

To: Minister for the Environment
Parliament Buildings
Wellington

An Application for a

WATER CONSERVATION ORDER

in respect of the

Rangitata River

by

**New Zealand Fish and Game Council
Central South Island Fish and Game Council**

(Section 201 Resource Management Act 1991)

The New Zealand Fish and Game Council and Central South Island Fish and Game Council (hereinafter referred to as the applicants) apply to the Minister for the Environment for the making of a Water Conservation Order in respect of the Rangitata River and its tributaries together with shallow groundwater reserves within 15 m from the surface and less than 1000 m from the main river downstream from Arundel Bridge. ("the River") pursuant to section 201 of the Resource Management Act 1991.

INTRODUCTION

1. The Rangitata River, some 120km long, is one of the major river systems in South Canterbury. The catchment consists of a large inland basin and a relatively narrow lower catchment from the gorge to the sea. At its outlet the Rangitata has a total catchment area of about 1600 square kilometres.

Through the gorge, about 15 kilometre in length and 44 km from the sea, the river is single thread with a well-developed meandering pattern. For the remainder the river displays a braided river morphology with its own special characteristics.

Except for limited river protection works and some agricultural development in berm lands from Arundel for 29km to the sea, the river remains largely in its pristine state.

Low flow usually occurs in July – August each year when the three main snow fed tributaries sourced in the Southern Alps are frozen over and flow from these tributaries is minimal. During this period the river is sustained by a number of important spring fed tributaries which dominate the middle part of the upper basin. Principal among these are the two main salmon spawning streams, Deep Creek and Deep Stream.

Snow melt normally sets in about late September. From then on river flows remain higher than mean flow through to March and then gradually decline towards the winter low.

2. Flow in the river has been measured at Klondyke, 44 km from the sea at the outlet of the gorge since mid 1967. Relevant flow statistics are as follows:

Mean annual flow	95 cumecs
Median flow	72 cumecs
Mean annual low flow	40 cumecs
1:5 year (7 day) low flow	36 cumecs
1:10 year (7 day) low flow	34.5 cumecs

3. Water abstraction from the river is restricted under the terms and conditions of the Rangitata River Water Management Plan 1986 – 96. Prepared under the provisions of the Water and Soil Conservation Act 1967, this plan has no status in terms of the Resource Management Act 1991 but continues to provide the framework for considering consent applications pending the formulation and adoption of an RMA based plan to replace it.

Except for capping abstraction from the river and its associated groundwater to existing authorisations, a total of about 33 cumecs, the flow management regime under this Conservation Order application remains that which has operated since 1986.

4. Current water use is summarised as follows:

Rangitata Diversion Race (RDR)	30.7cumecs
Other irrigation takes	0.8cumecs
Rural water supply schemes	<u>1.2cumecs</u>
Total	32.7cumecs

5. The Rangitata River supports nationally outstanding sports and native fisheries resources. The salmon and trout fishery has developed over more than 100 years of sustained recruitment and management by the former Acclimatisation Societies and more recently the Fish and Game Council. The River is also habitat to modest but important populations of long fin and short fin eels.

6. A Water Conservation Order is sought for the whole of the River from its source to the sea, including all tributaries, lakes, tarns, and wetlands and especially the following major salmon spawning streams:

- Ealing Springs
- Brabazon Fan
- Black Mountain Stream
- Deep Stream
- Deep Creek

The Order also seeks inclusion of shallow groundwater reserves contained within 15 m below the ground surface and less than 1000 m either side of the main river downstream from Arundel (K37:737913).

In making this application, the applicants seek to establish adequate protection of the natural and wild and scenic characteristics of the Rangitata River, together with its fisheries, recreational, spiritual, and cultural values.

REASONS FOR THE APPLICATION

7. The Rangitata River contains nationally important and outstanding sportsfish resources. The River is one of the few rivers outside of western North America (the native habitat) to have a self-sustaining chinook salmon population. There are four sportsfish species present in the Rangitata; chinook salmon, brown trout, rainbow trout and brook char. Chinook salmon are abundant and widely distributed throughout the river system during the main season December – April. Brown trout are also abundant and widely distributed throughout the main river with sea run trout being available to the angler throughout the lower river during the early part of the angling season, October – December. Rainbow trout are a lesser population and mainly confined to above the gorge. The brook char population is small and limited to a few streams. None the less, because of their relative rarity brook char are highly prized by the recreational angler.

Besides the sportsfish species, the river is habitat for some 18 species of native fish (Bonnett 1986) including mullet, flounder, eels, lamprey, bullies, torrent fish, galaxias and koaro.

8. A 1994/95 National Angler survey of approximately 17000 anglers nationwide identified the Rangitata as the most fished river in the Central South Island Region. That survey recorded 35900 angler days for the season, second only to the Waimakariri as the most fished salmon river in New Zealand. Unlike the Waimakariri, the Rangitata does not have a large populated city nearby further demonstrating its value as a sportsfishery river. The Waitaki and Rakaia rivers although having higher mean flows each recorded about 34500 angler days.

At the mouth there are two fishing villages, each with about 100 batches. During the summer the population of these settlements increases to up to 1,000 further demonstrating the importance of the lagoon area for recreational purposes.

The Rangitata River is popular with anglers mainly due to ready accessibility, both by vehicle and on foot. The Rangitata is the smallest of the major salmon rivers. For this reason, it poses less safety risk to anglers in general and in particular novice anglers.

9. Angling for salmon is believed to be about 75% of all angler activity on the river. Annual catch based on 1993 – 99 survey data varies between 1500-5000 salmon. Based on survey data from 1983/84 and 1984/85 seasons the trout catch, including both rainbow and brown is estimated to be 6000 – 8000 annually (Davis et al, 1987).
10. Angler harvest over the last six seasons has averaged about 30% of all adult salmon returning to freshwater to spawn in the headwaters and tributaries upstream from the gorge. Aged 2 – 4 years old at this stage these adults are up to 1 m. in length, 0.3 m. in depth and 18 kg in weight.

Water temperature coupled with the incidence of fresh flows are important motivating factors to encourage adults from sea into the mouth and their continued migration upstream.

There is the prospect that the frequency and duration of fresh flow events will be impacted by further consents to take from the river, and with that a decline in the numbers of adults returning from sea and escaping the angler to reach the spawning areas.

11. A flow of 20 cumecs is required to maintain the river mouth open. Such flow levels are however inadequate to maintain fish passage of 0.25 m over riffles and braids throughout the river below the gorge.

Further abstraction would increase the duration each season when flows would be constrained to the range 20-50 cumecs and with that would increase the risk of inadequate fish passage over the 44 km section from the sea to the gorge.

12. Any dam on the Rangitata River would present a complete barrier to not only salmon but also a number of other species that migrate to the headwaters to spawn. Fish ladders and lifts have been trialed overseas with varied success. History has shown that a fish ladder

or lift that fails is often cause for the complete demise of a long established and previously healthy fishery.

13. The water quality of the river remains pristine. Except for short duration discharges from the RDR sand trap elevating the suspended sediment concentration for a short distance downstream from the discharge, there are no other point or non point discharges of significance.

The Order seeks to maintain that status.

14. Anglers fishing the Rangitata for salmon consider 40 cumecs below the RDR intake is the minimum required for angling success. This equates to 70 cumecs at the Klondyke recorder site. At flows in the range 60 – 120 cumecs at Klondyke the water is characterised by a light milky colour considered ideal conditions. At flows less than 60 cumecs the flow below the RDR intake is typically 20 –40 cumecs and the water is too clear and the flows are too low for successful salmon angling. Fish tend not to be active under such conditions but simply hole up waiting for a fresh to occur. At flows more than 120 cumecs the river is too turbid for angling.

During the peak salmon angling months Dec – Feb the flow at Klondyke is in the range 70 – 120 cumecs for about 50 % of the time. Any increase in abstraction would reduce that time and the opportunity for angling.

15. The Rangitata River provides habitat for a wide variety of native bird species, including blue duck. The river also provides habitat for good populations of mallard ducks and Canada geese for the gamebird hunter.
16. While angling is possibly the most popular recreational activity, the river is widely used for other recreational activities including jetboating, white water rafting, canoeing, whitebaiting, flounder fishing, picnicking and sightseeing.

Its outstanding recreational qualities makes this river deserving for Conservation Order protection.

In addition the Rangitata River has special importance for Ngai Tahu. This has been recognised by the Crown in the Ngai Tahu Deed of Settlement and the Ngai Tahu Claims Settlement Act 1998. A letter of support from Te Runanga O Ngai Tahu is attached to this application.

PROVISIONS SOUGHT

The applicants consider that to achieve appropriate protection of the Rangitata River, a Water Conservation Order needs to provide for:

17. Restriction on damming of water, specifically that no resource consent be granted or rule included in a regional plan permitting the damming of the River. This restriction does not apply to the maintenance of existing rock weirs and river works to the same level and extent occurring as at 1 January 2000. Nor do these restrictions apply to the placing of new rock works and the carrying out of river engineering works necessary for flood and asset protection purposes.
18. Restriction on alterations of river flow and form, specifically, that no resource consent be granted or rule included in a regional plan if the effect of the granting of the resource consent or rule would not generally maintain the channel cross section, meandering pattern and braided river channel characteristics of the river.
19. Restriction on the diversion and taking of water, specifically that no resource consent be granted or rule included in a regional plan if the effect of the granting of the resource consent or rule is contrary to the following:
 - a. Total abstraction from the river and its shallow groundwaters is to be limited to a maximum of 33 cumecs.
 - b. For the period from 1 September to 30 April in the following year, there will be a flow management regime comprising a minimum flow of 20cumecs and an equal (1:1) sharing between instream retention and out-of-river abstraction when flows exceed 40 cumecs but are less than 66 cumecs as measured at Klondyke. Any flow in excess of 66 cumecs as measured at Klondyke is to remain instream. This

enables existing authorisations for the diversion and abstraction of water to continue under the same management rules which have been in operation since 1986.

- c. For the period 1 May to 31 August each year there will be a flow management regime comprising a minimum flow of 15 cumecs and an equal (1:1) sharing between instream retention and out-of-river abstraction when flows exceed 30 cumecs but are less than 66 cumecs as measured at Klondyke. Any flow in excess of 66 cumecs as measured at Klondyke is to remain instream.
20. Restriction on alteration of water quality, specifically, that no resource consent be granted or rule included in a regional plan which alters the quality of the water existing as at 1 January 2000.
 21. A requirement to maintain fish passage, specifically, that no resource consent be granted or rule included in a regional plan for the river unless that resource consent or rule provides for the maintenance of adequate natural or artificial passage for salmon, trout, and native fish that require passage through these waters.
 22. A requirement to prohibit fish from entering an intake, specifically that any resource consent authorised to divert or take water from the river shall be conditional upon the grantee prohibiting or where that is not possible, minimising the entrainment of fish into the intake to the satisfaction of Fish and Game New Zealand.
 23. The provisions sought by the applicants will ensure that the River's outstanding characteristics are protected.

24. The administration and management of the Water Conservation Order sought would lie with the Canterbury Regional Council. The applicants consider that this application is consistent with the policies contained in the Canterbury Regional Policy Statement.

Signed by Stephen Christensen
Solicitor for the applicants

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Date

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