

**MANAWATU-WANGANUI
REGIONAL COUNCIL**

**OROUA CATCHMENT WATER
ALLOCATION AND RIVER FLOWS
REGIONAL PLAN (CHANGE 1)**

Cover Photograph

The Oroua River between Timona Park
and Nelson Street at Feilding. Taken by
Anne-Marie Rapley, 19 May 1997.

09 June 1997

ISBN No: 0-909021-73-2

Report Number: 97/EXT/272

Manawatu-Wanganui Regional Council

**Oroua Catchment Water Allocation
and River Flows Regional Plan (Change 1)**

This change to the Oroua Catchment Water Allocation and River Flows Regional Plan was prepared by the Manawatu-Wanganui Regional Council under Section 65 and the First Schedule to the Resource Management Act 1991.

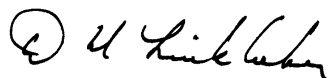
The Manawatu-Wanganui Regional Council approved the Oroua Catchment Water Allocation and River Flows Regional Plan (Change 1) on 20 May 1997 and it became operative on 09 June 1997.

DATED at Palmerston North this 27th day of May 1997.

SIGNED by the MANAWATU-WANGANUI REGIONAL COUNCIL

by the affixing of its

common seal in the presence of



D M Linklater
CHAIRMAN



E R Dempsey
GENERAL MANAGER

Manawatu-Wanganui Regional Council

Oroua Catchment Water Allocation and River Flows Regional Plan

This Regional Plan was prepared by the Manawatu-Wanganui Regional Council under Section 65 and the First Schedule to the Resource Management Act 1991.

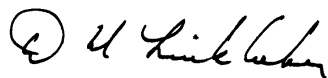
The Manawatu-Wanganui Regional Council approved the Oroua Catchment Water Allocation and River Flows Regional Plan on 13 December 1994 and it became operative on 20 January 1995.

DATED at Palmerston North this 13th day of December, 1994.

SIGNED by the MANAWATU-WANGANUI REGIONAL COUNCIL

by the affixing of its

common seal in the presence of



D M Linklater (Chairman)

R A Barrett (General Manager)

FOREWORD

If the rivers are to continue to provide for all the needs of our community, they must not be used at a rate that adversely affects aquatic ecosystems and the river environment. In recognition of this, the Manawatu-Wanganui Regional Council has prepared this Plan to provide for the sustainable management of surface water in the Oroua catchment.

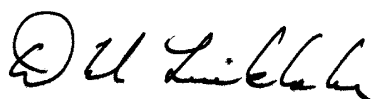
In the past, water abstraction and waste assimilation have had two major effects on the Oroua River. These are unnaturally low flows in the river during dry periods, and unacceptable water quality in the lower river at times of low flow.

Taking water and discharging to the river both have adverse impacts on the instream and amenity values of the river. Aquatic organisms are threatened by lowered habitat quality. Recreational users are faced with a river of unacceptable appearance, and with water quality that is a potential health hazard.

This Plan contributes to our vision for a safe and healthy environment and for improved environmental quality where the water in our streams and rivers is of good quality and quantity to meet the needs of people and aquatic ecosystems. It complements the Proposed Manawatu Catchment Water Quality Regional Plan, which was notified on 22 January, 1994.

Regional Plans affect the whole community. It is pleasing to note the contribution to the development of this Plan that has come from the community, both from people likely to be affected by it and other interested people.

Plan change 1, which was requested by Manawatu District Council, was notified on 26 October 1996. The Plan change allowed the adoption of new restriction threshold tables to OCWA Rule 7 and the adoption of new suspension thresholds to OCWA Rule 8. These new thresholds will apply when the Manawatu District Council water supply abstraction is located upstream of the Manawatu-Wanganui Regional Council flow recorder at Almadale.



D M Linklater
CHAIRMAN



E R Dempsey
GENERAL MANAGER

CONTENTS

1.	Introduction	1
2.	Statutory framework	3
3.	The need for a regional plan	4
4.	Integrated management of water quality and water abstractions in the catchment	5
5.	The Voluntary Water Management Agreement	6
6.	Transferring water permits	7
7.	The Oroua catchment	11
8.	Values associated with the catchment	13
9.	Catchment hydrology	15
10.	Groundwater: an alternative water resource	18
11.	Surface water demands	18
12.	Water allocation management in the Plan	21
13.	Issues	21
14.	Objectives	23
15.	Policies	24
16.	Explanation of Policies	26
17.	Methods to implement policies	31
	17.1 Regional Rules	31
	17.2 Other methods of implementing policies	44
18.	Reasons for adopting the objectives and policies	45

19.	Reasons for adopting methods of implementation	49
19.1	Adoption of regulatory methods	49
19.2	Adoption of rules about categories of activities	49
19.3	Division of the catchment	50
19.4	Adoption of OCWA Rule 7 (maximum rates of abstraction)	51
19.5	Adoptions of OCWA Rules 8 and 9 (minimum flows)	52
19.6	Adoptions of OCWA Rule 10 (transferring water permits)	52
19.7	Adoption of others methods	52
20.	Alternatives	53
20.1	General Education	53
20.2	Continuation of Voluntary Agreement	53
20.3	Reliance on Section 329 of the Act	54
20.4	Economic methods considered	54
21.	Environmental results anticipated	56
22.	Monitoring	57
22.1	User charges and monitoring costs	57
22.2	Environmental monitoring	57
23.	Review of the Plan	58
24.	Making an application	59
24.1	Resource Consents	59
24.2	Information required with resource consent applications for activities described in OCWA Rules 3 or 4	60
24.3	Information required with resource consent applications for activities described in OCWA Rule 5	61
24.4	Information required with resource consent applications for activities described in OCWA Rule 6	62
24.5	Information required with resource consent applications for Non-Complying Activities	62
24.6	Further Information	62
24.7	Assessment of applications for Discretionary Activities	62
24.8	Conditions on resource consents for Discretionary Activities	63

Annexes

Annex 1 : Consultation process undertaken for the preparation of this Plan

Annex 2 : Charges applicable to water permit holders

Annex 3 : Memorandum of Agreement for transferring water permits

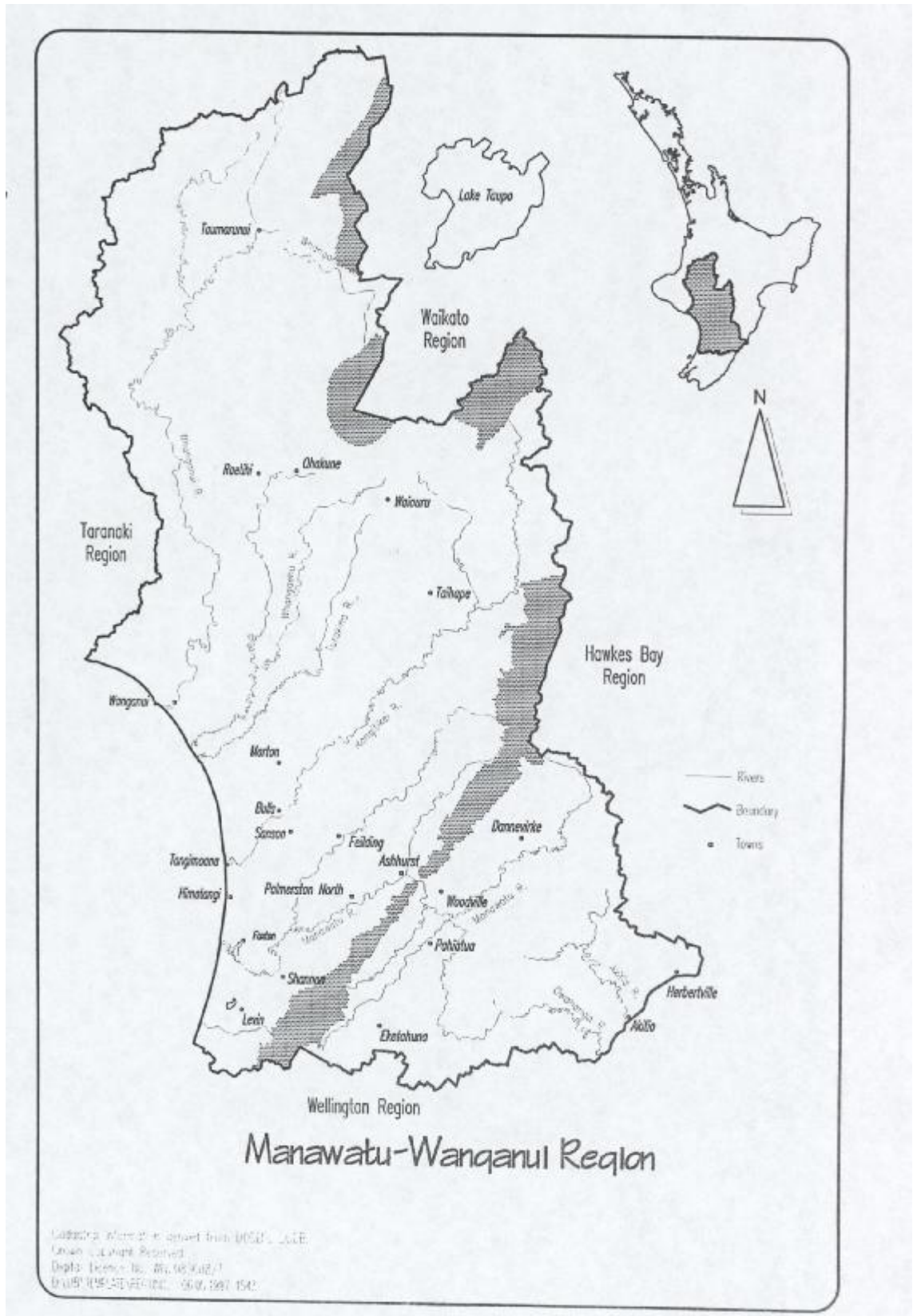
PART ONE BACKGROUND

1. Introduction

The Manawatu-Wanganui Region (see Figure 1) covers a land area of 22,179 square kilometres in the lower central North Island. Regional Council boundaries are based on river catchments, principally those of the Whanganui, Rangitikei and Manawatu Rivers. The many river systems, in particular, the Whanganui and Manawatu Rivers have always been important to the people of the Region and the land alongside the rivers was historically quite densely populated. European settlement of the Manawatu began in the mid-1800s and concentrated in the settlement of Palmerston North beside the Manawatu River, and in Wanganui. The Manawatu River is unique in New Zealand because it drains a catchment both east and west of the main divide. One of its tributaries is the Oroua River, which drains a catchment on the western side of the Ruahine Ranges. There is a very high demand for water abstractions from this river.

The Oroua Catchment Water Allocation and River Flows Regional Plan addresses the adverse environmental effects caused by low flows in the Oroua River catchment. The Plan is divided into six parts. Part One explains the need for a regional plan and its statutory framework; Part Two contains a description of the resource, including the demands placed on it; the issues of low flows as they affect the river environment are described in Part Three along with the water management procedures that have been adopted to address those issues. These include the methods, which are primarily regulatory, of implementing policies and the reasons for each of the methods chosen. Environmental monitoring of the resource and the review timetable for the Plan are described in Part Four, and the process and requirements for resource consent applications are given in Part Five.

The Plan builds upon an existing agreement between the Manawatu-Wanganui Regional Council and major water permit holders to limit abstractions at times of low flow. Major users of water include an abattoir, agricultural irrigators, and the Manawatu District Council for town and rural water supply. The Plan provides the necessary methods to apportion, restrict or suspend water abstractions, in a way that is predictable and equitable, when flows in the Oroua River and Kiwitea Stream reach thresholds which threaten the river environment.



The Plan provides for a minimum flow in the Oroua River and the Kiwitea Stream. Below these flows abstractions for the supply of water to Feilding and other rural towns in the catchment can continue, but at a restricted abstraction rate. The expected frequency of occurrence of the minimum flows is explained in Section 16 (Explanation of Policies). The Plan allows for the limited transfer of water permits between permit holders. This is to ensure that the Plan does not hamper efficient and equitable use of the water budget when water abstractions are restricted.

The Plan is based on hydrological measurements of the actual flow in the rivers. These flows are continuously monitored at the Council's recording sites at Spur Road, and at Almadale. The flow thresholds in the Plan for the Oroua River are different to those in the previous agreement because the Council's former recording site at Kawa Wool, which served both the Kiwitea Stream and the Oroua River, was destroyed during the July 1992 flood.

2. Statutory framework

Section 14 of the Resource Management Act (the Act) states that no person shall take, use, dam or divert any water unless it is expressly allowed by a rule in a regional plan or resource consent. However, a person is not restricted from taking or using water if it is required for:

- "(3) (b) ...
- (i) *an individual's reasonable domestic needs; or*
 - (ii) *the reasonable needs of an individual's animals for drinking water, - and the taking or use does not, or is not likely to, have an adverse effect on the environment; or ...*
 - (e) *The water is required to be taken or used for fire-fighting purposes."*

Therefore, where the taking or use of water for domestic needs or stock does, or is likely to, cause an adverse effect on the environment, that use or take will require a consent unless expressly allowed by a rule in the Plan. Rules are presented in Part Three of the Plan.

The maintenance of the quantity and quality of water in water bodies is a function of Regional Councils as defined in Section 30 of the Act. A Regional Council may prepare a regional plan in respect of any aspect of any function for which the Regional Council is responsible. A plan may apply to the whole or any part of a Region (see Section 65 of the Act). The Manawatu-Wanganui Regional Council (the Council) has prepared a regional plan for water allocation in the Oroua catchment because it considers this necessary to promote the sustainable management of this resource.

The Council is required to prepare regional plans in accordance with provisions in the Act. Of particular relevance are the Purpose and Principles, (Part II); functions of Regional Councils (Section 30); the duty to consider alternatives, assess benefits, costs etc. (Section 32); Sections 63 to 71, which deal specifically with regional plans; and any regulations.

The Act requires that this Plan is not inconsistent with an operative Regional Policy Statement or any other operative regional plan in the Manawatu-Wanganui Region. The Proposed Regional Policy Statement was notified on 11 September 1993, and is expected to be finalised by the end of 1994. The Proposed Manawatu Catchment Water Quality Regional Plan was notified on 22 January 1994.

In the preparation of this Plan, Section 66 of the Act requires the Council to have regard to: any management plans and strategies prepared under other Acts; any relevant planning document recognised by an iwi authority affected by the regional plan; any regulations relating to the conservation management of taiapure or fisheries; and any regulations made under the Act. There are currently no other plans or regulations as described in Section 66 with relevance to this Plan.

Section 35 of the Act imposes a duty on the Council to monitor the suitability and effectiveness of any plan for its region. The policies and methods adopted in this Plan will be assessed when it is reviewed (see section 23 of the Plan).

3. The need for a regional plan

Section 65 (3) of the Act provides that Regional Councils shall consider the desirability of preparing a regional plan whenever any of the following circumstances or considerations arise or are likely to arise:

(a) Any significant conflict between the use, development, or protection of natural and physical resources or the avoidance or mitigation of such conflict: or ...

(f) The restoration or enhancement of any natural and physical resources in a deteriorated state or the avoidance or mitigation of any such deterioration:.

Since 1990, the allocation of surface water from the Oroua catchment has been managed through a Voluntary Agreement (see below) which imposes restrictions on abstraction of water during dry periods. The Voluntary Agreement expired on 30 June 1994. Part of that agreement was that the Regional Council would prepare a regional plan to replace it.

There are two activities associated with adverse environmental effects on surface water in the Oroua catchment. These are water abstraction and waste discharge.

The significant environmental issues associated with these activities are identified in Part Three of the Plan. They include competing demands for surface water in the Oroua catchment and the degraded instream environment of the catchment. Although some management of these issues is possible by conditions on water permits, eleven of the eighteen existing water permits expired on 30 June, 1994. Two recently renewed permits contain the condition that conditions on the consent may be reviewed by requirements in this Plan. The details of water permits for the catchment are in Annex 1.

To restore the waters in the catchment, and resolve the conflict between the uses and protection of the rivers caused by water abstraction and waste discharge, it is necessary to address both water abstractions and waste discharges. Reduced water abstraction at times of low flows will reduce the occurrence of unnaturally low flows and the associated adverse environmental effects. Reduced waste loadings in the river, or improved quality of the waste discharged, especially at times of low flows, would improve the water quality.

4. Integrated management of water quality and water abstractions in the catchment

The adverse effects in the Oroua catchment caused by water abstraction and waste discharge are being addressed by separate but complementary regional plans. They are this Plan and the Proposed Manawatu Catchment Water Quality (MCWQ) Regional Plan, which was notified on 22 January, 1994.

The MCWQ Regional Plan provides for the management of water quality in the Manawatu catchment, which includes the Oroua catchment. The MCWQ Regional Plan has been prepared to address two significant environmental issues. These are degraded water quality and the protection of uses and values.

The MCWQ Regional Plan includes methods to improve water quality in the Manawatu catchment. These methods include rules relating to water quality and rules about discharges to water. The policies and methods adopted in these two Plans work together to avoid, remedy or mitigate the adverse effects of low flows, including unacceptable water quality, in the Oroua catchment. They achieve this by addressing distinct activities. This Plan includes methods to reduce the incidence of human-induced low flows in the catchment, and the associated adverse environmental effects. The MCWQ Regional Plan will ensure that water quality is of a suitable standard for contact recreation at low flows within 15 years.

5. The Voluntary Water Management Agreement

Recognising the need to restrict water abstraction during dry periods, the Regional Council released a discussion document, **Discussion Paper on the Management of Water in the Oroua River Catchment**, in June 1990. This document sought to promote dialogue on issues relating to water resource management within the Oroua catchment. The Council sought agreement between water right holders and interested parties for an acceptable minimum flow for the river that would as far as possible also cater for the needs of the community for water abstraction and waste assimilation. Following submissions and a series of public meetings the process concluded in the adoption of the Voluntary Water Management Agreement in June 1991 between the interested parties.

This agreement, which was negotiated under the previous Water and Soil Conservation Act, involved balancing a number of competing uses and demands. There was, and still is, comparatively little information about optimum flow levels for the rivers and streams in the catchment. Existing data does not include much record for the Oroua River in its natural state, that is, without abstractions. A range of methods and practical approaches to setting a minimum flow were investigated in the negotiation of the Voluntary Agreement. These included setting the minimum flow as: the annual seven day low flow; the flow which is exceeded 95% of the time; and a system based on the monthly mean flows.

The method most supported at the first public meeting was the Modified Montana Method¹ which describes a method to calculate the flow requirements as a function of monthly mean flows. Flows less than 29% of the monthly mean flow are considered unacceptable for instream uses. This method has been widely used to give 'rule-of-thumb' criteria, but needs validation under local conditions. The need for a core allocation was also strongly recommended by this meeting.

Restrictions in the Voluntary Agreement were made effective by conditions on water permits. These conditions provided for the irrigators as a group to abstract up to combined specified limits during summer months if flows in the Oroua River at the Kawa Wool site, which was downstream of the Kiwitea Stream confluence, fell to levels which equated to approximately 30% and 35% of mean monthly flows. A minimum core abstraction allocation of 140 litres per second from the Oroua River and Kiwitea Stream was allowed regardless of flow.

¹

Fraser, J C. (1978), *Water and Soil Miscellaneous Publication No 6. Suggestions for developing flow recommendations for instream uses of New Zealand Streams.*

During times of restriction all irrigators using water from the Oroua River and Kiwitea Stream were required to apportion the allocation of their allowable take, including the hours of abstraction, between themselves. The restrictions agreed to in the Voluntary Agreement are shown in Annex 1.

The Agreement also included requirements for the two major dischargers to upgrade their effluent treatment, and for the Manawatu District Council (MDC) to implement water conservation plans. In addition, the MDC's total permissible take for municipal water supply was progressively restricted as river flows decline.

There was insufficient data for Makino Stream flows to design a regime to apply to Makino Stream water abstractors. When sufficient data is available for the Makino Stream a flow restriction regime may be prepared for that stream also.

The Voluntary Agreement expired on 30 June, 1994. This Plan builds on that agreement and has been formulated under the statutory framework of the Resource Management Act, 1991. The thresholds in the Voluntary Agreement for restricting and apportioning abstractions during low flows remain the basis for the thresholds in this Plan. Restriction thresholds now have statutory effect in OCWA Rule 7. Further restrictions have been included in OCWA Rules 8 and 9 because the Council is satisfied that it will be necessary to suspend some abstractions from the rivers during low flow conditions.

6. Transferring water permits

Section 136 of the Act provides for transferability of water permits from site to site within a catchment. Under Section 136, transfer of permits must be expressly allowed by a regional plan or approved by the consent authority granting the permit. "Transfer" generally means conveying the consent as if it were a chattel in return for perhaps a financial consideration, or "trade" against another consent.

Under the resource consent process, an intending user, in conjunction with a current holder of a water permit who is willing to transfer or trade some or all of their water allocation, can apply to the Council to transfer part or all of the water permit to the intending user. The application is processed through the normal, publicly visible consent procedure. If the application is granted, the permit is transferred with any relevant conditions to the new user. The expiry date on the transferred permit remains the same. The two users may arrange compensation between themselves for the transfer.

Any transfer of water permits under this process would require an assessment of environmental effects likely to be caused by the transfer. This is because an abstractor such as the Manawatu District Council who takes water from the river and then returns it (as treated effluent), and an abstractor who takes water for crop irrigation resulting in a net loss of water from the catchment, cause different effects on the instream environment of the river.

Instead of using the resource consent process, transferring water permits or parts of water permits has been allowed by a rule in this Plan, (see OCWA Policy 8 and OCWA Rule 10). Terms and conditions of the transfer are included in the rule, including the required proviso that written notice of the transfer is sent to the Council, (see Section 136 (3) of the Act). Further conditions limiting the transfer are also included in the rule. Transfers in accordance with this rule can proceed without any further involvement by the Council. Establishing a "free-market" mechanism to the transfer of water permits gives greater flexibility to water permit holders and may give water a market value. Permits transferred in this way also include the expiry date included on the original consent.

Theoretically, in a market environment the permits will be taken up by the most efficient users. A high market price for the resource should dampen demand for highly consumptive, less efficient uses. With a fully allocated resource where potential demand may exceed availability, additional circumstances are also needed for a market in water permits to become established. Two important requirements are that there is sufficient knowledge of the resource availability and the environmental effects of its use, and that permits are enforceable and completely enforced.²

Knowledge about the resource availability is necessary so that the Council can set definite constraints on water allocations and on site to site transfers. Uncertainty about the security of water permit conditions can affect the value and tradability of the permit.

Conditions on permits must also be enforceable. Unless permit holders know that other users are complying with conditions on their permits, particularly restriction conditions, the permits will be of little value. This is particularly relevant in the Oroua catchment where abstractions are apportioned and restricted in low flow conditions.

2

Fenemor, Andrew (1993). *The Potential for Tradable Water Permits* Paper presented to the Second Annual AIC Water Resources Conference, Auckland, 2021 July, 1993.

Transferring permits between similar end users, such as the irrigators, allows a permit holder to transfer abstraction rights for short periods to another irrigator with different seasonal water needs. This gives greater flexibility to resource users, particularly during periods of water restrictions, and is more equitable because permit holders need not retain portions of the total water budget during periods of non-use. Enforcing any conditions on such short term transfers may increase the level of administrative cost incurred by the Council.

During the summer of 1993-94, which was after notification of this Plan, flows in the Oroua River and Kiwitea Stream reached the first restriction threshold for the first time since these thresholds were set under the Voluntary Agreement. This required the irrigators to roster their abstractions so that the total maximum abstraction rates set out in the Agreement were not exceeded. The rostering process agreed on was found to be inappropriate to some degree because not all permit holders were abstracting water during December and January.

It was noted that implementing a set restriction roster as part of conditions on consents could impose unnecessary hardship on users if they were required to restrict their take when the total abstraction budget was not being exceeded because other users were not abstracting. Adopting OCWA Rule 10 to allow for permits to be transferred between irrigators in whole or in part overcomes this inequity and allows a practical resolution for the abstractors' to meet their needs.

This Plan allows the operation of a limited water-market at times low flow. Transfers must be undertaken in accordance with a Memorandum of Agreement and the decision to transfer any un-needed portion of the water permit remains with the permit holder. Conditions and terms for transferring permits are included in OCWA Rule 10 of the Plan. A copy of the Memorandum of Agreement is in Annex 3.

PART TWO RESOURCE DESCRIPTION

7. The Oroua catchment

The Oroua River rises in the Ruahine Ranges east of Rangiwahia. The catchment is shown at Figure 2. The headwaters of the river are in rugged country in the Ruahine State Forest Park with main ridges having an altitude of over 1600 metres. The Oroua River catchment has a total area of approximately 900 square kilometres. Much of the catchment water yield comes from its mountainland watershed. While the Park only covers some 10% of the catchment, it is important to the area as a whole because some 80% of low flows in the river have been estimated to come from this small area. During low flow periods tributary flow is extremely limited. This is especially so in areas with underlying free draining soils where most of the streams are ephemeral and have a low water yield. These streams do not provide any significant low flow to the Oroua River.

The Oroua River flows through a fairly narrow catchment comprising steep to rolling countryside below the Ruahine State Forest Park, then passes through a series of old river terraces before flowing into the Manawatu River near Rangiotu. The western side of the lower catchment, south of Rongotea, is serviced by an extensive drainage scheme which discharges water to the Oroua River through floodgates. The major tributaries of the Oroua River are the Mangoira, Miangaroa, Kiwitea and Makino Streams.

Feilding (population 12,000), is the largest urban settlement in the catchment. More than 5,000 people live in a number of smaller rural settlements which service the intensive agricultural activities of the catchment. These towns include Rangiwahia, Apiti, Kimbolton, Kiwitea, Cheltenham, Awahuri, Rongotea, Glen Oroua and Rangiotu.

Land use in the catchment is predominantly agricultural. There are about 100 dairy farms located mostly in the lower part of the catchment. The upper and central portions of the catchment support many sheep farms. Potatoes are an important crop grown in the area; other crops include cereal, maize, peas and carrots.

Major abstraction of water from the Oroua catchment began in 1904 when a weir was built across the Oroua River between Barrows Road and Coulter Line so that water could be gravity fed via pipes to supply the Feilding township.

Increased settlement and more intensive farming since then increased water demands on sections of the river. By the 1980s summertime low flows in the lower river were causing concern to both consumptive and non-consumptive water users.

Demands placed on surface water in the Oroua catchment are considered to threaten instream values, (instream values are described in Section 8) during summer months when flows in the Oroua River and in the Kiwitea Stream are not sufficient to withstand the combined demands of water abstraction and waste assimilation. Management of this resource is necessary to provide for the efficient and equitable use of the resource.

8. Values associated with the catchment

Rivers have a variety of associated values. These include instream values such as fisheries and recreation, amenity and natural values, and cultural and spiritual values. All are potentially affected by aquatic habitat quality.

Ngati Kauwhata are tangata whenua within the Oroua catchment area and have mana whenua interests over the resources in the catchment. There are two marae in the area, the Kauwhata Marae and the Aorangi Marae. Activities which result in the degradation of aquatic habitat and decline of fisheries are generally incompatible with the cultural and spiritual values of the tangata whenua.

The tangata whenua are supportive of objectives and policies which actively protect their resource management interests in the catchment.

Instream habitat of the aquatic environment usually refers to the physical habitat - water velocity, depth, substrate, and perhaps cover. An important factor for trout habitats is that winter water temperatures do not exceed about 10.5°C. Summer water temperatures above 25°C are lethal to most fish, which will become stressed at temperatures over 20°C. In addition, the amount of "food and space" in a river is important for trout viability; sand substrate is very poor food producing habitat; and pastoral development may have an adverse impact on trout,³ possibly because pastoral development may increase levels of ammonia in the water which can affect the ability of fish to uptake oxygen through the gills.

3

Jowett, Ian. National Institute of Water and Atmospheric Research Ltd. 15 October, 1992. File reference EM 02 11. Comment supplied to the Council on the results of the instream habitat survey of the Oroua River.

Thus, while water temperature can be a critical factor for the instream habitat requirements for trout, adequate adult trout habitat at low flow and adequate food production under normal flow must be maintained. Other factors which influence trout abundance usually alter little with flow. There is anecdotal evidence that fish kills have been observed in the Oroua River at flows below 600-700 litres per second.

The Oroua River was one of the rivers included in the "100 rivers" survey undertaken by the former Fisheries Research Division of the Ministry of Agriculture and Fisheries in 1990⁴. The instream habitat in the Oroua River was surveyed north of Feilding where at mean annual flow the velocity and shallow depths are suitable for benthic invertebrates, but the lack of deep water limits the amount of brown trout habitat. The predominance of fine substrate limits both benthic invertebrates and brown trout. Consequently the instream habitat quality of the Oroua River in this reach does not rate very highly when compared to other rivers studied in New Zealand. Conditions in other sections of the river are, however, different, particularly upstream where the gradient is steeper and substrate coarser. With good riparian vegetation such conditions are likely to provide good trout habitat with the existing flow regime. Further studies of the instream habitat in the upper reaches of the Oroua catchment would be needed to assess their value to trout and other aquatic fauna, particularly native fauna.

Water temperature records for the Oroua River at the Kawa Wool site are available for the period 1985-1988. These records indicate that during the summer months (December to March) the daily maximum temperature exceeded 20°C about 30% of the time, with a median of 18°C. A comparison with temperature records from the summer of 1930-31 indicates that water temperatures were reasonably similar, although the historical records indicate single daily measurements while the recent data were obtained from a continuous record. Higher water temperatures occur when high air temperatures and sunny days coincide with low flow conditions. Shading of the river by vegetation also has impact on the temperature variations. A specific study of temperature variation relationships with flows has not been undertaken in the Oroua River.

There is high recreational use of the upper portion of the catchment in Ruahine State Forest Park by trampers and hunters. The Park contains regenerating forest with pockets of heavy podocarp in the river valley, red beech on the mountain ridges and sub-alpine forest on the upper ridges. It is the least altered area of the catchment. The Mangoirā tributary, which rises in the Park, flows through a scenic river valley before joining the Oroua River east of

4

Close, M E; Davies-Colley, R J. (1990). Baseflow Water Chemistry in New Zealand Rivers. 1. Characterisation. *NZ Journal of Marine and Freshwater Research* 24:319-341.

Mangarimu. Some small tributaries of the Mangoira and the Kiwitea Streams have their source in the Rangiwahia Scenic Reserve, and the Apiti Scenic Reserve is situated adjacent to the Oroua River just upstream of the Mangoira confluence. Most of this area has high landscape value, and many of the tributaries to the Oroua in this part of the catchment are used for swimming and fishing. Much of the Oroua catchment upstream of Apiti is therefore considered to have good recreational and amenity values that are worth maintaining. In the Proposed Regional Policy Statement the Regional Council has identified the Oroua River Valley upstream of Kiwitea as having outstanding natural features.

The Oroua catchment contains self-sustaining stocks of brown trout. Canoeing in the Oroua River is possible and may increase in popularity. Access points to the river near Feilding provide popular visiting sites for recreational users with picnicking areas valued for their safety and proximity to Feilding and Palmerston North.

The importance of these values relative to each other can be highly subjective. The Council has had regard to all values of the Oroua catchment in promoting the sustainable management of its water resources. Critical indicators of adverse effects on the catchment caused by water abstraction include loss of fish habitat at low flows and any incidents of fish kills caused by low flows. Monitoring the catchment for adverse effects is described in Section 22.2 of the Plan.

9. Catchment hydrology

Hydrological data has been collected for the Oroua River at Almadale between 1954 and 1979 and at Kawa Wool between 1967 and 1992. Kawa Wool, the major site, was situated approximately 500 metres downstream of Aorangi Road Bridge at Feilding. It was washed away in a flood in July 1992. A new site has now been established at Almadale, which is upstream of the confluence with the Kiwitea Stream and upstream of the major abstractions from the river. The whole record of historical hydrological data from the old Almadale site has not yet been processed but a flow record has been determined for the new Almadale site using historical data and correlation techniques (see Table 1).

The synthetic flow record for the Oroua River at Almadale was calculated from the continuous flow record for the Oroua River at the Kawa Wool recorder station. Flow measurements performed at Almadale over the period 1973 to 1989 were correlated with the corresponding flows at the Kawa Wool site 5.25 hours later, to allow for time of travel.

A regression equation (with a correlation coefficient of 98.6%) was then obtained and applied to the Kawa Wool continuous flow data. This yielded the synthetic record for the period 1968-88 at the Almadale site. The record is called synthetic because it is based on calculated flow levels rather than actual flow levels.

Data has been collected for the Kiwitea Stream at Spur Road since 1977. In December 1991 a recording site was established on the Makino Stream at Boness Road. Insufficient data has been collected from this latter site to provide useful records for the Makino Stream.

Table 1 : Summary of Flow Data (in litres/second) for the Oroua River and Kiwitea Stream.

Note: Oroua River flows, particularly low flows, are influenced by water abstractions, however, the historical extent of the abstractions is unknown. Almadale site flows are derived from synthetic data and are the best estimate of actual flows at Almadale.

	Oroua River (Almadale site)	Kiwitea Stream (Spur Road site)
Catchment area (km ²)	293	246
Map reference	T23:366 113	T23:325 101
Period of record	1968-88	1977-92
Minimum expected flow (instantaneous)	l/s	l/s
- Annual	1010	90
- Once in ten years	820	52
Expected 1 day low flow		
- Annual	1030	94
- Once in ten years	834	57
Expected 7 day low flow		
- Annual	1142	120
- Once in five years	1010	95
- Once in ten years	940	75
Mean flows		
- Annual	9058	2039
- Autumn (Mar-May)	6700	1303
- Winter (Jun-Aug)	13784	3667
- Spring (Sep-Nov)	11145	2617
- Summer (Dec-Feb)	4566	680
Flow duration (percentage of time flow equals or exceeds)		
- half median flow	2749	429
- 50% (ie. median flow)	5498	858
- 80%	2559	291
- 90%	1829	192
- 95%	1466	146
- 96%	1381	137
- 98%	1209	92
- 99%	1079	65

10. Groundwater: an alternative water resource

Groundwater resources in the Oroua catchment are limited and in most areas cannot be used as an alternative to surface water. There is little scope for using shallow groundwater resources in the catchment because the water is sometimes contaminated with iron and manganese making it unsuitable for uses such as water supply. In the Feilding area, high quality groundwater is found in aquifers at least 60 metres deep. Wells that tap aquifers at this depth are expensive to drill. In some other areas of the catchment there is no deep aquifer resource available for exploitation. The geology of the catchment above Feilding enables surface water flow to enter the groundwater system; using this groundwater is therefore likely to affect surface water flow.

Some consents (formerly known as water rights) for groundwater abstraction in the Oroua catchment are tapping this shallow groundwater. The South Canterbury Catchment Board adopted a policy in the Opihi River Water Management Plan in 1984 which exempted only wells situated more than 400 metres from the main river channel or more than 50 metres from any minor tributary from irrigation restrictions. This policy was introduced in recognition of the fact that many shallow bores in the Opihi catchment tap surface water resources and abstractions affected flows in the associated river reaches. A similar policy (OCWA Policy 5) has been adopted for the Oroua catchment. Abstractions that are hydraulically connected to the Oroua surface waters, and which affect the flows of the associated river reaches, are treated in the same manner as surface abstractions.

11. Surface water demands

There is a high demand to abstract water from the Oroua catchment. This has to be met from surface water resources because of the poor quality and inadequacy of groundwater resources. User groups include those taking for stock and domestic use, town and rural water supplies, crop and pasture irrigation and industrial use. Most surface water abstraction is concentrated in the middle reaches of the catchment between Almadale and Awahuri. The locations of major abstractions (those permitted to take over 500 m³/day) are shown at Figure 2.

Aggregate quantities of surface water (in cubic metres per day) that are permitted to be taken for various uses under existing resource consents are shown in Table 2. Abstractors may take quantities of water up to a specified limit, and at a rate limited by conditions on their water permit. Many abstractions are taken during only part of the day.

Manawatu District Council's Feilding water supply provides water for domestic users and supplies substantial quantities for industry within Feilding, including Weddel Crown and Watties. Though subject to high seasonal variations, industrial requirements can represent up to a quarter of Feilding's total water use, with Watties requiring up to 2000 m³/day during the processing season.

Considerable progress in reducing the quantity of surface water taken from the catchment and the amount of waste discharged into the river has been made possible by measures undertaken by the Manawatu District Council and Manawatu Beef Packers.

Water conservation mechanisms being implemented and investigated by the Manawatu District Council to minimise potential water shortage problems include a water conservation campaign which targets domestic users, and a change in abstraction site. The campaign involves general educational programmes, free leaky tap fixing, and restrictions on domestic irrigation during dry periods.

The new water intake downstream of Almadale for the Feilding municipal supply should provide a significant reduction in water wastage. The MDC believe that the water reticulation system from Barrows Road wasted large quantities of water through leaks caused by corrosion and other damage to the pipes. Furthermore, that system did not provide for utilisation of the existing storage facilities. The new intake location will help overcome these problems.

The MDC is also investigating other water sources to supplement their water supplies. Current investigations include a bore at the Kiwitea Stream Road Bridge capable of supplying 1500 cubic metres per day. However, this bore site is close to the stream channel and may affect instream flows. Another option is a bore at Root Street capable of providing 2000 cubic metres per day, to be used as an emergency supply. Water from this bore is very hard and considerable treatment or blending with other water supplies is needed.

In addition to high demands on the surface water for water supply, the Oroua River is also used to assimilate up to 8640 m³/day of treated waste from the sewage treatment plant at Feilding. This plant handles a large quantity of trade waste from its urban based industries, so waste discharged from the plant fluctuates according to seasonal processing.

Restructuring the former Affco freezing works into a smaller, more modern meat processing plant (now Manawatu Beef Packers) has more than halved their demand on water from the Oroua River. Discharge of waste from the plant to the river has also been much decreased, and options to further reduce their waste burden on the river are being investigated.

Future demands for water as a result of domestic and industrial growth in Feilding is uncertain. Population growth has been estimated by the MDC planning department at about 4.5% every five years. This growth is expected to have an associated increase of approximately 75 dwellings per annum (the average building rate for the last 18 years).

Long-term continuity of supply for existing users cannot be guaranteed beyond existing consent periods or the life of this Plan.

Table 2 : Abstractions allowed under existing resource consents, (August, 1993).

	m ³ /day	l/s (if taken continuously)
Oroua River		
Feilding Water Supply (MDC)	9,000	104
Kiwitea Rural Water Supply (MDC)	2,592	30
Oroua Rural Water Supply (MDC)	1,008	12
Manawatu Beef Packers	11,074	128
Irrigators	9,912	115
Kiwitea Stream		
Waituna West Water Supply (MDC)	778	9
Irrigators	1,823	21
Makino and Mangaone West Streams		
Irrigators	3,295	38

PART THREE

WATER ALLOCATION MANAGEMENT

12. Water allocation management in the Plan

This Part of the Plan sets out the objectives, policies, methods of policy implementation (including rules), and the principal reasons for adopting the policies and methods of implementation, for activities affecting surface water in the Oroua catchment. These are designed to control actual or potential effects of the activities.

13. Issues

In the Oroua catchment the following significant issues have been identified.

Issue 1: Adverse effects on river and stream environments caused by low flows in rivers during summer dry periods

During most of the year water abstractions from the Oroua catchment have no adverse impact on the river environment. Flows are sufficiently high to withstand some decrease without any adverse effects. Also, during the winter months there is rarely any need for abstraction for irrigation. However, human induced low flows occur in the Oroua River and the Kiwitea Stream during summer months. Until recently, there was no system implemented to allow for any co-ordination between the resource consent holders regarding the times that they abstracted water, or for any agreed reduction in amounts of water taken by them in summer low flow situations. Consequently, consent holders could continue to take water up to their water permit limit even during summer dry periods, increasing the rate at which flow levels fell in parts of the Oroua River and Kiwitea Stream. These low flows have adverse effects on the environment of the rivers.

Adverse effects include reduction in the area of habitat available to aquatic life, changes in the nature of the stream (variations in the combination of pools and riffles), changes in the substrate, changes in competition or predation opportunities and availability of cover, decreases in flow velocity or flow depth, and increases in water temperature with resultant decreases in the concentration of dissolved oxygen in the water.

Issue 2: Unacceptable water quality in the Oroua River downstream of Feilding at times of low flow

Adverse effects on water quality are caused by a number of activities. These include large 'point source' discharges to waterways in the catchment, cumulative effects of incremental low impact point source discharges, and non-point source pollution (for example, rural runoff). Water enriched by effluent discharges encourages undesirable biological growths such as sewage fungus and filamentous algae. The growth rate of bacteria and/or fungi that can form sewage fungus changes with the season and the state of the river flow. Slower growth in winter is also caused by physical factors (lower temperatures or scour by floods). Water quality data for the Oroua catchment indicates that above major point sources in the rivers nitrate concentrations are higher during winter than during summer, particularly at times of increased flows. This indicates that rural runoff causes greater effect on water quality in times of high flow than at times of low flow. Point source discharges to the Oroua River cause serious water quality degradation at times of summer low flow (when there is also more light and higher temperatures); rural runoff probably has minimal effect on water quality at these times.

Water quality degradation from large point source discharges at Feilding presents a serious threat to instream uses of the river and compromises the ability of communities to take advantage of the water resource. Some discharges are inconsistent with Maori cultural values and compromise recreational use of the river. While this is essentially a water quality problem which is addressed in the Manawatu Catchment Water Quality Regional Plan, a reduction in the incidence of human induced low flows will assist the major dischargers to avoid adverse effects in the receiving water.

Issue 3: Management of competing demands for surface water resources

There are currently 21 abstractions by 17 permit holders who may take up to a total of over 40,000 cubic metres of surface water from the Oroua catchment per day. Some of these abstractors require a reasonably constant supply at all times, for example, the Manawatu District Council's abstractions for water supply. Others, like the irrigators, only need water to be available when their crops require it. If all abstractors were to take water at the same time during a summer low flow situation the rivers could not sustain the decrease in flow without noticeable effects.

Present demand for water from the Oroua River near Feilding is high. It is doubtful that any future applicant for a water permit for a large amount of water could be accommodated. Present holders of water permits have an invested interest in their rights for water abstraction which are capitalised to some extent in their property values. However, existing users should not have an exclusive right to the resource that adversely affects the instream environment. There also needs to be a system or process in place so that new users can be accommodated. The need for the sustainable management of this resource is therefore essential to manage existing uses and to provide for possible new users. The likelihood of any future applications for water permits being granted would be enhanced by a decrease in current use. This can be achieved by current abstractors reducing or eliminating any wastage, and further decreasing their need for water by ensuring that all water abstracted is used efficiently.

Applications for abstractions from shallow bores which draw on the surface water resources but which are classified as groundwater takes are currently assessed under different criteria to surface water abstraction applications. They are therefore not included in the present surface water management system although they almost certainly affect surface flows.

The other competing demand, particularly for water in the Oroua River at Feilding, is for the assimilation of effluent. Where practicable, flows in the river should be maintained at a level that is sufficient to help enable the assimilation of effluent. Primary emphasis, however, should be on the improvement of effluent quality.

14. Objectives

OCWA Objective 1

To maintain flows in rivers and streams of the Oroua catchment at a level that safeguards their life supporting capacity and minimises any adverse effects on the environment.

OCWA Objective 2

To avoid, remedy or mitigate the adverse effects of low flows (including unacceptable water quality) in the Oroua catchment.

OCWA Objective 3

To achieve efficient and equitable use of surface water in the Oroua catchment.

15. Policies

OCWA Policy 1 Provision of minimum flows and/or maximum rates of use

To provide minimum river flows and/or maximum rates of use to safeguard the life-supporting capacity of the Oroua River and its tributaries.

OCWA Policy 2 Integration with Water Quality

To provide for the avoidance, remediation or mitigation of the adverse effects of low flows (including the improvement of water quality during times of low flows) in the Kiwitea Stream and the Oroua River.⁵

OCWA Policy 3 Efficient and Equitable Use

To promote the efficient and equitable use of surface water in the Oroua catchment.

OCWA Policy 4 Notification of Discretionary Activities

To notify Discretionary Activities identified in this Plan, unless the applicant can demonstrate that the effects on the environment are minor and the applicant has obtained written approval from all persons directly affected.

OCWA Policy 5 Defining Surface Water

To include groundwater takes that may affect surface water flow as surface water takes.

OCWA Policy 6 Rostering abstractions during low flows

- 6.1 To inform all affected permit holders as flows approach low flow thresholds specified in OCWA Rule 7 of this Plan.
- 6.2 To impose conditions on water permits held by persons holding water permits as at 21 April, 1994, apportioning and restricting abstractions for irrigation so that the total combined abstraction rate for abstractions under irrigation permits is not greater than the thresholds specified in Tables 3, 3a^x or 4 in OCWA Rule 7, according to the following criteria:

⁵ Refer to the Manawatu Catchment Water Quality Regional Plan.

^x Amended by change 1

- a. the amount historically granted to an applicant;
 - b. the amount sought by an applicant;
 - c. an assessment of the needs of an applicant in terms of land area, the type of crop being irrigated and the investment made by the irrigator in irrigation equipment or a particular crop;
 - d. the principles of equity; and
 - e. the efficiency of the irrigation system.
- 6.3 To impose conditions on water permits for irrigation by persons not holding water permits as at 21 April, 1994, requiring suspension of abstractions when flows are at or below thresholds specified in OCWA Rule 7 unless the abstraction is allowed by a permit transferred in accordance with this Plan.
- 6.4 To review abstraction rostering conditions on water permits after five years, if necessary, after the review of the minimum flow regime.
- 6.5 To review the conditions on water permits which expire after 30 June, 1994 pursuant to Section 128 of the Act, so as to provide for maximum rates of use during periods of low flow.

OCWA Policy 7 Defining minimum flows

- 7.1 To suspend abstractions from the Oroua River when flows fall to 1,000 litres per second when the MDC water supply abstraction is downstream of the MWRC flow recorder, and when flows fall to 915 litres per second when the MDC water supply abstraction is upstream of the MWRC flow recorder at Almadale^x, unless the abstraction is for the purpose of supplying water to Feilding, the Oroua rural or the Kiwitea rural water supply areas, or unless the abstraction is by Manawatu Beef Packers and is equalled or exceeded by their discharge of cooling water.
- 7.2 To suspend abstractions from the Kiwitea Stream when flows fall to 95 litres per second at Spur Road, unless the abstraction is for the purpose of supplying water to the Waituna West rural water supply area.
- 7.3 To review the conditions on water permits which expire after 30 June, 1994 pursuant to Section 128 of the Act, and provide for suspension of abstractions when flows are at or below minimum flows specified in this Plan.

^x Amended by change 1

- 7.4 To review the low flow regime implemented in OCWA Rules 7, 8 and 9 of this Plan after five years.

OCWA Policy 8 Transferring Water Permits

To allow the whole or any part of the interest in water permits to be transferred during periods of low flow, provided:

- a. the end use of the water abstracted is irrigation; and
- b. the sites for the abstraction are both within the same catchment; and
- c. the Council is informed in advance of the transfer.

OCWA Policy 9 Water Harvesting

To promote abstractions from the Oroua River for the purposes of storage when flows are in excess of 3,000 litres/second, provided the abstraction is in accordance with a water permit.

16. Explanation of Policies

All policies in this Plan have been adopted to address the issues and achieve the objectives described above. When considering an application for a water permit pertaining to the Oroua catchment, the Council must have regard to any relevant objectives, policies or rules in this Plan (see Section 104(4) of the Act). The policies in this Plan therefore constrain and guide the Council on the appropriate management of surface water in the Oroua catchment.

OCWA Policy 1

Regional Councils may control the taking of water from rivers, by methods including setting minimum flows or the rate of change of flows, for the purpose of giving effect to the Act in their region. The term "minimum flows" is used to define a flow level below which any further decline is caused only by natural circumstances and is not adversely affected by abstractions. In low flow conditions water abstractions need to be managed so that the rate at which flows decline towards this minimum flow is not significantly accelerated above the natural level of decline. This policy provides direction for the management of river flows in the Oroua catchment in low flow conditions.

OCWA Policy 2

Avoiding and mitigating the effects of discharges to water in the Oroua catchment is addressed in the Manawatu Catchment Water Quality Regional Plan. This policy recognises that flows in the rivers should be maintained at a level that is sufficient to help enable the assimilation of treated effluent. Primary emphasis, however, should be on the improvement of effluent quality.

OCWA Policy 3

Efficient use of surface water in the Oroua catchment refers to the efficiency of the systems, including irrigation systems and reticulation systems, for the proposed water use. Promoting efficient and equitable use includes promoting education and methods which encourage or require water conservation measures to be adopted by all abstractors during times of low flow. Promoting efficient and equitable use also takes into account the need to transfer water permits between irrigators when abstractions are required to be restricted during periods of low flow. This will maximise use of the total water budget for the catchment in a way which is fair and non-wasteful.

OCWA Policy 4

Under Section 94 (2) of the Act the Council has the discretion to accept applications as non-notified, provided the adverse effects on the environment are minor. Written approval must be obtained from persons who may be adversely affected, and in the case of these activities, this will include agencies such as the Wellington Fish and Game Council and the Department of Conservation.

OCWA Policy 5

The geology of the Oroua catchment indicates that bores of a depth less than 20 metres which are also within 500 metres of the river channel are likely to be drawing from surface water resources. The Council has therefore defined some groundwater abstractions as surface water takes. However, the Council recognises that ideally this classification would be site specific and any decision on the type of take would be dependent on criteria such as the shortest distance to the river, the water level in the bore compared with the water level in the adjoining river reach, the age of the water, and the surface and subsurface geology. It may also be necessary to undertake hydraulic and water quality testing of bores (in addition to normal bore testing procedures) to establish which water resource is being exploited.

OCWA Policy 6

This Policy provides guidance for matters to be considered when establishing a roster for abstractions during times of low flow and indicates that rules relating to maximum rates of use will affect the exercise of existing consents. The abstraction roster for the use of the low flow water budgets set out in OCWA Rule 7 will be determined during the consent process.

These water budgets of 120 litres per second for the Oroua River and 20 litres per second for the Kiwitea Stream will be apportioned among all existing holders of water permits for irrigation in a way which promotes the efficient and equitable use of surface water in the catchment. Low flow abstraction allocations set in the roster may be transferred in accordance with OCWA Rule 10.

Almost all water permits in the catchment have a common expiry date enabling a roster to be defined for those abstractors as a group during the consent process. Permits with a later expiry date will need to be included in the roster and therefore need to have the conditions on their permit reviewed. Clause 6.5 provides for a review of the conditions in relevant resource consents in accordance with Section 128 (1)(b) of the Act to enable abstraction rates set in OCWA Rule 7 to be met. Consent conditions can then be imposed on those water permits to apportion and restrict abstraction rates and times during low flows. The Council cannot anticipate permit applications and therefore cannot specify a roster for these times and rates in the Plan. The Plan only sets the maximum low flow abstraction rate which is then available for allocation between consent holders.

OCWA Policy 7

This Policy directs the Council to suspend abstractions when flows reach specified thresholds. This will be achieved by conditions on water permits.

With specified exceptions, the Council intends all water permit holders in the catchment to suspend abstractions at the specified thresholds. As directed by this Policy, rules relating to minimum flow levels will affect the exercise of existing consents. Section 68 (7) of the Act provides that a regional plan may state whether a rule relating to minimum levels or rates of use of water will affect the exercise of existing resource consents which contravene the rule. Section 128 (1)(b) of the Act provides that a consent authority may review the conditions of a resource consent to enable flow levels or abstraction rates set in a rule to be met.

The one in five year expected seven day mean low flow is estimated to be 1,010 litres per second at Almadale. This represents the average flow during a seven day period that would be expected to occur, on average, once every five years. The minimum instantaneous low flow expected annually is also 1,010 litres per second. The flow recorded at Almadale is downstream of the Manawatu District Council's abstraction of about 90 litres per second for the Feilding water supply. The Manawatu District Council has constructed a new water intake immediately downstream of the Almadale recording station, and it is intended that this will replace the Barrows Road water intake in due course.

Some operational problems have been experienced with the new intake with the result that, for a period of time, one or other of the intakes may be used (but not both at the same time). When the intake is below the Almadale recording station, the one in five year seven day mean low flow at Almadale will be about 1,100 litres per second. ^x Flow records, synthesised by the Council, indicate that flows were likely to have fallen below 1,100 litres per second on nine occasions between 1967 and 1989, four times in February, four times in March, and once in April. On eight of those occasions the flow probably further declined to less than 1,000 litres per second.

All abstractors will be required to restrict their takes when the flow at Almadale reaches 1,100 litres per second (or 1,015 litres per second when the Manawatu District Council water supply abstraction for Feilding is sited upstream of Almadale recording station)^x resulting in a flow downstream of the abstractions of 947 litres per second. At 1,000 litres per second (or 915 litres per second when the Manawatu District Council water supply abstraction for Feilding is sited upstream of Almadale recording station)^x when the suspension of some abstractions takes effect, flows downstream of the abstractions will fall to 897 litres per second.

Implementing a minimum flow on the river will require some irrigators to adopt contingency measures such as on-farm water storage. This will be encouraged under OCWA Policy 9 (water harvesting).

Consent conditions will be imposed on water permits to restrict or suspend abstractions at the specified minimum flows. The restrictions apply as soon as the flow falls to the specified thresholds, and cease to apply as soon as the flow goes above the thresholds.

OCWA Policy 8

This policy enables all or part of water permit allocations to be transferred among a particular user group, (the irrigators). Water permits may only be transferred within catchments, not between catchments. For example, a permit to abstract water from the Kiwitea Stream may only be transferred to another abstractor from the Kiwitea Stream. The abstractor to whom the permit is transferred need not already have any water permit for abstraction but will be restricted to using the transferred permit for the purpose of irrigation. Transferable permits are explained in Section 6 of the Plan. The transfer regime is entirely voluntary. It provides a formal mechanism for irrigators to endeavour to make up low flow shortfalls by obtaining allocations from others who may not need all of their allocation.

^x Amended by change 1

OCWA Policy 9

Flows in the Oroua River are in excess of 3,000 l/s during more than 60% of the year. Users may wish to make abstractions from the river to store in a constructed facility as a contingency for times of water shortage. This policy directs the Council to promote abstractions which are for the purpose of water storage to be undertaken well before flows approach restriction thresholds.

17. Methods to implement policies

17.1 Regional Rules

Rules 2-6 are presented in summary form in Section 24 of the Plan. The catchment and sub-catchment boundaries are defined in Figure 2 of the Plan. All rules relate to surface water in the catchment.

OCWA Rule 1 Definition of surface water

1.1 For the purpose of the following rules, the term "surface water" shall include:

1.1.1 all water flowing in rivers, and

1.1.2 all water from bores which are within 500 metres of a river and which are less than 20 metres deep except where the water is drawn from a confined aquifer or the abstraction has no effect on river flows.

OCWA Rule 2 Minor abstractions permitted

Any abstraction from the Oroua catchment (including the Kiwitea sub-catchment) of less than 15 cubic metres of surface water per day is a **Permitted Activity** provided that where there is, or is intended to be, more than one abstraction point serving the land described in a particular certificate of title, the total existing and proposed abstractions serving the land described in that title do not exceed 15 cubic metres per day.

Explanation of OCWA Rule 2

The conditions in this Rule are to ensure that small abstractions with very minor effects on the river are permitted without the need for a resource consent while removing the possibility for any person to set up multiple abstractions for a combined take which could have adverse effects on the river. If the total existing and proposed abstractions serving the land described in that title exceed 15 cubic metres per day a consent shall be required in accordance with OCWA Rules 3, 4, 5 or 6.

OCWA Rule 3 Controlled Activities in the Kiwitea catchment

3.1 Any abstraction of surface water from the Kiwitea sub-catchment which is:

- 3.1.1 between 15 and 50 cubic metres per day; and
- 3.1.2 less than 10 cubic metres per hour

is a **Controlled Activity**.

3.2 The Council has reserved control over the following matters in relation to abstractions granted under this rule:

- 3.2.1 monitoring and recording abstraction quantities;
- 3.2.2 provision of information to the Council at specified times;
- 3.2.3 compliance with monitoring conditions at the expense of the permit holder;
- 3.2.4 rostering abstraction restrictions during low flows (including abstraction rates or volumes by time and by month) so as to ensure that the maximum abstraction rates in OCWA Rule 7 are not exceeded);
- 3.2.5 allocation of low flow water budgets in accordance with OCWA Policy 6;
- 3.2.6 suspension of abstraction according to OCWA Rules 7 and 9;
- 3.2.7 review of conditions on existing permits relating to maximum rates of use specified in OCWA Rule 7 and compliance with OCWA Rule 9; and
- 3.2.8 the payment of administrative charges.

3.3 The consent holder shall comply with the minimum flows set out in OCWA Rule 9.

3.4 The Council will consider consent applications for this activity without notification or the need to obtain the written approval of affected persons in accordance with Section 94 (1)(b) of the Act.

3.5 Information required for resource consent applications for this activity is in Section 24.2.

OCWA Rule 4 Controlled Activities in the Oroua Catchment

- 4.1 Any abstraction of surface water from the Oroua catchment downstream of the Mangoirā confluence (but excluding the Kiwitea sub-catchment) which is:
- 4.1.1 between 15 and 50 cubic metres per day; and
 - 4.1.2 less than 20 cubic metres per hour
- is a **Controlled Activity**.
- 4.2 The Council has reserved control over the following matters in relation to abstractions granted under this rule:
- 4.2.1 monitoring and recording abstraction quantities;
 - 4.2.2 provision of information to the Council at specified times;
 - 4.2.3 compliance with monitoring conditions the expense of the permit holder;
 - 4.2.4 rostering abstraction restrictions during low flows (including abstraction rates or volumes by time and by month) so as to ensure that the maximum abstraction rates in OCWA Rule 7 are not exceeded);
 - 4.2.5 allocation of low flow water budgets in accordance with OCWA Policy 6;
 - 4.2.6 suspension of abstraction according to OCWA Rules 7 and 8;
 - 4.2.7 review of conditions on existing permits relating to maximum rates of use specified in OCWA Rule 7 and compliance with OCWA Rule 8; and
 - 4.2.8 the payment of administrative charges.
- 4.3 The consent holder shall comply with the minimum flows set out in OCWA Rule 8.
- 4.4 The Council will consider consent applications for this activity without notification or the need to obtain the written approval of affected persons in accordance with Section 94 (1)(b) of the Act.
- 4.5 Information required with resource consent applications for this activity is in Section 24.2.

OCWA Rule 5 Replacement of existing permits

5.1 The taking of surface water by any person who had a consent at 21 April 1994 and is applying for a new consent to take water up to the same daily quantity

5.1.1 from the Kiwitea sub-catchment and is more than 10 cubic metres per hour; or

5.1.2 from the Oroua catchment downstream of the Mangoira confluence and is more than 20 cubic metres per hour; or

5.1.3 from the Kiwitea sub-catchment or the Oroua catchment downstream of the Mangoira confluence and is more than 50 cubic metres per day

is a **Discretionary Activity**.

5.2 The Council has restricted its discretion to the following matters:

5.2.1 monitoring and recording abstraction quantities;

5.2.2 provision of information to the Council at specified times;

5.2.3 compliance with monitoring conditions at the expense of the permit holder;

5.2.4 the payment of administrative charges;

5.2.5 rostering abstraction restrictions during low flows (including abstraction rates or volumes by time and by month) so as to ensure that the maximum abstraction rates in OCWA Rule 7 are not exceeded);

5.2.6 allocation of low flow water budgets in accordance with OCWA Policy 6;

5.2.7 suspension of abstraction according to OCWA Rules 8 or 9;

5.2.8 review of conditions on existing permits relating to maximum rates of use specified in OCWA Rule 7 and compliance with OCWA Rules 8 or 9;

5.2.9 the efficiency of the system, including irrigation system or reticulation system, for the proposed water use;

5.2.10 the availability of alternative sources of water and the appropriateness or practicality of using those; and

5.2.11 the reasonable needs of the user.

5.3 Information required for resource consent applications for this activity is in Section 24.3.

OCWA Rule 6 Discretionary Activities

- 6.1 The taking of surface water by any person who did not have any existing consent on 21 April, 1994 or of more water by any person who held a consent but now applies to increase the daily abstraction quantity
- 6.1.1 from the Kiwitea subcatchment and which is more than 10 cubic metres per hour or more than 15 cubic metres per day; or
 - 6.1.2 from the Oroua catchment downstream of the Mangoira confluence and which is more than 20 cubic metres per hour or more than 15 cubic metres per day; or
 - 6.1.3 from the Kiwitea sub-catchment or the Oroua catchment downstream of the Mangoira confluence and which is more than 50 cubic metres per day
- is a **Discretionary Activity**.
- 6.2 Information required for resource consent applications for this activity is in Section 24.4.

Explanation of OCWA Rules 5 and 6

These rules differentiate between existing users and new users as of 21 April, 1994. Existing users will not be required to provide the Council with an assessment of the actual and potential effects of their proposal on the instream environment. This is because the Council is satisfied that the effects of existing abstractions at low flows can be mitigated by ensuring that they are rostered within the low flow water budget in OCWA Rule 7. The water budget will be initially apportioned among the existing users according to OCWA Policy 6.2. Conditions will be attached to the water permits of any new users to ensure that they suspend abstractions when the thresholds specified in OCWA Rule 7 are reached (see OCWA Policy 6.3).

The Council has not restricted its discretion for activities described in OCWA Rule 6. Consent applications will be assessed according to Section 104 of the Act.

OCWA Rule 7 Maximum rates of abstraction

- 7.1 Subject to OCWA Rules 8 or 9, water permit holders shall be allowed a combined maximum total abstraction of surface water, ("surface water" is defined in OCWA Rule 1) from the Oroua River (excluding the Makino Stream sub-catchment), and from the Kiwitea Stream, at times of low flow, as set out in clauses 7.2 to 7.7 of this rule and in Tables 3, 3a, 4, 5, 5a, 6 and 6a below. ^x Conditions will be imposed on consent holders to ensure that those maximums are not exceeded.
- 7.2 Tables 3 and 3a apply to combined total water permit abstractions from the Oroua River for irrigation by those abstractors who held water permits as at 21 April 1994. Table 4 applies to combined total water permit abstractions from the Kiwitea Stream for irrigation by those abstractors who held water permits as at 21 April 1994. Tables 5 and 5a apply to the abstraction from the Oroua River for the Feilding town water supply. Tables 6 and 6a^x apply to the abstraction from the Oroua River by Manawatu Beef Packers.
- 7.3 This rule shall apply to the exercise of existing resource consents which may be reviewed pursuant to Section 128(1)(b) and Section 130(5) of the Act so as to ensure that the maximum abstraction rates set out in Tables 3-6a^x are met.
- 7.4 New users, that is those abstractors who did not hold permits as of 21 April 1994, are not permitted to take water from the Oroua River or the Kiwitea Stream when flows are at or below the thresholds specified in Tables 3, 3a^x or 4 unless they obtain all or part of a permit transferred from another irrigator in accordance with OCWA Rule 10.
- 7.5 When the flow recorded at Almadale is at or below 1,100 litres per second (when the MDC water supply abstraction for Feilding is sited downstream of Almadale recording station)^x or at or below 1,015 litres per second (when the MDC water supply abstraction for Feilding is sited upstream of Almadale recording station)^x any abstraction from the Oroua River by Manawatu Beef Packers must be equalled or exceeded by their discharge of clean cooling water (in accordance with a discharge permit).

^x Amended by change 1

- 7.6 When the flow recorded at Almadale is at or below 1,100 litres per second (when the MDC water supply abstraction for Feilding is sited downstream of Almadale recording station) or at or below 1,015 litres per second (when the MDC water supply abstraction for Feilding is sited upstream of Almadale recording station), the Manawatu District Council may abstract water:
- a. for the Feilding water supply at a rate not greater than 85 litres per second;
 - b. for the Kiwitea rural water supply at a rate not greater than 13 litres per second; and
 - c. for the Oroua rural water supply at a rate not greater than 5 litres per second.
- 7.7 The restrictions in this rule apply as soon as the river flow falls to the thresholds specified and cease to apply as soon as the river flow goes above those thresholds.

Table 3 : Limits on combined maximum abstraction (for the purpose of irrigation) from the Oroua River during times of low flow when the MDC water supply abstraction for Feilding is sited downstream of Almadale, (subject to OCWA Rule 8).

Maximum total abstraction for permits granted under OCWA Rules 4 or 5	Oroua River flow (litres/second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
50 l/s	1100	1100	1100	1100	1100	1100
120 l/s	1950	1900	1400	N A	1750	1900
Abstraction rate and time of day not restricted	> 1950	> 1900	> 1400	> 1100	> 1750	> 1900

Table 3a^h : Limits on combined maximum abstraction (for the purpose of irrigation) from the Oroua River during times of low flow when the MDC water supply abstraction for Feilding is sited upstream of the MWRC flow recorder at Almadale (subject to OCWA Rule 8).

Maximum total abstraction for permits granted under OCWA Rules 4 or 5.	Oroua River flow (litres/second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
50 l/s	1015	1015	1015	1015	1015	1015
120 l/s	1850	1800	1300	NA	1650	1800
Abstraction rate and time of day not restricted	> 1850	> 1800	>1300	> 1015	>1650	>1800

Table 4 : Limits on combined maximum abstraction (for the purpose of irrigation) from the Kiwitea Stream, (subject to OCWA Rule 9).

Maximum total abstraction for permits granted under OCWA Rules 3 or 5	Kiwitea Stream flow (litres/second at Spur Road Extension MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
20 l/s	300	250	200	150	350	300
Abstraction rate and time of day not restricted	> 300	> 250	> 200	> 150	> 350	> 300

^h Inserted by change 1

Table 5 : Restrictions to be included as conditions on any new consent issued to the Manawatu District Council for abstractions for the Feilding water supply from the Oroua River downstream of the MWRC flow recorder^x at Almadale during times of low flow.

Maximum Abstraction by Manawatu District Council	Oroua River flow (litres/second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
7,000 m ³ /day and less than 85 l/s	1100	1100	1100	1100	1100	1100
7,000 m ³ /day and less than 100 l/s	1950	1900	1400	N A	1750	1900
up to 9,000 m ³ /day	> 1950	> 1900	> 1400	> 1100	> 1750	> 1900

Table 5a^h : Restrictions to be included as conditions on any new consent issued to the Manawatu District Council for abstractions for the Feilding Water Supply from the Oroua River upstream of the MWRC flow recorder at Almadale during times of low flow.

Maximum abstraction by Manawatu District Council	Oroua River flow (litres / second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
7,000 m ³ /day and less than 85 l/s	1015	1015	1015	1015	1015	1015
7,000 m ³ /day and less than 100 l/s	1850	1800	1300	NA	1650	1800
Up to 9,000 m ³ /day	> 1850	> 1800	>1300	> 1015	>1650	>1800

^x Amended by change 1

^h Inserted by change 1

Table 6 : Restrictions to be implemented by Manawatu Beef Packers on abstractions of surface water from the Oroua River when the MDC water supply abstraction for Feilding is sited downstream of the MWRC flow recorder at Almadale.^x

Net Maximum Abstraction by Manawatu Beef Packers	Oroua River flow (litres/second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
no net effect on flows	1100	1100	1100	1100	1100	1100
300 m ³ /day and < 25 l/s	1950	1900	1400	N A	1750	1900
up to permit level	> 1950	> 1900	> 1400	> 1100	> 1750	> 1900

Table 6a^h : Restrictions to be implemented by Manawatu Beef Packers on abstractions for surface water from the Oroua River when the MDC water supply abstraction for Feilding is sited upstream of Almadale recording station.

Maximum abstraction by Manawatu Beef Packers	Oroua River flow (litres / second at Almadale MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
no net effect on flows	1015	1015	1015	1015	1015	1015
300 m ³ /day and less than 25 l/s	1850	1800	1300	NA	1650	1800
Up to permit level	> 1850	> 1800	>1300	> 1015	>1650	>1800

^x Amended by change 1

^h Inserted by change 1

Explanation of OCWA Rule 7

All new consents to take water will include a condition setting out maximum rates of abstraction applying to that consent at times when flows fall below the threshold flows shown in Tables 3 to 6a. Individual low flow abstraction rates and times will be allocated between consent holders in accordance with OCWA Policy 6 so as to ensure that combined total abstraction rates do not exceed the maximum abstraction rates set out in Tables 3 to 6a. Low flow abstraction allocations may, however, be transferred in accordance with OCWA Rule 10.

The exemptions provided in clauses 7.5 and 7.6 of this rule for abstractions by Manawatu Beef Packers and the Manawatu District Council apply regardless of any further reductions in flows, (see OCWA Rule 8).

Manawatu Beef Packers currently take 4,800 m³/day of water from a deep bore in accordance with a permit which will expire in 2012. This water is later discharged to the Oroua River as clean cooling water. Clause 7.5 of this rule means that any abstraction by Manawatu Beef Packers must cause no net decrease in flow levels in the river when flows are less than 1,100 litres per second (when the MDC abstraction for Feilding is sited downstream of Almadale recording station) or at or below 1,015 litres per second (when the Manawatu District Council abstraction for Feilding is sited upstream of Almadale recording station) except in the 200 metre reach between the point of their surface abstraction and the point at which they discharge clean cooling water in accordance with a discharge permit. The abstraction limits given in Table 6 and 6a refer to the net abstraction of water from the river after the discharge of clean cooling water.

The Manawatu District Council has constructed a new water intake (infiltration gallery) for the Feilding water supply at Almadale Reserve, just downstream of the Almadale flow recording station. This is designed to replace the existing water intake at Barrows Road, which is located upstream of the Almadale flow recording station. Due to operational problems with the new intake, the District Council may have to keep using the Barrows Road intake for a longer period than initially expected. The abstraction limits in OCWA Rule 7 relate to flow data as measured at the MWRC's flow recorder at Almadale. The measured flow at this site is affected by whether the MDC takes its water from the Barrows Road intake or the Almadale intake, because one is upstream and one is downstream of the recording station. Tables 3, 5 and 6 apply, therefore, when the new intake at Almadale Reserve is operating and Tables 3a, 5a and 6a apply when the Barrows Road intake is operating.

Water is permitted to be taken only from one or the other intake. Water is not permitted to be taken from both intakes at the same time. The period of time that the Barrows Road intake may be used is governed by the relevant resource consent (water permit).^h

OCWA Rule 8 Oroua River Minimum Flow

- 8.1 Subject to clauses 8.2, 8.3 and 8.4 of this rule, no person may abstract surface water from the Oroua River when the flow recorded at Almadale is at or below 1000 litres per second (or below 915 litres per second when the MDC water supply abstraction for Feilding is sited upstream of the MWRC flow recorder at Almadale).^h
- 8.2 The Manawatu District Council may abstract surface water when flows are at or below 1000 litres per second at Almadale (or below 915 litres per second when the MDC water supply abstraction for Feilding is sited upstream of the MWRC flow recorder at Almadale)^h but this abstraction must not be at a rate greater than 85 litres per second for the Feilding water supply, 13 litres per second for the KIWITEA rural water supply and 5 litres per second for the Oroua rural water supply.
- 8.3 Manawatu Beef Packers may abstract surface water when flows are at or below 1,000 litres per second (or below 915 litres per second when the MDC water supply abstraction for Feilding is sited upstream of the MWRC flow recorder at Almadale)^h but this abstraction must be equalled or exceeded by their discharge of clean cooling water (in accordance with a discharge permit).
- 8.4 Clause 8.1 shall not apply to the taking of surface water which is a Permitted Activity in accordance with OCWA Rule 2.
- 8.5 This rule shall apply to the exercise of existing water permits expiring after 30 June, 1994. These permits may be reviewed pursuant to Section 128(1)(b) and Section 130(5) of the Act for the purpose of establishing maximum rates of use and compliance with this rule.

^h Inserted by change 1

Explanation of OCWA Rule 8

All consents to take water from the Oroua River, except consents held by the Manawatu District Council and Manawatu Beef Packers, will include a condition requiring suspension of abstractions when flows fall to or below 1,000 litres per second (or below 915 litres per second when the MDC water supply abstraction for Feilding is sited upstream of the MWRC flow recorder at Almadale).^H The reason for exempting particular permit holders is given in Section 18 (Reasons for adopting OCWA Policy 7).

OCWA Rule 9 Kiwitea Stream Minimum Flow

- 9.1 Subject to clauses 9.2 and 9.3 of this rule, no person may abstract surface water from the Kiwitea Stream when the flow recorded at Spur Road is at or below 95 litres per second.
- 9.2 The Manawatu District Council may abstract water when flows are at or below 95 litres per second at Spur Road but this abstraction must not be at a rate greater than 5 litres per second for the Waituna West rural water supply.
- 9.3 Clause 9.1 of this rule shall not apply to the taking of surface water which is a Permitted Activity in accordance with OCWA Rule 2.
- 9.4 This rule shall apply to the exercise of existing water permits expiring after 30 June, 1994. These permits may be reviewed pursuant to Section 128(1)(b) and Section 130(5) of the Act for the purpose of establishing maximum rates of use and compliance with this rule.

Explanation of OCWA Rule 9

All consents to take water from the Kiwitea Stream, except the consents held by the Manawatu District Council, will include a condition requiring suspension of abstractions when flows fall to or below 95 litres per second. The reason for exempting particular permit holders is given in Section 18 (Reasons for adopting OCWA Policy 7).

^H Inserted by change 1

OCWA Rule 10 Transferring Water Permits

- 10.1 Where a holder of a water permit abstracts water for the purpose of irrigation, that permit may be transferred in whole or in part to another person for a stated period of time provided
- 10.1.1 that person also abstracts water for the purpose of irrigation; and
 - 10.1.2 permits for abstractions from the Oroua River downstream of the Mangoira confluence are transferred to another abstraction point on the main stem of the river downstream of the Mangoira confluence; and
 - 10.1.3 permits for abstractions from the Kiwitea catchment are transferred to another abstraction point in the Kiwitea catchment.
- 10.2 Any transfer will only apply during periods of water restriction as specified in Tables 3 and 4 and shall only be effective for the volume, maximum flow rate, times and duration set out in the notice of transfer and in no case shall exceed the maximum low flow abstractions allowed by the permit.
- 10.3 Written notice of the transfer must be sent to the Council in the form of the Memorandum of Agreement attached at Annex 3. No transfer is effective until such notice is received by the Council. The notice of transfer may set out a transfer schedule for multiple transfers between two parties within the following 12 month period.

17.2 Other methods of implementing policies

Constraints placed on irrigators by abstraction restrictions in this Plan may compel some irrigators to develop contingency plans should an extreme drought situation arise. The Council will therefore undertake some education about methods to decrease risk to the irrigator while providing protection to the instream environment. This will include education about preparing a contingency water supply.

The Council will cancel any water permit, which has not been exercised for a continuous period of two years, according to the provisions of Section 126 of the Act.

18. Reasons for adopting the objectives and policies

OCWA Objective 1

This objective addresses the issue of adverse environmental effects caused by artificially low flows in the rivers. This objective is consistent with Objective 12 in the Proposed Regional Policy Statement and is necessary to achieve the Purpose of the Act. It aims to safeguard the life-supporting capacity of ecosystems associated with the surface water of the Oroua catchment and to minimise any adverse effects on the environment.

OCWA Objective 2

This objective has been adopted to address the issue of unacceptable water quality in the Oroua River at times of low flow. Though water quality downstream of Feilding is of greatest public concern, this objective addresses adverse effects caused by low flows throughout the catchment.

OCWA Objective 3

This objective has been adopted to address the issue of managing competing demands on surface water in the Oroua catchment. This objective is required by Policy 12.1 in the Proposed Regional Policy Statement and is necessary to achieve the Purpose of the Act.

OCWA Policy 1

This policy has been adopted to achieve OCWA Objective 1 where the threat to ecosystems is presented by artificially low flows in the Oroua River and Kiwitea Stream.

OCWA Policy 2

This policy has been adopted to achieve OCWA Objective 2, and will direct methods that govern low flows. The Manawatu Catchment Water Quality Regional Plan specifically addresses the issues of water quality in the Oroua catchment, which is a sub-catchment of the Manawatu. Policies in that Plan will direct methods to enhance water quality in the Oroua River, particularly where water quality has been degraded by discharges.

OCWA Policy 3

This policy has been adopted to achieve OCWA Objective 3.

OCWA Policy 4

This policy has been adopted to achieve OCWA Objective 3. Notification of consent applications is not required if the applicant complies with Section 94⁶ of the Act. Concern about flow levels in the watercourses of the Oroua catchment extends to many communities in the area, not only to neighbours or other abstractors.

The Council is satisfied that in most cases notification of discretionary activities in this Plan is necessary because management of competing demands for surface water has been identified as a significant issue in the Oroua catchment. There may, however, be situations where it would be in accordance with Section 94 of the Act to not notify an application. This Policy provides for these situations.

OCWA Policy 5

This policy has been adopted to achieve the equitable use aimed for in OCWA Objective 3 and to implement appropriate methods to achieve OCWA Objective 1. This policy addresses the issue of managing groundwater abstractions that affect surface water.

OCWA Policy 6

This policy has been adopted to provide certainty to applicants for water permits and to provide guidance for setting conditions on water permits granted for the Oroua catchment.

OCWA Policy 7

This policy was adopted to achieve the purpose of the Act and OCWA Objective 1 of the Plan. Providing for the suspension of abstractions when flows decline below specified thresholds is necessary to safeguard the life-supporting capacity of the river and to maintain recreational and amenity values associated with the river. The Council is satisfied that the Plan should provide clear direction to water permit holders about what will happen when flows reach these thresholds. The principal alternative is to rely on Section 329 of the Act. This was rejected for reasons given in Section 20 (Alternatives).

6

94(2) An application for a resource consent need not be notified in accordance with section 93, if the application relates to a discretionary activity or a noncomplying activity and

(a) The consent authority is satisfied that the adverse effect on the environment of the activity for which the consent is sought will be minor; and

(b) Written approval has been obtained from every person whom the consent authority is satisfied may be adversely affected by the granting of the resource consent unless the authority considers it is unreasonable in the circumstances to require the obtaining of every such approval.

The Council has hydrological data for the Oroua River since 1954, however, much of the data represents a flow record for a flow modified by abstractions. There has not yet been any analysis of the effects of low flows on the instream environment of the rivers in the catchment. In the absence of this information, minimum flows have been set according to naturally occurring low flow conditions. When flows are reduced below natural conditions, populations of aquatic species will be reduced below naturally occurring minima. The Council has anecdotal evidence that fish kills have occurred in the past in the Oroua River at flows of about 600-700 litres per second. The Council is satisfied that the Act directs such effects to be avoided or mitigated.

This Policy provides that abstractions from the Oroua River will be restricted and in some cases suspended before flows fall to these levels. Abstractions for the purposes of water supply will not be suspended under the provisions of the Plan. This is primarily to provide for the health and safety of people and communities in the catchment. The abstractions by the Manawatu District Council are primarily for the community's domestic needs, which, at about 360 litres per person per day, are modest compared with domestic water needs in other New Zealand towns. Feilding has about two days storage available but also requires water to be accessible for fire-fighting. Restrictions placed on the Manawatu District Council mean that they will be obliged to use water from the Root St bore during periods of low flow. The extra cost this will impose is considered to be outweighed by the need to safeguard the life-supporting capacity of the river.

Manawatu Beef Packers may not be required to suspend their abstraction provided their abstraction is in accordance with this Plan, (see Tables 6 and 6a of OCWA Rule 7). This is because OCWA Rule 7 requires that any abstraction by Manawatu Beef Packers must cause no net decrease in flow levels in the river when flows are less than 1,100 litres per second (or below 1,015 litres per second when the MDC water supply abstraction for Feilding is sited upstream of Almadale recording station)^h except in the 200 metre reach between the point of their surface abstraction and the point at which they discharge clean cooling water in accordance with a discharge permit. The Council is satisfied that is not necessary to suspend Manawatu Beef Packers' abstraction provided they are in compliance with OCWA Rule 7.

No substantial evidence was provided by the irrigators during the preparation of this Plan to demonstrate that the limited restrictions imposed would have severe adverse effects on their economic livelihood.

^h Inserted by change 1

The Council recognises that the effective minimum flow of 897 litres per second in the Oroua River is lower than that requested by the Department of Conservation for the suspension of all abstractions, (1,000 litres per second). The Council is satisfied that there is no evidence that the suspension thresholds adopted in this Policy would adversely affect the life-supporting capacity of the river and that the instream values associated with this particular reach of the river are not particularly high. Careful monitoring will be required to ensure that these minimum flows are adequate to protect the life-supporting capacity, so that these thresholds can be revised, if necessary, when this Plan is reviewed in five years.

The Policy provides that abstractions from the Kiwitea Stream will also be restricted or suspended when flows reach the one in five year expected seven day mean low flow. This is estimated to be 95 litres per second as recorded at the Spur Road recorder. When flows decline to this flow, all abstractions except the Manawatu District Council's abstraction for the Waituna West rural water supply are suspended. This is consistent with abstraction restrictions from the Oroua River. The effective minimum flow in the Kiwitea Stream after that abstraction will be 90 litres per second.

OCWA Policy 8

This policy has been adopted to achieve OCWA Objective 3. Allowing water permits to be transferred during periods of abstraction restrictions enables the irrigators' water budget of 120 litres per second for the Oroua River and 20 litres per second for the Kiwitea Stream to be used efficiently and equitably while safeguarding the life-supporting capacity of the river. Water abstracted for irrigation produces different effects on the instream environment of the river than water abstracted for water supply or industry because the latter uses return the water (as treated effluent or as cooling water) whereas irrigation represents a net loss of water from the river. While irrigators produce the same effect on the river, their need for water varies seasonally according to the type of crop grown.

If this policy was not adopted a portion of the water budget allocated to one irrigator would not be able to be utilised during times of low flow by another irrigator, even if that portion was not actually being used at the time. Allowing the irrigators to determine a flexible roster each time the restrictions came into force would overcome this inequity but would be extremely difficult to enforce and is outside the provisions of the Act.

OCWA Policy 9

This policy has been adopted to achieve OCWA Objective 3. Abstractors will need to adopt contingency plans to cope with restrictions that will be applied during times of serious water shortage. This policy has been adopted so that the surface water resource is sustainably managed. Without this policy, abstractors may wish to take water when the threat of low flows is imminent, thereby accelerating the rate of decrease in flow levels downstream.

19. Reasons for adopting methods of implementation

19.1 Adoption of regulatory methods

The Act promotes some intervention in water resource management. Section 14 of the Act states that no person shall take, use, dam or divert water unless it is expressly allowed by a rule in a regional plan or resource consent. If a Plan is not prepared, all water 'takes' and 'use' from the Oroua catchment, apart from most domestic and stock requirements, will require resource consents. Each application would have to be treated on its merits without the guidance of additional standards or criteria. The Council's policy is to require resource consents for water use only where it is considered necessary to ensure protection of the environment from any adverse effects, and similarly, to reserve full discretion to decline consents (discretionary or non-complying) only where that is necessary.

The demands on the Oroua catchment water resource are high (see Part Two of the Plan). A regional plan provides a framework to minimise conflicts in use of the water resource and can help to decrease the occurrence of unacceptably low flows. There are high environmental and social costs associated with not regulating water abstraction in the catchment.

The history of regulation of water management means there is little cost in establishing a regulatory approach to water resource management. While there are ongoing costs associated with a regulatory approach to water management, these are largely recoverable.

19.2 Adoption of rules about categories of activities

Classification of activities has been determined according to the scale of environmental effect likely to be caused by the abstraction and has therefore been made according to maximum daily takes (m^3/day). Limits on rates of abstraction (l/s) will need to accommodate the requirements of individual users and will be set as conditions on water permits where appropriate.

Fifteen cubic metres per day is the maximum limit for abstraction from any surface water in the catchment allowed as a permitted activity. If taken continuously, this equates to a rate of 174 millilitres per second. This limit conforms to the General Authorisations which have been in force throughout parts of the Manawatu-Wanganui Region since 1970 and which are provided for in the Transitional Regional Plan. Such abstractions are not considered to have any adverse environmental effect.

The Council must grant applications for controlled activities provided they meet any standards and terms stated in the relevant Rule. The upper limit for abstractions for this category has been determined by assessing hydrological data and determining at what stage an abstraction would begin to decrease the flow in the watercourse to a noticeable degree. While individual abstractions of this quantity would not noticeably affect the flow, the Council needs to reserve discretion to impose conditions on these consents to restrict abstractions at low flows, so as to deal with cumulative effects of abstractions. Currently there are only two abstractions which fall in this category.

For abstraction of quantities greater than 50 cubic metres a day, the Council needs the opportunity to:

- a. decline applications where the proposed use is considered inefficient or the quantity of water abstracted would adversely affect the instream values of the water body; and
- b. impose conditions on the permit, where necessary, to apportion, restrict or suspend abstractions at times of low flow.

The Council has retained the right to exercise discretion over almost all water abstractions in the Oroua catchment. This is because there is high demand for the utilisation of the water resources in the catchment and continued abstractions during summer flows in the past have exacerbated adverse effects on the instream environment.

19.3 Division of the catchment

The Oroua catchment has been divided into three areas for the purpose of classifying 'activity types'. These areas are the catchment above the Mangoira Stream confluence (including the Mangoira catchment), the catchment downstream of the Mangoira confluence (excluding the Kiwitea catchment), and the Kiwitea catchment (see Figure 2).

The Council is satisfied that performance standards should be most stringent in the upper catchment because this area has the greatest landscape and recreational values. This area has been identified in the Proposed Regional Policy Statement as having outstanding natural characteristics. The lower Oroua catchment has the highest flow available for utilisation and relatively low landscape and recreational values. Water abstractions from this part of the catchment therefore need to be managed according to different criteria. The natural values associated with the Kiwitea catchment are not as great as for the upper Oroua catchment. However, the Kiwitea Stream faces reasonably heavy abstraction demands from a flow which is significantly less than the flow in the lower Oroua River. Instream users therefore face different risks of adverse environmental effects from abstractions than those presented in the upper or lower Oroua catchment.

19.4 Adoption of OCWA Rule 7 (maximum rates of abstraction)

The restrictions on abstractions during dry periods are largely based on the principles of the Voluntary Water Management Agreement, (see Section 5). Further restrictions were necessary to safeguard the life-supporting capacity of the rivers. Restriction thresholds in the Plan differ from those in the Voluntary Agreement because they have been adapted to take account of the changed site for the Oroua River flow recorder.

In July 1992 a flood in the Oroua River washed away the Council's recording site for the Oroua River at Kawa Wool. The recording site has been re-established at Almadale, several kilometres upstream of the confluence with the Kiwitea Stream. Twenty years of unprocessed data already exists for the Almadale site. Because of the change in site, the Plan includes separate flow restrictions for the Kiwitea Stream (using flow records from the Spur Road recorder site) and for the Oroua River.

The thresholds in Tables 3 - 6a^x are set at 30% of the mean monthly flow for the rivers in accordance with the modified Montana approach to setting minimum flows. This method allows for the natural variation in river flows and has been used for some 16 years in New Zealand in data short situations.

This rule affords some protection to existing users in that the water budget allocated in Tables 3, 3a^x and 4 may only be used during times of water restriction by abstractors holding permits as at 21 April, 1994, unless a new user obtains a permit transferred in accordance with OCWA Rule 10. This condition was adopted so that the water budget would not be required to be apportioned among more and more users. Some irrigators in the catchment have made considerable capital investment in irrigation equipment, and in growing crops that rely heavily on irrigation for their success.

^x Amended by change 1

The Council is satisfied that these permit holders require some security in being allowed to take a known amount of water at these times so that the benefit to the environment of restricting abstractions is not outweighed by costs to the economic well being of the farmers.

19.5 Adoptions of OCWA Rules 8 and 9 (minimum flows)

These Rules have been adopted to implement OCWA Policy 7. If these rules were not adopted, the Council would not be able to review the conditions on existing consents to provide for maximum rates of use or the suspension of abstractions, (see Section 128 of the Act). The Council is satisfied that these rules are the most appropriate means of exercising its functions under the Act and achieving the objectives of this Plan.

19.6 Adoptions of OCWA Rule 10 (transferring water permits)

Adopting a rule allowing water permits to be transferred between similar end users during restriction periods is necessary to implement OCWA Policy 8.

Allowing permits to be transferred at times other than restricted low flows, or between different end users has not been included in this rule for reasons given in Section 20.3 of the Plan (Economic methods considered).

19.7 Adoption of others methods

Abstractions for contingency water supply should not be undertaken when flows are approaching low flow thresholds. Abstractions from the Oroua River intended for contingency storage will be promoted when the flow is greater than 3,000 l/s. This will protect the instream environment while enabling irrigators to provide for their social and economic wellbeing. Education about farming practices that conserve water and efficient use of irrigating systems is available from other organisations such as Federated Farmers.

Some existing permits for abstractions from the catchment are for amounts very much greater than the actual requirements of the permit holder. To achieve equitable use of water from the Oroua catchment, in particular when assessing new applications for permits for new abstractions, the Council needs to be satisfied that permits are granted according to the realistic needs of the applicant. It is inequitable to allow existing holders of water permits to hold permits for unused portions of that water budget if that disadvantages other potential users. The Council will therefore use the provisions of Section 126 of the Act to cancel any water permit which has not been exercised during the last two years.

20. Alternatives

20.1 General Education

Providing information and education alone to achieve sustainable management of surface water in the Oroua catchment relies on permit holders recognising they can increase their net benefit by using the information. This net benefit would accrue because the long-term environmental benefit gained by sustaining the instream values of the river would be greater than the short-term economic cost to the individual. However, despite a sympathetic and concerned attitude to the resource of surface water in the catchment, education is likely to have little effect where resource users would lose private benefits by modifying their behaviour because of information provided to them.

The Council strongly supports the extensive educational promotions undertaken by the Manawatu District Council for water conservation. Water conservation measures are an important means of reducing wastage and increasing efficient use of the water resource. The MDC is in an ideal position to promote water conservation because they provide water reticulation to the consumers and can determine the efficacy of their campaigns by analysing any changes in consumption. The 1992 Manawatu-Wanganui Regional Council Environmental Award was given to the MDC in recognition of the high profile they have given to water conservation in their District, particularly in Feilding.

The Council has chosen to promote water conservation measures through conditions on resource consents to promote efficient and equitable use of the resource.

The Council is satisfied that education is best used to complement a regulatory approach.

20.2 Continuation of Voluntary Agreement

The Voluntary Agreement and eleven of the 21 water permits for the catchment expired on 30 June, 1994. If the Voluntary Agreement had been re-negotiated it would have lacked the statutory effect of the Resource Management Act. This Plan builds upon the Voluntary Agreement and develops the relationship established with the interested parties while enabling maximum transparency and consultation with the wider community.

20.3 Reliance on Section 329 of the Act

Section 329⁷ of the Act provides that regional councils may issue a direction to water permit holders to apportion, restrict or suspend abstractions during serious temporary shortages of water. The Council is satisfied that this provision should only be used in truly unusual events and would not be an appropriate method to achieve the objectives of the Plan. Water shortage directions are not subject to any consultation procedure. Relying on those provisions would mean that, instead of being resolved through the plan making process, open to submission and appeal, the fundamental issue of suspending water abstractions would be left until an unspecified time, which by implication will be an emergency. This would lead to considerable uncertainty for both water users and those interested in maintaining a minimum flow in the rivers.

20.4 Economic methods considered

The Council considered the use of economic instruments such as bonds, financial contributions, and transferable water permits as methods to implement policies in this Plan. Allowing irrigators to transfer water permits during times of abstraction restrictions was the most appropriate economic method to achieve the objectives of this Plan. Their use is discussed in Section 6 of the Plan. The only other economic instrument used is that of cost recovery by user charges and monitoring fees. In accordance with Section 36 of the Act, fees are set at a level for cost recovery only. They cannot be used as a disincentive to use the water resource. Fees are administrative charges rather than economic methods to achieve objectives and are therefore presented in Section 22. The use of other economic methods was rejected for reasons outlined below.

7

329(1) Where a regional council considers that at any time there is a serious temporary shortage of water in its region or any part of its region, the regional council may issue a direction for either or both of the following:

(a) That the taking, use, damming, or diversion of water:

(b) That the discharge of any contaminant into water;

is to be apportioned, restricted, or suspended to the extent and in the manner set out in the direction.

(2) A direction may relate to any specified water, to water in any specified area, or to water in any specified water body.

(3) A direction may not last for more than 14 days but may be amended, revoked, or renewed by the regional council by a subsequent direction.

(4) A direction comes into force on its issue and continues in force until it expires or is revoked.

(5) A direction may be issued by any means the regional council thinks appropriate, but notice of the particulars of the direction shall be given to all persons required to apportion, restrict, or suspend

(a) The taking, use, damming, or diversion of water; or

(b) The discharge of any contaminant into water;

as far as they can be ascertained, as soon as practicable after its issue.

(6) For the purpose of this section, notice may be given to a person by serving it on the person or by publishing the notice in one or more daily newspapers circulating in the area where the person takes, uses, dams, or diverts the water, or discharges a contaminant into water.

Financial Contributions

Section 108 (1)(a) of the Act may be used requiring financial contributions from permit holders to offset adverse effects. Under the Act, "financial contribution" includes money, or works, such as the planting or replanting of any tree or other vegetation or the protection, restoration, or enhancement of any natural or physical resource (see Section 108 (9) of the Act).

Financial contributions can be required as conditions on resource consents for purposes or circumstances specified in the Plan. One purpose is that of *ensuring positive effects on the environment to offset any adverse effect* (Section 108 (9)). The condition should also reasonably relate to the subject matter of the approval.

The Council considered requiring a financial contribution where a proposed abstraction would be likely to have a significant adverse effect on the physical characteristics of the watercourse. A financial contribution should be utilised in approximately the same part of the catchment as the activity causing the effects. The only feasible option for this was riparian planting to shade the watercourse, provide cover for fish and lower water temperatures. Such planting would, however, compromise flood protection by clogging the channel. This would increase the risk to Feilding and other properties adjacent to the river. The disadvantages of this greatly outweigh the advantages, so the Council decided against requiring this kind of financial contribution from water users.

Bonds

Section 108 (1)(b) of the Act provides for the use of bonds attached to resource consents. This is to ensure compliance with conditions placed on resource consents. An example of such a condition might be a requirement to rehabilitate an area after the completion of an activity, including the removal of structures.

Bonds should only be taken where there is a risk of environmental damage from an activity. A bond required from a consent holder may only be used to remedy adverse effects of the activity for which the consent applies. These effects may be direct or indirect.

There are no adverse effects on the environment of the river caused by an abstraction device that would justify requiring a bond. In the case of water abstraction, environmental effects could only be remedied by replacing the water in the watercourse. This could never be achieved by a bond.

Transferable permits

Allowing the transfer of permits among irrigators only, and only during periods of low flow restrictions, has been adopted in OCWA Rule 10. Permits may not be transferred in other circumstances, except in accordance with Section 136 (2)(b)(ii) of the Act.

Allowing water permits to be transferred among all similar end-use groups at any time was not adopted in the Plan. There are two main reasons for this. Firstly, the effects of the flow restrictions on the catchment have not yet been tested. The outcome of the specific monitoring programme may result in a need to review the minimum flow, or the restriction thresholds, or the water budget allocated to the irrigators during periods of low flow. With such uncertainty as to the availability of supply of the resource, the Council is satisfied that it would be unwise at this stage to enable total transferability of water permits between sites. Secondly, there is concern in the community about possible monopoly purchase of the permits.

21. Environmental results anticipated

The following environmental results are anticipated from the implementation of the policies and methods in this Plan.

- a. Maintenance of flows in rivers and streams of the Oroua catchment at a level that safeguards their life-supporting capacity. The Council will use the following indicators to assess the life-supporting capacity of the flows:
 - i. no fish kills in the rivers caused by low flows; and
 - ii. maintenance of fish habitat in the rivers.
- b. The avoidance and mitigation of adverse effects of low flows in the Oroua catchment, including the effects of low flows on amenity values.
- c. Efficient and equitable use of surface water in the Oroua catchment.

PART FOUR MONITORING AND REVIEW

22. Monitoring

22.1 User charges and monitoring costs

The details of monitoring charges are published every year in the Regional Council's Annual Plan. An outline of possible charges applied to consent holders is presented in Annex 2. Council policy is to recover 100% of costs of compliance or impact monitoring where costs specifically relate to programmes necessary to assess the effects of any given activity on the environment.

Monitoring of water takes by water permit holders is a condition on resource consents (see Regional Rules, Section 17). The resource users therefore bear the full cost of monitoring the quantity of their take. Any auditing costs of permit monitoring will be charged to resource consent holders.

Hydrological monitoring charges are charged as a percentage of the cost of ongoing collection of flow information for the catchment, including water quality information and hydrological data. This charge is divided among all surface water permit holders and discharge permit holders. Currently one third of hydrological monitoring costs are recovered from consent holders. The balance of the ongoing cost of flow information is met by the general rate.

A percentage of the cost of undertaking a specific monitoring assessment on the effects of low flows in the catchment on environmental quality will be met by holders of surface water permits and discharge permits in the catchment. The impact assessment is described below. Costs for the assessment are likely to be recovered from consent holders in the subsequent financial year because it is not possible to predict when a summer low flow situation will occur.

22.2 Environmental monitoring

Hydrological information is collected by the Council throughout the Region. Flows in the Oroua catchment are monitored by continuous recorders at Almadale for the Oroua River, at Spur Road for the Kiwitea Stream and at Boness Road for the Makino Stream. The Council undertakes regular flow gauging at these sites to calculate discharge relationships with flow levels. The Council will also undertake low flow gauging at the old Kawa Wool recording site to determine the flow remaining after abstractions.

Water permit holders will furnish the Council with the data necessary to monitor compliance with abstraction quantities. Compliance with abstraction restrictions during low flow situations will be monitored by the Council.

The Council will undertake a specific monitoring assessment of the Oroua River and Kiwitea Stream to determine whether the flows are sufficient to maintain their life-supporting capacity during low flow situations. This assessment will investigate the life-supporting capacity of the watercourses for trout, indigenous fish and invertebrate fauna.

Hydrological data from the Oroua catchment will be analysed to assess the appropriateness of the restriction thresholds set in the Plan. This will include an assessment of the effects of the combined maximum abstractions on the rate of depletion of the river flows in the Oroua River and Kiwitea Stream.

Critical indicators of adverse effects in the catchment caused by abstractions includes loss of fish habitat caused by low flows and any incidents of fish kills caused by low flows.

23. Review of the Plan

There will be a review of this Plan limited to an appraisal of the low flow conditions five years after its adoption. The review will be undertaken for three main reasons. Firstly, the flow thresholds which will trigger implementation of the abstraction restrictions and suspensions will be assessed for their protection of the life-supporting capacity of the resultant flow. Secondly, there will be more information available about the instream values of the Oroua River upstream of Feilding. Finally, the enforceability of the abstraction restrictions needs to be assessed.

The Plan will be fully reviewed in 10 years as is required by Section 79 of the Act.

PART FIVE RESOURCE CONSENT PROCESS

24. Making an application

Resource consents to undertake an activity described in this Plan (excluding Permitted Activities or Prohibited Activities) must be obtained from the Manawatu-Wanganui Regional Council. Application forms are available from any office of the Council. Enquiries and correspondence can be directed to the Manager, Resource Consents, Manawatu-Wanganui Regional Council, Private Bag 11025, Palmerston North.

24.1 Resource Consents

A consent to do something (other than in the coastal marine area) that otherwise would contravene Section 14 of the Act is called a "water permit". Abstractions from the Oroua catchment surface water are classified into activity types according to the level of environmental effect they are likely to cause. These activities are defined by the Act and described in the Glossary. A summary of OCWA Rules 2-6 is given below.

Activity Classification for Surface Water Permits in the Oroua Catchment					
Catchment	Permitted Activity	Controlled Activity	Discretionary Activity	Non-Complying Activity	Prohibited Activity
Kiwitea	<15 m ³ /day Rule 2	15-50 m ³ /day and < 10 m ³ /hour Rule 3	> 50 m ³ /day or > 10 m ³ /hour Rules 5 and 6		
Oroua upstream of Mangoira confluence	<15 m ³ /day Rule 2			> or = 15 m ³ /day	

Oroua downstream of Mangoira confluence	<15 m ³ /day Rule 2	15-50 m ³ /day <u>and</u> < 20 m ³ /hour Rule 4	> 50 m ³ /day <u>or</u> > 20 m ³ /hour Rules 5 and 6		
---	--	--	---	--	--

Key < less than
> greater than
m³ cubic metres

Rules in the Plan provide standards and terms which the Council will use for the consideration of applications for controlled activities and discretionary activities. The Plan also provides applicants with an indication of the types of conditions that may be imposed should the application be approved. This includes the imposition of a condition, to be attached to all water permits granted for abstractions from the Oroua River and Kiwitea Stream, to restrict water abstraction during times of low flow.

Where more than one resource consent is required for a proposal, applications for all resource consents should be made at about the same time. Information about other relevant plans can be obtained from the Council.

24.2 Information required with resource consent applications for activities described in OCWA Rules 3 or 4

Pursuant to Section 88(5) of the Act, applications for activities described in OCWA Rules 3 and 4 shall include the following information:

- 24.2.1 Description of the proposal and location of the proposed take, including map references from NZMS map, scale 1:50,000.
- 24.2.2 Quantity of water to be abstracted, likely rate and pattern of abstraction, including hourly abstraction rate, and seasonal, weekly and daily distribution.
- 24.2.3 If the abstraction is not to be taken directly from a watercourse, the distance to the nearest watercourse and the depth of the bore.
- 24.2.4 How the applicant intends to monitor, (methods include pump capacity or on-line meters) and report on quantities of water taken.

- 24.2.5 The intended use of the water including opportunities for water conservation measures during dry periods.
- 24.2.6 An identification of those persons, including tangata whenua, interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted.

24.3 Information required with resource consent applications for activities described in OCWA Rule 5

Pursuant to Section 88(5) of the Act, applications for activities described in OCWA Rule 5 shall include the following information:

- 24.3.1 Description of the proposal and location of the proposed take, including map references from NZMS map, scale 1:50,000.
- 24.3.2 Quantity of water to be abstracted, likely rate and pattern of abstraction, hourly abstraction rate, and seasonal, weekly and daily distribution.
- 24.3.3 If the abstraction is not to be taken directly from a watercourse, the distance to the nearest watercourse and the depth of the bore.
- 24.3.4 How the applicant intends to monitor, (methods include pump capacity or on-line meters) and report on quantities of water taken.
- 24.3.5 The intended use of the water, including opportunities for water conservation measures during dry periods and the efficiency of the system for the proposed water use.
- 24.3.6 An identification of those persons, including tangata whenua, interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted.
- 24.3.7 The land area and type of crop being irrigated, and the investment made by the irrigator in irrigation equipment or a particular crop.
- 24.3.8 Possible alternative sources of water supply.

24.4 Information required with resource consent applications for activities described in OCWA Rule 6

- 24.4.1 All information as required in Section 24.3.
- 24.4.2 An assessment of the actual or potential effects on the environment (including instream, recreational and cultural values) that would be caused by the proposed abstraction.
- 24.4.3 The remediation or mitigation measures considered by the applicant to deal with any potential adverse effects on the instream values of the water course.
- 24.4.4 The effects of the proposal on other actual or potential users.

24.5 Information required with resource consent applications for Non-Complying Activities

Applications for **Non-complying Activities** must comply with Section 88 of the Act and shall include all the information required for applications for discretionary activities and an assessment of effects in accordance with the Fourth Schedule of the Act.

24.6 Further Information

In accordance with Section 92 of the Act, any applicant may be required to provide further information if the Council considers there are significant adverse effects on the environment associated with the proposal.

24.7 Assessment of applications for Discretionary Activities

Without limiting the provisions of Section 104 of the Act applications for **Discretionary Activities** will be assessed with regard to the following:

- 24.7.1 The ability of the applicant to monitor and report on quantities of water abstracted to the satisfaction of the Council.
- 24.7.2 The efficiency of the system, including irrigation system or reticulation system, for the proposed water use.
- 24.7.3 Availability of alternative sources of water and the appropriateness or practicality of using those.

- 24.7.4 The effects of the proposal on instream, recreational and cultural values.
- 24.7.5 The ability of the applicant to avoid, remedy or mitigate adverse effects on the instream values.
- 24.7.6 In allocating maximum low flow abstraction rates between consent applicants, the Council will ensure that total combined abstractions do not exceed the limits set out in OCWA Rule 7. In apportioning low flow abstractions between applicants, the Council will have particular regard to OCWA Policy 6.

24.8 Conditions on resource consents for Discretionary Activities

The Council may impose any condition under Section 108 of the Resource Management Act 1991. Under this Plan, a resource consent for a Discretionary Activity may include conditions which will oblige the consent holder to:

- 24.8.1 monitor the abstraction;
- 24.8.2 limit the abstraction to a specified hourly rate;
- 24.8.3 abide by specified low flow abstraction restrictions shown in the consent;
- 24.8.4 implement water conservation measures;
- 24.8.5 remedy or mitigate any adverse environmental effects; and
- 24.8.6 pay administration charges.

ANNEXES

Annex 1 : Consultation process undertaken for the preparation of this Plan

The first step in preparing this Plan was to release a discussion document in November 1992. This document was distributed to all surface water abstractors in the catchment, government ministries and departments, environmental agencies, Federated Farmers, interested people and many libraries in the Region. All parties were invited to attend a public meeting to discuss the document.

Two main approaches for preparing the Plan were identified in the discussion document. These were to start afresh or readopt the principles of the Voluntary Agreement and incorporate a field investigation programme. Written submissions to the document were received from Te Puni Kokiri and the Ministry for the Environment.

A public meeting was held on 27 January, 1993 at Regional House, Palmerston North to discuss these two approaches. The meeting was attended by 25 people, including representatives from the Manawatu District Council, industries and irrigators in the catchment along with staff and Councillors from the Regional Council. Each group was given an opportunity to present its viewpoint before an agreement was reached on the approach to be taken in preparing the Regional Plan. A unanimous decision was made to prepare the plan using the principles of the Voluntary Agreement.

A draft plan, the Draft Oroua Catchment Water Allocation Regional Plan, was prepared and circulated for internal Council staff review on 16 July, 1993. The Draft was then given a legal review, and over 50 copies were sent out to identified interested people on 23 July, 1993. The Chairmen of two marae in the Oroua area were contacted by the Council Iwi Liaison Officer, who discussed key issues of the Plan with them.

A public meeting was held on 10 August, 1993 at Regional House, Palmerston North to discuss the Draft Plan. The meeting was attended by 14 people, including several irrigators in the catchment and representatives of Manawatu District Council, MAF Policy, Department of Conservation, Wellington Fish and Game Council and the Feilding Herald. Subsequent to the meeting the Council received seven written submissions.

The key issues raised in the consultation process are described below.

The irrigators were concerned that the change in the MWRC recorder site for the Oroua River from Kawa Wool to Almadale, and the consequent use of synthetic data for abstraction restriction thresholds, would result in abstraction restrictions being imposed on them more often than under the previous Voluntary Agreement. This concern was investigated in detail by Council's hydrological data analyst who found that the frequency and severity of restrictions to the irrigators are slightly diminished with the thresholds determined for the Almadale site. The change in site made little difference to the duration of restrictions.

The irrigators and the Department of Conservation were concerned that the Draft Plan did not explicitly state the flow at which Council would implement water shortage directions pursuant to Section 329 of the Resource Management Act. The Proposed Plan addressed this concern by adopting a policy directing the Council to consider issuing a water shortage direction if flows in the Oroua River fell below 1,000 litres per second and climatic conditions would be likely to exacerbate the effects of abstractions on the river. In response to submissions received on the Proposed Plan the Council has implemented a minimum flow for the Oroua River and Kiwitea Stream, (see OCWA Policy 7).

Two written submissions requested that the Council continue investigating the possible use of transferable water rights in the catchment. Implementing transferable water rights in the Plan was not supported by anybody at the public meeting. The Proposed Plan addressed this concern by undertaking to review the appropriateness of transferable water permits when the Plan was reviewed. In response to submissions received on the Proposed Plan the Council has implemented a system to provide for the limited transfer of permits among irrigators.

Those at the meeting agreed that the Plan would complement the Objectives of the Manawatu Catchment Water Quality Regional Plan. They also endorsed the monitoring requirements proposed in the Draft Plan.

Those at the meeting welcomed formalising the abstraction restrictions as proposed in the Draft Plan. The Council agreed that these restrictions would be attached to abstractors' resource consents.

Consultation with tangata whenua in the Oroua area was ongoing. The primary concern expressed to the Council regards water quality in the catchment. This issue is being addressed by the Manawatu Catchment Water Quality Regional Plan.

The Proposed Oroua Catchment Water Allocation Regional Plan built on the process established under the Voluntary Agreement. Parties involved in the negotiation of the Voluntary Agreement and the development of the Regional Plan have progressed from a state of conflict to one of agreement.

The flow thresholds in the Tables below represent flows at the old Kawa Wool Recorder site, downstream of all abstraction points and downstream of the Kiwitea Stream confluence. The maximum abstraction by irrigators as a group (shown in Table 8), therefore applies to the combined abstractions from the Oroua River and the Kiwitea Stream. The combined abstraction restrictions applied in OCWA Rule 7 of this Plan (see Tables 3 and 4) amount to the same maximum take allowed under the Voluntary Agreement.

Table 7 : Voluntary Agreement restrictions for the Manawatu District Council on abstractions for water supply from the Oroua River during times of low flow

Maximum Abstraction by Manawatu District Council	Oroua River flow (litres/second at Kawa Wool MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
8,500 m ³ /day	< 2200	< 2200	< 1600	< 1200	< 2000	< 2200
8,750 m ³ /day	2200 - 2500	2200 - 2500	1600 - 1850	1200 - 1400	2000 - 2500	2200 - 2500
9,000 m ³ /day	> 2500	> 2500	> 1850	> 1400	> 2500	> 2500

Table 8 : Voluntary Agreement restrictions for the Irrigators as a group on water abstraction from the Oroua River during times of low flow.

Maximum Abstraction by Irrigators as a Group	Oroua River flow (litres/second at Kawa Wool MWRC Recorder Site) at which abstraction restrictions take effect					
	Nov	Dec	Jan	Feb	Mar	Apr
140 l/s	< 2200	< 2200	< 1600	< 1200	< 2000	< 2200
170 l/s	2200 - 2500	2200 - 2500	1600 - 1850	1200 - 1400	2000 - 2500	2200 - 2500
Up to permit limit	> 2500	> 2500	> 1850	> 1400	> 2500	> 2500

Status of existing water permits for the Oroua Catchment

When this Plan was notified there were 17 water permit holders for 21 abstractions from the Oroua catchment. The types of permits are as follows:

Existing Uses - Section 386 (2) of the Act provides that permits resulting from an "existing right", (granted under the Water and Soil Conservation Act, 1967) which expired later than the 35th anniversary of the Act shall expire on the 35th anniversary of the Act, (1 October, 2026). There are no permits with this status in the Oroua catchment.

Section 386 (3) of the Act provides that permits resulting from an "existing authority", (granted under the Water and Soil Conservation Act, 1967) shall expire on the tenth anniversary of the Act, (1 October, 2001). There are three permits with this status in the Oroua catchment, (MBP: 6819 m³/day from the Oroua; James: 273 m³/day from the Oroua; and Usmar: 432 m³/day from the Kiwitea).

Existing permits - There are thirteen 'ordinary' water permits in the catchment for irrigation. Of these, nine expire on 30 June, 1994, one expires in 1995, one in 2002 and two 2004. The water permit for the Feilding water supply expires on 30 June, 1994. Of the other three water permits for water supply, one expires in 2004 and two in 2012. The ordinary water permit for MBP expires on 30 June, 1994. Thus, of the eighteen water permits, eleven will expire on 30 June, 1994. Decisions on the renewal of these permits will be made within the framework of this Plan.

Annex 2 : Charges applicable to water permit holders applicable to water permit holders applicable to water permit holders applicable to water permit holders

Section 36 of the Act provides for fixed charges or fees to be set for various administration and monitoring activities. The Regional Council sets and publishes these charges in its Annual Plan. Charges which presently apply to water permits in the Oroua catchment are as follows:

1. Applications for water permits, including:
 - 1.1 notified applications for controlled, discretionary and non-complying activities;
 - 1.2 non-notified applications for controlled and discretionary activities;
 - 1.3 applications to change or cancel water permits;
 - 1.4 applications for an extension of the period for a water permit lapsed due to non-exercise.

2. Administrative charges which could be applied include:
 - 2.1 an application to change this plan;
 - 2.2 serving an abatement notice;
 - 2.3 serving an enforcement order.

3. Monitoring charges, including:
 - 3.1 hydrological monitoring of surface water in the catchment;
 - 3.2 routine monitoring inspections;
 - 3.3 possible impact monitoring studies;
 - 3.4 any audit monitoring of permit compliance.

Annex 3 : Memorandum of Agreement for transferring water permits

To the Manawatu-Wanganui Regional Council regarding the transfer of a water permit which applies to the main stem of the Oroua River downstream of the Mangoira confluence.

I, (name of transferrer)

of (address)

agree to transfer the whole/part of the interest in my water permit number _____ for _____ cubic metres of water per day from the Oroua River

to (name of transferee)

of (address)

The amount of the abstraction being transferred is _____ cubic metres per day, at litres per second (up to the maximum rate contained in the permit), during the hours of _____

The transferee will monitor the abstraction rate by _____ (methods include pump capacity or on-line meter) and furnish information to the Council as per the conditions on the permit.

The transfer is only effective during low flow restriction periods as set out Table 3, OCWA Rule 7 of the Oroua Catchment Water Allocation and River Flows Regional Plan, and only during the weeks of _____ / the months of _____ in the year _____

The location of the abstraction of the transferrer is from the main stem of the Oroua River downstream of the Mangoira confluence and is (give a map reference from NZMS 260 scale 1:50,000 or include a sketch of the abstraction location)

The location of the abstraction of the transferee is also from the main stem of the Oroua River downstream of the Mangoira confluence and is situated at (give a map reference from NZMS 260 scale 1:50,000 or include a sketch of the abstraction location)

The amount of the abstraction not being transferred (if any) is _____ cubic metres per day, at _____ litres per second during the hours of _____

The permit, or part of the permit being transferred relates to a permit granted under OCWA Rule 5 of the Oroua Catchment Water Allocation and River Flows Regional Plan.

The water permit is for the purpose of irrigation and the transferee will also abstract water for the purpose of irrigation.

The transfer is subject to suspension of abstraction when flows reach 1000 litres per second according to OCWA Rule 8 in the Oroua Catchment Water Allocation and River Flows Regional Plan.

The transferred permit will revert to the original consent holder named on the water permit as soon as flows in the Oroua River go above the restriction thresholds in Table 3 OCWA Rule 7 of the Oroua Catchment Water Allocation and River Flows Regional Plan.

This transfer does not have effect until this Memorandum of Agreement has been received by the Manawatu-Wanganui Regional Council at 11 Victoria Avenue, Private Bag 11 025, Palmerston North.

I understand and agree to all of the above and confirm that, to the best of my knowledge, this is an accurate account.

Signed (consent holder of transferred permit) _____

_____ (date)

I understand and agree to all of the above, and further, I understand that I am legally responsible for any use of this permit or part thereof which has been transferred to me, including all conditions forming part of this consent.

Signed (person to whom permit will be transferred) _____

_____ (date)

Received at the Manawatu-Wanganui Regional Council on

_____ (date)

Schedule for single or multiple transfers of water permits for the low flow period of November 19__ to April 19__ (period not longer than six months)						
Permit Number	Consent Holder (and address)	Consent transferred to (and address)	Daily abstraction transferred (m ³ /day)	At an hourly rate of (litres per hour)	Between the hours of	During the weeks of

To the Manawatu-Wanganui Regional Council regarding the transfer of a water permit which applies to the Kiwitea Stream.

I, (name of transferrer)_____

of (address)_____

agree to transfer the whole/part of the interest in my water permit number _____
for _____ cubic metres of water per day from the Kiwitea Stream

to (name of transferee)_____

of (address)_____

The amount of the abstraction being transferred is _____ cubic metres per day, at litres per second (up to the maximum rate contained in the permit), during the hours of _____

The transferee will monitor the abstraction rate by _____ (methods include pump capacity or on-line meter) and furnish information to the Council as per the conditions on the permit.

The transfer is only effective during low flow restriction periods as set out Table 4, OCWA Rule 7 of the Oroua Catchment Water Allocation and River Flows Regional Plan, and only during the weeks of _____ / the months of _____ in the year _____

The location of the abstraction of the transferrer is (give a map reference from NZMS 260 scale 1:50,000 or include a sketch of the abstraction location), which is from the Kiwitea Stream.

The location of the abstraction of the transferee is also from the Kiwitea Stream and is situated at (give a map reference from NZMS 260 scale 1:50,000 or include a sketch of the abstraction location)

The amount of the abstraction not being transferred (if any) is _____ cubic metres per day, at _____ litres per second during the hours of _____

The permit, or part of the permit being transferred relates to a permit granted under OCWA Rule 5 of the Oroua Catchment Water Allocation and River Flows Regional Plan.

The water permit is for the purpose of irrigation and the transferee will also abstract water for the purpose of irrigation.

The transfer is subject to suspension of abstraction when flows reach 95 litres per second according to OCWA Rule 9 in the Oroua Catchment Water Allocation and River Flows Regional Plan.

The transferred permit will revert to the original consent holder named on the water permit as soon as flows in the Kiwitea Stream go above the restriction thresholds in Table 4 OCWA Rule 7 of the Oroua Catchment Water Allocation and River Flows Regional Plan.

This transfer does not have effect until this Memorandum of Agreement has been received by the Manawatu-Wanganui Regional Council at 11 Victoria Avenue, Private Bag 11 025, Palmerston North.

I understand and agree to all of the above and confirm that, to the best of my knowledge, this is an accurate account.

Signed (consent holder of transferred permit) _____

_____ (date)

I understand and agree to all of the above, and further, I understand that I am legally responsible for any use of this permit or part thereof which has been transferred to me, including all conditions forming part of this consent.

Signed (person to whom permit will be transferred) _____

_____ (date)

Received at the Manawatu-Wanganui Regional Council on

_____ (date)

Schedule for single or multiple transfers of water permits for the low flow period of November 19__ to April 19__ (period not longer than six months)						
Permit Number	Consent Holder (and address)	Consent transferred to (and address)	Daily abstraction transferred (m ³ /day)	At an hourly rate of (litres per hour)	Between the hours of	During the weeks of

GLOSSARY

This glossary is included to explain Maori words and technical terms in the Plan. Explanations of Maori terms have been taken from the Proposed Regional Policy Statement for Manawatu-Wanganui. Definitions in *italics* are those in the Resource Management Act, 1991.

Affco	Auckland Farmers Freezing Co-operative (meat processors and marketers).
annual 1-day low flow	the mean flow over one day (but not necessarily midnight to midnight) that is expected to occur as an annual minimum on average once each year.
annual <i>n</i>-day low flow	the mean flow over <i>n</i> days (consecutive but not necessarily midnight to midnight) that is expected to occur as an annual minimum on average once each year.
average 1 day low flow	the arithmetic average of a number (not necessarily consecutive) of 1 day low flows.
average <i>n</i> day low flow	the arithmetic average of a number (not necessarily consecutive) of <i>n</i> day low flows.
bed	<i>In relation to any river-</i> (i) <i>For the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks:</i> (ii) <i>In all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks.</i>
Benthic	living on or in the bed of streams, rivers, lakes and the sea.
catchment	watershed area defined by the ridges of the terrain and where surface water flows towards a watercourse.
contaminant	<i>includes any substance (including gases, liquids, solids, and micro-organisms) or energy (excluding noise), or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat -</i> (a) <i>When discharged into water, changes or is likely to change the physical, chemical or biological condition of water; or</i>

- (b) *When discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged.*

controlled activity *means an activity which -*

- (a) *Is provided for, as a controlled activity, by a rule in a plan or proposed plan; and*
- (b) *Complies with standards and terms specified in a plan or proposed plan for such activities; and*
- (c) *Is assessed according to matters the consent authority has reserved control over in the plan or proposed plan; and*
- (d) *Is allowed only if a resource consent is obtained in respect of that activity.*

A resource consent is required for these activities and the Plan sets out the information required with the application. The Council must grant applications for controlled activities if the activity complies with standards and terms specified in the Plan and in the Act. The assessment of environmental effects with applications for controlled activities is only required to address those matters specified in the Plan over which the Council has retained control. Conditions can be imposed on the consent in accordance with terms and conditions specified in the Plan.

discharge *includes emit, deposit, and allow to escape.*

discretionary activity *means an activity -*

- (a) *Which is provided for, as a discretionary activity, by a rule in a plan or proposed plan; and*
- (b) *Which is allowed only if a resource consent is obtained in respect of that activity; and*
- (c) *Which may have standards and terms specified in a plan or proposed plan; and*
- (d) *In respect of which the consent authority may restrict the exercise of its discretion to those matters specified in a plan or proposed plan.*

A resource consent is required for these activities and the Plan sets out the information required with the application. The Council has the discretion to grant the consent and impose conditions, or decline the application. The application will be assessed in accordance with terms and standards specified in the Plan and in the Act. The Plan may limit the scope of the Council discretion to specified matters.

effect

... unless the context otherwise requires, the term "effect" includes:

- (a) Any positive or adverse effect; and*
- (b) Any temporary or permanent effect; and*
- (c) Any past, present, or future effect; and*
- (d) Any cumulative effect which arises over time or in combination with other effects - regardless of the scale, intensity, duration, or frequency of the effect, and also includes:*
- (e) Any potential effect of high probability; and*
- (f) Any potential effect of low probability which has a high potential impact.*

environment

includes:

- (a) Ecosystems and their constituent parts, including people and communities; and*
- (b) All natural and physical resources; and*
- (c) Amenity values; and*
- (d) The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.*

expected (five year)**7-day low flow**

the mean flow over 7 days (consecutive but not necessarily midnight to midnight) that is expected to occur as an annual minimum, on average, (once every five years).

hapu

a subunit of a Maori social, political and economic structure comprised of whanau (extended families) all recognising descent from a common ancestor.

instream values	includes: (a) physical characteristics of the watercourse that affect the value of aquatic habitat quality; and (b) intrinsic values; and (c) recreational values; and (d) cultural values but does not include: (e) economic values.
intrinsic values	<i>in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right including-</i> (a) <i>their biological and genetic diversity; and</i> (b) <i>the essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience.</i>
issue	an issue is: a. a matter of interest or concern to the Region's community regarding activities affecting some aspect of natural and physical resources in the Region; or b. a matter required to be addressed in the Plan by the Regional Policy Statement or the Resource Management Act.
iwi	a political unit of Maori social and economic organisation comprised of many sub groupings (hapu). A purpose oriented confederation based on genealogical ties.
iwi authority	<i>the authority which represents an iwi and which is recognised by that iwi as having authority to do so.</i>
kaiawa	food found in and around rivers and streams.
l/s	litres per second.
m³/day	cubic metres per day.
MBP	Manawatu Beef Packers (abattoir).
MCWQ	Manawatu Catchment Water Quality (Regional Plan).
MDC	Manawatu District Council.

MWRC	Manawatu-Wanganui Regional Council.
main stem	in the case of the Oroua River, the main stem includes all parts of the river known as the Oroua River and does not include any tributaries.
mana whenua	<i>customary authority exercised by an iwi or hapu in an identified area.</i>
mauri	the essence of all being inherent in all things, both animate and inanimate.
mean annual flow	the arithmetic mean of the mean daily flow over a period of one year (1 January to 31 December).
median flow	flow in the stream or river which is exceeded 50% of the time.
method	the practical action by which a policy is implemented. It is what needs to be done to put a policy into effect and includes rules, procedures or programmes.
natural character of the environment	qualities of the environment that give it recognisable character. These qualities may be ecological, physical, spiritual, cultural or aesthetic in nature. They include modified and managed environs.
non-complying activity	<p><i>an activity, (not being a prohibited activity) which -</i></p> <p>(a) <i>Contravenes a rule in a plan or proposed plan; and</i></p> <p>(b) <i>Is allowed only if a resource consent is obtained in respect of that activity.</i></p> <p>This category includes activities which the Plan states are non-complying or which contravene a rule in a plan. These activities contravene a plan but are not prohibited. Applications for resource consents can be made and assessed on their individual merit. Decisions will be made by the Consents Committee or the Resource Management Committee of the Council. Applications would normally be notified.</p>
non-point discharge	run-off or leachate from a non-discrete source, onto or into land, or a water body.

objective	a statement of what is to be achieved. It is a desired result, end state, situation or condition aimed for.
permitted activity	<i>an activity that is allowed by a plan without a resource consent if it complies in all respects with any conditions (including any conditions in relation to any matter described in section 108 or section 220) specified in the plan.</i> No resource consent is required to undertake these activities provided they are undertaken in a manner consistent with any conditions set out in the Plan or the Act.
policy	a statement which guides or directs decision-making. It contains a general course of action which helps achieve the desired result. It is what needs to be done to achieve an objective.
prohibited activity	<i>an activity which a plan expressly prohibits and describes as an activity for which no resource consent shall be granted.</i>
resource consent	<i>a consent for an activity that would otherwise contravene the Act.</i>
riffle	a shallow part of a stream where the water flows brokenly, or a patch of waves or ripples on water.
river	<i>a continually or intermittently flowing body of fresh water; and includes a stream and a 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).</i>
rule	a mechanism in a regional plan (or a district plan) that <ol style="list-style-type: none">defines an activity according to specified terms and conditions as being permitted, controlled, discretionary, non-complying or prohibited; orimplements a policy.
sewage fungus	growths of bacteria and/or fungi responding to increased concentrations of organic material in the water.

surface water	all water from bores which are within 500 metres of a river and which are less than 20 metres deep except where the water is drawn from a confined aquifer or the abstraction has no effect on river flows, (refer to OCWA Rule 1).
taiapure	the Governor-General may declare areas of New Zealand waters to be taiapure by Order in Council published in the <i>Gazette</i> . They may be areas that have customarily been of special significance to any iwi or hapu either as a source of food or for spiritual or cultural reasons. Declaration of taiapure is enabled by Part IIIA of the Fisheries Act, 1983.
take	an abstraction of water from surface water or groundwater.
tangata whenua	people of the land; <i>in relation to a particular area, means the iwi, or hapu, which holds mana whenua over that area.</i>
taonga	all things prized or treasured, both tangible and intangible.
territorial authority	<i>a district council or a city council (as defined by the Local Government Act, 1974).</i>
waahi tapu	sites, areas or localities associated with tapu.
water permit	<i>a consent to do something (other than in a coastal marine area) that would otherwise contravene Section 14 of the Resource Management Act.</i>