant decline nationally, partly due to damming waterways, habitat disturbance and commercial harvesting.

The shortjaw kokopu has preferred habitat in Abel Tasman National Park, Golden Bay and the West Coast. Dwarf galaxias also thrives in a few parts of the region, such as in the upper reaches of the Motueka River tributaries and the Matakitaki River while the northern galaxias can be found in the upper Buller and Motueka River catchments.

The giant kokopu and brown mudfish are both lowland species and a lot of their habitat has already been lost. Giant kokopu can still be found in the Moutere Ecological District, the Aorere River catchment and the West Coast. Mudfish live in swamps, drains and forest pools that may dry up in summer. When the water disappears, they can be found in damp places underneath logs and other debris, or they burrow into holes where tree roots have rotted and breathe through their skins to survive in damp places for extended periods.

Inanga, common bullies and short-fin eel are the most common freshwater fish in the region and seem to survive with moderate levels of disturbance and limited riparian woody vegetation. However, inanga (a species making up 90% of the whitebait catch) require riparian rushland near the top of the tidal influence in streams and rivers to spawn and a considerable proportion of this habitat has been lost or damaged. Other whitebait species such as banded kokopu, koaro and short-

jaw kokopu spawn amongst leaf litter and rocks in at the top of stream banks in forested streams during high stream flows. Many species of freshwater fish including eels and koura freshwater mussels (*Hydrilla* sp) and shrimp (*Paratya* sp.) are important for kai moana as well as maintaining biodiversity.

Inanga, giant kökopu, torrentfish, and most species of bullies, smelt and lamprey are poor climbers and have trouble getting over barriers with a vertical drop of more than 30 centimetres.

Different species of fish have their niches from koaro in higher altitude stoney creeks to giant kokopu like slow-moving deep pools in lowland areas and it is therefore important to maintain and provide for the variety of habitats to support the natural variety of fish species present in Tasman's streams.

Of note is the high biodiversity value of lowland streams and in particular those within a few kilometers of the coast. These sections of the river have a relatively high number of species and they can also be subject to high pressure as land use is generally more intensive along lowland streams. For the majority of native fish present in Tasman, their abundance, and likelihood of presence, reduces with distance inland.

There are 8 species of introduced fish, three of which are actively managed sportsfish, brown and rainbow trout and Chinook salmon. The others include the coarse fish species, tench, rudd and perch, and the pest fish Gambusia and koi carp (both of these are included in the Council's Pest Management Strategy).

Many fish have very defined breeding seasons. For example, inanga spawn on high tides from February to April inclusive, and brown trout May to September, inclusive and activities that disturb the bed during these times will adversely affect their spawning.

Habitat requirements for nearly all fish include: a meandering channel with a variety of depths and widths, a variety of substrate (usually including in-stream woody debris), a variety of bank shape (from steep and undercut to gently sloping) and streamside vegetation (rushland near the estuary or shrub or forest canopy).

Activities in the beds or on the banks of rivers have significant potential to affect fish habitat, where streams are straightened or cleared of any vegetation or subject to stock trampling. There will be beneficial effects from some habitat enhancement work from planting and erosion control, construction of bridges to avoid crossing over the bed and where adjacent riparian land management includes planting protective vegetation and fencing to exclude stock.

Periphyton (algae, blue-green algae, bacteria and fungi attached to the bed of the waterway) is important as food for grazing invertebrates (including some insects, worms, crustacea) which are in turn food for carnivorous invertebrates, birds and fish. These species are susceptible to damage by activities in the bed, but also through sedimentation. Smothering of the stream bed with fine sediment and works in streams can adversely affect these organisms and ecosystem health.

8.3 Fish Passage

An important issue for Tasman District is the maintenance and enhancement of fish passage. Structures including, but not limited to, dams, culverts, tidal gates, weirs, bridges, temporary and water supply intakes, and gauging stations have the ability to impede or block fish passage. The provision of fish passage is essential for the proper functioning of aquatic ecosystems, particularly because of migration to and from the sea by many fish species. There is a complementary provision in legislation administered by Department of Conservation that requires approval from the Director-General if fish passage is obstructed.

This issue is pertinent to both proposed and existing structures. It may be difficult or expensive to retrofit existing structures to provide for fish passage. Many of the adverse effects from these sorts of structures are often not caused not so much by their installation as by erosion at the outlet and lack of on-going maintenance.

The Council is developing an inventory showing where culverts are causing fish passage issues, particularly for watercourses with significant value for native fish or trout habitat.

As at February 2009, Council has assessed 271 structures for whether they are a barrier or significant impedence to fish passage. Of these about 60% are perched culverts and prevent or obstruct fish passage.

The resources required for survey effort mean a complete inventory is currently beyond the capacity of Council. Assessment of road crossings within 10km of the coast have been targeted for remedial action as these are the streams with the highest biodiversity and where the greatest potential loss of access to habitat upstream occurs.

8.4 Drainage Maintenance

Another important issue for the district is drainage maintenance where aquatic plants, debris and sediment are removed from the waterway by mechanical means (using an excavator in the bed) or by use of herbicides.

This activity is mostly carried out by landowners to enhance the productive capacity of their land by lowering water tables and enabling better pasture growth. Un-maintained drainage systems may also cause adverse effects to upstream properties because of impeded drainage and drainage maintenance is necessary.

These activities can a significant impact on the ecology of waterway, either through destruction of habitat or sedimentation in downstream receiving water.

This drainage maintenance is mostly carried out on small lowland waterways that drain pasture. They require on-going maintenance to continue functioning as drainage systems. Such drains may be contained within the definition of “river” where they are part of a modified water course.

Although effects of activities in very small rivers may be relatively minor on a small and localized scale, the cumulative effect of habitat within and discharges from them

on the overall health of the district's rivers can be significant. There are best practice methods that can help reduce adverse effects on aquatic habitat.

8.5 Birds and Wildlife

Four bird species are known to nest on braided open shingle river beds in Tasman; Black-fronted terns, banded dotterels, black-billed gulls and pied oystercatchers. Il these birds use rivers for breeding from October-January except for Banded Dotterels which start breeding as early as August. All these birds use stoney/sandy areas amongst sparse vegetation, particularly in the Upper Buller River and Matakitaki River. Islands in rivers are particularly favoured nesting sites.

Black-fronted Terns, which are endemic to South Island, are one of the most threatened bird species and in significant decline in Tasman. These birds are present in small colonies with scattered nests (usually 2-30 pairs). These birds are also known to breed in the Motueka River near Tapawera, although disturbance in this area may have led to more infrequent use of this area currently. The birds are more vulnerable as they readily desert their eggs and young if their breeding site is disturbed.

Black-Billed Gull numbers are declining in South Island. There are large colonies of nests particularly in Upper Buller and Matakitaki. For example, there are about 100 nesting in the Buller River bed upstream of Harley's Rock.

Banded Dotterels number about 30,000 birds in the South Island. They also breed on the Waimea River & large parts of the Motueka Rivers. These birds usually hold their own against predators.

South Island Pied Oyster Catchers are found only in South Island but numbers appear to be slightly increasing.

Blue Duck (whio) are another bird using rivers in Tasman. These birds are found year-round in steeper mountain-fed streams, particularly in or near Kahurangi and Nelson Lakes National Parks and the Wairoa catchment. They are threatened particularly by predators but they can be disturbed by damming or diverting water.

Noise and close contact from activities carried out in the beds, including use of the beds by 4WD and motorbike enthusiasts as well as machinery working in the bed for gravel extraction or river control works as well as physical disruption of the birds and their nests are likely to be the most significant effects that need to be managed.

8.6 Biosecurity

Establishment of dams can affect water quality and create habitats that might interfere with natural processes and functions. Parts V and VI of the TRMP already deal with the water damming and discharge effects of dams.

An impoundment may also create a habitat that favours aquatic pest plants and fish. The Council's Pest Management Strategy considers these biosecurity risks and contains strategies to manage them. Further provisions in Part IV are not considered necessary.

Moving machinery from one river system to another can spread pests such as didymo and alligator weed. The algae, Didymo (*Didymosphenia geminata*) has become a pest organism in many parts of the region, and is particularly around the lake outlets of Lakes Rotoiti and Rotoroa. The Council's Pest management strategy contains information about the control of aquatic pests. Management of didymo is under the control of Biosecurity NZ.

8.7. Planting

Vegetation which can be either planted or self established can alter a river over time by obstructing or redirecting water flow or sediment movement. These changes may exacerbate flooding by reducing channel efficiency, or may cause or worsen bed and bank instability by accelerating erosion or sedimentation. The stability or function of structures downstream on the bed or bank may also be compromised as a consequence, particularly where erosion threatens the supports of a structure. The activities may also lead to a change in the physical nature of the water body's bed (bedform) by trapping sediment, which may be undesirable if it adversely affects other uses.

Planting, especially in the banks or riparian areas can also mitigate against erosion and flooding, enhance aquatic habitat and biodiversity and provide water quality benefits. Council carries out extensive planting programmes in its role as manager of the District's rivers and also encourages and supports appropriate stream side planting to enhance and protect aquatic habitat, biodiversity and water quality.

Crack and grey willow have been used in erosion control in the past. Both species are nationally recognized plant pests and Council is undergoing a programme to replace them with more appropriate species.

The introduction or planting of any plant, or any part of any plant (whether exotic or indigenous) on the bed of a lake or river can only occur if it is expressly allowed by a rule in a regional plan or any proposed regional plan, or by a resource consent**.**

Chapter 8 of the Plan already contains a number of policies and methods to manage activities in riparian margins, especially in relation to public access and natural character. Chapter 33 also recognises the role of riparian margins in protecting water quality.

8.8 Issue 1 – Ecosystem Policies

1. To avoid, remedy or mitigate adverse effects of structures and activities in, on, under or over river and lake beds on ecosystems, including:

    (a) Disruption of fish passage;
    (b) Disturbance to bird habitat, especially during nesting and rearing;
    (c) Fish entrainment or stranding;
    (d) Impacts on fish breeding and spawning areas;
    (e) Smothering of invertebrates and spawning areas due to sedimentation;
    (f) Removing/reducing shelter, shade and detrital food source for aquatic life;
    (g) Impacts on habitat of aquatic and terrestrial flora and fauna, including changes to riverbed substrate composition, hydraulics and channel morphology;

2. To encourage and promote drainage maintenance and development that results in healthy aquatic ecosystems and efficient channel networks.

3 To maintain fish passage by requiring any new structure in or on the bed of any lake or river to provide for fish passage.

4. To enhance fish passage by assessing the need to retrofit existing structures to provide for fish passage when reviewing and renewing consents or when setting priorities for remedial or enforcement action taking into account:
   (a) quantity of habitat upstream of the barrier
   (b) whether the stream is continuously flowing, ephemeral, or contains significant habitat values and the extent to which the barrier affects fish passage at a range of stream flows;
   (c) significance and quality of habitat, including presence of threatened species
   (d) proximity of barrier to the sea
   (e) costs of the retrofit including taking into account the effects of other barriers in the same stream;
   (f) whether the structure is still used.

5. To promote and encourage the establishment and management of vegetation in riparian margins and river and lake beds and banks to
   (a) protect the bed and banks from erosion and adverse effects of flooding;
   (b) enhance the aquatic ecosystems and habitat for flora and fauna;
   (c) enhance biodiversity

   while avoiding, remedying or mitigating adverse effects of planting and self-sown vegetation in river and lake beds, including effects on:
   (a) the hydrological regime of the river, including its morphology, hydrological power and energy regime;
   (b) bed and bank stability;
   (c) efficiency of river channels;
   (d) biodiversity;
   (e) ecosystem health and functioning.

6. To maintain spawning habitat for trout and whitebait.

7. When considering applications to carry out activities in the beds of rivers and lakes, to have regard to the provisions of resource management plans such as the Eel Management Plan, Nelson Marlborough Conservation Management Strategy and Iwi Environmental Management Plans that promote the sustainable use of water and associated resources.

Methods of Implementation

Regulatory
Regulatory methods to establish thresholds for activities that may be permitted or regulated and to establish limits on the nature and scale of adverse effects.

Education and Advocacy

(i) Provision of information about regard to methods to avoid, remedy or mitigate impacts of activities on ecosystems;
(ii) Develop good practice guides to help resource users make sustainable decisions including on:
- Drainage activities,
- Fish passage, including management of culverts.
- Appropriate plant species and planting regimes/methods in river and lake beds and banks
- Maintenance of whitebait habitat

Monitoring and Investigations

(i) Fish passage surveys of existing structures to identity current barriers to fish passage and priorities for action;
(ii) Fish surveys
(iii) Stream habitat assessments

Works and Services

(i) Maintenance on road culverts to restore fish passage on TDC road culverts within 10 km of the coast.
(ii) Management of riparian vegetation along river beds through the RAMP in a way that is consistent with TRMP policy.

Explanation and Reasons

The Council acknowledges the potential for any activity that disturbs the bed or bank of a river to damage or destroy aquatic habitat and policy 1 seeks to identify and manage these effects. A wide range of activities and structures may affect aquatic ecosystems in varying degrees and the potential for adverse effects needs to be accounted for in performance standards for rules as well as when setting conditions for resource consents
Where the bed disturbance occurs in water, sediment will be mobilised. The mobilisation of sediment, depending on the scale of the activity, can reduce the clarity of the water by increasing its turbidity. A small reduction in clarity for brief periods will not cause significant adverse effects. However, reduction in clarity can adversely affect natural and human use values supported by the lake or river, or other users of the water body if the reduction is severe or prolonged.

Drain maintenance work in farm drainage canals may be essential to enabling use of productive farm land and is not covered in the scope of Part IV. Drainage maintenance work might also occasionally be required in small rivers or modified watercourses. Small rivers and some drainage networks can also have valuable aquatic habitat which develops over time. Drainage maintenance work can adversely affect this ecosystem.

In policy 2 Council advocates for adoption of a best practice approach to drain maintenance works that recognises the contribution to aquatic habitats from these drainage networks.

Adverse effects of this activity on both aquatic habitat and water quality can be mitigated by following best management practices. They include incorporating natural meander and maintenance of bank vegetation such as grasses to provide habitat for invertebrates and whitebait spawning, to provide shade and protection from erosion.

In larger drains and small rivers, methods to reduce aquatic weed growth such as shading the stream can be as effective, whilst providing benefits to the streams, such as reducing stream temperature, increasing the quality of habitat for invertebrates and fish and "feeding" the stream invertebrates with woody detritus.

These mitigation measures can also contribute to better water quality in farm drainage canals (ditches) and help ensure water quality objectives for the receiving water can be met where water quality is reduced because of adjacent land use activities.

Policies 3 and 4 manage fish passage effects from new and existing structures. Fish passage will be maintained by requiring any new structure in or on the bed of any lake or river to provide for fish passage, while opportunities to enhance fish passage are provided by considering where existing structures might be upgraded.

It is likely that there are existing culverts where fish passage has been impeded over time. Opportunities to retrofit existing structures to provide for fish passage will be considered where resource consent applications are required or where compliance action may be necessary and will take into account practical aspects relating to significance of the aquatic habitat and opportunities to improve it, and the potential costs of the retrofit.

In places where a structure also functions as a 'tide gate' to restrict flow of seawater up stream, opportunities for enhancing fish passage are somewhat limited as the flow of water is stopped on an in-coming tide. Similarly, where there is a natural fish passage impedance, such as a waterfall, not far upstream or downstream of the proposed or existing culvert then the design of the culvert could allow for a gradient similar to the natural impedance but not cause an overhang.

Council will provide information to landowners about culvert design, construction and maintenance to assist them in identifying best management practices. The Council is also developing an inventory showing where culverts are causing fish passage issues, particularly for watercourses with significant value for native fish or trout habitat.

The resources required for survey effort mean a complete inventory is currently beyond the capacity of Council. However road crossings within 10km of the coast have been targeted for assessment and remedial action by Council as these are the streams with high biodiversity and cause loss of access to upstream habitat.

Beneficial effects of planting vegetation in the bed or on the banks of a river on the ecosystem function of the water course can be significant, especially as the vegetation grows. In addition, vegetation can establish naturally in the bed and on the banks of rivers and cause problems for the safe and efficient flow of water and for wildlife habitat.

Pest plants are specifically prevented from being established through the Council's Pest Management Strategy. In addition, the Council recognises the adverse effects of establishing crack and grey willow species. Policy 5 seeks to avoid the adverse effects while enhancing the beneficial effects of vegetation planting. See also section 10.5 where provision of support for sustainable management of riparian areas is included.

This policy approach is consistent with related riparian land management policies already in Chapters 8 and 33.

Trout fishing and white-baiting are significant values of many of the District's rivers and streams. Policy 6 aims to maintain and enhance the value of trout and whitebait spawning habitat. Maintenance or enhancement of good whitebait habitat along stream margins in tidal reaches will help whitebait numbers as the avoidance of destruction to vegetation will improve the survival rate of eggs and enhance the availability of suitable breeding habitat. Trout, inanga and eels all have particular value for social, cultural and economic reasons.

Protecting trout spawning habitat includes limiting bed disturbances in some rivers during May to September when trout spawn, while protecting inanga will require limiting bed and bank disturbances within tidal reaches of rivers between February and May.

Other organisations and stakeholders also have an interest in the sustainable management of the District's resources. Attention in Policy 7 to management plans that complement Council's RMA functions and duties will help ensure an integrated and coordinated approach to managing rivers and lakes.

Policy	Benefits and Opportunities	Costs and Risks
All	▪ Education and advocacy for best practice generally more supported by stakeholders. ▪ Information about resources and impacts of activities on resources enable better resource management decisions ▪ Where resource consents necessary, adverse effects can be identified and managed	▪ Funding and staff time costs to Council for education and advocacy work. ▪ Surveys and investigation impose costs on Council ▪ Actual costs for works, services and investigations etc determined through annual plan preparation. ▪ Resource consent costs where applicable.
▪ 1	▪ Maintenance and protection of functioning aquatic ecosystems ▪ Permitted activities will recognise minor adverse effects for small catchments and structures.	▪ Some constraints for resource users to ensure adverse effects of activities are avoided remedied and mitigated. ▪ Costs for resource users dependent on nature and scale of possible adverse effects. ▪ Activities with minor adverse effects to be permitted
▪ 2	▪ Recognition that farm drainage activities are important to enable production from land to be optimized. ▪ Policy encourages and supports best practice for developing and maintaining land drainage systems ▪ Higher level of protection of aquatic ecosystems in farm drainage canals. ▪ Associated water quality improvements for discharges from land drainage	▪ Possible constraints on how landowners carry out land drainage activities to manage adverse water quality effects ▪ Best management practices may cost more or limit how a clearance operation is carried out

	canals.	
3/4	▪ Maintenance and protection of functioning aquatic ecosystems. ▪ Protection of fish passage for native and other important fish such as whitebait and eels. ▪ Acknowledges sometimes limited opportunities for improving fish passage depending on nature and scope of habitat and other site specific constraints ▪ Addresses lack of maintenance, which is a frequent cause of scour and consequent impeded fish passage	▪ Cost of providing for fish passage at the time of structure installation relatively low if good installation practice is followed. ▪ Costs of retrofitting fish passage for culverts and other structures can vary, depending on the nature of fish passage problem. ▪ TDC culvert upgrades to improve fish passage impose financial and staff costs on Council ▪
5	▪ Avoiding adverse effects on channel stability and floodway efficiency by managing vegetation in rivers. ▪ Protection of banks from erosion and provision of healthy aquatic ecosystems ▪ Policy encourages and supports best practice and doesn't impose costs	▪ No costs imposed, but best management practices encouraged and supported. ▪ Some costs (variable and defined through annual management plans) through delivery of Council's river management programme.
6	▪ Protection of spawning habitats for socially and economically important fish species.	▪ May constrain some activities but actual costs likely to be minimal
7	▪ Provides for integration and consistency across resource managers	None identified.

9. ISSUE 2 RIVER BED STABILITY AND CHANNEL EFFICIENCY

9.1 Description of the Issue

Activities in, on or under the bed of lakes and rivers may give rise to erosion, degradation, accretion (adding to the banks) and aggradation (adding to the beds).

Whilst erosion, degradation, accretion and aggradation may occur naturally, they can be made worse by activities in river and lake beds and also by land use within the wider catchments.

As noted in section 3 of this report the Council manages the rivers to mitigate flood risks and erosion and to maintain efficient channel capacity. It carries out a range of activities in the district's rivers including rock protection, vegetation planting, clearance of vegetation from within channels etc. These activities will need to be assessed against the need to avoid remedy or mitigate adverse effects on the environment. Similarly, the effects of other activities on river and flood protection works will also need to be accounted for.

Erosion or degradation of a river bed may damage existing structures located in the bed by undercutting/undermining the structure. Structures at risk of degrading beds include bridges and a range of river bank stability works and flood control works. Similarly, accretion or aggradation may result in reduce effectiveness of structures and affect waterway capacity including flood flows.

Structures in the beds of rivers can prevent the natural flow of gravels and sediments along the river and also to the coast. Sediment may build up behind structures like dams, and changes to gravel beds may adversely impact on wildlife habitat. In contrast, to reverse the effects of excessive gravel abstraction in the Wai-iti River, the Council has actually built weir structures to help retain and build-up the

natural flow of gravels and sediments upstream of the weirs and promote groundwater recharge and water storage.

Any decrease in river bed level will increase the risk of instability of river banks and any protection works on these banks, particularly during a flood when erosion forces are higher. This is due to the fact that bank protection work is designed to be stable at a particular bed level. The stability of the foundations decreases as bed levels reduce below the original design level. These effects may take some time to become evident.

Bed degradation effects mostly become evident through existing works failing in a flood event. Consequently the works need to be either rebuilt or topped up to the required height. A degrading bed generally results in increasing costs in both maintaining existing works and building new protection work.

A decrease in the amount of aggregate moving down the rivers can cause or worsen bed and bank erosion or degradation and can cause coastal erosion on the down-drift side of a river mouth. Many of these effects may take time to evolve.

Erosion, degradation, aggradation or accretion can worsen natural hazards, particularly (in the case of aggradation or accretion) a reduction in the channel capacity exacerbating flooding or bank erosion increasing the risk of loss or damage to land, buildings and other property. Flood risk may also be aggravated when these processes undermine or weaken river management works, especially stopbanks.

Reducing sediment volumes that reach the coast can also exacerbate coastal erosion processes on the shoreline. While there is very little by way of direct example of this situation on Tasman's coastline, the district's classic coastal littoral drift systems are fed, in part, from river sediment inputs to the coast.

Littoral transport rates along the Tasman Bay shoreline are relatively modest. Yet there are significant erosion problem in several areas along the coast. This is due to prevailing wave energies removing more sediment material from a particular coastal compartment than it transports into that compartment. The net result is erosion. A more abundant sediment supply to the coast would result in the littoral drift system being better fed, resulting in either a stable equilibrium or even accretion occurring.

Sediment supply from rivers to the coast is only part of the erosion/accretion/littoral drift "equation" operating on the coast but nonetheless a relevant consideration.

9.1.1 Structures

Placement of structures, gravel extraction and/or relocation, vehicles and stock have been identified as specific activities that may or are known to cause destabilisation of beds in Tasman District. However, other activities such as vehicle access, plantings or reclamations may also cause these to occur.

Structures erected or placed in river beds can cause or worsen erosion and degradation by interrupting gravel movement down the river or by redirecting the flow of water towards banks. Culverts, weirs, concreted fords, bridges and dams

are commonly used structures in Tasman District that can lead to these adverse effects on river beds and banks.

Note that the effects of damming or diverting the water that might result from these structures are managed in Part V of the Plan. Structures such as dams might also have effects on water quality, and these effects are managed by Part VI of the Plan.

9.1.2 Gravel Removal

There is constant and large demand for high quality gravel in the Tasman District. River bed gravel has historically been a source of good quality gravel that is relatively cheap to extract and process. However, the amount of gravel entering the river systems at the river source (mountains and hills) in general is low.

An analysis of 40 years of historic data relating to river bed levels in the District concludes that the amount of gravel being taken from the main rivers including the Waimea, Motueka and Takaka Rivers, is exceeding the amount entering the river systems over that time[3].

The analysis reveals that the loss of gravel within the system can be attributed to both natural loss and gravel extraction, but the majority of the loss (estimated at more than 80% for the Motueka River) is associated with gravel extraction (based on gravel returns). The issues associated with bed degradation have been exacerbated significantly by gravel extraction. Some natural degradation of river beds is unavoidable. However, further degradation can be greatly reduced by limiting gravel extraction in river beds.

Even in degrading rivers, gravel moves within the river bed and can sometimes form beaches or banks that are more or less stable. If gravel beaches build up significantly, it can cause localised problems during floods as banks are over-topped.

The perception that bed levels are increasing in some of these degrading rivers, and that Council needs to take more gravel out of rivers to manage this perceived problem, is sometimes reinforced by the appearance of gravel beaches that are much higher than the adjacent water level.

The size of the gravel resource is appears larger than it really is if it is seen as the difference between water level and top of the gravel beach rather than considering the bed level in a more longitudinal way i.e. along the length of a river rather that at a specific beach location.

Part of the river works control programme requires management of gravel to deliver on outcomes expressed in the Rivers Activity Management Plan which is prepared to fulfil Council duties and functions under the Soil Conservation and Rivers Control Act 1941.

[3] Long Term Trends in Bed Level in Major Rivers in the Tasman District and the Impact of Gravel Removal on the Trend. Staff Report EP06/07/07

The Rivers Activity Management Plan is expressly:
"…to outline and summarise in one place, the Council's strategic and management long-term approach for the provision of river erosion protection and flood mitigation works and associated operation and maintenance of these works[4]*....."*

The Rivers Activity Management Plan does not provide a river gravel management role unless it is for the purposes described above.

It is important for Council to manage gravel beaches to address localised flooding risk. However, this must be done in the context of maintaining the stability of the entire river. It means that gravel re-location within a degrading reach which could include moving gravel across the bed to fill eroded sections, would be the preferred management method rather than extraction of the gravel beach.

In addition to this river gravel management objective for the control of river bed levels and floodway capacity, there is also a separate demand for extractable gravel for a range of end uses in the building and construction industry, including for the construction of roads.

Where consent can be issued to take gravel for these purposes, gravel royalties are charged by Council and the funds collected contribute to costs of Council river management work.

Some parts of the river bed are in private or iwi ownership. Where river protection or erosion control works are necessary on this privately owned part of the bed, Council will consult with landowners before undertaking any work.

The extraction of river gravels and sands from a river bed to meet industry demand, including for roading, is in greater amounts than that required to manage bed and bank stability and flood risks for all rivers.

The TRMP will provide the framework for both managing any effects of activities that may be required to carry out river erosion and flood control work as well as managing the effects of any extraction of sand or gravel for purposes not related to erosion or flood control.

The more explicit determination of the Council's resource management role in the TRMP will complement the Rivers Activity Management Plan (RAMP) to provide a much greater level certainty about why, where and when gravel may be extracted from the rivers in a consistent way. (Note that some amendments may be needed in the RAMP to ensure consistency)

The process historically followed by the river asset managers to manage gravel extraction as part of the river works programme is not as transparent as a resource consent process – but the river asset managers do need the flexibility to manage gravel in a way that maximises their ability to manage the river works programme efficiently, effectively and in a timely manner.
(*Issues surrounding the availability of gravel and the effects of extraction on the bed levels of the District's rivers are considered in more detail in attachment 2 of report EP06/07/07).*

[4] Tasman District Council Rivers Activity Management Plan 200

The dynamic nature of river systems and the connection between gravel management for river management purposes requires a responsive management approach.
The allocation of gravel to specific high value end uses or identified end users has been considered by Council, especially to end uses which have a high level of public benefit such as roading. However, its powers to allocate gravel resources are limited by the provisions of the RMA. Gravel is not a resource like water which can be allocated under section 30(fa) nor does the consent holder have any priority under section 124A for continuing rights of allocation because the power to make allocation rules in regional plans does not extend to gravel in river beds.

9.1.3 Connection with Groundwater

Erosion or degradation of river beds can significantly affect connected groundwater bodies (i.e. aquifers). In the Tasman District many of the shallow alluvial aquifers, and indirectly some of the confined aquifers, are replenished by leakage from the rivers. The water level (pressure) in the river principally drives recharge to the adjacent aquifers. Significant changes to the river bed level consequently affect the water level (pressure) in the river and hence the recharge rate to the adjacent aquifers.

Bed lowering has been shown to lower adjacent unconfined aquifer water levels leading to lower recharge, hence, lower storage in the underground aquifers. For example the Wai-iti River provides recharge to the Appleby Gravel Unconfined Aquifer and the result of a degrading river bed has meant water users access to water declined significantly. The Council is attempting to reverse this effect by construction of weirs in the river bed designed to build up gravel levels.

Other water bodies that are potentially influenced by river bed levels include springs with flow contributions from the Takaka River including the Te Kakau Stream.

The recharge of the Motueka Plains aquifers is also dependant on flow in the Motueka River. Computer modeling of the effects of changing bed levels has shown a connection with groundwater recharge, but the 30 cm decrease in bed level that has already occurred has had an insignificant effect on recharge.

9.2 Issue 2 – Bed and Bank Stability – General Policies

8. To avoid, remedy or mitigate adverse effects of activities in, on, under or over river and lake beds on bed and bank stability and the associated flow on effects, including:

    (a) reduced flood carrying efficiency of waterways;
    (b) damage to existing structures;
    (c) reduced effectiveness of structures, particularly flood mitigation works;
    (d) impacts on groundwater recharge patterns and connected spring and wetland systems;
    (e) reduced ability of the river system to transport gravel;
    (f) increased risk of flooding and coastal erosion;

9. To provide for the carrying out of activities which enhance river bed and bank stability and flood carrying efficiency of river channels and, when considering applications to carry out these activities, to take into account adverse effects on water quality, aquatic and wildlife habitat and of noise and dust.

Methods of Implementation

Regulatory

Regulatory methods to establish thresholds for activities that may be permitted or regulated and to establish limits on the nature and scale of adverse effects.

Works and Services

(i) Liaison with the asset managers responsible for the Councils River Asset Management Plan to ensure a co-ordinated and sustainable approach to the management of the district's rivers.

(ii) Education and advocacy to promote good stream management practices that help avoid or mitigate damage from bed and bank erosion.

(iii) Assistance, including advice and funding, for riparian planting and fencing to help manage adverse effects of bank erosion.

Explanation and Reasons

Policy 8 aims to manage adverse effects of carrying out activities that may affect bed or bank stability. The main activities are associated with construction of structures where beds are disturbed or flows are subsequently altered by the structure. Bed disturbances associated with stream maintenance or flood control works can also affect bed stability or flood flows.

Policy 9 provides for the carrying out of activities which enhance river bed and bank stability and flood carrying efficiency of river channels while ensuring that adverse effects on water quality, aquatic habitat and of noise and dust are avoided remedied or mitigated.

There are significant benefits to the environment including people and community from providing for maintenance and enhancement of river bed and bank stability and flood carrying efficiency of river channels. This is consistent with the main objective of the Council's Rivers Activity Management Plan.

The policies acknowledge the need for river management works to address flood hazard and flooding risks while at the same time acknowledging that adverse effects on aquatic habitat must be addressed.

The policies recognise the benefits of activities carried out as part of the river works management programme including planting and plant maintenance, plant removal, placement of structures, management of gravel within river beds, and other fairway maintenance activities. The adverse effects of these works such as impacts on water quality from sediment generated by relocation of gravel or damage to aquatic habitat can be avoided, remedied or mitigated by controlling the way in which the work is carried out.

In addition to regulation, the Council will help ensure that landowners have good information and financial assistance for best practices to manage their rivers and streams.

Policy	Benefits and Opportunities	Costs and Risks
8/9	▪ Managing adverse effects of activities on the stability of river bed and banks and other structures located in rivers and permitting activities that have minor adverse effects. ▪ Managing adverse effects of activities on the rivers ability to carry flood flows efficiently. ▪ Enables management of rivers to enhance river stability and flood carrying capacity ▪ Acknowledges Council's river management role within the Part IV framework of managing adverse effects of activities in an integrated way.	▪ Constraints on some activities but extent of actual costs imposed likely to be minimal. ▪ Resource consent costs where applicable.
	▪ Provides for consistency between various council river management functions ▪ Ensures river works are carried out in a sustainable way	▪ Requirements to avoid adverse effects on river ecosystems may add to costs of river control works. ▪ Not all adverse effects caused by river control works can always be avoided

9.3 Issue 2 - Bed and Bank Stability - Gravel Extraction Management Policies

10. To establish sustainable gravel extraction limits for specified reaches or networks by taking into account:

    (a) gravel entering and leaving the reach or network;
    (b) rate of movement of gravel through the system and pattern of gravel storage;
    (c) the need to avoid destabilisation of beds and banks;
    (d) the need to avoid adverse effects on channel morphology;
    (e) the need to avoid exacerbation of natural hazards, including the requirement to maintain flood carrying capacity;
    (f) the natural flow regime of the river;
    (g) linkages to groundwater recharge, and the need to maintain and enhance groundwater supplies, including aquifers and connected spring and wetland systems;
    (h) linkages to coastal processes, and the need to avoid coastal erosion;

11. To take into account the variability in river gravel movement from year to year so that the total extraction over time does not exceed a stated long term running mean calculated over ten years, while allowing for extraction:
    (i) to avoid or mitigate adverse effects arising from extreme events including landslips or erosion into a river,
    (ii) where gravel from a tributary is unlikely to reach the main river,
    (iii) where a barrier prevents gravel from moving down the main river.

12. When considering an application to extract gravel from a river or reach where there are no sustainable gravel extraction limits to take into account matters (a) to (h) in Policy 10 and to issue resource consents with a term that is consistent with the annual operating plan for the River Works Asset Management Plan.

13. To ensure that priority for the extraction of gravel is given to
    (i) protection of the channel from erosion or instability;
    (ii) maintaining efficient movement of flood waters and sediment down the channel;
    (iii) preventing or mitigating adverse effects of flooding.
    as determined in any river works programme prepared under the Water and Soil Conservation and Rivers Control Act and specified in the Council's Rivers Activity Management Plan and Annual Operating Plan.

14. To recognise that the Waimea, Motueka, and Takaka river systems are showing a long term bed degradation trend and to avoid aggravating bed degradation when
    (i) establishing gravel extraction limits
    (ii) regulating the extraction of gravel
    (iii) maintaining channel capacity at a reach level

15. To investigate and monitor river bed topography and morphology, including the volume of gravel stored within and moving through the river bed system particularly in rivers known to have degrading beds.

16. To investigate and monitor the impact of changes in river bed levels and substrate composition on:
    (a) levels, volumes and flows of water in rivers, aquifers and springs;
    (b) other uses and values.

Methods of Implementation

Regulatory

(i) Rules to establish limits for the extraction of gravel
(ii) Rules to protect availability of gravel from quarries by establishing quarry protection areas (as already provided in the TRMP Part II Quarry Areas.)

Works and Services

(i) The river works programme prepared under the Soil Conservation and Rivers Control Act 1941 and specified in the Council's Rivers Activity Management Plan will specify that any gravel/material to be taken from a river is only extracted to
    (i) protect the channel from erosion or instability
    (ii) maintain efficient movement of floodwaters and sediment down the channel
    (iii) prevent or mitigate the effects of flooding

The RAMP will identify those outcomes so it is clear what the scope of the RAMP is. Any extraction of gravel outside the RAMP will be considered as a separate activity needing its own resource consent.

Monitoring and Investigation

(i) Ongoing investigation and collection of data about bed levels, pattern of river protection works over time and the movement of gravel within river systems.

(ii) Ongoing investigation and collection of data about the connection between river bed levels and adjacent groundwater levels and spring flows.

Explanation and Reasons

The overall trend of the main rivers and their tributaries (including the Waimea, Motueka and Takaka) shows net bed level reductions. Removal of gravel from rivers can be an important contributor to erosion and degradation in river beds. Consequential impacts on river bed and bank stability may increase over time as degradation continues or is accelerated by gravel extraction.

Exceptions include some of the smaller tributary rivers, including the Motupiko River, where a proportion of coarse sediments do not reach the main channel. In other instances a landslip might contribute a large amount of debris to a channel. In these cases decreasing flood capacity and adjacent land management requirements would justify removal of gravel build up. Other exceptions may be extraction from a tributary near the confluence of a larger river, at a discontinuity such as a gorge or near the coast where deposition naturally occurs. In these cases, progressive deposition may be removed to a stable profile because its removal is considered to have no significant effect.

These policies ensure that bed degradation trends in the District's major rivers is recognised and provided for. The possible adverse effects of gravel extraction from the beds of rivers are addressed at the stage of setting sustainable extraction levels as well as at the consent application stage. This approach is needed to manage adverse effects on channel stability and flood carrying efficiency as well as the other matters listed, especially in rivers where the overall trend is degrading river beds.

The policies also recognise and provide for Council's river management role to protect the river channel from erosion or instability, maintain efficient movement of flood waters and sediment down the channel and to prevent or mitigate adverse effects of flooding. For most rivers, any extraction of gravel is provided for to meet these functions first. For some rivers, including parts of the Buller and Matakitaki, a small amount of gravel may be available for other purposes.

Establishing extraction limits allows consent applicants a much higher level of certainty and where allocations limits, are not set the matters to be considered in assessing adverse effects are clear.

The policies account for gravel within the river bed that is not normally mobilised by mean annual floods. Gravel management is sometimes initiated where there are risks of localised flooding because of a build up of gravel beaches in some river reaches. The policy approach allows for redistribution of the gravel which has built up on beaches within a degrading river system.

Gravel sometimes needs to be extracted from rivers in order to prevent flooding and for other river management reasons. This gravel is included within the extraction limits.

Gravel relocation from beaches to elsewhere in the same river may be required as part of the Council's river management works to maintain flood carrying capacity and maintain bed and bank stability and avoid further bed degradation effects .

Gravel is also a valuable natural resource for the roading and construction industry and subject to extraction demand. Where gravel is available to meet this demand, the Council imposes a royalty on extracted gravel, which contributes towards costs of river management work.

Investigation work has been carried out to establish more precisely the relationship between bed level in the Lower Motueka and adjacent groundwater levels. Indicative modeling shows that the impact of lowering the Motueka River bed by 0.3 meters has a relatively insignificant effect on the Motueka Plains aquifer recharge. A more significant link has been shown for the Wai-iti River link with adjacent groundwater.

The evidence so far indicates that sustainable management of degrading rivers and associated water resources requires a more precautionary approach until there is more refinement and understanding of these adverse effects and the connection between natural bed dynamics and effects caused by gravel extraction.

Maintaining knowledge about the river systems by ongoing monitoring is essential to promoting the sustainable management of river beds and the overall river catchment and will provide for integrated management within the system.

The allocation of gravel to specific end uses or end users has been considered by Council, especially to end uses which have a high level of public benefit such as roading. However, its powers to allocate gravel resources are limited by the provisions of the RMA. Gravel is not a resource which can be allocated under section 30(fa) like water.

In any event, the policies adopted by Council recognise firstly that the main river systems are degrading and secondly that gravel management is controlled primarily by river management needs to ensure efficient flood carrying capacity and channel stability and that these needs have priority over any other end uses.

Policy	Benefits and Opportunities	Costs and Risks
10/11/12	▪ Clarity about parameters necessary to account for in assessing sustainable gravel extraction from rivers. ▪ Certainty about where and how much gravel is available for extraction helps reduce resource consent costs for users ▪ Flexible approach allows for extraction in places and circumstances where gravel is available. ▪ Provides for consistent and	▪ Information not always available in enough detail for complete certainty. ▪ Effects of gravel extraction not always immediately noticeable and may occur at different locations from the extraction point. ▪ Under estimates of available gravel might mean loss of valuable gravel from river system. ▪ Over-estimate means potential aggravation of degradation of river beds and subsequent damage to works and structures in the bed which may lead to

	integrated management of rivers for stability and channel efficiency reasons as well as avoiding adverse environmental effects, including reduction in adjacent aquifer levels.. ▪ Provides protection for existing structures and works from effects of degrading beds and may avoid need for additional costly rock protection work to repair scour caused by degrading beds. (unspecified but potentially significant amounts)	increased river maintenance work costs. ▪ Limits on the amount of gravel being extracted will reduce potential income (royalties) for river works and management programmes (this could be reduced by as much as $30 – 40,000pa (note that this income has been reducing over recent years.). ▪ Additional costs for the river works programme are associated with gravel relocation operations compared to gravel extraction. This may be up to $200,000 pa
13/14	▪ Provides clear guidance for managing specified degrading river beds. ▪ Gives explicit priority for gravel management to meet needs of stable channel and efficient flood flow.	▪ Prevents or severely limits extraction of a high quality resource, substitutes for which must be sourced form more costly land quarries. ▪ Pressure on gravel extraction pits located in productive alluvial plains.
15/16	▪ Better understanding about river gravel dynamics will enable more defensible and sustainable resource management decisions	▪ River gravel dynamics are complex and occur over long time periods so costs of investigation high.

10. ISSUE 3 - IMPACTS ON WATER QUALITY

Part VI of the TRMP (which manages contaminant discharges) addresses water quality and discharge management. However, it does not address some water quality effects that result from activities in, on, or under the beds of rivers and lakes. The primary issues of concern that have relevance for both parts of the Plan are:

- Fine sediment discharges from bed disturbance including from gravel extraction, alluvial mining in beds, suction dredging, construction of bridges or culverts, river works, vehicle and stock access (crossings and general access); and

- Stock effluent discharges from access to waterways (crossings and general access).

In preparation of Part IV some consequential amendments to Part VI have been identified to ensure integration and consistency between the different part of the Plan.

10.1 Sediment Generation

Adverse effects associated with fine sediment discharge may include smothering of river bed habitat (pools and spaces between stones) and spawning areas. This reduces invertebrate habitat as well as impacting on fish which depend on invertebrates as a food source. Sediment may also injure the gills of fish and invertebrates and, by reducing water clarity, reduce opportunities for fish feeding. Migration patterns may be altered as fish on the move choose to avoid turbid waterways. Reproduction of some fish, particularly trout could also be adversely affected. Dissolved oxygen may be reduced as a result of the discharge, particularly if the sediment is rich in organic sediment.

Reduced water clarity can also reduce amenity and recreational values.

10.2 Stock Crossing and Access to River Beds

Any farming system with high intensity of stocking rates will add to the risk of decreased water quality if stock has access to waterways. Manure containing high microbe and nutrient levels from the animals can deposited directly into the water or on the bed, stock trampling can damage the bed and banks and cause sediment to enter the water and animals like pigs and deer enjoy 'wallowing' in the bed causing extensive damage to habitat. Intensive dairy, beef and deer farming in the district are known to cause adverse impacts water quality.

There is also a lot of information about the significant adverse water quality effects from dairy farms where crossing rivers is required for twice daily milking. No other stock class is managed so that frequent regular crossing of water courses is required in that same way.

Adverse environmental effects on ecosystems within water-ways from stock crossing and access may include:

- Microbial contamination of waterways rendering them unsuitable for drinking and contact recreation use; Inputs of pathogenic microbes (such as Campylobacter), which pose a significant threat to human and animal health;
- Increased nutrient loadings and thus increasing algal growth that can escalate into algal blooms;
- A rise in ammonia concentrations, which can be toxic to fish species;
- The reduction of water quality and the smothering of benthic (bottom-dwelling) organisms caused by additional sediment loads;
- Loss of amenity values through discolouration of water and odour.

10.3 River Water Quality

Council's State of the Environment reporting shows concentrations of total nitrogen and dissolved inorganic nitrogen (nitrate nitrogen plus ammonium nitrogen) exceeded guideline values regularly at some sites around the district.

Concentrations of total phosphorus (TP) and dissolved reactive phosphorus (DRP) also regularly exceeded guidelines for control of algal growth at a relatively large proportion of sites throughout the District.

These results are summarized in Table 1 at the end of this paper.

As well as the SOE data the Council has some monitoring data for specific locations and data collected in 2004 for the Sherry River showed a significant reduction in

water quality arising from dairy herds crossing rivers[5]. A community approach to the improvement of water quality in the Sherry has since been adopted.

A 2002 report[6] on the impact of stock crossings and access for the Buller River catchment also concluded "*dairy herds are crossing through watercourses and are causing deterioration in water quality, habitat quality, and that these crossings breach the Buller Water Conservation Order (WCO*)". The water quality issues related to both sediment generation and faecal contamination.

A follow-up report in 2003[7] found a 50% improvement in median *E.coli* concentrations following the installation of the bridges. There were several management suggestions outlined in that report, and these have been worked into the policies and methods outlined in this policy paper where appropriate.

Note too that in the period since the 2002 report was drafted there has been significant investment in bridging waterways by landowners (this work is ongoing with landowners through the Clean Streams Accord which is described below).

A program of riparian fencing funded in part by the Council has also been ongoing and this has addressed some of the stock access issues.

10.3.1 Clean Stream Accord

There have been significant improvements in farm management practices over the last few years that aim to improve water quality and to promote sustainable management of rivers. The Dairying and Clean Streams Accord [the Accord] reflects an agreement between the government, regional councils and the dairy industry to improve the environmental performance of dairying and it establishes a goal of achieving "clean healthy water in dairying areas".

The Accord did not follow a public process and not all stakeholders with an interest in water quality were party to the Accord in the same way these plan provisions will be.

The Accord does not apply to small rivers and many of these small rivers will have significant aquatic habitat or contribute to larger rivers. The Accord is focused on water quality rather than on total aquatic habitat quality.

10.3.1.2 Local Action

A Regional Action Plan (RAP) was developed by Fonterra and Tasman District Council with input from Federated Farmers to detail regional commitments toward achieving better management of stock access to streams, and management of nutrients taking into account circumstances specific to the Tasman District.

The Regional Action Plan has several performance targets and implementation actions.

[5]Davies-Colley, R. J.; Nagels, J. W.; Smith, R. A.; Young, R. G.; Phillips, C. J. (2004). Water quality impact of a dairy cow herd crossing a stream. *New Zealand Journal of Marine and Freshwater Research. 38:*569-576.
[6] MfE. 29 October 2002. Report on the investigation of dairy farming practices in the Buller Catchment.
[7] Davies-Colley, R. J.; Nagels, J. W.;Merrilees, R.;2003. Water Quality Improvement in the Sherry River Following Bridging of Crossing on Raceways.

As at 2007 the number of farms in Tasman District subject to the Fonterra Clean Streams Accord was 143. Performance with the targets as measured from the compliance survey was as follows:

Clean Streams Accord Target	50% of regular crossing points have bridges or culverts by 2007	Dairy cattle excluded from 50% of streams and rivers by 2007	100% of farms to have systems in place to manage nutrient inputs and outputs by 2007	100% of farm dairy effluent discharges to comply with resource consents and regional plans	50% of regionally significant wetlands to be fenced to prevent stock access by 2009
Total 2006/7	77%	90%	93%	86%	*
Total 2007/8	93%	92%	100%	93%	*

* The accord acknowledges that over 90% of lowland wetlands in Tasman District have been drained. The Council is currently determining the status of its remaining lowland wetlands.

There is an issue in relation to a lack of a common protocol for assessing compliance with the Accord and some of the percentages given above may be optimistic. Despite this, overall Tasman District appears to be well placed with respect to most of the performance targets of the Clean Streams Accord.

The monitoring shows that some areas perform at less than the desired level, and RAP attention may need to be focused in these areas.

The majority of lakes and estuarine areas in the district bordered by dairy farms have been protected from adverse effects of stock access to the water. It is estimated by staff that about 5% of areas are unprotected.

There is less information about levels of access to wetlands although the Council currently offers financial assistance and management advice for the management of wetlands.

10.3.1.3 Other Stock Management Systems

The level of performance by other stock farming systems (sheep, deer and beef) is less well understood. While they don't have frequent stock crossings, farming systems are tending to be more intensive with greater numbers of stock are known to have an impact on water quality. Some of these farming systems may need to amend farming practices to reduce adverse effects on water quality. Sheep farming generally has a lower impact on water quality but the significance of effects depend on stocking density, stock management systems and location and density of watercourses.

The sheep and beef industries have less well established partnerships and environmental performance targets. While a national "Primary Sector Water Partnership Leadership Programme" has been initiated by the primary industries under the MfE initiated water programme of action, it is still in its embryonic stages and as yet no local implementation programme has been initiated. It should however provide a platform from which Council can engage with these industries to address local issues and establish performance standards.

10.4 Bridges and Regulations

A Farm Bridge Protocol was developed by Council in consultation with Federated Farmers and Fish and Game Council and set out the regulatory requirements under the RMA and the Building Act. Under this agreement and provided farm bridges had resource consent, met appropriate engineering standards and construction supervised by an appropriate person, Council would not require a building consent for bridges. One of the reasons for adopting this approach was because there was no permitted activity in the Plan and a resource consent would have been needed anyway.

Resource consents are currently needed for all bridges and culverts (Section 13 of the RMA and the Transitional Regional Plan). Bridges have potential adverse effects on rivers especially floodway capacity.

Building consents are also required for bridges as structures under the Building Act dealing with safety and structural aspects.

Removing or reducing these regulatory barriers (resource consent and building consent) may increase the rate at which river crossings are constructed.

It is considered that the most appropriate way of dealing with the regulatory regime is to permit small scale Section 13 activity related to most bridges, but to consider safety and design aspects through the building consent process.
Bridges that have pier(s) in or on the bed are likely to require specialist design. Rivers of this size may also be navigable. The scale of work in the bed of the river during construction will have a greater potential to cause adverse effects. These bridges have the potential to have significant adverse effects on water and flood flow and have potential to cause adverse effects on the stability of beds and banks of rivers and are therefore restricted discretionary activities.

However, it is important that bridges are still constructed to good engineering design so that it can be used safely by stock and vehicles. Design and supervision of construction by an engineer will be a key requirement for most bridges – including any used for stock crossings.

Larger bridges will need both a resource consent and a building consent, but where appropriate Council will process both applications together to reduce compliance costs for applicants.

This approach changes the Farm Bridge Protocol, although only by reversing the regulatory requirement (for small scale activities.) Council also maintains a small discretionary fund to assist with consent fees for bridge building where there is significant public benefit.

10.5 Vehicle Access

Passage of vehicles across river beds may mobilize sediment and damage beds and banks as well as aquatic habitat. The degree to which adverse effects are caused will depend on the nature of the substrate, geology, frequency of crossing, length of passage along the stream and type of vehicle. (There may also be adverse effects on wildlife and conflicts between other river users and these effects are considered in sections 8.5 and 13.1.2)

Vehicles cross rivers or use them for access in a range of situations across the district. In most situations adverse effects are insignificant or minor but potential does remain for damage to the river.

An associated effect of high levels of public access to rivers can be increased incidence of dumping of rubbish, particularly near urban settlements, and other antisocial behaviour. There are no specific provisions identified for Part IV to deal with this and it remains to be dealt with as part of a compliance team response, (although some of the suggested education material can refer to this issue).

10.6 Part IV - Water Quality Policies

17. To avoid, remedy or mitigate adverse effects of sediment, disease-causing organisms and nutrients, including ammonia on river uses and values from activities in, on, under or over river and lake beds including:
    (a) vehicle and stock crossings;
    (b) gravel extraction or relocation
    (c) alluvial mining or prospecting;
    (d) river maintenance works

18. To promote sustainable stock management practices that address adverse effects on water quality from stock access to waterbodies, including the use of farm quality programmes, industry accords, and other industry sector-based quality assurance programmes.

19. To encourage and support industry and land owner initiatives that promote sustainable use of water and land.

Methods of Implementation

Regulatory

(i) Rules that allow or regulate activities according to the risk of adverse effects; including rules that reduce the need for resource consent applications for activities that have minor adverse effects on the environment.

Monitoring and Investigation

(i) Research and investigation that improves the knowledge of the effects of stock on river and lake beds

Works and Services

(i) Advocacy and information about sustainable resource use including good practice information about building bridges and culverts and management of rivers and streams.

(ii) Education and advocacy, in consultation with industry stakeholders to promote stock management initiatives that avoid, remedy or mitigate the adverse of stock on river and lake beds.

(iii) Assistance, including advice and funding, for riparian planting and fencing to help manage adverse effects on water quality from stock and bank erosion.

Explanation and Reasons

The policies aim to avoid, remedy or mitigate adverse effects of sediment generation, nutrients and disease-causing organisms on aquatic values from activities in, on, under or over river and lake beds.

Sediment generation from bed disturbance activities such as gravel extraction, alluvial mining or prospecting and river maintenance work usually arise due to direct disturbance within or immediately adjacent to the wetted bed of rivers. Generation of sediment can often be avoided by not carrying out some of these activities in the wetted part of the bed.

Some activities are carried out in the wetted bed of the river such as suction dredging for alluvial gold, some river protection works, some bridges and crossings. Performance standards for permitted activities or conditions of resource consents can limit the extent to which these activities cause adverse effects.

For many resource users, advice and advocacy will help them adopt sustainable management practices that reduce risk of adverse effects on water bodies from the more routine activities carried out in the beds of rivers.

Where water quality has been affected by stock or vehicle crossings, it is possible that alternative crossings, fencing or other changes to land use practices may result in improved water quality.

Council will promote sustainable stock management practices that address adverse effects on water quality from stock access to waterbodies. These practices include the use of farm quality programmes, industry accords, and other industry sector-based quality assurance programmes.

Policies seek to promote cooperation with a number of other stock management initiatives, and to build on them. It enables further initiatives from the farming sector to be incorporated into the management framework as they develop over time. It also provides clarity with regard to outcomes that Council is seeking.

Council acknowledges the role of industry in promoting sustainable resource use and encourages a partnership approach in dealing with this issue.

Policy	Benefits and Opportunities	Costs and Risks
17	▪ Manages adverse effects of activities in the beds of rivers on nutrient, sediment and bacteria. ▪ Activities with minor adverse effects	▪ Resource consent costs where applicable ▪ Some limitations on activities where water quality likely to be adversely

	will be permitted. ▪ Clear thresholds for activities having adverse effects will be identified providing greater certainty about desired outcomes for the community generally and landowners in particular.	affected, including for river works, and stock crossings.
18/19	▪ Education and advocacy for good resource management in consultation with affected industry groups and landowners likely to build better partnerships than regulation alone	▪ Some funding and staff time costs to Council dependant on allocations made in Council's annual plan.

11. CONSEQUENTIAL WATER DIVERSION AND DISCHARGE MANAGEMENT AMENDMENTS TO CHAPTERS 31 and 36

Changes to the contaminant discharges Chapters 33 and 36 to complement Part IV rules and complete the discharge provisions are also needed.

In addition to water quality related policies proposed for Part IV, managing the impacts of stock on water quality will need to be supported by new policies in the contaminant discharges Part VI of the Plan. The following preferred policies are in support of the Part IV policies seeking to avoid remedy or mitigate adverse effects of stock and vehicle access to water ways and other disturbances of the bed.

The preferred policies also help establish a priority for action to improve water quality that may have degraded water quality for the identified uses and values.

Part VI already contains objectives and policies that seek to maintain or enhance water quality for the range of uses and values the water has. These provisions are quite general in their focus and application. The State of the Environment monitoring indicates a few situations where water quality is being degraded over time. However there is little guidance about the actual quality standards that water is to be maintained at (apart from some end use related quality standards for the Motueka and Waimea waters) and little guidance as to priority for action where water quality is degraded.

11.1 Diversion and Discharge of Land Drainage Water

Direct discharges of contaminants into water in farm drainage canals are subject to control by existing plan provisions. However, the plan is less clear about the discharge of water from a farm drainage canal into a river. It is also somewhat unclear about the precise nature of controls over the diversion of water that is caused by the construction of a farm drainage canal.

Rule 31.1.2 currently permits the taking, use and diversion of water. It allows small quantities to be taken, used and diverted per day as permitted activities. However, the rule does not specifically address the diversion of groundwater by farm drainage ditches. The permitted activity conditions do not address the potential adverse effects of this activity.

There is a related discharge rule in Chapter 36 specifically permitting the discharge and diversion of drainage water and stormwater. The rule is ostensibly to manage the contaminant discharge aspects of stormwater as it sits within Part VI of the Plan,

but the scope of the rule also covers diversion and discharge of groundwater as part of land drainage.

The existing rule 36.4.2 permits the discharge of land drainage water with the relevant conditions including;

(a) The discharge or diversion does not cause or contribute to erosion of land, including the bed of any stream or drain.

(b) The discharge or diversion does not cause or contribute to any damage caused by flooding.

(c) The discharge or diversion does not cause or contribute to the destruction of any habitat, plant or animal in any water body or coastal water.

(d) The discharge or diversion does not or is unlikely to cause the production of conspicuous oil or grease films, scum or foams, or floatable or suspended materials in any receiving water.

The potential significant water quality effects from farm drainage water are caused by nutrient and bacteria inputs from adjacent land use activities, especially stock farming activities. Land drainage water can be affected by contaminant inputs from stock through overland runoff and percolation of nutrients into groundwater. Urban land drainage water is more likely to be affected by a range of nutrient and chemical contaminants from hard surfaces and roadways.

The existing rule does not address potential microbial or nutrient contamination from farm drainage canal discharges

In addition, the two rules in chapters 31 and 36 require some additional text to clarify the scope of each rule in relation to the "diversion' part of farm drainage activities, including a limitation on diversion of water leading to wetland drainage.

Additional consequential Part VI policies and rules (managing contaminant discharges) have been proposed to help manage adverse effects of bed disturbances, including stock access, on water quality as a result of preparing Part IV. The policy states desirable water quality outcomes for the district's water bodies and the new rules specify performance standards for water clarity, turbidity and bacteria levels.

Where a farm drainage ditch is not a 'river' for the purposes of Part IV, then it will require authorisation for both the diversion of water and discharge of the drainage water into water and Rule 36.4.2 currently allows for this.

11.2 National Policy Statement for Freshwater Management

More recently, a draft National Policy Statement (NPS) for Freshwater Management has been proposed by the government. The Council will eventually be required to give effect to the National Policy Statement. Among other things, the draft NPS currently contains an objective for water quality (in appropriate freshwater resources) to reach or exceed a swimmable standard.

Notwithstanding the uncertainties inherent in the current wording of the objective and the potential for changes to be made, it does however indicate the high level at which water quality is being considered, and the high quality standard being expected for NZ waters.

11.3 Water Quality Data

Table 1 (at the end of this report) shows water quality data for several rivers and streams where water quality can be considered to be degraded. High nutrient levels will degrade aquatic habitats and contribute to excessive periphyton growth while high levels of disease-causing organisms will affect contact recreation and stock drinking water values.

Many surface water bodies are used for supply of stock water. They are also used for contact recreation; whether as a recognised swimming area with regional significance or as a place where local children might play.

Not all water bodies have degraded water and existing land use activities, particularly dry land farming with extensive stocking systems, have minor adverse effect. However, cumulative adverse effects mean some rivers have degraded quality in their lower reaches.

11.4 New Policy 33.1.X

20. To improve water quality where disease-causing organisms, dissolved oxygen, fine sediment or nutrient levels degrade water quality:
    (a) below water quality standards specified in a WCO;
    (b) below microbiological standards for stock drinking water.
    (c) below the action level microbiological standard for contact recreation in rivers listed in Schedule 30.1 as having value for contact recreation;
    (d) causing nuisance algal growth

11.5 New Policy 33.1.Y

21. To help guide decisions for priority where action, including enforcement action or other action by Council is needed under Policy 33.1.X, the Council will take into account:

    (a) the relative significance of instream values of a water body to the community, particularly in relation to the uses and values given in Schedule 30.1 and opportunities for contact recreation in the river;
    (b) the extent and severity of the adverse effects of contaminant discharges on a water body especially if it is likely to lead to long-term changes to the water quality, river bed substrate, or aquatic ecosystems of the water body;
    (c) the extent to which amenity values, stock water supplies, edible fish, shellfish or aquatic plants, and indigenous species are being adversely affected by contaminant discharges.
    (d) the extent to which the Clean Streams Accord target date of 2012 is relevant and appropriate,
    (e) the greater risks for water quality from intensive farm management systems.

Note that Schedule 30.1 currently does not always list "contact recreation" as a specific value for all water bodies and this schedule will be revised as part of this process. See also section 15 of this report.

Note also that it is not normally recommended that domestic water is taken directly from surface water supplies without treatment as there is always a risk of bacterial contamination. In addition, community water supplies are subject to drinking water regulations. Control of farm animal sources of contamination will however help reduce risks to human drinking water even where a water supply is treated.

Methods of Implementation; Chapter 33

Regulatory

(i) Rules that allow or regulate activities according to the risk of adverse effects; including rules that reduce the need for resource consent applications for activities that have minor adverse effects on the environment.

Monitoring and Investigation

(i) Research and investigation that improves the knowledge of the effects of different stock management systems on river and lake beds

Education and Liaison

(i) To work closely with landowners, and with industry representatives as appropriate, to improve water quality degraded by stock access and crossings, particularly where this is caused by intensive stocking systems, especially in through the Regional Action Plan to implement the Clean Streams Accord in Tasman District (This method is a replacement for the existing method)

(ii) To work with or support landowners, industry groups, iwi, other statutory bodies such as Fish and Game Council and Department of Conservation and agencies such as Landcare Trust to improve water quality that is degraded as a result of the cumulative impacts of adjacent land uses, especially where they include intensive stocking systems.

Financial Incentives

The Plan already has a funding method for riparian works in Chapter 33 and see also section 10.6 above. The amount will be dependant on decisions made annually during the annual plan process.

Explanation and Reasons

Managing stock access to rivers falls both under the scope of RMA Section 13 activities relating to disturbance of the beds of rivers, as well as Section 15 discharge activities affecting water quality and aquatic habitat.

The Plan already contains a water quality objective aimed at maintaining or enhancing water quality. However, there are rivers and streams that currently have degraded water quality but there is minimal policy that addresses when or how degraded water quality should be enhanced and the quality standards that must be maintained in all rivers.

Most of the degradation is due to non-point sources, including runoff from farm land and stock access in some areas. There is also degradation of water quality in urban areas, mostly because of the effects of urban stormwater runoff.

The Council currently manages most direct discharges to water through discharge permit conditions and monitoring.

The policy direction in relation to already degraded water bodies means that goals for improving water quality are more certain, and deciding on priorities becomes a clearer and more open process. Council's State of the Environment Monitoring will identify where there are concerns with water quality and local communities will also be involved in identifying priorities for action according to the policy.

The management of freshwater quality is also an issue being addressed nationally, including through the development of a National Policy Statement on management of freshwater. The Council's policies provide a means to address water quality issues in a proactive way.

A stock water quality standard for bacterial contamination is a lower hurdle than a contact recreation water standard. However, both standards will require funding and effort by Council and landowners to improve water quality in some areas.

Costs to landowners include fencing and bridging costs, alternative stock water supply options, weed and pest control in some areas, and changes to farm practices. However, there are a range of benefits for landowners including better stock health (better water quality, as well as reduced foot injury), faster travel times to and from milking platforms, fewer losses from stock falling into water courses and less cost relating to managing river bank erosion.

Costs to Council include staff time and effort, education and advocacy programmes and compliance effort. Additional costs will be associated with any incentive or subsidy schemes that may be adopted.

These policies give some assurance to communities that the Council is managing water quality issues arising from non-point sources, especially in relation to Part IV activities.

A policy that states the desired water quality standards will give some certainty to communities and stakeholders. The WCO's for Motueka and Buller provide some management direction in relation to point source discharges, but Council is also obliged to ensure the cumulative effects of other activities are also addressed.

There is a strong community feeling that water should be left in a state fit for future generations to enjoy, including in relation to opportunities for children to play in water.

Landowners in the Sherry River are demonstrating that a contact recreation water standard is desirable and necessary and they are seeking to achieve this through a range of voluntary methods.

While water in small farm "drainage ditches" is unlikely to be used for contact recreation, nearly all water flows into larger water courses and can contribute to poor water nutrient and biological water quality in downstream receiving waters, especially because of cumulative effects. However, elevated levels of contaminants

at the farm level may not always have adverse effects in downstream rivers because of the effects of dilution.

The level at which the policy is implemented will be dependant on local conditions, local water quality and uses of the affected water bodies.

Policy	Benefits and Opportunities	Costs and Risks
20/21	▪ Sets clear water quality objectives for where quality is degraded. ▪ Establishes a priority for action to improve water quality in specified circumstances to help manage Council expenditure and effort in education, investigation and monitoring and help direct and make decisions about compliance action. ▪ Allows activities with minor adverse effects to be permitted activities. ▪ Goals for improving water quality are more certain, and deciding on priorities becomes a clearer and more transparent process for landowners and the community. ▪ Plan provisions establish clear performance standards that apply equally to all landowners ▪ Completion of Schedule 30.1 to identify uses and values of water bodies, including contact recreation will provide more certainty for resource users about expected outcomes for water quality and other activities that affect them	▪ Resource consent costs as applicable. ▪ Costs depend on measures require to improve water quality to desired standards. ▪ Funding and staff time costs for Council in delivering education and advocacy programmes. ▪ Potential costs to land owners if water quality degraded by their land use activities. 93% of Fonterra dairy farms now use bridges to cross rivers. A number of dairy farms and intensive stock farming operations may also need to be upgraded to meet water quality objectives. Culvert and bridge costs can range from $100's to $10,000's depending on the size of the river. ▪ Some water quality issues may be best addressed by stock exclusion (fence costs range from $5/m for two wire electric fencing up to $12 - $14/m for 7-8 wire permanent fences). Others might require alternative water supplies, shade and wetland protection etc. Many landowners have already carried out works and costs are variable depending on circumstances and degree of water quality degradation.
Diversion and drainage rule amendments	▪ Amendment would ensure consistency with the conditions of the rule managing discharges of contaminants arising from the entering or passing across any bed by vehicles and stock. (See proposed rules 36.2.X and Y). ▪ The rules manage both discharges directly to a river and discharges of farm drainage water to a river ▪ Amendments provide the Council with a mechanism for managing the cumulative adverse effects of land use activities on water quality by imposing specific water quality conditions for farm drainage networks.	▪ The extent to which this will impact on individual landowners is not known. As with issues surrounding management of stock in and near water courses, the extent to which alternative stock management systems including fencing, alternative water supplies, stream crossings etc need to be provided will depend on the type of farming system and the extent to which these water quality issues are already accounted for. ▪ The quality of water from farm drainage networks is also affected by a range of non-point sources of contamination including manure from farm animals and as a result of fertiliser use. This in turn is affected not only by stocking density but also by soil type and geology, topography and riparian land management, especially wetland areas associated with streams. The extent to which

		water quality can be improved by alternative stock management practice is not known with certainty for all properties.

12. ISSUE 4 – HAZARDS

The most relevant hazards that may adversely affect human life, property or other aspects of the environment with regard to lake and river beds is earthquake, erosion, subsidence (of banks), sedimentation and flooding. There is little to be done about earthquakes through Part IV provisions.

There are activities in the beds of rivers that may impact on structures for the control of flood waters and river erosion and increase the hazards posed by flooding and erosion of rivers. This could be caused through aggravating erosion or degradation of the bed or banks and any erosion control works and structures or by altering river or flood flows or destabilising the river. These issues are addressed in section 9 of this report.

Council will also be guided by national policy in relation to flood management with the recent release of a National Policy Statement for flood management also indicating possible future direction.

The climate change scenarios include a forecast of more extreme events and sea level rise. The District can expect more floods – and bigger floods – making river bed and bank stability a critical issue. Council will take these risks into account in adopting its river management plans and programmes.

Considerable flood protection works have been carried out in the region, particularly on the Motueka and Waimea rivers. These works have significantly reduced the risk from most flood events. However, very large events exceeding flood protection design standards can be devastating to normally protected areas. Measures taken to reduce the flood risk, such as river control works, can actually increase the catastrophic potential of large floods because they enable an increased occupancy and level of development within flood plains. To be truly effective flood protection works must be undertaken in conjunction with better land use, and adequate and timely flood forecasting.

It is only the extent to which these activities have adverse effects that need to be managed under the RMA that is covered by this part of the plan. Issues about flood risk management will be dealt with through other Council processes.

12.1 Dam Hazards

Hazards can also be created by structures such as dams, where failure of a large dam can cause significant damage downstream of the dam.

Although dams lead to positive benefits to people, communities and the environment, they can hold large quantities of water which can lead to extensive damage if there is an uncontrolled release. Such a release could occur through a failure of the structure, or an overtopping caused by, for example, a landslide into the reservoir. The damage, which occurs largely downstream of the dam, may include loss of life, property, infrastructure, or the natural and human use values

supported by the affected water bodies. The risk of damage depends on the size of the dam structure, the volume of water impounded and topography.

The presence of a dam will also affect other uses and values of a river, both through the presence of the structure and the impounded water.

The risk of dam failure needs to be managed by Council under both the RMA and provisions of the Building Act(2004). The adverse effects of the dam structure in the bed of the river also need to be managed under the provisions of Part IV.

Dam failure may be caused by earthquakes, dam design or construction faults, inadequate maintenance or management. There are strong parallels between dam structure and buildings in relation to earthquake hazard risks. Buildings are designed and constructed to withstand earthquake shaking effects (among other hazards) to a certain standard of intensity (in terms of lateral acceleration). Dam structural failure may have offsite effects in a worst case failure scenario, from rapid water or debris flow.

Council policies regarding dam construction, and inundation hazard need to recognise national dam safety legislation now adopted under the Building Act. The key aspects of the new Building Act in regard to Regional Council responsibilities regarding dams apply to “large” dams which are defined as structures containing a water depth of 3 metres or more and impounding 20,000 cubic metres or more of water or fluid.

Under the Building Act, the onus of the safety assessment will be on the dam owner. New regulations will require dam owners to classify the dam as either low/medium/high impact. The criteria and standards for dam safety are formulated in regulations.

The new regulations that require dam owners to do the safety assessment are already in place but there is a two year phase in. They are also dependant on final resolution of the regulations. Council needs to consider advising dam owners of the new regulations now and this process provides a good opportunity to advise dam owners of all the relevant regulations that apply or may apply in Part IV.

This Building Act safety assessment system will contribute to on-going monitoring of large dams in a way that complements RMA requirements.

There are some overlapping responsibilities between the Building Act and RMA. It will be possible for the Council to adopt policies, rules and processes that account for the overlap and minimise the regulatory burdens for applicants.

There are also some gaps between the provisions of the two Acts. The main gap is in the absence of building standards for the construction and on-going maintenance of dams that are of lesser size than a “large” dam specified in the Building Act. Until now, the Council has regulated small dam construction under the TRP Dam Bylaw.

The Council is also required to adopt a policy on dangerous dams but since the regulations have not yet been completed, this has yet to be finalised.

12.1.1 Other Effects

Lakes and rivers are dammed for a number of reasons ranging from the supply of stock drinking water to the generation of hydro-electric power. Although it can lead to positive community benefits, the damming of water drowns the existing natural and human use values upstream of the dam structure, with the scale of the inundation being dependent on the size of the dam structure and the topography of the surrounding land. Given the importance of these values in some locations their loss t7hrough inundation or displacement may be of concern. Note that the Water Conservation Orders for the Buller and Motueka Rivers and their tributaries specify restrictions on dams.

12.2 Managing the Risks

Council can influence the hazard classification for existing dams by allowing changing land uses below dams. For example, by allowing built development in an area likely to be inundated should an existing dam fail.

The Council considers that it is appropriate to consider this aspect of risk from existing dams as part of a subdivision proposal.

It is possible that with the new dam regulations, which will eventually require owners of large dams to provide information about inundation areas, better understanding about dam risks will help guide decisions about future development.

In future, large dam owners are likely to have an interest where development proposals increase the risk classification for an existing dam by placing more buildings and structures within a possible inundation area. (The regulations do not address the effects of development below dams than are not large dams.

12.3 Consent Status

Prior to 1991, approval for structures and other activities in watercourses may have been required under bylaws adopted by the local Catchment Board. Generally, there was no term specified by these approvals. Since 1 October 1991, consent for structures and other activities in rivers and lakes have been able to be granted for a maximum term of 35 years (Section 123 RMA). If no term is specified in the consent, then the default term is five years. However, many of the (Section 13) consents for dams and other structures have, since 1991, been granted without a term and they require authorisation through a plan rule or consent.

So whilst the placement or erection of the dam or other structure was provided for, the ongoing use or maintenance of these structures may be unauthorised through a Section 13 consent. However, many of these existing dams have been managed under consents granted under rules in Part V of the plan for damming water. Conditions imposed under these consents address stability and maintenance issues that would normally be considered as part of Section 13 consent.

There are an unknown number of dams which do not currently have resource consent for the structure and there is a need to ensure all existing dams have all the proper authorisations, i.e. consents under Section 14 for damming and taking the water and Section 13 consents for constructing a structure in the bed of a river.

12.4 Hazards and Dams Policies

22. To ensure that all new dams in river beds do not create or worsen hazards from risk of failure.

23. To avoid, remedy or mitigate adverse effects of dam structures on the uses and values identified in Schedule 30.1 and on public access to rivers. .

24. To ensure that potential adverse effects such as structural safety risks of existing dams are effectively managed by
    (a) enforcing applicable conditions on relevant water permits to dam water and
    (b) on expiry of the relevant water permit to require land use consent for the ongoing presence of the structure or
    (c) require a land use consent to authorise the structure where there are no conditions on any relevant water permit that manage structural safety risk.

25. To take into account risks of dam failure on potential buildings and structures when considering applications for subdivision.

Methods of Implementation

Regulatory

(i) Rules that allow or regulate activities according to the risk of adverse effects; including rules that reduce the need for resource consent applications for activities that have minor adverse effects on the environment.

(ii) Integrating the consent process under the Building Act and the RMA 1991.

(iii) Identification of areas where structures may be at risk from dam failure – this may need to take the type of structure into account;

(iv) Rules that ensure risks from existing dams are taken into account when considering applications for *subdivision.*

Explanation and Reasons

The Council recognises that flood hazard management is important to enable people and communities to provide for their social, economic and cultural wellbeing and for their health and safety. Managing the effects of activities on flood and erosion protection works is covered in section 9.

That section also addresses management of adverse effects caused by activities carried out to manage flood and erosion risks. Other Council processes will examine flood management and protection of communities from flooding risks.

Council also wishes to ensure creation of new hazard from dams in river beds is avoided.

The Council wishes to avoid inappropriate subdivision in floodplains where subsequent structures are at risk from dam failure (when considering applications for subdivision). It is consistent with dangerous dam legislation as it seeks to minimise risk to structures from dam failure or from a natural flood.

Conversely, owners of large dams face increasing costs if increasing downstream development raises the risk classification for their dam.

Some existing dams have no current authorisation for the continuing presence of the dam in the bed of a river as required under Section 13. For some of these dams, stability and maintenance aspects are addressed in existing permits authorising the damming of water.

Where an existing dam has no authorisation for the dam structure, but where a water permit to dam water is applicable and relevant, Council will seek consents under this part of the Plan when those consents expire. Where there is no applicable water permit to dam water or no relevant conditions, Council will seek an application to authorise the structure and ensure proper on-going maintenance of the dam.

Policy	Benefits and Opportunities	Costs and Risks
22/25	▪ Avoids failure risks from new dams. ▪ Addresses potential for adverse effects from dam failure on property and structures when considering construction of new dams ▪ Recognises that there is a potential to increase risk posed by existing dams as development within a dam's inundation area increases. .	▪ Resource consent costs where applicable. ▪ Dam safety and design costs ▪ Some limitations on new subdivision development where existing dams pose a risk. There are in excess of 600 dams in the district, with many in the Moutere area
23	▪ Recognises that dam structures can adversely affect a range of river uses and values including public access.	▪ Some limitations on construction of dams where adverse effects on instream values unlikely to be avoided remedied or mitigated. (note that chapter 30 already acknowledges both costs and benefits of damming water in relation to water augmentation and instream values)
24	▪ Recognises that on-going management of existing dams is important to avoid potential failure risks to downstream property. ▪ Recognises role of existing resource consents in addressing potential failure risks and sets up process to integrate resource consent obligations. ▪ The transaction costs have been reduced by adopting a transitional provision that links existing permits to dam and take water to section 13 consent requirements, where consents have lapsed.	▪ Resource consent costs where applicable. ▪ An estimate of up to 200 dams may not have current Section 13 permits, but of these only a very small number wouldn't already have an associated permit to take or dam water.

13. ISSUE 5 – LANDSCAPE, CULTURAL, RECREATIONAL and AMENITY VALUES

A range of activities carried out in, on, under or over the beds of rivers and lakes may impact on landscape, cultural and amenity values and recreational values. This includes noisy activities and the passage of vehicles and boats.

Activities on the surface of the water and vehicle access can also impact on amenity values as outlined below. Under section 9(4)(da) – activities on the surface of the water are permitted unless a rule says otherwise.

13.1 Resources and Interests Affected and Nature of Environmental Effects

Amenity values are defined in the Act as those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes. The issues that have been identified locally with regard to amenity and recreational values include:

- Visual impacts from buildings and structures;
- Impacts on recreational activities (including whitebait fishing, trout fishing, gamebird hunting, swimming, kayaking, rafting, and other surface water activities);
- Congestion issues, including congestion that arises from use of access points for surface water activities, including interactions between different activities (or 0the persons carrying them out) This includes both water related activities on the surface as well as activities involving 4WD vehicles;
- Generation of noise and general disturbance (which also has potential adverse effects on wildlife values –see section 8.5)
- conflict with other recreational activities;
- reduction in navigational safety;
- litter and other wastes generated in the area;
- alienation of areas of the shoreline with recreational facilities and structures.

13.1.1 Activities on the Surface

The use of the surface of rivers and lakes is regulated by Section 9 of the Act and is a permissive regime, i.e. a use is permitted unless a rule in the plan provides otherwise.

At present, the plan specifies that any activities on the beds or surface of rivers are excluded from Part II of the plan, and are to be considered with the preparation of Part IV.

There appears to be increasing numbers and types of surface water activities now being undertaken in rivers and lakes around the region. This is due to several factors including, invention of new types of craft, increases in tourism, and improvements in access to rivers, and spill-over from other locations.

Activities on the surface of 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.

13.1.2 Use of the Beds for Recreation

There is also an apparent increase in the use of four wheel drive vehicles in river beds around the District. This is mainly due to the fact that these vehicles are now relatively cheap and becoming more common. This may cause adverse effects through disruption of other recreational activities, and may lead to congestion and noise related issues. They also have impacts on aquatic ecosystems. These effects are likely to be more pronounced when groups of vehicles access the riverbeds in convoy, such as happens with commercial operators or clubs.

The Council doesn't have specific data relating to these 4WD activities, but has information from elsewhere that shows damage caused to aquatic habitats from frequent vehicle passage. There is some anecdotal evidence about adverse effects at some high use areas such as the lower Waimea River. This latter issue is being addressed as part of the process to develop a Waimea Estuary Management Plan.

13.1.3 Amenity Values

Amenity values are those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes and opportunities.

The natural environment of the District is dominated by mountains, lakes and rivers. The 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 many opportunities for viewing, contemplation and enjoyment.

The District's major lakes; Rotoiti and Rotoroa are within the Nelson Lakes National Park and any commercial and recreational activity is regulated by the Department of Conservation through the Nelson lakes National Park Management Plan. Concessions may be issued for activities and events subject to conditions that protect the lakes' amenity and landscape values in a way that is consistent with the management objectives for the National Park.

Other lakes are either on private property or not subject to significant recreational activity (e.g Lakes Otuhie, Kaihoka).

The Buller and Motueka River Water Conservation Orders identify and protect the wild, natural and scenic values of identified rivers. The Buller Order specifically recognises the use of these Rivers for canoeing and kayaking.

There is increasing recreational activity on the Buller and other nearby rivers. There is less recreational pressure by motorised craft on the Motueka River and its tributaries, although kayak and canoe use is significant.

Further definition of nature and significance of amenity and landscape values for the remaining rivers has not been carried out, however, the continued pleasantness, integrity, diversity and safety of the 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 rivers can result in adverse effects, which could undermine the characteristics valued in the District's rivers.

13.1.4 Structures

Placement of structures can have significant impact on amenity values, including visual impacts. This can include a wide range of structures where the river is valued for its natural character and lack of structures.

The use of lakes and rivers inevitably involves demand for the construction of structures and facilities alongside or in the margins of the 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 river from general public use.

The construction of a range of structures and facilities associated with activities on the adjacent land can also have an adverse effect on the natural character and amenity of the margins of rivers. Structures such as irrigation or water supply intakes can degrade visual amenity along stretches of river with high levels of naturalness.

For example, a developing issue appears to be a proliferation of structures along the banks of the Buller River and the impact this has on the landscape values of the river. In 2001 it was apparently possible to see about 5 structures (including things like bridges, power lines and the occasional view of a building) from the stretch of river between the confluences with the Gowen and the Maruia Rivers. This has doubled with additional fences, buildings, tanks and irrigation intakes. All these manmade structures may reduce the naturalness of this environment.

Recent placement of two irrigation intakes on the banks of the Buller River between Owen River and Buller bridge north of Longford and on various tributaries is causing impacts on amenity values as it is very noticeable from the river and has caused significant concern amongst recreational and tourism operators alike. This activity can also potentially impact on the natural and scenic values that make the area nationally significant as a Water Conservation Order area.

The waters of both the Motueka and Buller Rivers and their tributaries are protected by Water Conservation orders. They are recognised as wild and scenic rivers with a high degree of landscape value. While the order does not specifically control the placement of structures (except for dams and intake structures that intrude visually in to the landscape for those parts of the Buller catchment rivers that are considered wild and scenic) Part IV of the plan could further assist in addressing this issue by ensuring effects of structures in the bed on visual amenity are controlled.

Not all of these structures affecting visual amenity are in the bed of the river and are therefore not covered by Part IV rules. However, the plan already contains a policy about effects of buildings on values of river and lake margins;
"*8.2.3.4*

To avoid, remedy or mitigate adverse effects of buildings or land disturbance on the natural character, landscape character and amenity values of the margins of lakes, rivers, wetlands or the coast"

Rules require setbacks for activities and structures, although not all structures, including fences and some water tanks are covered by these rules.

This paper does not consider the issue beyond the river bed although, if identified as being necessary, Council may extend the scope of this issue to adjacent land.

Structures might also cause navigation hazards for other users of a river. The Council has a Navigation Safety Bylaw that regulates activities as follows:

> *"No person may place any obstruction, including any fishing apparatus, in any waters that is likely to:*
>
> *(a) restrict navigation; or*
> *(b) cause injury or death to any person; or*
> *(c) cause damage to any vessel or any property."*

While Part IV could also address this issue, the bylaw provides sufficient regulation and further policy and specific rules are not preferred options. Matters for discretion of most activities requiring resource consent generally refer to adverse effects on other uses and values and it is possible for Council to impose additional conditions for any activity to help manage potential adverse effects on other river users.

13.1.5 Commercial Uses

The surface of rivers in Tasman District can be used for both commercial and private recreational activities.

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

The degree to which activities are dominated by private or commercial users depends to some extent on the time of the year, although summer is usually busier. The commercial operators are generally more predictable, known elements and the private boaters being less predictable.

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, the number of boating trips undertaken by the commercial operators could well outnumber any private recreational use. The adverse effects could be substantial where there are high numbers of regularly commercial trips and the continuation of these trips throughout the year. Private recreational use alone is likely to be relatively minor and seasonal with less potential for adverse effects on the surrounding environment. Also, commercial operations have an incentive to expand.

(b) Secondly, some commercial boats, such as jetboats, and hovercraft, 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 and potentially noisier engines.

Enforcing controls through the plan on private recreational water users would 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 just because they use a motor boat that might cause noise

Any controls over private water users need to specify clearly what activities can and cannot take place on each water body without resource consents being involved, and what performance standards must be met. Regulating such widespread and common recreational and private activities has significant compliance challenges, not to mention public acceptance issues.

There is a stronger case for regulating commercial activities. However, despite the potential for problems to arise, there are currently few, if any, significant issues arising from commercial craft on the surface of water bodies. There is a future potential for adverse effects, especially in relation to conflict between incompatible activities or in relation to increasing numbers of users and consequential effects on amenity values.
Council currently has no resource consent requirements for surface water activities, including commercial activities. However, it does have a Navigation Safety Bylaw. This by-law essentially addresses safety and transport issues and requires commercial operators to obtain a licence. The relevant part of the bylaw states:

5.4.1 Licence required for commercial operation

(a) No person shall operate a commercial service, whether scheduled, nonscheduled, or offering rental vessels, without first obtaining from Council a licence to do so. Council may, at its discretion, waive this requirement for small-scale operations such as (but not limited to) canoes or dinghies hired on an hourly basis from campgrounds in the District.

(b) No such licence will be issued if Council is of the opinion that the operation is likely to:

(i) diminish the level of safety for other activities in the vicinity; Tasman District Council Navigation Safety Bylaw, December 2005 Page 23

(ii) cause congestion, or jostling for position, or any other unsafe practice, at points of embarkation/disembarkation or at any place en route.

The Bylaw is limited to addressing issues of safety, both on the water and at entry/exit points. It does not cover adverse effects on amenity values, manage conflicts between other river users or address public access issues.

At the moment there are no significant safety concerns as a result of the congestion of water users on rivers. The District does contain some difficult stretches of river, which could come under more 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, the level of use by other users, and the nature of the activities.

13.1.6 Te Waikoropupu Springs

The Plan recognises the significance of Te Waikoropupu Springs. (See Schedule 30.1)

The Springs are managed by the Department of Conservation under its Te Waikoropupu Springs Management Plan[8] prepared under the provisions of the Reserves Act and operative since 26th February 2009. This Act allows the Department to manage the Reserve and activities within it including access to the bed of the springs and activities on the surface of the water. The management plan contains provisions that will prevent swimming and diving within the Springs.

These provisions have been adopted to protect the Springs against Didymo invasion and also account for iwi values. They also serve to protect amenity and natural values including the aquatic habitat of the Springs. Adverse effects from the ever increasing usage of the Spring by swimmers and divers were also identified by iwi and the Department of Conservation. The development of the plan has taken a considerable time and involved a great deal of consultation.

The Council can now support and be consistent with this Reserve Management Plan by including rules that limit access to the bed and surface of the water. Part IV objectives, policies and rules could also recognise the adverse impacts on iwi cultural values, the adverse effects on amenity of this nationally important water body and the actual and potential adverse effects on aquatic habitat in and adjacent to the Springs.

The conflicts surrounding the use of the Springs for swimming and diving have already been identified by the Department of Conservation. The Council has clear jurisdiction to address these resource use conflicts by including a rule in the Plan.

The TRMP already has policies that recognise and require Council to have regard for provisions of resource management plans such as this one. (see draft policy 7 in this paper and existing policy 30.1.27). Both the iwi (Manawhenua ki Mohua) and the Department of Conservation have indicated strong support for Part IV provisions consistent with the management plan for the reserve.

13.2 Landscape, Cultural, Recreation and Amenity Values – Policies

28. To avoid, remedy or mitigate adverse effects of structures and activities in, on, under or over river and lake beds or on the surface of water on:

8 Te Waikoropupu Springs Management Plan 6 April 2009.

(a) natural character
(b) landscape values;
(c) amenity values and cultural and recreational values such as whitebait fishing, trout fishing, game bird hunting, swimming, and other surface water activities including canoeing and kayaking;

and including adverse effects arising from noise and congestion in or on rivers or at access points arising from commercial (motorised) activities.

29. To recognise and provide for the cultural, amenity and aquatic habitat values of Te Waikoropupu Springs in a way that is consistent with the management plan prepared for the Springs under the Reserves Act.

Methods of Implementation

Regulatory

(i) Rules that allow or regulate activities according to the risk of adverse effects relating to specific water bodies and specific surface water activities;

Works and Services

(ii) Programme of education and advocacy for methods to avoid, remedy or mitigate adverse effects of activities, including advice and education to 4WD vehicle clubs, and jet sprint clubs;

Explanation and Reason

Policy 25 recognises that structures and activities can impact on landscape, natural character and amenity values. (Impact of these activities on wild life habitats is covered in section8.5).

The Council seeks to avoid, remedy or mitigate adverse effects of surface water activities on rivers and lakes on landscape and amenity values including adverse effects arising from congestion in rivers and lakes or at points of access to rivers and lakes, or adverse effects arising from noise and conflicts between other river users and wildlife.

A rule is proposed to manage adverse effects arising from vehicle passage over the beds on wildlife (see also section 8.5) and in relation to water quality effects (section 10.4) and bed and bank stability (section 9).

The Council intends to generally permit the use of beds for vehicle access. Education and advocacy methods are also suggested to alert people using the beds of rivers for access or recreation, especially through 4WD club activities, about the potential for adverse effects, particularly cumulative effects as number of users increase over time. No regulation in respect of potential effects on amenity or conflict between users is further suggested in relation to vehicles.

Council wishes to avoid the creation of adverse effects arising from commercial operations on the surface of rivers which may occur at a rate and scale exceeding the capacity of the river environment to absorb.

The Council recognises the specific and significant values of Te Waikoropupu Springs. It will adopt regulatory provisions that are consistent with the reserve management plan prepared by the Department of Conservation under the Reserves Act to provide integrated and consistent resource management.

Policy	Benefits and Opportunities	Costs and Risks
28	▪ .Recognises the public and community values of river environments (including amenity, landscape, recreation values) and seeks to manage the adverse effects of activities on them. ▪ Adopts framework to consider adverse effects of commercial operations on the surface of rivers should there be increasing use of rivers for this purpose	▪ Will limit the nature and extent of some activities in some locations. ▪ Allows existing commercial operations but requires new commercial activities to apply for consent. ▪
29	▪ . Council can address identified issues surrounding access of the Springs under RMA in a way that complements and strengthens the DoC management Plan. ▪ Recognising the values and uses of the Springs and providing for their protection is consistent with existing Council policy. ▪ Provisions for the Springs in Part IV means a secure and integrated level of protection under both the relevant regulations (Resource Management and Reserves Act).	▪ The provisions are subject to a more lengthy submission and appeal process than the Reserves Act process. There is a small potential for a result that is different than that provided for in the DoC Management Plan leading to confusion. ▪ Addressing these activities for the Springs again in this process, when iwi, amenity and habitat values are already provided for in the Department of Conservation Management Plan, creates additional effort and potential conflict among resource users.

14. IMPACTS ON THE RELATIONSHIP OF MAORI AND THEIR CULTURE AND TRADITIONS

Section 6 of the RMA requires Council to recognise and provide for the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga. Previous sections of this policy paper have addressed a number of iwi issues, especially those relating to stock and vehicle access effects on water quality, management of gravel extraction in a sustainable way, regulating dams where they may have more than minor adverse effects, management of water ways to maintain their drainage functions, maintenance of fish and eel passage and protection of wildlife habitat, and restrictions on some activities during some times of the year.

Iwi also note potential for adverse effects on waiora and waimoaori, mahinga kai areas, and loss of customary take.

Iwi are concerned about flow on impacts of reduced revenue for iwi ventures where, for example, contaminated water and effects on ecosystems have adversely affected fisheries such as eel fisheries.

14.1 Mauri and Wairua

The iwi mauri value of water bodies can be compared with life supporting capacity or perhaps productive capacity while wairua is more a spiritual value.

Structures and activities can affect these values although it is often possible to mitigate or avoid adverse effects.

Many of the issues described in the paper address in varying ways the more evident and measurable adverse effects of activities that may reduce a water body's mauri.

However, the adverse effects on the more spiritual or intangible values that people, including both iwi and the wider community has for water and rivers is more difficult. Often, the resolution of these sorts of issues can be achieved if the outcome is the tangible or evident maintenance of the river's character, amenity, water quality, public access and surroundings.

14.2 Wetlands

Iwi raise concerns about the level of protection for existing wetlands and the need for encouraging development of wetlands. These concerns are shared by a range of other people and interest groups. Some of the issues raised are already addressed in other parts of the plan, especially in relation to the protection and enhancement of existing wetlands. Part V in particular already contains a number of policies and rules for the protection of existing wetlands, and Council has adopted an education programme and provides funding for wetland protection and enhancement.

Creation of wetlands within the bed of a river by construction of weirs or other water level control structures has the potential to adversely affect water flow including flood flows or drainage of land. They may also interrupt fish passage. Notwithstanding the potential for creating beneficial effects, any of the adverse effects of wetland creation are similar to those caused by dams and weirs. Where possible, policies and rules allow for wetland creation or maintenance while also managing adverse effects (see also chapter 30 of the Plan).

14.3 Contaminants

Iwi concerns about contaminated sites within river beds are shared by the Council. Where activities in the beds are permitted, any potential contamination risks are addressed by ensuring no hazardous materials can be stored on the bed. Flood plain management is addressed by rules in Part II that limit the location of buildings and hazardous facilities etc close to rivers. Other contaminant discharge activities are regulated by Part VI, including setback provisions for permitted activities like onsite wastewater systems.

14.4 Riparian Land Management and Public Access

Suggestions for iwi/community management of riparian areas deserve further examination. Iwi suggest that there are ecological and economic opportunities to be gained from alternative management of river beds and adjacent riparian areas and

that some riparian areas could be set aside for iwi/community management with some funding by the Council.

Regulation is not required to achieve the outcomes sought, although the Council might commit to examining where and how better riparian land management can be achieved in its policy and method statements. Close liaison with the asset managers (rivers) would be required to ensure an integrated approach is adopted.

At present, there is no concrete proposal and the idea is conceptual only. Method statements could encourage investigation into how better riparian management could be achieved in identified areas in consultation with iwi, community groups and local landowners.

Iwi note that increasing density of development through subdivision has the potential to cumulatively decrease mahinga kai resources, either through access difficulties or land use intensification.

This and particularly Part V of the plan manage both point and diffuse source pollution. Recent amendments to the provisions for the management of stormwater will also improve management of contaminants.

Esplanade provisions, also seek to maintain or enhance public access to rivers and manage effects of subdivision and development.

14.5 Wahi Tapu and Wahi Taonga

Iwi believe that management of sites of cultural significance to them has been poor. One of the main reasons for has been lack of knowledge about location of these sites and lack of understanding about how important they are.

Iwi are currently developing databases showing locations of sites and also iwi environmental indicators to aid in the understanding of the health of river systems.

Council is working with iwi to resolve historic appeals on related issues as part of the development of Part II of the plan.

Refer also to section 13.1.6 in relation to Te Waikoropupu Springs.

14.6 Tangata Whenua Policies

30. To avoid, remedy or mitigate adverse effects of structures and activities in, on, under or over river and lake beds on the mauri (or life supporting capacity) and wairua (or spiritual value) of the river.

31. To ensure activities and structures on the beds of rivers and lakes do not damage wahi tapu and wahi taonga.

Methods of Implementation

Regulatory

Rules that ensure impact on iwi values are taken into account

Education and Advocacy

(i) Provision of information about regard to methods to avoid, remedy or mitigate impacts of activities on ecosystems;
(ii) Develop good practice guides to help resource users make sustainable decisions
(iii) To work with or support landowners, industry groups, iwi, other statutory groups such as F&G and DoC and agencies such as Landcare Trust to improve water quality that is degraded as a result of the cumulative impacts of adjacent land uses.

Note that success of these policies is also dependant on the work already underway on developing and refining the data base showing sites of importance to iwi.

Policy	Benefits and Opportunities	Costs and Risks
30/30	▪ .Recognises particular iwi values for rivers and seeks to manage adverse effects on them. ▪ Recognises that some activities might damage existing iwi sites of significance and seeks to manage avoid this from happening.	▪ May limit nature and scale of some activities where there are sites of significance or where adverse effects on particular iwi values ▪ Increased costs and uncertainty where sites are not yet identified (should be reduced as database of sites of significance completed).

15. SCHEDULE 30.1

The schedule was the first attempt (as part of preparation of Part V) to identify the uses and values of Tasman's waterbodies but at that time was limited to those which may be affected by water quantity (flow or level of water).

The schedule is still the subject of an agreement signed to resolve appeals to the Environment Court. One of the main issues surrounding the schedule is its incompleteness and the need to develop more transparent criteria to help identify the significance of the various water body uses and values. That is, the plan refers to international, national, and regional significance in relation to some water body values, but there is little information showing how significance was assigned. The assigning of significance values will help guide water management decisions, especially where there are competing uses and values.

The Council is currently part of a national project which is seeking to develop a tool that specifies the criteria and the thresholds for the various significance levels. An output from this project is expected by mid-2009 and this may also help develop the schedule further.

Part VI also contains a limited series of water classifications (for the Motueka and Waimea Rivers and their tributaries.) These water classifications are based on identified uses of the water and are not linked to any significance of use criteria.

That is if water is managed for fisheries or stock water, then the schedule specifies the water quality parameters of the water that are sufficient for that value or use.

Many activities that might be carried out in the beds of rivers and lakes could impact on the uses and values already identified in these Schedules.

Preparation of Part IV gives Council an opportunity to combine the schedules into an over-arching schedule that will be relevant to considering the effects of any activity in or near a river or lake (Parts II, IV, V and VI) that might impact on those uses and values.

The process of preparing Part IV can allow for consultation with stakeholders to provide a more complete understanding of the values and uses of water bodies.

The completion of the schedule as well as the work being carried out on significance assessment will help resolve the outstanding appeals (and these work streams were in fact part of the process towards resolving the appeals.)

Including a review of the schedule in the Part IV process will also enable a more co-ordinated approach to the identification and management of water body uses and values in a way that resolution of the appeals on its own could not do (since it does not include Part IV).

In addition, this umbrella type schedule may go some way in meeting iwi and other stakeholder concerns that Council needs to find ways of managing the rivers and lakes in an integrated way in the TRMP.

Assessment of significance of the values is still dependant on the completion of the national project that aims to provide consistent criteria for assessment.

16. ANTICIPATED ENVIRONMENTAL RESULTS

1. The habitat of indigenous aquatic fauna and flora is protected.

2. The habitat of trout and whitebait is protected

3 Fish passage in lakes and rivers is not inhibited by existing or new structures.

4. Physical changes aquatic habitat of the beds of rivers and lakes caused by bed disturbance are minimised

5. Activities which alter the existing nature of natural physical processes do not exacerbate natural hazards or threaten the integrity of structures or efficient floodway management.

6. Gravel extraction occurs within the sustainable yield.

7. People and communities are protected from the adverse effects of flooding.

8 The stability of the bed and banks and water quality of rivers and lakes is not adversely affected by the disturbance of the bed or banks including by vehicles or stock.

9 The unavoidable adverse effects of inundation resulting from the damming of water are remedied.

10. Potential adverse effects arising from overtopping or failure of a dam structure is avoided or remedied.

11 Conflicts between users of the beds or surface of rivers and lakes are minimised.

12. Mauri and wairua are not adversely affected by structures and activities on the beds or margins of lakes or rivers.

ALTERNATIVES CONSIDERED BUT NOT ADOPTED

Issue	Policy Approach	Description	Benefits / Opportunities	Costs / Risks
General				
	Status Quo	Continuing with no TRMP provisions to manage activities in the beds of rivers and lakes. Rely on RMA Section 13 activity controls	▪ Avoids plan preparation costs ▪ Adverse effects of all activities can be assessed through consent applications	▪ A high level of uncertainty and consequentially higher costs for people wanting to carry out activities in the beds of rivers and lakes, including the management of rivers to provide stable and efficient flood flow carrying capacity. ▪ Resource consent costs for all activities impose unnecessary costs for all users, especially where adverse effects are minor ▪ High on-going costs for resource users ▪ Uncertainty about standards for performance and resource consent requirements for activities in the beds of rivers and lakes in relation to frequently carried out work
	No investigation or monitoring	On-going management for most issues requires on-going collection of information. Council could reduce or avoid this and rely on existing data and information	Investigation costs avoided	Lack of good resource knowledge leads to poor decision making that is subject to challenge by other parties.
1. Ecosystem Policies				
	Status Quo			▪ Doesn't address long term degradation of habitat and cumulative effects. ▪ Avoids sustainable management of aquatic habitat, especially in relation to threatened species, including birds as well as whitebait. ▪ Opportunity to improve fish passage through existing structures is missed. ▪ Uncertainty about what to address in resource consent applications and potential for lack of consistency in

				decision making
2. River bed stability and channel efficiency				
Regulatory option for culvert thresholds	Allow for larger culverts in rural land	Allow larger culverts where the area of the catchment upstream of the culvert or ford is less than 100 hectares and is in any Rural 1 or 2 Zone	Would allow routine land management and help encourage installation of stock crossings	▪ Size of culverts needed for this size contributing area will need to be about 2m to convey 1 in 50 year flood flow. Even if some of this flow is directed via secondary flow paths, the amount of flow and the works required is significant and will have potentially significant adverse effects. ▪ Investigations show many existing culverts are significant fish barriers.
	Status quo; No river management policy context and continue with separate unconnected approach to river management under the River Management Program			▪ This approach does not recognise the link between the Council's service delivery and regulatory functions ▪ It provides no management framework or guidance from a consent processing perspective. This is likely to lead to uncertainty and ad hoc decision making which is not efficient as management of river systems requires a clear and consistent approach over time to achieve required outcomes
Alternative Gravel Extraction Management Policies	Allowing gravel extraction beyond the specified sustainable abstraction levels to some specified levels or not to any specified limits.	This approach is limited by RMA first in time requirements for applications to take gravel.		▪ This approach does not promote sustainable management as it allows gravel extraction beyond the sustainable limit. ▪ It is inconsistent with water allocation Policy 30.1.16 (TRMP) which seeks to avoid adverse effects of gravel extraction on water bodies flow regimes and levels. ▪ The risk of adverse effects, especially in relation to interconnections with groundwater resources is substantial and the costs of not addressing this issue likely to be very high.

				▪ There is a risk of adverse effects from reduced bed and bank stability on erosion of adjacent land. Greater expenditure on the River works programme as a consequence would be required. The historic and continuing costs of the river-works programme greatly exceed the income from extraction activities. This means that the rate payers are footing the bill to address adverse effects that are caused by the way in which Council is managing aggregate demand and supply in rivers. ▪ The costs associated with this approach would relate to trying to mitigate and remedy the effects that would arise over time if gravel extraction in particular is not managed sustainably.
	To allow gravel extraction on a case by case basis. .		Resources targeted as and when resource consent application received although overall costs to resource users potentially high	▪ Ad hoc river management in this way will lead to inconsistent decision making as no limits, or terms can be applied as each decision is made. Cumulative adverse effects are likely to be high. ▪ The level of uncertainty for resource users is very high and resource consent assessment and processing costs also potentially high.
	To establish the gravel extraction levels or controls as part of the River Management AOP (gravel).		▪ Limits can be established quickly in response to flooding events. ▪ Gravel management linked to river management needs	▪ Setting gravel extraction levels annually in the AOP is a largely uncontested process with no public input. ▪ The risk/benefit analysis is minimal as decision making is within an asset management context rather than arising from an assessment of significance of environmental effects. ▪ The decision making framework would be incomplete and runs the risk of not addressing long term adverse effects. ▪ While the Council would have control of extraction rates through its river management plan, and performance

				standards could be imposed, this method of gravel management does not address management of all adverse effects of the activity.
	Set limits via annual planning process.		More contestable and public process than setting limits in AOP	▪ Process still somewhat ad hoc and there is still risk of not addressing long term adverse effects. ▪ Extraction of gravel still not within sustainable long term management framework.
	To allocate gravel using a system of historical rate (closed access) pro-rata based on limited extraction levels.		Certainty for existing permit holders or historic gravel extractors	▪ This option is discounted as a viable option as lack of resource knowledge cannot lead to good decision making about management of the district's rivers, especially where there is a demand for gravel resources and where there are adverse effects
3. Water Quality				
	Status Quo	Council and industry address any issues on a case by case basis under the provisions of Section 13 and 14 of the RMA 1991.	▪ Discharges potentially able to be addressed under RMA Section 15 provisions ▪ Potentially reduced plan preparation costs, ▪ The plan already has (limited) policies on managing water quality ▪ The Plan is already subject to WCO water quality requirements for the Buller and the Motueka Rivers and their tributaries	▪ The alternative of having no related Part VI water quality policy would leave inconsistencies between Parts IV and VI in relation to managing this issue across the district and between land owners. ▪ No guidance or framework to resource users or their industries for any decisions that must be made by Council ▪ There is no policy to guide decision making where water quality is already degraded or what the water quality standards should be for some rivers. ▪ Goals for improving water quality are uncertain, and deciding on priorities becomes a haphazard and potentially inefficient process. ▪ Ad hoc decision making, uncertainty and inequitable application of standards. This would increase transaction costs to industry. ▪ Development of good working relationships, where water quality and performance objectives are identified and

				adopted by industry rather then being imposed on them by Council has greater potential for achieving positive outcomes. ▪ Imposes relatively high compliance costs in the short term because priority actions and water bodies have not been clearly identified. ▪ No assurance to communities that council is managing water quality issues arising from non-point sources and those in relation to Part IV activities. ▪ The draft NPS for freshwater contains clear objectives for water quality that relate to contact recreation. Council will eventually be required to adopt policy that sets out to achieve these NPS objectives and this option does not allow this.
	Seek contact recreation water standards in relation to bacterial contamination for all rivers	The adopted policy seeks contact recreation standards only where contact recreation is an identified use. Otherwise the objective is stock drinking water standards for all water	▪ Marginally better benefits for landowners include better stock health (better water quality, as well as reduced foot injury), faster travel times to and from milking platforms, fewer stock losses from falling into water where fencing also required to maintain quality ▪ Public benefits are that rivers remain or become suitable for swimming ▪ Accounts for cumulative effects	▪ Contact recreation standards will require marginally more cost and effort by Council and landowners to improve water quality in some areas. ▪ Marginally increased costs over preferred option for fencing and bridging, alternative stock water supply options, weed and pest control in some areas, changes to farm practices. ▪ Costs to council include staff time and effort, education and advocacy programmes and compliance effort and are also dependant on any incentive or subsidy schemes that may be adopted.
	Consider priority action for improving water quality for contact recreation according to the classifications in Chapter 36 and	Chapter 36 lists those water bodies listed as having contact recreation values (including surface waters of Motueka and Riwaka and their tributaries and Thorp drain Waimea, Lee Roding, Wairoa, Wai-iti and their tributaries Eves Valley	▪ Provides a temporary management approach until more data collected and values identified for all rivers.	▪ The Golden Bay rivers are not covered by any of these provisions. ▪ This option is incomplete as incomplete information is held by Council about swimming values of rivers

	Water bodies listed in the WCO's	Stream. Includes most of the rivers in both the Buller and Motueka Conservation Orders.)		
	List those rivers/water bodies where there is no presumption of clean water for contact recreation – i.e where water quality could be degraded for contact recreation.	No rivers are suggested for this list	▪ Very targeted approach and may help reduce landowner costs and efforts to identified rivers.	▪ The list would potentially be a lot shorter and is currently incomplete ▪ Difficult to devise the criteria which allow some rivers to be worse quality than others. ▪ Discharges from farm drainage canals may be affected by water quality standards adopted for rivers –the water within the drain contributes in a cumulative sense to overall water quality.
Water Quality Control Rule Option	No further amendments to diversion and discharge rule for drainage water.	Amendments to align diversion and discharge rules are proposed	▪ Council has little information about water quality from farm drainage networks and while cumulative impacts on water quality are measured in the State of the Environment monitoring, it is difficult to say how much individual properties contribute to this degradation. ▪ The extent to which managing (improving) stock access to water ways will increase water quality for all properties is not known as natural variations in soil, geology, topography etc will affect water quality and will also influence how various land use activities affect the water quality.	▪ No amendments means the discharge rules would be somewhat inconsistent with the conditions of the rule managing discharges of contaminants arising from the entering or passing across any bed by vehicles and stock. (See proposed rules 36.2.X and Y). ▪ There is no provision for managing the cumulative adverse effects of land use activities on water quality from farm drainage networks.
Method option;	Farm plan preparation by Council	Council would prepare environmental farm plans with landowners setting out environmental standards and goals.	▪ One on one work with landowners is shown to be very successful in meeting good environmental outcomes. ▪ Where water quality is degraded Council action in improving water quality may	▪ Preparation of farm plans, either by Council staff or suitable consultants is very expensive and time consuming. Adoption of such a method will require appropriate provisions in the annual plan. ▪ Preparation of a plan needs to be followed up with other sometimes costly

			need to be complemented by landowners also taking appropriate action to mitigate land use effects on water quality. Action may include adopting different land management practices, constructing fences or bridges or perhaps seeking resource consent for some activities. The level to which management needs to be amended will in part be directed by the performance standards in the rules and a farm plan approach is a good method of setting and achieving performance objectives and ensuring good understanding of all the issues.	actions where water quality is required to be improved by a land owner. ▪ The method is voluntary and may not always result in action.
	A highly regulatory approach to managing effects of stock and vehicle access to waterways.	This approach focuses more on establishing a regulatory regime for control of stock access effects rather then considering other management methods including developing partnerships education and advocacy	▪ Provides certainty for landowners and stakeholders with an interest in water quality in the district ▪ Potentially high plan preparation costs as thresholds and approach debated	▪ Council lacks detailed information about significance of adverse effects for specific water bodies, so a regulatory approach would necessarily be generalised and non-specific. ▪ Discounts the efforts adopted by the industry in reaching higher levels of performance. ▪ Stakeholder relationships may be adversely affected
Method option	Delay application of new water quality performance standards until the Accord targets of 2012		▪ This approach would be consistent with the already agreed Accord target of 31st December 2012. ▪ A delay of implementation would give landowners (not just the dairy industry) time to comply with the new water quality standards (e.g. bridges or fencing may be required. ▪ Some farming operations may need to reconsider management	▪ Does not allow Council any discretion to address problems of poor water quality if necessary. ▪ Does not follow normal practice (the rules become operative once the submission and appeal process has been completed and are adopted by the Council as operative provisions.)

			of stock near rivers, especially in winter and engaging these landowners in the same way dairy farmers have been engaged may require some time and this option would enable this sector a catch up opportunity	
4. Natural Hazards				
	To avoid placement of structures in flood plains where those structures are at risk from dam failure.	A Part II provision that considers risk of inundation from a dam.	▪ Reduces risks of property damage from inundation due to a dam failure. ▪ Protects dam owner if risk to property from dam failure is also managed	▪ There are a wide range of permitted new structures in the plan already. It is difficult to devise a threshold that gives sufficient certainty about the possible inundation area of any existing dam for these permitted buildings (i.e considering distance from the dam as for most dams, there is limited information about inundation areas from some existing dams.)
Landscape and Amenity Issues				
	Status quo; No landscape and amenity value policy context with regard to activities in, on, under or over river and lake beds.		▪ Part II already has policies about natural character along rivers ▪ Part II already has some setback requirements for buildings near rivers ▪ Council has limited information about natural and scenic values of all its rivers anyway.	▪ Provides no guidance with regard to management of these issues where they are carried out in the bed of a river ▪ Likely to lead to confusion, competition and conflict in some rivers where there is high natural character. ▪ No management framework for an issue that has been identified as important in the context of river and lake bed management.
	Status Quo – No policy or regulatory provisions to manage access in the Springs		▪ DoC has already sufficient regulatory function to provide for the amenity and cultural aspects of the Spring's management. Further consideration of the issue by Council is not strictly necessary to provide for the Spring's values in relation to use	▪ Council's functions and duties clearly allow for it to address the identified issues relevant specifically to Te Waikoropupu Springs. The opportunity for Council to add specific policy and rules that are complementary and add weight to the position taken by DoC under the Reserves Act would be lost.

			of the bed and surface of the Springs. ▪ Other plan provisions relating to water quality and quantity are relevant and apply to the protection of the Spring's water quality and quantity. Although, while the Plan notes the significant values of the Springs, Council has yet to develop specific water allocation policy and rules for Golden Bay.	
Regulatory Option	Rules to limit non-motorised commercial operations on the surface of water rivers and lakes	The preferred option controls motorized commercial.	▪ While non-motorised activities can be frequent, the level of noise and disruption to the amenity and aquatic habitat of a river is less than busy commercial activities using motorized craft. ▪ The rules focus on the more intrusive of commercial activities and are permissive in relation to non-motorised activities	▪ Non-motorised commercial activities can involve noise and disruption, especially if they occur frequently over a river reach.
River Values				
	Develop a schedule of uses and values affected by Part IV activities separately for Part IV		▪ Schedule targeted to Part IV activities.	▪ Potentially complicates the plan and allows for inconsistencies to creep in as there would be two water body schedules. ▪ Misses opportunity for consistency and updating water body values and uses data so table would still be incomplete ▪ Council still doesn't have complete information about uses and values of all water bodies, or a measure of their significance. ▪ Possibility that unsubstantiated claims about water values can be made

Text in italics is provided for additional explanation of this draft material but is not intended to be part of the Plan

Chapter 28 Rules for Activities in the Beds of Rivers and Lakes

- **Table of Contents**

- **Scope**

The rules refer to activities in the **beds** of rivers and lakes. This is the land which waters of the river cover at its fullest flow without over-topping the banks. Land covered by flood flows is regulated by rules in Part II of the Plan. **Rivers** are continually or intermittently flowing bodies of freshwater and include modified water courses.

Restrictions in Section 13 of the RMA do apply to wetlands where the wetland becomes part of the bed of the river when the river is at its fullest flow, or part of the bed of a lake when the lake reaches its highest level without exceeding its margins.

Part V1 contains rules limiting adverse water quality effects arising from activities in the beds of rivers and lakes. Part V contains rules related to the damming, diversion, taking and use of water that may be associated with the activities covered in Part IV.

The beds of rivers and lakes in New Zealand are owned by the Crown, iwi or by private organisations or individuals. Any person intending to build any structure in, on, under or over the bed of a lake or river must obtain the approval of the owner of the bed before doing so, including where the activity is authorised by a resource consent or rule in this plan.

Note – construction and bed disturbance activities may also cause adverse effects on water quality– TRMP Rule 36.2.4 sets some water quality standards for discharges resulting from land disturbance activities on adjacent land Further amendments to the discharge rules in respect of activities in the beds of rivers….especially in relation to the permitted activities consequential amendments to Part VI are also suggested in this draft.

Remember too, that Schedule 30.1 is presently incomplete and there are water bodies or values that aren't listed in the schedule or specific values are not included for some water bodies. This process provides an opportunity to develop a more holistic approach to managing the District water bodies by combining water body uses and values schedules in Parts V and VI with a schedule that meets needs of Part IV as well.

Part IV of the Plan will eventually replace the parts of the Transitional Regional Plan that deal with the "maintenance of water courses and defences against water".

Meanings of Words

Modified watercourse means a stream or river that may have been subject to works or modifications for a variety of purposes and it has one or more of the following features. It is;

- part of a river, stream or creek that has been channelled or diverted;

- part of a wetland or swamp through which water has been channeled or diverted to flow either permanently or intermittently and which connects with other naturally occurring bodies of water;
- a watercourse that has a natural headwater of either a channel or spring, and generally follows the path of a historic natural watercourse or reasonably defined drainage channel that functions naturally by providing a connection between surface and groundwater and is capable of providing habitat for flora and fauna.

Farm drainage canal (or ditch) means an artificial watercourse that:

(i) is entirely constructed for rural land drainage purposes, with no part being a natural or modified watercourse or river; and

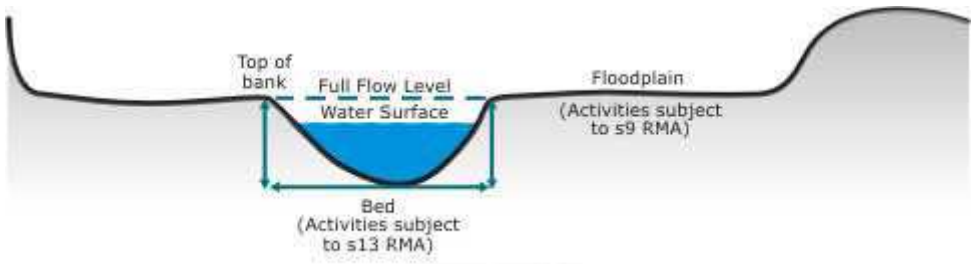
(ii) that does not incorporate naturally occurring bodies of freshwater.

It will usually have been constructed specifically to enhance production from farm land by improving land drainage.

Artificial watercourse means a constructed watercourse that contains no natural portions from its confluence with a river or stream to its headwaters and includes;

- irrigation canals,
- water supply races,
- canals for the supply of water for electricity power generation,
- roadside drains (or watertables) that are constructed alongside roads used by vehicles and have as their primary function the drainage of surface water from the road,
- farm drainage canals.

Bed: is as is defined by the RMA. The following diagram of a river bed is included for guidance only.



1. Permitted Activities – Use, Maintenance or Removal of a Lawfully Existing Structure

Any use, reconstruction, alteration, removal, repair, deposition or demolition and any associated bed disturbance of a lawfully existing structure, in, on, under or over the bed of any river is a permitted activity if it complies with the following conditions;

(a) The structure is not a dam or weir (see rules 10, 11)

(b) The structure includes any necessary outfall or inlet or scour protection work using, rock or natural substrate including associated geotextiles and which is integral to the proper functioning of the structure.

(c) Scour protection work does not include demolition material, waste fill, vehicle bodies or similar materials

(d) There is no permanent change to the character, scale, nature or functions of the structure, except where the structure is being removed.

(e) For any reconstruction, the structure is reconstructed in the same location with the same character, scale and nature as the original structure.

(f) Where a structure is removed or demolished, no part of the structure remains in the bed or on the bank of the river or lake.

(g) The activity does not or is not likely to cause any scour or erosion of the bed, including the banks.

(h) There is no use of explosives.

(i) There is no disturbance by the use of motorised machinery of any part of the bed covered by water from 1 May to 30 September in rivers listed in Schedule 30.1 as trout spawning rivers

(j) There is no disturbance in the river bed including the banks within 1 kilometre of the river mouth (the tidal region) during inanga spawning (the principal whitebait species), from 15 February to 31 May.

(k) Any discharge of sediment as a result of the bed disturbance complies with the conditions of Rule 36.2.4

(l) The structure is maintained in good repair and free of obstruction by debris.

Note 1: Resource consent may also be required for associated water diversion activities – see rule 31.1A.1.

2. Restricted Discretionary Activities – Maintenance or removal of a lawfully existing structure

Any reconstruction, alteration, removal, repair, deposition or demolition and any necessary bed disturbance of a lawfully existing structure, in, on, under or over the bed of any river that does not comply with the conditions of a permitted activity is a **restricted discretionary activity** if it complies with the following standards and terms;

(a) The structure is not a dam or weir (see rules 10, 11)

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion;

(1) The design, location, construction and maintenance of the structure
(2) Provision for and maintenance of the passage of fish.
(3) Safe passage of flood water.
(4) Potential adverse effects of the activity of areas of significant indigenous vegetation and significant habitats of indigenous fauna.

(5) Measures to prevent damage to riparian vegetation or soil.
(6) The potential adverse effects on bed and bank stability and water quality.
(7) Adverse effects of the activity on upstream or downstream properties and other structures.
(8) Adverse effects on the natural character and amenity of the river or lakes and effects on public access to the river, including those listed in Schedule 30.1.
(10) Safe navigation.
(11) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(12) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

3. Permitted Activities – Small Structures – General

The use, erection, reconstruction, placement, alteration, extension, removal or demolition or any associated bed disturbance of a small scale structure that is fixed in, on or under the bed of any lake or river is a permitted activity, if it complies with the following conditions:

(a) The structure is not a fence, pipe, line, cable, culvert or ford, bridge or dam or the placement of any debris. (see following rules)

(b) Any structure erected, constructed or placed after <date of notification> is not in or on a lake or river identified in a Water Conservation Order as having outstanding wild and scenic values or any river identified in Schedule 30.1 as having regionally significant natural character;

(c) The structure includes any necessary outfall or inlet or scour protection work using, rock or natural substrate including associated geotextiles and which is integral to the proper functioning of the structure.

(d) Scour protection work does not include demolition material, waste fill, vehicle bodies or materials of a similar nature.

(e) The base of the structure does not exceed two square metres in area.

(f) Any intake or discharge structure does not extend more than two metres horizontally from the edge of the river or lake bank, or for more than 10 percent of the river width, whichever is the lesser.

(g) Except in the case of a navigational aid or the sight board of any gauge, any visible part of the structure is of a neutral colour to blend in with the surroundings;

(h) The structure, including its erection, placement and maintenance, does not impede the flow of floodwater or cause any flooding or scour.

Note 1: A boardwalk in a wetland may also need building consent.

4. Permitted Activities – Fence, Pipe, Line or, Cable Structures over the Bed

The use, erection, reconstruction, placement, alteration, extension, removal or demolition of any fence, pipe, line or cable over the bed of a lake or river, is a ***permitted*** activity, if it complies with the following conditions:

(a) The pipe, line or cable does not cross a lake or river identified in a Water Conservation Order as having outstanding wild and scenic values, or any river identified in Schedule 30.1 as having regionally significant natural character unless it is attached to an existing lawfully established support structure.

(b) No part of the pipe, line or cable is fixed on or under the bed of the lake or river.

(c) Where it is attached to an existing lawful structure, no part of any pipe, line or cable extends below the underside of the existing structure;

(d) Any fence, pipe, line or cable over the bed of a lake or river is installed and maintained so as to not dam or divert water flow or cause erosion of the bed, including the banks of the lake or river;

(e) Any discharge of sediment as a result of this activity complies with rule 36.2.X

Note 1: **"**Pipe" does not include water intake structures or outfall structures for discharges.

Note 2: The Council's Navigation Safety Bylaw will also apply to ensure structures do not restrict navigation or cause injury or damage to people or property

5. Restricted Discretionary Activities – Small Structures, Fences, Pipes, Lines or Cables on, over or under the Bed

The use erection, reconstruction, placement, alteration, extension, removal or demolition of any small structure, fence, pipe, line or cable on over or under the bed of a lake or river, that does not comply with the conditions of a permitted activity is a **restricted discretionary** activity.

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion.

(1) The design, location, construction and maintenance of the structure including preparation of construction management plans
(2) Provision for and maintenance of the passage of fish.
(3) Safe passage of flood water.
(4) Potential adverse effects of the activity of areas of significant indigenous vegetation and significant habitats of indigenous fauna.
(5) Measures to prevent damage to riparian vegetation or soil.
(6) The potential adverse effects on bed and bank stability and water quality.
(7) Adverse effects of the activity on upstream or downstream properties and other structures.

(8) Adverse effects on the natural character and amenity of the river or lakes and effects on public access to the river and on other uses of the river including those listed in Schedule 30.1.
(10) Measures to provide for safe navigation
(11) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(12) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

6. Permitted Activities –Structures – Culverts or Fords

The use, erection, reconstruction, placement, alteration, extension, removal, deposition or demolition and any associated disturbance of the bed of any river or lake bed for any culvert, or ford is a **permitted** activity if it complies with the following conditions;

(a) The culvert or ford includes any necessary outfall or inlet or scour protection work using, rock or natural substrate including associated geotextiles and which is integral to the proper functioning of the structure.

(b) Scour protection work does not include demolition material, waste fill, vehicle bodies or parts or materials of a similar nature.

(c) The culvert is designed so that a two percent annual exceedance probability flood flow does not result in increased flooding or inundation on upstream or neighbouring properties.

(d) The culvert or ford is designed to ensure passage of flood flows during a two percent annual exceedance probability flood flow including any provision for overtopping that does not cause structural failure.

(e) The culvert or ford does not divert water from its natural catchment and flow path.

(f) The culvert or ford design, placement and maintenance does not impede fish passage.

(g) The culvert or ford is maintained in good repair and free from debris or scour.

(h) The inlet and outlet of the culvert or upstream and downstream of the ford are constructed and maintained to avoid scour of the river bed and banks

(i) Stormwater discharged from the surface of the culvert and its approaches complies with rule 36.4.2

Note 1: The Freshwater Fisheries Regulations 1983 *require that:*
(i) no culvert or ford in any natural river, stream, or water is constructed in such a way that the passage of fish would be impeded, (without the written approval of the Director-General of Conservation) and

(ii) the occupier of any land must maintain culverts or fords in any natural river, stream, or water in such a way as to allow the free passage of fish:

Means of Compliance
Advice about design and construction of culverts to ensure passage of fish and prevention of scour will be provided for in the Council publication "Guidelines for culvert design and management" which is currently in preparation with the assistance of Dairy NZ Regional Action Team. A building consent may be required for some culverts.

7. Restricted Discretionary Activities – Structures – Culverts or Fords

The erection, reconstruction, placement, alteration, extension, removal or demolition and any associated bed disturbance of the bed of any river or lake bed for any culvert or ford that does not comply with the conditions of a permitted activity is a **restricted discretionary activity.**

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion;

(1) The design, location and construction of the culvert including the invert level of the culvert/ford
(2) Measures to provide for and maintain the passage of fish.
(3) Techniques for ensuring safe passage of flood water (spillway requirements), including fill material used in construction.
(4) Potential adverse effects of the activity of areas of significant indigenous vegetation and significant habitats of indigenous fauna.
(5) Measures to prevent damage to riparian vegetation or soil.
(6) The potential adverse effects on bed and bank stability and water quality.
(7) Measures to control adverse effects of the activity on upstream or downstream properties and other structures.
(8) Measures to avoid, remedy or mitigate adverse effects on the natural character and amenity of the river or lakes and effects on public access to the river and on other uses of the river including those listed in Schedule 30.1.
(9) Whether alternative crossing options exist that avoid, remedy or mitigate adverse effects to a greater extent than the proposed crossing.
(10) Measures to provide for safe navigation
(11) The carrying out of measurements, samples, analyses, surveys, investigations or inspections and the provision of information.
(12) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

8. Permitted Activities – Bridge Structures – Single Span

The use, erection, reconstruction, placement, alteration, extension, deposition or removal or demolition and any necessary bed disturbance for a bridge on or over the bed of any river is a **permitted** activity if it complies with the following conditions;

(a) The bridge is a single span with no piers in the bed of the river.

(b) The bridge does not cross a lake or river identified in a Water Conservation Order as having outstanding wild and scenic values or any river identified in Schedule 30.1 as having regionally significant natural character.

(c) The soffit (underside of the bridge beams) of any bridge is at least 0.5 metres higher than the top of the banks of the river bed, or at least 0.5 metres above the two percent annual exceedance probability flood, whichever is the lowest.

(d) The bridge and its abutments are fixed in place.

(e) The bridge and its abutments do not impede the flow of flood water or water-borne debris, and are installed and maintained so as to not divert water flow or cause erosion of the bed, including the banks of the lake or river.

(f) Any discharge of sediment as a result of this activity and any stormwater discharged from the surface of the bridge and its approaches comply with rules 36.2.X and 36.4.2 respectively.

(g) All excess construction material is removed from the site following the completion of construction works.

9. Restricted Discretionary Activities – Bridges

The use, erection, reconstruction, placement, alteration, extension or removal or demolition and any necessary bed disturbance of a bridge on or over the bed of any river that does not comply with the conditions for a permitted activity is a **restricted discretionary activity.**

A resource consent is required. Consent may be refused or conditions imposed on the following matters over which the Council has restricted discretion;

(1) The design, location and construction of the bridge.
(2) Measures to provide for the passage of fish.
(3) Measures for ensuring safe passage of flood water.
(4) Effect of the activity of areas of significant indigenous vegetation and significant habitats of indigenous fauna.
(5) Measures to prevent damage to riparian vegetation or soil.
(6) The potential effects on bed and bank stability and water quality.
(7) Measures to control the effect of the activity on upstream or downstream properties and other structures.
(8) Measures to avoid, remedy or mitigate adverse effects on the natural character and amenity of the river or lakes, and effects on public access to the river and on other uses of the river including those listed in Schedule 30.1.
(9) Measures to provide for safe navigation.
(10) The carrying out of measurements, samples, analyses, surveys, investigations or inspections and the provision of information.
(11) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).

(12) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

Advisory Note:
A building consent from the Council is required for a bridge and some culverts under the Building Act 2004.

Principal Reasons for Rules – Small Structures Culverts, Fords and Bridges

The rules regulate structures, including bridges, fences, pipes and cables. The rules permit small scale structures to be constructed over or in the bed of a river or lake and require resource consents to be applied for larger structures where potential adverse effects are more significant. These rules also generally permit activities required for the maintenance and repair of existing structures.

Small scale activities are permitted as they generally have very minor effects on a water body provided they continue to be carefully constructed and are maintained. Periodic floods may cause debris to build up or cause erosion or scour around the structure and on-going maintenance is important to avoid causing damage to the bed or banks of the river or adverse effects to other structures in the river or to neighbouring properties.

Culverts and fords are permitted activities subject to some performance standards to limit adverse effects. Adverse effects of culverts are able to be accounted for through appropriate culvert design. New culverts will need to allow fish passage and be properly constructed to avoid impeding floods or causing scour or erosion.

The rule also permits existing culverts provided the same performance standards are complied with. It is probable that there are existing culverts that were installed without authorisation under Transitional Provisions or under the RMA. Many of these culverts are likely to be well designed, installed and maintained and these existing culverts are generally provided as permitted activities. However, if flood flow or fish passage is significantly adversely affected, improvements to the culvert may be required. Where there is a natural fish passage impedance, such as a waterfall, not far upstream or downstream of the proposed or existing culvert then the design of the culvert would take this into account.

Council will provide information to landowners about culvert design, construction and maintenance to assist them in identifying best management practices. The Council is also developing an inventory showing where culverts are causing fish passage issues, particularly for watercourses with significant value for native fish or trout habitat.

The subsequent diversion and discharge of water through the culvert is provided for in rules in chapters 31 and 36.

Bridges with single spans are considered to be structures that would have minor adverse effects on the river if built in accordance with the conditions specified. Rivers over which bridges of this span pass are unlikely to be navigable waterways and provided the design is appropriate, the bridge is unlikely to impede river flow.

Permitting culverts and small bridges is also a way of supporting farmers who are considering use of these structures as a way of avoiding adverse effects caused by

livestock crossing the beds of rivers. Building consents are still required for bridges and some culverts so that safety aspects can be addressed.

Bridges that have pier(s) in or on the bed are likely to require specialist design. Rivers of this size may also be navigable. The scale of work in the bed of the river during construction will have a greater potential to cause adverse effects. These bridges have the potential to have significant adverse effects on water and flood flow and have potential to cause adverse effects on the stability of beds and banks of rivers and are therefore restricted discretionary activities.

Note: This activity status would result in an amendment to the Farm Bridge Protocol developed by Council in consultation with Federated Farmers and Fish and Game Council. The resource consent requirement for small bridges has been greatly reduced by this permitted activity status.

However, it is important that bridges are still constructed to good engineering design so that it can be used safely by stock and vehicles. In order that this assessment can still be done, most new bridges will now require a building consent. The main requirement of the building consent process will be to ensure bridges are designed and built so as to minimise risk of failure. Design and supervision of construction by an engineer will be a key requirement for most bridges – including any used for stock crossings.

Larger bridges will need both resource consent and a building consent, but where appropriate Council will process both applications together to reduce compliance costs for applicants.

10. Permitted Activities – Dam Structures (including Weirs)

The use, erection, reconstruction, placement, alteration, extension, removal or demolition of, or deposition or any necessary bed disturbance associated with any dam structure that is in or on the bed of any lake or river is a **permitted** activity, if it complies with the following conditions;

(a) The dam is not on any river or lake subject to any Water Conservation Order or any river identified in Schedule 30.1 as having regionally significant natural character.

(b) Except for dams provided for in condition (c), the;
  (i) volume of water capable of being impounded by the dam does not exceed 5,000 cubic metres.
  (ii) catchment area for the dam is less than 20 hectares.
  (iii) maximum depth of the impounded water in the dam is less than three metres. (see figure.)

(c) The dam structure [in any bed] is subject to condition(s) on a current water permit requiring the monitoring and management of the failure hazard risk of the structure.

(d) For any dam constructed after <date> all parts of the dam including the spillway and impounded water up to the maximum level are set back at least;
  (i) 10 metres from road boundaries and
  (ii) 5 metres from internal boundaries.

(e) The dam spillway is designed to pass a two percent annual exceedence probability rainfall event and is constructed and maintained so that there is no scour to the spillway structure or downstream bed, including the banks and is kept free from debris.

(f) Any discharge of water from the dam including from the spillway is back into the same river.

(g) Grass spillways are maintained to prevent saturated soil conditions

(h) Erection or placement of the dam does not cause any increase in erosion, scour, flooding or deposition or impede drainage beyond the property boundary.

(i) Any discharge of sediment as a result of this activity complies with rule 36.2.X

(j) The dam or weir is maintained in good condition at all times.

(k) The dam embankment and within 5 metres of the toe of the embankment shall be maintained clear of trees and any vegetation more than 1.5 metres in height and any vegetation that prevents inspection of the dam embankment.

(l) For any reconstruction, alteration or repair there is no permanent change to the character, scale, nature or functions of the structure.

(m) Where a dam is removed or demolished, no part of the structure remains in the bed or on the bank of the river or lake and the bed profile is returned to its pre-dam form.

(n) There is no refuelling of equipment on any part of a river or lake bed.

(o) The dam is not a dangerous dam.

(p) Information shall be provided as may be requested by the Co-ordinator Compliance Monitoring of the TDC to show how the conditions of this rule are met and may include design and construction details as provided in The Council's Good Practice Guide for the Construction of Small dams (in prep)

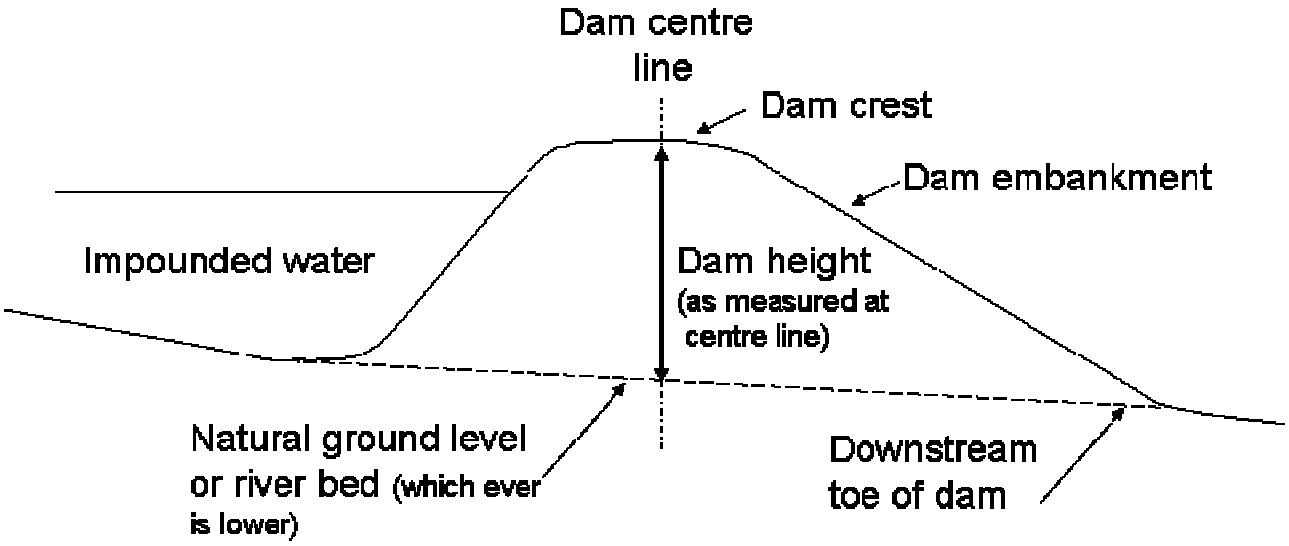
Add to **"Meanings of Words":**
Dam means a structure that dams water and includes weirs, and includes the dam or weirs associated parts including, but not limited to, any embankment, spillway, appurtenant pipes, and the area covered by the impounded water at the highest level.

Consequential Amendments

Insert into Rule 31.2 reference to new dam construction rules in Part IV

Delete from rules 31.2.2 and 3 matter (6) (which refers to compliance with NZSOLD and matter (9) referring to structural stability. Both matters are now included in Part IV rules.

Figure 28.1: Structure for Damming of Water



Note 1: All building work must comply with the Building Act (2004).
Note 2: "Dam Height" is measured from the (pre-dam) natural ground level to the dam crest at its maximum height measured along the dam centre line.

Means of Compliance
The Council's Good Practice Guide for the Construction of Small dams (in prep) and the "NZSOLD Guidelines for Constructing Earth Dams" contain measures that must be adhered to, as appropriate, in order that the conditions of this rule can be complied with.

11. Controlled Activities – Dam Structures (including Weirs)

The use, reconstruction, placement, alteration, extension, or repair of, or deposition or any necessary bed disturbance associated with any dam structure for damming water that is fixed in or on the bed of any lake or river is a **controlled activity,** if it complies with the following conditions;

(a) The dam is legally authorised and existing as at <date >

(b) The dam is not a dangerous dam

A resource consent is required. Conditions may be imposed only in respect of the following matters over which Council has reserved its control:

(1) The preparation of a structural report from a suitably experienced registered civil engineer
(2) Effects on river bed and bank stability upstream and downstream of the dam.
(3) Effects on other water users, downstream landowners and landowners affected by the dam structure or impounded water, including modified downstream flows and effects of failure.
(4) Effects on fish and eel passage.
(5) Degree of compliance with the current New Zealand Society of Large Dams (NZSOLD) guidelines, with the BA and with the TDC's Technical Publication "Dams" (in prep), including;

- Maintenance of the dam
- Structural stability of the dam and potential effects of dam failure
- Spillway design and capacity including overtopping hazard risk.

(6) The carrying out of measurements, samples, analyses, surveys, investigations or inspections and the provision of information.

(7) The duration of the consent (Section 123 of the Act), which will be consistent with relevant permits to dam water and take water from storage, timing of reviews, and the purposes of reviews (Section 128 of the Act).

(8) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

12. Restricted Discretionary Activities (Structures for Damming)

The use, erection, reconstruction, placement, alteration, repair, removal or demolition of, or deposition or any necessary bed disturbance associated with any structure for the damming of water that is fixed in or on the bed of any lake or river that does not comply with the conditions of a permitted activity, or the standards and terms of a controlled activity is a restricted discretionary activity if it complies with the following standards and terms.

(a) The dam is not a dangerous dam.

A resource consent is required. Consent may be refused or conditions imposed only in respect of the following matters to which Council has restricted its discretion:

(1) Dam design, construction, supervision and certification by a suitably experienced registered civil engineer, and including certification from other suitably qualified persons involved in dam construction.

(2) Preparation of a management plan for the duration of the construction and commissioning of the dam including management of sediment and rehabilitation work.

(3) Effects on river bed and bank stability upstream and downstream of the dam.

(4) Effects on other water users, downstream landowners and landowners affected by the dam structure or impounded water, including modified downstream flows and effects of failure.

(5) Effects on fish and eel passage

(6) Setbacks from road and property boundaries

(7) Degree of compliance with the current New Zealand Society of Large Dams (NZSOLD) guidelines, with the BA and with the TDC's Technical Publication "Dams" (in prep), including;
- Maintenance of the dam
- Structural stability of the dam and potential effects of dam failure
- Spillway design and capacity including overtopping hazard risk.

(8) Measures to avoid, remedy or mitigate adverse effects on the natural character and amenity of the river and effects on public access to the river and on other uses of the river including those listed in Schedule 30.1.

(9) The carrying out of measurements, samples, analyses, surveys, investigations or inspections and the provision of information.

(10) The duration of the consent (Section 123 of the Act), which will be consistent with relevant permits to dam water and take water from storage timing of reviews, and the purposes of reviews (Section 128 of the Act).

(11) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

Note 1 The construction of dams that retain three or more metres depth and hold 20,000 or more cubic metres volume of water are large dams under the Building Act, require a Building Consent and are subject to the Dam Safety Scheme. Dams smaller than this are exempt from Building Consents but they must comply with the Building Code to the extent required under the Act provisions. . The building consent will consider design and safety aspects of the dam structure. The Council may require both consents to be made together and may process applications at the same time.

Note 2 Refer also to Rule 36.2.7, which allows for the discharge of water from a dam back into the downstream water body.

Note 3 The requirements of the Freshwater Fisheries Regulations 1983 for the provision of fish passage may also apply. These regulations are administered by the Department of Conservation.

Principal Reasons for Rules –Dams

The construction of small dam structures in small catchments is a permitted activity because the adverse effects of such a structure are likely to be small. This is because the contributing catchment is small with most dams this size being in the Moutere area or very high in a catchment. Contributing streams are generally ephemeral. In most cases, the effects of the associated damming of the water are also likely to be beneficial through the augmentation of water. This approach is complemented by the permitted activity for the damming of water in Chapter 31 which permits the damming of water in small catchments. Because these upper catchment areas tend to have lower ecosystem values all year round, minimum flow by-pass measures are not required.

Renewal of authorisations for existing dams will be controlled activities and unless the dam is unsafe or not maintained, there is little reason to refuse consent and require removal of the dam. Council can, however, consider conditions to avoid, remedy or mitigate adverse effects from such dams. This process also enables Council to review the consent and ensure appropriate management and structural stability of the dam over time.

The impact of large-scale dams on river bed and bank stability as well as on other uses and values, including recreation, landscape, public access and abstractive uses can be significant. On-going maintenance requirements and potential adverse effects from dam failure are also more significant as dam size increases. For these reasons, Council will require a consent application for large dams and will require all existing dams to be authorised by a resource consent or through existing conditions on relevant water permits held for damming the water until these permits expire. These provisions complement similar rules for the damming and discharge of water by such structures to address adverse effects on stream hydrology, ecology and water quality.

Council's policies and rules relating to the effects of dam structures in Part IV PTRMP include assessment of structural stability, which is also considered under the Building Act

2004 as a dam is a building for the purposes of that Act. Council is required under the Building Act to identify and deal with dangerous dams.

Most dams in Tasman are earth dams constructed of Moutere Gravels and have a low probability of failure. However, dam failures do occur and some existing dams pose a risk to persons and/or significant damage beyond the immediate property boundary. These risks are addressed for some dams through water permits to dam the water rather than current land use consents that authorise the structure itself. Once any relevant water permits have expired Council will seek land use consents for the on-going presence of the structure in the bed. If there are no applicable conditions on relevant water permits, then a land use consent to authorise the permit will be required.

Land use below dams could become a relevant consideration for applications for renewal of existing dams or applications for subdivision below existing dams as many Tasman dams that were built only to rural standards for irrigation may now be or become surrounded by houses.

Council will take into account potential adverse effects of existing dams when considering subdivision below dams to avoid creating risks to property and people resulting from dam failures.

CONSEQUENTIAL AMENDMENTS TO PART II

Note – a consequential amendment to Part II would need to be made to ensure new development (including rezoning decisions and decisions on subdivision applications take into account any potential risks posed by existing dams.

Insert into Chapter 16.3 for subdivision in the Rural 1, 2 and 3 zones a new controlled activity standard;

(x) Where a new allotment contains an existing structure for damming water , the boundaries of the allotment are drawn relative to the spillway and impounded water so that they are set back at least 10 metres from road boundaries and 5m from internal boundaries.

Insert into Chapter 16.3 for subdivision in the Rural 1, 2 and 3 zones a new matter for discretion in the discretionary activity rules;

(y) The appropriate setback of allotment boundaries from any dam, including the impoundment and associated spillway structures.

Insert new text into section 16.3.13 Principal Reasons for Rules for rural zones:

"Council will take into account location of allotment boundaries in relation to any existing dam and its associated spillway and impounded water so that risks to property from dam failure are not increased as a result of land use changes."

Insert new assessment criterion in Schedule 16.3:

(z) The proximity of allotment boundaries and likely future land use activities to existing dam structures, including spillways and impounded water, and potential risks posed by the dam on likely land use activities.

Insert new reasons for rules in chapter 16.3

"**Land Subdivision in relation to dams**

There are large numbers of water storage dams in the district, especially through

out the Moutere gravel terrain. Many of these were built in compliance with rural standards for irrigation dams. While dams in this terrain have a low probability of failure, dam failures do occur and some existing dams may pose a risk to persons and/or significant damage beyond the immediate property boundary. It is important that hazards are not created by allowing inappropriate development below these dams. In addition, as subdivision occurs, it is important that additional risks are avoided by establishing new property boundaries so that setbacks from the dam and associated structures can be complied with.

Council will control subdivision below dams to avoid creating future risks to property and people resulting from dam failures."

13. Permitted Activities – Disturbance of the Bed (including Excavation, Drilling or Tunnelling)

The disturbance of the bed of any river or lake and associated deposition is a permitted activity if it complies with the following conditions;

(a) Except as provided in (b), the bed disturbance is not the removal of bed substrate. (refer to rules 23, 24)

(b) The bed disturbance and any associated deposition is associated with:
  (i) non-motorised quarrying or geotechnical testing; or
  (ii) small-scale suction dredging where engines are no more than *7 kw;* or
  (iii) the removal of flood debris, provided there is no damage to the bank; or
  (iv) the repair of any existing riverbank protection work including the reinstatement or repair of an existing defence against water which does not extend the bank or bed dimensions beyond the nature and scale of the previously existing riverbank protection work; *or*
  (v) caused through the removal of any total control or progressive control pest plants or grey or crack willow (*Salix fragilis* and *Salix cinerea*), provided that no willow tree roots are removed by mechanical methods. Or
  (vi) the excavation of less than $5m^3$ of gravel for improving access to an authorised taking of water provided;
    (1) The excavation is in a river in the Moutere Surface Water, Dovedale or Stanley Brook Water Management Zones;
    (2) the excavation is no deeper than 2m below the surrounding natural bed level;
    (3) The excavated material is placed upstream of the excavation and is not removed from the bed; or
  (vii) The removal of sand[1], silt, or clay provided;
    (1) it is for the purpose of maintaining land drainage
    (2) the meander and location of the water course are not modified;
    (3) any bed disturbance shall be kept to the minimum necessary to clear the sand, silt or clay;
    (4) there is no destruction of vegetation by root-raking, blading or other method that causes similar soil disturbance on the banks.

(c) There is no disturbance by the use of motorised machinery of any part of the bed covered by water from 1 May to 30 September in rivers listed in Schedule

30.1 as trout spawning rivers, except to allow the removal of flood debris under clause (b) (iii)

(d) There is no disturbance by the use of motorised machinery of the river bed including the banks within 1 kilometre of the river mouth during inanga spawning (the principal whitebait species), from 15 February to 31 May.

(e) There is no disturbance by the use of motorised machinery of any river bed listed in Schedule 30.1 as having black fronted terns from October to February inclusive.

(f) There is no disturbance by the use of motorised machinery of any river bed listed in Schedule 30.1 as having banded dotterel from August to January inclusive.

(g) There is no refuelling on any part of a river or lake bed.

(h) Any hole created in the bed as part of the disturbance is filled on completion of the work.

(i) Any discharge of sediment as a result of the bed disturbance complies with the conditions of Rule 36.2.4, except as provided for by (b)(vii)

(j) Suction dredging is not carried out within 20 metres of any structure.

Add to "**Meanings of Words":**

Flood Debris means material or substances deposited on the bed or banks as a result of a flood exceeding annual exceedance probability and may contain vegetation debris that is causing an obstruction of a structure or impeding flow but does not contain bed substrate (sand, gravel or rocks).

Total Control and Progressive Control Pest Plants for the purposes of managing disturbances of river beds means any plant listed in the Council's Pest Management Strategy as a total control or progressive control pest plant.

Note[1] To aid in interpretation of the rule, this includes Separation Point Granite material where applicable.

14. Restricted Discretionary Activities – Disturbance of the Bed (including excavation, drilling or tunnelling)

The disturbance of the bed of any river or lake that does not comply with the conditions of a permitted activity is a restricted discretionary activity.

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion.

(1) The location, extent and duration of the activity.
(2) Provision for and maintenance of the passage of fish.

(3) Safe passage of flood water.
(4) Potential adverse effects of the activity of areas of significant indigenous vegetation and significant habitats of indigenous fauna.
(5) Measures to prevent damage to riparian vegetation or soil.
(6) The potential adverse effects on bed and bank stability and water quality.
(7) Adverse effects of the activity on upstream or downstream properties and other structures.
(8) Opportunities for enhancing bed stability, meander pattern, channel morphology, bed substrate or other aspect of habitat adversely affected by the activity
(9) Adverse effects on the natural character and amenity of the river or lake and effects on public access to the river and on other uses of the river *including those listed in Schedule 30.1*.
(10) Safe navigation.
(11) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(12) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

Principal Reasons for Rules – Bed Disturbance

Bed disturbance includes any excavation, dredging, drilling, tunnelling, and any intentional widening, deepening or alteration of the course of a water body. It also includes maintenance activities to clear build up of sediment in the beds of those rivers which are modified water courses to improve drainage of adjacent land or maintain efficient water flow.

These activities have the potential to change the natural functioning of the river including flood flows and effects may be localised or impact on the river both upstream and downstream of the activity. They have the potential to impact on rates of erosion, river channel alignment and structure stability. Bed disturbances may affect the hydrological regime and cause adverse effects on aquatic habitat because of sediment releases or habitat destruction.

Where the bed disturbance occurs in the wet bed, that part of the bed of a lake or river which is covered by water, sediment will be mobilised. The mobilisation of sediment, depending on the scale of the activity, can reduce the clarity of the water by increasing its turbidity. Reduced clarity of water can adversely affect natural and human use values supported by the lake or river, or other users of the water body. Rules to manage adverse effects of sediment as a result of bed disturbances in rivers are contained in chapter 36.

The removal of aquatic plant pests and sediment from rivers, streams, modified watercourses and lakes is periodically required to maintain the efficiency of drainage networks and to restore drainage outfall.

Maintenance of drainage functions of farm drainage canals (or ditches) and some modified water courses can be important for maintaining land drainage and farm productivity. Even though some of these ditches are not rivers for the purposes of Part IV, they can support aquatic ecosystems, habitats, areas of significant vegetation and can

impact on receiving water quality. Adverse effects of farm drain maintenance can be mitigated through the adoption of best management practices. Council will prepare information about best practices to minimise adverse effects associated with drainage maintenance.

A combination of land, channel margin and instream management practices can be required to properly address a drainage issue. Best management practice can help identify measures to reduce the frequency of bed disturbances to maintain drainage. The removal of aquatic weeds and plants and sediment from rivers, streams, modified watercourses and lakes is therefore a permitted activity subject to conditions. Other measures to minimise adverse effects will be promoted through good practice guides for drainage management activities.

There is a probably large range of activities currently being undertaken in a range of situations/rivers/drains without consent at present. The conditions above that apply to these activities will provide certainty for landowners as to the extent to which activities can continue to be permitted and where likely adverse effects are potentially more significant and resource consents are required.

Some small scale activities can be undertaken in the beds of rivers as potential impacts can be minimised by appropriate conditions. Other activities in the beds of rivers will require resource consent because there is significant potential for adverse effects in the dynamic river environment and the nature of the adverse effects will be site specific.

15. Permitted Activities – Planting

The introduction, or planting of any plant or any part of any plant in, on or under the bed, including the banks of any lake or river and any associated bed disturbance is a permitted activity if it complies with the following conditions;

(a) The planting is maintained so that it does not;
  (i) cause erosion or scour of the bed, including the banks of the river or
  (ii) cause or contribute to an increase in flooding of adjacent land

(b) There is no planting of crack or grey willow (S*alix fragilis* and *Salix cinerea*)

(c) There is no disturbance by the use of motorised machinery of any part of the bed covered by water from 1 May to 30 September in rivers listed in Schedule 30.1 as trout spawning rivers

(d) There is no disturbance in the river bed including the banks within 1 kilometre of the river mouth during inanga spawning (the principal whitebait species), from 15 February to 31 May.

(e) There is no disturbance by the use of motorised machinery of any river bed listed in Schedule 30.1 as having black fronted terns from October to February inclusive.

(f) There is no disturbance by the use of motorised machinery of any river bed listed in Schedule 30.1 as having banded dotterel from August to January inclusive.

(g) There is no refuelling on any part of a river or lake bed.

(h) Any discharge of sediment as a result of the bed disturbance complies with the conditions of Rule 36.2.X

Note 1: The Council's Pest Management Strategy lists plants which **must not** be planted or propagated anywhere in the district (including in the beds of rivers or lakes).

Note 2: Planting on or near river beds and banks can eventually reduce or obstruct river flows or cause widening or scour of river beds. Advice about appropriate plant species and planting design is in the Council's Good Practice Guideline to Riparian and River Bank Planting (in preparation)

The Transitional Regional Plan requires consent for any planting within 8m of the bank, or 8 meters of any defence against water however, this 8 meter exclusion will not help the cause for better riparian land management and may prevent establishment of appropriate vegetation.

Existing rules in Part II the TRMP prevent plantation forest closer than 10m to any river wider than 3m or any lake. The establishment of woody vegetation on berm land, (except for bank protection planting) is also regulated in the TRMP.

16. Discretionary Activities – Planting

The introduction, or planting of any plant or any part of any plant in, on or under the bed or bank of any lake or river and any associated bed disturbance that does not comply with the conditions of a permitted activity is a discretionary activity.

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has reserved discretion.

(1) The location, extent and duration of the activity.
(2) Plant varieties, including controls on height at maturity.
(3) Provision for and maintenance of the passage of fish.
(4) Effects of planting and mature plants on the safe passage of flood water.
(5) Potential adverse effects of the activity on areas of significant indigenous vegetation and significant habitats of indigenous fauna and aquatic habitats.
(6) Measures to prevent damage to riparian vegetation or soil.
(7) The potential adverse effects on bed and bank stability and water quality.
(8) Adverse effects on upstream or downstream properties and other structures.
(9) Adverse effects on the natural character and amenity of the river or lake and effects on public access to the river and on other uses of the river *including those listed in Schedule 30.1.*
(10) Safe navigation.
(11) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(12) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

Principal Reasons for Rules – Planting

The introduction of vegetation into the beds of lakes and rivers can potentially compromise values associated with conservation and amenity values including the loss of biodiversity, water quality and reducing the flood-carrying capacity of rivers.

However, planting is often carried out along and in the beds of rivers to provide bed and bank stability and flood protection. These plantings can also provide aquatic habitat and contribute to biodiversity and water quality values.

While Section 13 of the RMA does not allow the introduction of any vegetation unless there is a rule in a plan or a resource consent providing for it, in order to meet the requirements of the RMA (in particular section 30 - soil conservation and flood protection, as well as enhancing and maintaining Part II matters) there is a need to allow planting to be undertaken as permitted activities where effects are beneficial or adverse effects are minor.

17. Permitted Activities – Entering or Passing over Beds

The entering or passing across any bed and the associated disturbance of the bed of a river or lake by a vehicle is a permitted activity if it complies with the following conditions;

(a) There is no entering or passing over the bed of Te Waikoropupu Springs except
  (i) where the activity is for the maintenance or protection of the Springs or associated structures, or
  (ii) for scientific or research investigation and
  (iii) Manawhenua ki Mohua is notified at least two working days prior to the activity commencing.

(b) Any sediment discharged or disturbed as a result of the crossing or bed disturbance complies with the conditions of rule 36.2.X

(c) There is no damage to plant or animal habitats

(d) There is no continued occupation of the bed by a vehicle

***Note** 1; Any entry in to the Waikoropupu Springs also requires authorisation from the Department of Conservation.*

18. Restricted Discretionary Activities – Entering or Passing across Beds

The entering or passing across any bed and the associated disturbance of the bed of a river or lake by a vehicle that does not comply with the conditions of a permitted activity is a discretionary activity if it complies with the following standards and terms;

(a) There is no entering or passing over the bed of Te Waikoropupu Springs

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion.

(1) The location, type of vehicle or machine, and frequency and duration of the activity.
(2) Adverse effects on amenity and landscape values of the river and its immediate surrounds.
(3) Adverse effects of noise.
(4) Adverse effects on public access to the river
(5) Potential for conflict between other users of the river.
(6) Adverse effects on river bed or bank stability.
(7) Adverse effects on aquatic habitat, especially nesting birds and fish spawning sites.
(8) Effects on water quality, river morphology and dynamics (including erosion or deposition), and aquatic and riverine ecosystems and habitat and on other uses of the river including those listed in Schedule 30.1..
(9) Measures to enable fish passage.
(10) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(11) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(12) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

19. Non-Complying Activities – Entering or Passing across Beds

The entering or passing across any bed and the associated disturbance of the bed of a river or lake by a vehicle that does not comply with the conditions of a permitted activity or the standards and terms of a discretionary activity is a non-complying activity.

A resource consent is required. Consent may be refused or conditions imposed

20. Permitted Activities – Stock Entering or Passing over beds

The entering or passing across any bed or the disturbance of the bed of a river or lake by livestock is a permitted activity if it complies with the following conditions;

(a) There is no entering or passing over the bed of Te Waikoropupu Springs.

(b) Any sediment, disease-causing organisms discharged or disturbed as a result of the crossing or bed disturbance comply with the conditions of rule 36.2.Y.

(c) There is no feeding out of supplementary feed on the bed of any lake or river.

(d) There is no livestock access to the river bed including the banks within 1 kilometre of the river mouth during inanga spawning (the principal whitebait species), from 15 February to 31 May.

(e) There is no destruction of plant or animal habitats

21. Restricted Discretionary Activities –Stock Entering or Passing over beds

The entering or passing across any bed or the disturbance of the bed of a river or lake by livestock that does not comply with the conditions of the permitted activity is a d discretionary activity.

(a) There is no entering or passing over the bed of Te Waikoropupu Springs

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has restricted discretion.

(1) The location, frequency and duration of the activity.
(2) Adverse effects on amenity and landscape values of the river and its immediate surrounds.
(3) Adverse effects on public access to the river.
(4) Potential for conflict between other users of the river.
(5) Adverse effects on river bed or bank stability.
(6) Adverse effects on aquatic habitat, especially nesting birds and fish spawning sites.
(7) Effects on water quality, river morphology and dynamics (including erosion or deposition), and aquatic and riverine ecosystems and habitat values including those listed in Schedule 30.1.
(8) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information.
(9) The duration of the consent (Section 123 of the Act), timing of reviews, and the purposes of reviews (Section 128 of the Act).
(10) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

22. Non-Complying Activities – Entering or Passing across Beds

The entering or passing across any bed and the associated disturbance of the bed of a river or lake by livestock that does not comply with the conditions of a permitted activity or the standards and terms of a discretionary activity is a non-complying activity.

A resource consent is required. Consent may be refused or conditions imposed

Principal Reasons for Rules – Entering or Passing across Beds

The location of activities, such as the use of vehicles (including recreational vehicles such as four wheel drives and motorbikes) or machinery in the bed may damage the bed, including the banks of the rivers. Passage across the river may also result in significant amounts of sediment entering the water and adversely affecting aquatic habitat and visual clarity of the water.

Vehicles can disrupt the breeding success of riverbed breeding birds or damage sites of significant indigenous flora. There are four indigenous bird species that breed on Tasman's shingle river systems; black-fronted terns, banded dotterels, black-billed gulls and pied oyster-catchers. Of these the black-fronted terns are regarded as threatened or endangered and their numbers are declining. Noise and disturbance from vehicles close

to nesting sites can cause birds to leave for sufficiently long periods that breeding fails or abandon the eggs or young altogether.

Council seeks to reduce the impact of non-point source discharges on surface water quality by preventing or minimising the entry of contaminants into water and to maintain the integrity of beds and banks by preventing or minimising damage to the beds or banks of rivers.

Where livestock has unrestricted access to surface water bodies, or are regularly driven through water bodies they can adversely impact on the quality of the water, the aquatic habitat and the bed and bank integrity. Deer and pigs are particularly known to cause water quality problems where they have direct access to the water.

Where adjacent land use involves intensive farming of livestock, the cumulative effects of stock access to water or crossings can have significant adverse impacts on water quality and instream or recreation values and streambank erosion. A variety of methods are available to improve water quality, depending on the type of faming system. For example, adverse water quality and erosion effects caused by frequent crossings by dairy herds can be avoided by constructing bridges or culverts. Fencing along waterways to exclude stock can mitigate adverse effects of intensive farming. Provision of alternative water supplies or shade can also help mitigate adverse water quality effects from stock.

Council acknowledges that the cost of such measures can be significant. It seeks to work with existing industry initiatives that address property specific water quality issues such as the dairy industry Clean Streams Accord (and the new Primary Sector Water Partnership).

Council policies and methods recognises the preferred approach is for individuals and communities to work together to modify their everyday practices to reduce the effects of non-point source discharges and to improve aquatic habitats. A community working together is likely to be more effective at achieving widespread improvements to water quality in rivers and streams.

In implementing the policies seeking to avoid, remedy and mitigate adverse effects of stock access to waterways, the Council's priorities will be to work closely with industry groups and to provide advice and information to help landowners in developing farm plans where necessary.

Council will also allow most culverts and many small bridges to be constructed as permitted activities. Information on standard building design for bridges and culverts will also be prepared to assist landowners.

Council has established criteria for setting priorities to guide the community and Council efforts to restore water quality where it has declined.

The Council has also recognised the particular values of Te Waikoropupu Springs by including provisions that prevent any entering or passing across the Springs bed. Risk of Didymo invasion is of particular concern, but the very high cultural and amenity values also require this level of protection.

Activities such as diving and swimming in Te Waikoropupu Springs create adverse effects on the iwi values, creates an unacceptable risk of Didymo invasion, conflict with the

amenity values of the Springs. While now prevented by the Department of Conservation Bylaw, there was evidence that increasing diving and swimming pressure was causing adverse effects on the fragile aquatic habitat of the Springs.

No entering or passing over the bed of the Springs is permitted by these rules unless it is required for maintenance or investigation. An application for any other access to the Springs will be considered as a non-complying activity.

CONSEQUENTIAL AMENDMENTS TO CHAPTERS 31 AND 36

Changes to the contaminant discharges Chapters 33 and 36 to complement Part IV rules and complete the discharge provisions are also needed. Changes to Chapter 31 address overlap in managing diversions of water by farm drainage ditches.

NEW DISCHARGE RULES – Chapter 36

The following rule sets limits on how much water quality can be degraded as a result of activities in the beds of rivers, including those caused by stock access/crossing (note that it does allow some localised degradation). It is very unlikely that regular stock crossings/access for dairy farms or deer or pig farming where stock have access to water ways will be able to meet these water quality standards – especially the faecal bacteria limits. The extent to which this causes adverse effects on receiving rivers will depend on site specific details.

For other farming systems such as sheep and dry stock, some stock access will be able to meet the standards although adverse effects may still need to be mitigated by things like provision of alternative water supplies and shade in some circumstances.

The water quality impacts from non-point overland runoff are not being specifically addressed by this rule, however an increase in rivers where stock are prevented from having access (mostly by fencing).means stream margins are better protected with vegetation and provide a water filtering action that will assist in improving overall water quality.

The WCOs for Motueka and Buller both explicitly say that the Orders do not prevent the granting of resource consents for the purpose of construction or maintenance of roads, bridges, soil conservation or rivers control works (undertaken in accordance with SCRCAct.) Consents can still therefore be sought for allowing water quality effects for these activities where the water quality conditions cannot be met.

Any activity needing consent in the WCO rivers will also need to comply with the relevant water quality standards of the orders. The orders also refer to pH, temperature, development of biological growths, e.coli levels for contact recreation and dissolved oxygen.

The water quality standards below are similar to standards for similar activities in the TRMP. A change of more than 10% can generally be observed. A change of 20% can be considered a conspicuous change and easily visible. It can mean a change in colour of more than five points on the Munsell scale or more than 20% change in clarity as measured by a 200mm black disc as per 'Water Quality Guidelines Number 2' published by the Ministry for the Environment. (For example, a change in water colour from blue to

blue/green is 10 points on the Munsell Scale)

36.2.X Permitted Activities – Discharges Arising from Activities in the Beds of Rivers and Lakes

The discharge of contaminants arising from activities carried out in the beds of rivers or lakes is a **permitted activity** provided it complies with the following conditions:

(a) There is no discharge arising from stock entering or passing over the bed. (refer to Rule 36.2.Y)

(b) The visual clarity or colour of the receiving water is not changed by more than 20 percent at any point;
   (i) more than 50 metres where the wetted width of the river is less than 5 metres or
   (ii) more than 10 times the width of the river where the wetted width of the river is more than 5 metres downstream of the discharge compared to upstream of the discharge.

(c) Except in rivers subject to the provisions of the Motueka and Buller Water Conservation Orders, where the natural turbidity of receiving water is more than 10 NTU it may not be changed by more than 20 percent at any point
   (i) more than 50 metres where the wetted width of the river is less than 5 metres or
   (ii) more than 10 times the width of the river where the wetted width of the river is more than 5 metres downstream of the discharge, compared to a site upstream of the discharge.

(d) In rivers subject to the provisions of the Motueka and Buller Water Conservation Orders, the natural turbidity of receiving water with a turbidity of less than 10NTU is not changed by more than 1 NTU and is not changed by more than 10NTU in receiving waters with a turbidity of more than 10 NTU at any point more than 10 times the width of the river below the discharge where the width of the river is measured at the downstream edge of the crossing or disturbance.

(e) Conditions (b) and (c) do not apply where the discharge arises from activities permitted by rule <gravel relocation rule 24>.

Note *A change of more than 10% is generally discernable by observation. A change of 20% can be considered a conspicuous change and easily visible.*

36.2.Y Permitted Activities –Discharges arising from Stock Entering or Passing over Beds

Timing:
The rules become operative once the submission and appeal process has been completed and are adopted by the Council as operative provisions. Once operative, all existing activities that do not comply with the rule would have 6 months from the operative date to apply for any discharge permits that might be required – or measures adopted to ensure the conditions can be met. If the variation is notified and heard in 2009/10, and all appeals resolved in 2010, then the rules would be operative by the end of 2010. Refer to Policy 21 in which Council takes into account relevance of the Accord target when

considering compliance action.

In most cases under current management systems, dry stock farming is not as likely to have as significant an impact on water quality unless grazing regimes become more intensive. However, some farming operations may need to reconsider management of stock near rivers, especially in winter and engaging these landowners in the same way dairy farmers have been engaged may require some time

The discharge of any contaminant arising from the entering or passing across any bed or the disturbance of the bed of a river or lake by livestock is a permitted activity if it complies with the following conditions;

(a) Either
    (i) the discharge occurs no more than 2 times in any one week averaged over one month,

or

    (ii) it complies with all of the following conditions;

(b) The visual clarity or colour of the receiving water is not changed by more than 20 percent at any point
    (i) more than 50 metres where the wetted width of the river is less than 5 metres or
    (ii) more than 10 times the width of the river where the wetted width of the river is more than 5 metres downstream of the discharge where the width of the river is measured at the downstream edge of the crossing or disturbance.

(c) In rivers **not** subject to the provisions of the Motueka and Buller Water Conservation Orders, the natural turbidity of receiving water is not changed by more than 20 percent at any point;
    (i) more than 50 metres where the wetted width of the river is less than 5 metres or
    (ii) more than 10 times the width of the river where the wetted width of the river is more than 5 metres downstream of the discharge, where the width of the river is measured at the downstream edge of the crossing or disturbance.

(d) In rivers subject to the provisions of the Motueka and Buller Water Conservation Orders, the natural turbidity of receiving water with a turbidity of less than 10NTU is not changed by more than 1 NTU and is not changed by more than 10NTU in receiving waters with a turbidity of more than 10 NTU at any point more than 10 times the width of the river downstream of the discharge where the width of the river is measured at the downstream edge of the crossing or disturbance.

(e) The concentration of E.coli is not increased by more than 260cfu E coli / per l00 millilitres at any point
    (i) more than 50 metres where the wetted width of the river is less than 5 metres or
    (ii) more than 10 times the width of the river where the wetted width of the river is more than 5 metres below the discharge where the width of the river is measured at the downstream edge of the crossing or disturbance.

Note *260cfu/100ml is the alert level for contact recreation (Ministry of Health*

Microbiological Water Quality Guidelines). A sample for bacteria analysis requires laboratory processing.

MEANS OF COMPLIANCE

The actions required to ensure compliance with conditions (b), (c) (d) and (e) of this rule will vary depending on the intensity of the farming operation and the nature of the receiving waters.

In circumstances where:

1. stocking rates alongside water bodies are high (for example, under strip grazing or rotational grazing with mob stocking);
2 cattle, deer or pigs have unrestricted access to a water body;
3 large herds of stock are crossing a water body frequently e.g. herds of dairy cows on their way to or from the milking shed;
4 the bed of the water body has a soft or silty substrate,
5. hard stand or over wintering areas are close to river banks,

The following types of actions are likely to be necessary to ensure compliance:
(a) Use of permanent or temporary fences along the banks to deter stock from entering the stream bed, grazing bank side vegetation, trampling aquatic habitat or defecating directly into the water or onto the adjacent bank.
(b) Provision of bridges and culverts.
(c) Provision of alternative water supplies so that stock do not need to access the stream bed.
(d) Provision of shade so stock do not need to cool themselves by standing in water.
(e) Establishment of vegetated stream margins that filter contaminants from runoff,

36.2.Z Restricted Discretionary Activities – Discharges

The discharge of any contaminant arising from the entering or passing across any bed or the disturbance of the bed of a river or lake by livestock or from activities carried out in the bed of a river or lake that does not comply with the conditions of a permitted activity is a discretionary activity.

A resource consent is required. Consent may be refused or conditions imposed in respect of the following matters over which the Council has reserved discretion.

(1) The location, frequency and duration of the activity.
(2) Adverse effects on amenity and landscape values of the river and its immediate surrounds.
(3) Adverse effects on public access to the river
(4) Potential for conflict between existing authorised or permitted uses of the river.
(5) Adverse effects on river bed or bank stability.
(6) Adverse effects on aquatic habitat and on other uses and values of the river including those listed in Schedule 30.1.
(7) Effects on water quality, river morphology and dynamics (including erosion or deposition), and aquatic and riverine ecosystems and habitat.
(8) The carrying out of measurements, samples, analyses, surveys, investigations, or inspections and the provision of information
(9) The duration of the consent (Section 123 of the Act), timing of reviews, and the

purposes of reviews (Section 128 of the Act).

(10) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

Principal Reasons for Rules – Discharges arising from stock and vehicle access and activities in the bed of rivers and lakes

These rules complement stock and vehicle access rules in Part IV. Stock manure deposited directly in waterways as they cross, as well as sediment dislodged by stock or machinery crossing or otherwise disturbing the bed of the river can have significant adverse effects on water quality.

The performance standards ensure that changes to sediment levels and visual quality of the water are not conspicuous and that microbial water quality is maintained at a level that still enables contact recreation or drinking by stock. The rules allow occasional and infrequent stock crossings where adverse water quality effects are of short duration and of minor overall effect.

The Council understands that compliance with these rules will be more likely where there is support and advice, as well as on-going consultation with the farm owner about options for managing any water quality issues. This support and advice will be aligned with the Regional Action Plan for the Clean Streams Accord which has already been adopted and is being implemented in this region.

Farming systems other than dairy farms may also impact on water quality. Council will adapt the same Regional Action Plan approach to ensure all landowners have access to similar support and resources.

CONSEQUENTIAL AMENDMENTS TO CHAPTER 31

Changes to the water diversion rules in Chapters 31 to ensure clarity and consistency are also needed.

Additional text for clarification:

Insert into Rule 31.1.2 a new condition:
"The diversion is not diversion of ground or surface water for land drainage (refer to Rule 36.4.2)"

Amend text in section 36.4.1 to read:
"This section deals with discharges of contaminants to land or water as provided by section 15 of the RMA and of diversions of land drainage water as provided by section 14. Information required with resource consent applications is detailed in Chapter 37"

Additional text to address effects of discharge of land drainage water:

Insert an additional water quality standard into Rule 36.4.2 to account for potential adverse water quality impacts on receiving water arising from bacteria discharged from farm drains:

"The discharge or diversion of water from drainage does not cause the concentration of E. coli in the receiving water to be increased by more than 260 cfu E.coli per 100cfu/100mls."

Insert reference to the wetland drainage rule;
"The diversion of water complies with rule 31.4.2 (drainage or infilling of wetlands"

23 Permitted Activities–Activities on the surface of rivers and lakes

The entry to or passing across the surface of water in any river or lake by craft is a permitted activity if it complies with the following conditions;

(a) The rule does not apply to activities in a National Park that are regulated by the Department of Conservation in a Conservation Management Plan.

(b) There is no entry to or passing across the surface of Te Waikoropupu Springs except
  (i) where the activity is for the maintenance or protection of the Springs or associated structures, or
  (ii) for scientific or research investigation and
  (iii) Manawhenua ki Mohua is notified at least two working days prior to the activity commencing.

(c) There is no commercial operation of motorised craft.

Other possible conditions include boat noise limits but they are extremely difficult and complex to administer and are not recommended.

Note 1; The Department of Conservation Reserves Management Plan for Te Waikoropupu Springs also requires authorisation from the Department for entry into the Springs.

24. Restricted Discretionary Activities–Activities on the Surface of Rivers and Lakes

The entry to or passing across the surface of water in any river or lake that does not comply with the conditions of a permitted activity is a restricted discretionary activity

(a) There is no entering or passing across the surface of Te Waikoropupu Springs.

A resource consent is required. Consent may be declined or conditions in imposed in respect of the following matters to which council has reserved its discretion;

(1) Adverse effects on amenity and landscape values of the river and its immediate surrounds and adverse effects on uses and values identified in any Water Conservation Order
(2) Adverse effects of noise.

(3) Adverse effects on public access to the river or lake and adverse effects of congestion at points of access.
(4) Potential for conflict between existing authorised or permitted uses of the river.
(5) Adverse effects on river bed or bank stability.
(6) Adverse effects on aquatic habitat and birds nesting areas on river beds
(7) Extent and effects of associated structure, whether in or over the water or on the adjoining land.
(8) Extent and effects of any associated onshore facility such as parking, ticket office, boat storage or maintenance, retail outlet (such as souvenirs, craftwork, café).

Principal Reasons for Rules – Activities on the Surface of Rivers and Lakes

The natural environment of the District is dominated by mountains, lakes and rivers. The 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.

There is increasing recreational activity on the Buller and other nearby rivers. There is less recreational pressure by motorised craft on the Motueka River and its tributaries, although kayak and canoe use is significant.

The continued pleasantness, integrity, diversity and safety of the 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 rivers can result in adverse effects, which could undermine the characteristics valued in the District's rivers.

The Districts major lakes; Rotoiti and Rotoroa, are within the Nelson Lakes National Park and any commercial and recreational activity is regulated by the Department of Conservation through the Nelson Lakes National Park Management Plan.

The use of lakes and rivers inevitably involves demand for the construction of structures and facilities alongside or in the margins of the 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 river from general public use. Some of these land based activities will already require consent under Part II rules. Others will be managed by other rules in this chapter.

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

The degree to which activities are dominated by private or commercial users depends to some extent on the time of the year, although summer is usually busier. The commercial operators are generally more predictable, known elements and the private boaters being less predictable.

The rules distinguish between private and commercial operators because the number of boating trips undertaken by the commercial operators could outnumber private recreational use. The adverse effects could be substantial where there are high numbers of regularly commercial trips and the continuation of these trips throughout the year. Some commercial boats, such as jetboats, and hovercraft, 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 and potentially noisier engines.

The District contains some difficult stretches of river, which could come under more 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 rules provide an opportunity for Council to consider and manage these adverse effects.

A high level of regulation for activities on the surface of Te Waikoropupu Springs reflects the significant adverse effects of such activities on the amenity and cultural values of the Springs.

25. Permitted Activities – Gravel Extraction

The disturbance of the bed and the removal of material associated with the extraction of sand, gravel or other material from the bed of a river is a **permitted activity** if it complies with the following conditions;

(a) The gravel is not taken from any location within the;
  (i) Motueka River below Alexander Bluff Rd bridge (E2503404;N6005149)
  (ii) Waimea River and its tributaries
  (iii) Wairoa River downstream of its confluence with the Lee River
  (iv) Wai-iti River and its tributaries
  (v) Aorere River

(b) No more than 1 cubic metre is extracted at any one time.

(c) The river from which the material is extracted is more than 10 metres wide, measured between the top of the banks.

(d) The material is extracted more than 600mm above the water level in the bed of the river

(e) The extraction does not result in any hole more than 600mm deep in the bed of the river.

(f) There is no material extracted within 20 metres of any structure, including stopbanks and other defences against water.

(g) There is no damage caused to the banks as a result of the extraction.

(h) The material extracted is not for sale to or use by a third party.

26. Controlled Activities –Gravel Extraction and Relocation

The disturbance of the bed associated with the extraction and subsequent deposition of that sand, gravel or other material in the bed of a river that does not comply with the conditions of a permitted activity is a controlled activity if it complies with the following standards and terms:

(a) The extracted material is replaced within the same river bed.

(b) There is no disturbance by the use of mobile machinery of any part of the bed covered by water in any rivers listed in Schedule 30.1 as having trout spawning values from 1 May to 30 September (trout spawning season).

(c) There is no disturbance in the river bed including the banks within 1 kilometre of the river mouth during inanga spawning (the principal whitebait species), from 15 February to 31 May

A resource consent is required and may include conditions on the following matters over which Council has restricted its discretion:

(1) The location, rate, method and timing of the extraction and deposition of material.
(2) The extent to which the location and the amount of the material being extracted is identified on the current annual operating plan for river works (AOP Gravel)
(3) Measures to provide for and maintain the passage of fish.
(4) Effects on aquatic and riparian ecosystems, including habitats of birds nesting on the river bed and riparian vegetation.
(5) Effects on river bed and bank stability upstream and downstream of the activity and measures to remedy any instability or erosion.
(6) Effects on other river users, and landowners potentially affected by the activity including effects of flood flows and effects on structures.
(7) Effects of noise from the operation.
(8) Effects on the natural character and amenity of the river or lakes and effects on public access to the river.
(9) Effects of removing vegetation or other debris.
(10) Measures to provide for safe navigation
(11) The carrying out of measurements, samples, analyses, surveys, investigations or inspections and the provision of information.
(12) The duration of the consent (Section 123 of the Act)
(13) Timing of reviews, and the purposes of reviews (Section 128 of the Act).
(14) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

27. Controlled Activities – Gravel Extraction (river management)

The disturbance of the bed and the removal of material associated with the extraction of sand, gravel or other material from the bed of a river that does not comply with the conditions of a permitted activity is a **controlled activity** provided it complies with the following standards and terms;

(a) The material is taken from a river or river reach with an extraction limit specified in Figure 28.1.

(b) The amount of material taken on its own or in combination with other authorised takes does not exceed the relevant extraction limit specified in Figure 28.1

(c) The material is to be extracted for the express purpose(s)[9] of;
  (i) protecting the channel from erosion or instability or;
  (ii) maintaining efficient movement of floodwaters and sediment down the channel or
  (iii) preventing or mitigating the adverse effects of flooding.

(d) Machinery is not operated in any flowing water.

(e) The removal of material does not take place closer than two metres from flowing water.

(f) Material is not extracted from areas less than 0.5 metres above the water level of the adjacent river

(g) No material is taken within 20 metres of any structure in, on, under or over the bed of the river.

(h) All equipment and surplus materials is removed from the floodplain on the completion of the activity.

Figure 28.1: Extraction Limits for Gravel, Sand and Other Materials

River or River Reach	Extraction Limit (cubic metres per year expressed as a long term running mean over ten years)
Waimea catchment	
Waimea - Wairoa River and tributaries	0
Wai-iti River and tributaries	0
Motueka Rivers	
Lower Motueka (mouth to Alexander Bluff Bridge)	1500
Middle Motueka (Alexander Bluff Bridge to Wangapeka confluence	1000
Upper Motueka (Wangapeka confluence to Gorge)	3000
Motupiko River	2000
Wangapeka River	0
Riwaka River	0
Moutere River and its tributaries	0
Golden Bay Rivers	
Takaka (mouth to Gorge)	1000
Waingaro	0

[9] **Note**; For the proper interpretation of this condition the purposes specified will be described in the river works programme prepared under the Soil Conservation and Rivers Control Act 1941 and specified in the Council's Rivers Activity Management Plan and Annual Operating Plan (AOP).

Anatoki	1000
Aorere	1000
Patarau, Anatori, Turamawiwi Rivers	1000 collectively
Buller Rivers	
Buller (O'Sullivans to Lake Rotoiti)	2000
Matakitaki (above 1929 earthquake slip)	1000
Notes: (1) Unless specified otherwise, the extraction limit applies only to the main stem of the river listed.	

A resource consent is required and may include conditions on the following matters over which Council has reserved control:

(1) The location, rate, method and timing of the extraction or deposition of material.
(2) The extent to which the location and the amount of the material being extracted is identified on the current annual operating plan for river works (AOP Gravel[10])
(3) Effects on aquatic and riparian ecosystems, including habitats of birds nesting on the river bed.
(4) Effects on river bed and bank stability upstream and downstream of the extraction and measures to remedy any instability or erosion.
(5) Effects on other water users, downstream landowners and landowners affected by the extraction including effects of flood flows.
(6) Adverse effects on aquatic habitat and on other uses and values of the river including those listed in Schedule 30.1.
(7) Effects of noise from the extraction operation on neighbouring properties.
(8) Any potential effects on existing river users or existing structures.
(9) The duration of the consent (Section 123 of the Act) provided that the term does not exceed ten years
(10) Timing of reviews, and the purposes of reviews (Section 128 of the Act).
(11) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

28. Discretionary Activities –Gravel extraction

The disturbance of the bed associated with extraction of sand, gravel or other material from the bed of a river that does not comply with the conditions of a permitted activity or the standards and terms of a controlled activity is a **discretionary activity** provided it complies with the following standards and terms;

(a) Where the material is to be taken from a river or river reach with an extraction limit specified in Figure 28.2; the amount of material taken on its own or in combination with other authorised takes does not exceed the relevant extraction limit specified in Figure 28.2.

10 The AOP identifies the **location** and the **maximum amount** of gravel needed to be taken for river management purposes at that site. The preparation of the AOP is integral to both river management and the management of gravel extraction demand.
For most rivers, the AOP will identify all the available gravel. Where the AOP requires less gravel extraction than the extraction limit – then a third party may apply to extract the gravel – the way this is drafted means it's a first in first served approach – it is very unlikely that, given the relatively low annual extraction rates that there will actually be any "extra" gravel above the AOP specified amounts.

Figure 28.2: Extraction Limits for Gravel, Sand and Other Materials

RIVER OR RIVER REACH	Extraction Limit (cubic metres per year expressed as a long term running mean over ten years)
Waimea catchment	
Waimea - Wairoa River and tributaries	0
Wai-iti River and tributaries	0
Motueka Rivers	
Lower Motueka (mouth to Alexander Bluff Bridge)	0
Middle Motueka (Alexander Bluff Bridge to Gorge)	0
Upper Motueka (Wangapeka confluence to Gorge)	0
Motupiko	2000
Wangapeka River	0
Riwaka River	0
Moutere River and its tributaries	0
Golden Bay Rivers	
Takaka (mouth to Gorge)	0
Waingaro	0
Anatoki	0
Aorere	0
Patarau, Anatori, Turamawiwi or Anaweka Rivers	0
Buller Rivers	
Buller (O'Sullivans to Lake Rotoiti)	2000
Matakitaki (above the 1929 earthquake slip)	1000
Notes: Unless specified otherwise, the extraction limit applies only to the main stem of the river listed.	

This means that any application to take more than the limits in the schedule becomes non-complying – and much tougher to get, because the limits are supposed to be sustainable limits and the policy is that we only do sustainable extraction.

Gravel can be taken from a small number of rivers discretionary takes – but are required to do an assessment as to sustainability of the extraction on a case by case basis. It is important to get as many actual allocations in the figure to avoid processing costs and uncertainty for resource users.

A resource consent is required and may include conditions on the following matters over which Council has reserved control:

(1) The extent to which the river contributes material to a river or reach specified in Figure 28.1, and the potential adverse effects the extraction of gravel and associated bed disturbance has on bed levels and bed and bank stability in both rivers, (where the contribution is significant, the consent may be declined).

(2) The extent to which the location and the amount of the material being extracted is identified on the current annual operating plan for river works (AOP Gravel).
(3) The location, rate, method and timing of the extraction or deposition of material.
(4) The proportion of the extracted material in relation to the calculated amounts of gravel entering and exiting the river system, (where the amount of gravel extracted significantly exceeds the calculated inputs, the consent may be declined).
(5) Effects on river bed and bank stability upstream and downstream of the extraction.
(6) Opportunities for enhancing bed stability, meander pattern, channel morphology, bed substrate or other aspect of habitat by realignment or relocation of gravel resources within the banks of the river.
(7) The rate, manner and timing of the extraction of material.
(8) Effects on aquatic and riparian ecosystems, including habitats of birds nesting on the river bed and those listed in Schedule 30.1.
(9) Effects on other water users, downstream landowners and landowners affected by the extraction including effects of flood flows.
(10) Effects of noise from the extraction operation on neighbouring properties.
(11) The duration of the consent (Section 123 of the Act) which will normally be one year consistent with the current AOP (Gravel),
(12) Timing of reviews, and the purposes of reviews (Section 128 of the Act).
(13) Financial contributions, bonds and covenants in respect of the performance of conditions and administration charges (Section 108 of the Act).

29. Non-complying Activities - Gravel Extraction

The disturbance of the bed associated with the extraction of sand, gravel or other material from the bed of a river that does not comply with the conditions of a permitted activity or the standards and terms of a controlled or a discretionary activity is a non-complying activity.

Principal Reasons for Rules – Gravel Extraction

A regulatory regime is proposed that provides flexibility for day to day management of rivers within a good resource management framework to provide for consistency and co-ordination between Council's resource management as well as river management roles.

Most small takes do not cause adverse effects, either individually or cumulatively. However, as the amount taken increases the chance of adverse effects being caused either at the point of extraction or cumulatively over a reach or river also increases.

It is probable that larger than "de minimus" amounts of gravel are taken without authority, but there is very little data on the frequency and actual amounts taken.

The conditions proposed for the permitted activity give some guidance as to the nature and scale of the permitted activity and provide much better guidance for both Council and the public by establishing a threshold. If gravel was to be taken according to the suggested conditions, then adverse effects will be avoided.

There are still compliance problems with a permitted activity. There are probably quite a few people, especially adjacent landowners, who take small amounts of gravel without approval or consent anyway. These takes are more likely to be adjacent to private property and difficult to monitor.

A notification requirement may imply that the effects are more than minor. However, in this case it is not the effects of a single permitted take that need to be monitored, the notification is more to aid understanding about the nature and scale of the permitted activity and how much gravel is being routinely extracted. It also enables staff to respond to complaints/inquiries about gravel extractions.

The approach outlined by the regulatory regime initially leaves gravel resource management discretion with the asset managers through the exercise of their resource consent required to carry out most aspects of the river works programme, but this discretion is within specified limits and for a specified river management purpose.

These rules also enable the value of the gravel that is necessarily extracted for river management purposes to be offset against the costs of the river protection work being carried out.

1. WATERBODIES WITH DEGRADED WATER QUALITY

Several rivers and streams have been identified as having degraded water quality ('State of the Environment' Monitoring Surface Water Quality report (Young et al 2005) and subsequent monitoring. The water quality issues vary for each of these waterways and range from a single issue to multiple issues. Water quality improvement programmes have been running for three of these catchments (Aorere, Motupipi, and Sherry). The most widespread issue is water quality for stock drinking water and contact recreation. Nutrients in waterways have only been found to cause nuisance algal growths in relatively few waterways.

1.1 Uses, Values and Management Objectives for Waterways

A comprehensive assessment of all the uses and values of the District's rivers has not yet been completed.

Schedule 30.1 provides some information but it was principally developed for water quantity management and further work is required to make it more comprehensive. Schedules 36.1A and B provide water quality classifications for waters of the Motueka and Waimea Plains. They are somewhat generalised.

Note that all of the Golden Bay rivers and streams and many of the other including the smaller rivers and streams in the rest of the District do not have clear water quality objectives established for them.

Contact recreation is also not often mentioned in Schedule 30.1 as a specific value of the water. The Council runs a monitoring programme for bathing water quality at a range of river and coastal sites. These sites have been selected mostly on the basis of their popularity (during summer) rather than any objective significance (either locally, regionally or nationally). The current monitoring sites are shown on the following figure 1 (and include coastal monitoring sites).

The following table is not anticipated as being inserted into the Plan – but it could help guide decisions about future management action in Council's annual planning process.

Based on the criteria in Policy 33.1.X, the following list of water bodies and catchments shows where the water quality and aquatic habitat has declined or is at risk from human activities, and would benefit from community or landowner action to improve or safeguard the water body.

This list is not exhaustive and priority rankings are suggested on the basis of risks to existing uses and values.. It should be seen as a provisional outline of what could eventually be a more comprehensive approach to water body management that also takes into account provisions in Part II (in relation to riparian margins) Part V in relation to water quantity and Part IV in relation to activities in the beds of rivers and lakes.

Table 1: Waterbodies Recommended for Remedial Action for Water Quality

River	Water Body Values identified so far in Schedules 30.1, 36.1A and B	Water Quality Issues	Possible Action Required	Possible Priority for Action
Golden Bay				
Motupipi River and tributaries (Watercress Ck, Powell Ck, McConnon Ck, Berkett Ck, Dry Ck)	Regionally significant native fish habitat Cultural, spiritual and landscape values. (Note that the river has significant whitebait fishery values which are not mentioned in the schedule)	High concentrations of nitrogen and phosphorus, filamentous green algae and uni-cellular algae blooms near Abel Tasman Rd High levels of disease-causing organisms (*E.coli*). Poor water clarity (relative to expected for a spring-fed waterway). Low concentrations of dissolved oxygen in summer	Impact investigation to determine sources of contamination. Provide assistance with riparian fencing and planting to shade out aquatic plants and improve habitat (especially in Powell Ck). Temporary fencing around wetter areas during wet periods. Provide advice about sustainable stock and nutrient management practices. Implementing best land management practices. Maintenance of flows Investigate ways to manage more overflows from the Takaka River into the Motupipi.	High
Winter Creek		Influenced by urban land uses High concentrations of nitrogen & phosphorus, poor water clarity. High concentrations of disease-causing organisms (*E.coli*).	Sanitary survey	High
Takaka River,	Cultural, spiritual and landscape values, Hydro power generation in upper Takaka R (recreation is not mentioned specifically, neither is the whitebait or trout fishery)	High concentrations of nitrogen Occasional high concentration of disease-causing organisms (*E.coli*).	Source identification survey for nitrogen	Low
Pohara Creek		High concentrations of disease-causing organisms (*E.coli*)	Sanitary survey (completed in 2007)	Low
Te Kakau Stream		Low concentrations of Dissolved Oxygen during summer	Riparian platning to reduce the excessive growth aquatic plants such as *Lagarosiphon major*	High
Onahau Stream		High nitrogen & phosphorus, poor water clarity. High concentrations of disease-causing organisms (*E.coli*).	Provide assistance with riparian fencing and planting. Provide advice about sustainable stock and nutrient management practices. Ensure compliance with rules.	Medium
Onekaka River		High concentrations of disease-causing organisms	Provide assistance with riparian fencing and planting.	Medium

River	Water Body Values identified so far in Schedules 30.1, 36.1A and B	Water Quality Issues	Possible Action Required	Possible Priority for Action
		(*E.coli*)..	Provide advice about sustainable stock and nutrient management practices. Ensure compliance with rules.	
James Cutting Creek		High concentrations of filamentous green algae. Poor water clarity. High levels of disease-causing organisms (*E.coli*).	Provide assistance with riparian fencing and planting. Provide advice about sustainable stock and nutrient management practices. Ensure compliance with rules.	Medium
Burton Ale Creek		Poor water clarity. High concentrations of disease-causing organisms (*E.coli*)	Provide assistance with riparian fencing and planting. Provide advice about sustainable stock and nutrient management practices. Ensure compliance with rules.	Medium
Aorere Catchment	Whitebait (regional significance)	High concentrations of disease-causing organisms (*E.coli*)	Implementation of best practice (eg as identified in farm plans)	High (current programme)
Waimea Catchment				
Reservoir Creek		Influenced by urban land uses High concentrations of nitrogen, and phosphorus. Poor water clarity. High concentrations of disease-causing organisms (*E.coli*). High water temperature	Advice and information for residents about effects of discharges to stormwater (eg from car washing & paint clean-up) on water quality Enforcement action for contaminant discharges Provide assistance with riparian fencing in the upper catchment and planting throughout the catchment. Implement best forestry practice in the upper catchment	High (current programme)
Jimmy-Lee Creek		Influenced by urban land uses Poor water clarity. High concentrations of disease-causing organisms (*E.coli*).	Advice and information for residents about effects of activities on water quality Enforcement action for contaminant discharges Provide assistance with riparian fencing and planting.	Medium
Wai-iti River	Trout spawning, Contribution to Waimea river and groundwater flows Quality to be managed for aquatic ecosystems, fisheries, fish spawning, contact recreation and irrigation	High concentrations of nitrogen	Source identification survey for nitrogen	Low - medium
Moutere				
Seaton Valley Stream		Poor water clarity. High concentrations of disease-causing organisms (*E.coli*).. High water temperatures.	Advice and information for residents about effects of activities on water quality Enforcement action for contaminant discharges. Provide assistance with riparian fencing and planting.	Low
Tasman Valley Stream		High concentrations of disease-causing organisms (*E.coli*). High water temperature.		

River	Water Body Values identified so far in Schedules 30.1, 36.1A and B	Water Quality Issues	Possible Action Required	Possible Priority for Action
Waiwhero Creek		High nitrogen and phosphorus, poor water clarity	Advice and information for residents about effects of activities on water quality Enforcement action for contaminant discharges. Provide assistance with riparian fencing and planting.	Low - medium
Motueka Catchment Streams				
Little Sydney Creek	Water quality management for irrigation	High concentrations of nitrogen and phosphorus, poor water clarity. High concentrations of disease-causing organisms (*E.coli*)	Sanitary survey. Enforcement action for contaminant discharges.	Medium?
Stanley Brook	Quality to be managed for aquatic ecosystems, fisheries, contact recreation and irrigation	High concentrations of nitrogen		Low
Motupiko River	Regionally significant native fish habitat, contact and non-contact recreation. Quality to be managed for aquatic ecosystems, fisheries, contact recreation and irrigation.	High concentrations of phosphorus		Low
Kikiwa Stream (tributary of Motupiko River)	Quality to be managed for aquatic ecosystems, fisheries	High concentrations of disease-causing organisms (*E.coli*)		High
Sherry River	Quality to be managed for aquatic ecosystems, fisheries, contact recreation and irrigation	High concentrations of disease-causing organisms (*E.coli*). High water temperature.	Landowner action already underway with assistance from Landcare Trust and SMF funding.	High (current pro
Buller Catchments				
Murchison Creek		High concentrations of disease-causing organisms (*E.coli*). Poor water clarity.	Sanitary Survey?	Low - medium