

Waipara River Group Submission (WRG)

To The Hearing Commissioners On the Proposed Waipara
Catchment Environmental Flow and Water Allocation Plan.
30 March – 5 April. 2011

My name is Tom Porter. The Waipara River Group is an informal Grouping of Wine and Olive Growers and Farmers who individually have consents to abstract water from the main stem of the Waipara River, most takes are from the river shingles.

Our group live and work along the river and witness its changing flows dependent upon the intensity of the coastal rains.

I live in a house overlooking the Waipara River our property is approximately 15 Ha. I have a small consent to take 2.95l/s from a spring 300m from the river. Permission for a gallery with a depletion rate of 1.6 l/s We have a 1 Ha Olive Grove and 5.5 Ha Home Block Vineyard plus some 5 ha of grazing 1 of accretion along south bank of the Waipara River.

I will explain how I became involved in this process. In 2004 I was invited to a meeting with Craig Mason and Stuart Ford who were researching the costs of out of stream storage as part of this process. I had just put in a very small buffer Dam to help through periods of no take, as we established our vineyard. I was reluctant to get involved as I was busy at that time. But as I was regarded as having some knowledge I agreed to go. Whilst waiting for Stuart Ford I asked Craig Mason "What would happen if something Ecan proposed was likely to cause the consent holder to become bankrupt?"

His reply was "someone else would buy the property".

I have been involved ever since.

This plan has been developed because the Waipara River Catchment does not fit into the confines of the NRRP. It is now 9 years since Ecan sought community input into the development of the currently notified plan. Over this time we have worked in good faith over multiple meetings, held locally in the Waipara village Hall, as well as in Christchurch attended by staff, who were strongly supported throughout the process by the Ecan Councillor Ross Little as well as other councillors who, from time to time attended the meetings held in Waipara, to become informed on the issues.

There have been 9 Staff reports and I believe some 10 technical workshops and technical reports. There was a site visit for Ecan councillors to see the Waipara River and to hear from Staff and others on site. There was a full day workshop held at Ecan on 11-03-2009 which was well attended by councillors with 14 presentations from interested parties and groups. Including Forrest and Bird, Ngai Tuahuriri Runanga, Abstractors, Ian Lloyd, Dr Henry Hudson, and Hurunui District Council.

Over this period there were at least 4 different Ecan staff heading the process and there have been many staff changes among those consulting with our group. Ross Little would probably be better informed than any other person of all the changes and happenings in the process. This has meant the with each change of staff knowledge is lost and creates the need to explain to each new appointee what has previously been discussed.

All this consultation and discussion culminated in the Ecan councillors voting 9 to 5 across political lines in favour of the Notified plan. On 15 July 2010.

We believe that the current notified plan is a good plan. With a few exceptions which are covered in our submissions.

Page 16 Partial Restrictions Policy 3.5

It is noted that the 42A Report by Ecan has already been ruled on by the Commissioners as being out of Scope with regard to this Policy.

We nevertheless believe that the Partial Restrictions are contrary to the plan because it does not ensure that 'existing abstractors are able to maintain a reasonable reliability of supply', as noted in the Introduction on page 1 of the Notified Plan.

'Economic analysis of a change in Waipara River water availability'

The so-called new work which has been done is basically a reworking of previous figures and is a desk top exercise. It is certainly not in the form of the type of analysis that we were given to understand by Bryan Jenkins would take place. That is to say the measurement of the actual effect of extraction on surface flow. All the calculations undertaken by Ecan basically assume that extraction has a direct effect on reducing surface river flows by the same amount. All actual measurements to date show that this is not the case.

Under 3 Comments it states that "The potential impact on viticultural operations is much more severe as losses could be as severe as the total loss of the current season's crop as well as negative impacts on next seasons yields" Even this understates the worst case scenario which would include the death of vines which cannot be readily replaced because they increase in value with age, as age can bring improved quality.

As stated in the 42A report, the cost is very similar to that produced by Herb Familton at an earlier stage and the results of this were known to the previous Ecan Council. The 2005 report by Stuart Ford showed that these costs were unaffordable. This was before the economic downturn and the severe difficulties faced by the viticultural industry, which have been made worse by the collapse of the Christchurch CBD, Waipara's main wine market.

The costs as calculated are an understatement because they assume one large dam for the whole catchment whereas there would be a lot of small ones which are relatively more expensive.

All this could be avoided if the plans to supplement flow into the Waipara, which are mentioned in the plan, were implemented.

If raising minimum flow and introducing partial restrictions are carried out then much of the viticultural industry, with its economic benefits to the community, are at risk of being destroyed before the water arrives. This would mean that one of the aims of supplementing the flow in the Waipara would no longer be relevant.

Stream Depletion

These severe impacts of increased minimum flows are made much worse by the way Ecan calculates the affect of abstraction from the river. Following its Concrete Drain vision.

It is made very clear by **Matthew Smith in his section 42A Report under Stream Depletion** on page3, "Accurate estimates of stream depletion are dependant upon verification of the conceptual model..." and "The complex nature of the geology and hydrogeology present in the Waipara area makes the need for field testing that much more important to achieve realistic depletion estimates."

Stream Depletion Estimates in the Waipara Area. Para 19. "The analytical models involved with stream depletion estimates are simplifications of the real world and are based on a number of assumptions. As such the estimates that they provide have limitations, particularly where inadequate information regarding aquifer structure and aquifer parameters is available.

Para 22. Please note that the absence of testing information available in the Waipara Basin, the depletion estimates prepared for the proposed plan are based on presumed aquifer parameters and not site specific assessments.

These statements cry out for a more detailed study of the stream depleting effects of abstraction from the Waipara River Zone.

Since 2005 WRG have maintained that the impact of abstraction in the Waipara River Zone is very much less than presently calculated using Ecans 'Concrete Drain' approach to stream depletion. By that I mean they calculate there is a litre less flow in the river for every litre extracted from the River Zone.

By scaling off Map 1b in the Appendix of the 42A Report I estimate the area of the river Zone to be approximately 12 Sq. Km between White Gorge and the Omihi confluence. It is in this area that Mathew Smith proposes that any bore less than 30 m deep should be deemed to be directly connected to the surface flow in the Waipara River. In that event one must presume that pretty well the whole area is composed of river shingles of varying sizes which cover the river from bank to bank and can certainly be seen at 2.7 m deep and awash with water on my own property 170 m from the main stem and on the extreme southern edge of the Zone midway between White Gorge and the Omihi. My own personal observations lead me to believe that the water holding capacity of the shingle is about 30% by volume, (by taking 10 litre bucket of dry shingle originally from the water table and seeing how many litres of water will fit in) very crude but indicative.

If I am correct then the Zone could hold water equivalent to a lake 4 Sq. Km 10 m deep. About 720million litre in the top 200mm. Which I believe acts as a buffer stock and replaces water taken for irrigation.

This water is referred to as underflow or the water table and is at the same level 170m from the river as the river surface at my property. A similar situation exists on my neighbour's property 300+ m upstream of my observations. When installing his gallery at a time of low flows he had to hire 2 pumps to lower the water in the excavated hole in order to install the slotted pipes at the gallery base. The strong water inflow prevented him from installing the pipes to the designed level. Again over 50 m from the river.

The recharge to groundwater is not totally reliant on river flows as there are springs and other groundwater seeping in from surrounding higher ground.

In our own case the spring is some 5 metres above the river and runs all year, it comes from under the escarpment on the south side some 300 m from the river and goes to ground again except at the wettest time of year.

In 2006 The WRG had discussions with Dr Bryan Jenkins and in a letter following up our discussions he wrote

“ One of the key concerns of the Waipara River Group is that the effects of existing water takes from the river are not clearly discernable. Within the catchment there are complex interactions between surface water and groundwater. More refined measurements of the impact of water withdrawn from the river on flows are needed to determine the extent of the effects. He put forward an outline of an appropriate measurement programme to address that issue.”

The measurement proposal included:-

8 Gauging Runs from White Gorge to the mouth

Runs should cover full range of flows spread over a series of months.

Gauging sites above and below tributaries

Gauging of each tributary

Use of Piezometers above and below takes and in the dry bed of the Weka Creek

Piezometers driven into recent gravels on both sides of the river at a series of sites down the river. To measure depth and change in water levels and to determine gravel storage.

This proposal was never implemented but was later superseded by The Waipara Experiment. Which was restricted to investigating the largest take but without piezometers and limited gauging sites. which showed that the take from The Forbes consent of 57 l/s was barely discernable at SH1 Bridge.

This result confirmed what was previously stated by the North Canterbury Catchment Board when the consent was first granted and the original minimum flow restriction was set at the equivalent of 50 l/s at White Gorge. The effect at SH1 bridge at that time was considered De Minimus.

Some other indicators are:-

I live 1 Km Downstream of Forbes (the largest take) and have never seen the river dry in our section.

7 day MALF figures for 2005

White Gorge 112 l/s + Bobby's Stream 19 l/s = 131

Just above Omihi Confluence = 133 l/s

This at a time when irrigation would be at highest demand.

Gravel is extracted in the lower Waipara River and it is part of the consent conditions that it must not be taken from below the water table. The main yard inland of the Golf Course is surrounded by lakes from old gravel excavations where the ground water is for all to see.

The Croft take in the lower Waipara. When water was being taken at 19 l/s from shallow bore in shingle beside the river, gauging was being undertaken for other purposes both above and below their take Mrs Croft was told there was no sign of their take affecting the river.

Aerial Photographs taken at periods of low flow of the lagoon with dry reach just above the lagoon show considerable flow of water from lagoon area into the sea through the shingle bank along the beach. We believe in much larger quantities than could be explained by surface flows from the river alone.

None of these indications are proof of our claims but taken together must raise doubts about Ecan's Concrete Drain approach and the supposed need for raising the minimum flow. When both the Chief executive and the Groundwater hydrologist propose the need for further measurement to determine the impact of abstraction, there must be serious doubt about current practice.

It seems to me quite unreasonable to consider imposing higher minimum flows stringent restrictions on abstractors based on theoretical stream depletion calculations when all the evidence appears to show the status quo as having no scientifically proven stream depleting effect. This is particularly important as the costs associated with out of stream storage could have very serious consequences in terms of business survival and the knock on effect to employment.

Submission Analysis and Recommendations

Stream Depletion.

42A Report Page 72

With regard to Policy 6.1(c) relating to the 3 l/s threshold for stream depleting Groundwater takes, we have identified this as a scope issue also and for which we have given prior written notice to Ecan. John Hardie, Barrister, will be making submissions on Scope on behalf of the Group.

The Group otherwise wishes to address the following issues:

In the third paragraph the text implies that the exclusion of groundwater takes from minimum flow restrictions, with a stream depleting effect of less than 3 l/s was somehow an error in drafting.

This is simply not the case. Herb Familton and Dr Vattala both were well aware of this proposal which was discussed as being a reduction on the 5 l/s cut off under NRRP as applied to other Canterbury Rivers. At one stage it was reduced to 1 l/s and later raised to 3l/s.

They both had a very clear understanding of how efficient grape growers are in their use of water and how critical a low but reliable supply of water is when deficit irrigation techniques are used.

They actually encouraged two of our Group to reduce their rate of take by a combined total of 16 l/s so that they could benefit from this provision.

This had the effect of reducing the total A block abstraction by 16 l/s. in the Upper Waipara River, which was seen as a very positive environmental gain. This proposal was supported by the Ecan councillors hence its inclusion in the Notified Plan. But as soon as they were gone staff set about removing parts of the notified plan of which they did not approve. And are now using emotive and grossly exaggerated claims to bolster their case.

The text then raises the spectre of an increasing number of applications for takes just under 3 l/s. There are 4 that I am aware of in the upper Waipara two were long standing takes of 3 l/s and for takes to bolster storage and two were the takes that in combination surrendered 16 l/s. to make their applications. As encouraged by the consenting Officer, who views this proposal as an environmental gain.

It continues (Page73 2nd para) these small takes **may** have a cumulative effect. *There has been no attempt to measure the actual stream depleting effects which we believe to be nil and both Dr Jenkins and Matthew Smith are on record as saying should be determined by measurement.*

The next paragraph contains the statement "It is evident from the multitude of submitters who have sought that takes of 3 l/s or less be exempt from the stream depleting effect calculations or minimum flow requirements, along with a number of applications that have been made or adjusted to be below this threshold' (*all four. My italics*) That the risks to the Waipara River of cumulative effects from a large number of takes is quite high.

If transfer of consents is a concern there is adequate control from Rule 8 and the list of matters over which the CRC will retain control

In the Upper Waipara. The 3 l/s takes would be within the capped take and it would require a resource consent to get any new take. The 'multitude of submissions' shows just how many people oppose and disapprove of this underhand back door attempt to change the Notified plan. Voted 9 to 5 by elected councillors.

Page 83 **Three Litres per Second Threshold Para 3.** "A number of submitters have picked up on this use of a 3l/s as a threshold, and have sought to apply it through the WRP, more or less creating a de facto permitted activity category for surface water abstractions of 3 litres or less"

Who and How many? Or is this the same multitude as above, who are concerned that staff should not override the decisions of the elected council who voted 9 to 5 in favour of the notified plan.

Raising Minimum Flows

Raising the minimum flows, which had previously been suggested by Ecan staff, but rejected by the council at the meeting 15 July 2010 as they were aware of the full implications of the proposal. This should remain at 50 l/s bearing in mind the Concrete Drain Vision is fundamentally flawed.

Mr Jowett's Section 42A report correctly claims the key instream values are the native fish and feeding habitat for wading birds at the River mouth. On page 15 (6.2) he referred to a 3 year study from 1998 to 2001 he explained that the study demonstrated the resilience of the fish community, as it redeveloped strongly after the first year of the study even though it had been severely affected by low flows. There were in fact 47 days below 50 l/s when no abstraction would have been taking place in 98/99. with flows naturally getting down to 32 l/s. in the Upper Waipara as measured at White Gorge. Despite this the fish community redeveloped strongly in the next year. The results would have been made worse because in 1997/98 There were 48 days below 50 l/s with flows down to 30 l/s Jan 26 l/s. Feb 29 l/s March It's a wonder there were any fish left to study in 98/99! It is hard to see how abstraction could have been blamed for these extended naturally low flow years

Para 5.14 Procedure in an instream habitat analysis (HSI) was very interesting, presumably it is this point, where the fish actually are, that the optimum flow is arrived at rather than the nearest gauging point, and it was based on this methodology that the 60 l/s optimum flow was determined. If my assumption is correct the current minimum flow at White Gorge of 50 l/s, plus in flow of 10 l/s from Bobby's stream already delivers 60 l/s to about 12.5 KM of the upper Waipara River, from just below the recorder of the Upper Waipara.

It should be remembered that the fish populations measured by Mr Jowett have survived the 50 l/s minimum flow plus 10 l/s from Bobby's stream regime for many years without partial restrictions and compare well with other rivers. Which would seem to support his figure of an instream flow of 60 l/s which is achieved by 50 l/s at White Gorge augmented by input from Bobby's Stream.

Mr Jowett refers to Darren Leftley's desk top study of Waipara River Flows. On Pages 13 and 14 Mr Leftley purports to show Flow Statistics for the Waipara River u/s of the Omihi Confluence comparing the effects two levels of abstraction on standard flow statistics.

If (Scenario 1) the present abstraction, draws the river 7d MALF down to around 30 l/s just above the confluence surely this would show up at Teviotdale recorder, by subtracting Omihi inflows.

I have never heard of this happening in practice. To then go on and claim it all happens because there are no partial restrictions without even looking to see if theory matches practice is disturbing.

It begs the question of why this is not the subject of actual gauging, as proposed by Dr Jenkins in 2006.

Submission Analysis and Recommendations.

On page 77 3rd paragraph. Last sentence "Overall Mr Jowett considers a minimum flow at White Gorge of 60l/s and 120l/s at Teviotdale Bridge along with partial restrictions, to be an appropriate flow regime that balances the needs of abstractors with in-stream values."

This is surprising as the economic impact report had not been written at that time. So he was unaware the severe impact his suggestions would have on abstractors. Restrictions upto 5 times more in terms of days of no take for a rise from 50l/s to 60 l/s alone with the likelihood of a severe impact on business.

The current rush to introduce changed minimum flows all predicated on very dubious Concrete Drain based stream depletion estimates in which even Dr Bryan Jenkins appears to have little faith, without undertaking Scientifically based measurements, is unnecessary and foolhardy. Very soon it will become much easier to collect accurate data with the widespread introduction of consent metering and the new gauging point at the Omihi Confluence and with Telemetry from White Gorge and Teviotdale recorders as well. Why not wait for the true facts to emerge and avoid the potential ruination of our local businesses and the consequent effects on employment.

One should not forget Mr Jowett's recommendations are based on the assumption that the Concrete drain approach is an accurate reflection of the effect of abstraction. If one is wrong so is the other.

In our opinion minimum flows should remain as shown in the Notified plan as 50 l/s at white Gorge and 110 litres at Teviotdale.

Tom Porter

For The Waipara River Group