

IN THE MATTER OF

the Resource Management Act 1991

AND

IN THE MATTER OF

Application by **N.B Eggleton** (CRC082186) to take and use groundwater from proposed bore J39/0705 for the irrigation of 141 hectares of crop and pasture at Cannington, South Canterbury. The application is not currently within an identified Groundwater Allocation Zone.

Decision of Hearing Commissioners Mr Robert Nixon (Chair) and Mr Mike Bowden

The application

1. This application for groundwater take was received by ECAN on 14 December 2007. It was publicly notified on Saturday 12 July 2008.
2. The application (CRC082186) is to take water to irrigate approximately 140 ha of a 221 ha farming property in the Cannington Basin, inland from Timaru. The property which has a roughly triangular shape, is located between Cave and Pareora.
3. The application is to take and use groundwater at a maximum rate of 80 litres per second with a volume not exceeding 726,150 cubic metres between July and the following 30th June from proposed bore J39/0705 (diameter: 300 mm, depth 150 m), at or about map reference NZMS 260 J39: 4815-4743. Water will be used for the spray irrigation of 141 ha of crop and pasture for grazing stock including milking dairy cows adjacent to the Pareora River between Cannington Road, Cliffs Road and Pareora Gorge Road.
4. This property already has consent to irrigate from a shallow infiltration gallery under CRC 990943.1. This abstraction is subject to minimum flow restrictions on the Pareora River. This consent is used to irrigate 80 hectares of the applicants property.
5. A consent duration of 10 years is sought.

Other matters

6. It is noted that bore J39/0705 from which consent is sought to take water through this application, has already been drilled. This bore failed to yield a significant quantity of water, and subsequently consent was obtained to drill two further wells approximately 700 m to the south west, being bores J39/0719 and J39/ 0720. The first of these two bores has since been drilled and screened. A further application by B and H. Scott was withdrawn before the hearing. It is understood from the hearing that one of the submitters present (Motukaika Dairies) is the successor in title to Mr. Scott. The latter was in attendance at the hearing, but we understood his position was essentially "neutral" on the application.

Notification and Submissions

7. The application was publicly notified on 12 July 2008. A total of 12 submissions were lodged on the application, all of which were in opposition. The submissions were analysed in detail in the reporting officers Section 42a report. Submissions were received from;

A.R Midgley
Fernwood Dairies Ltd
Lower Pareora Irrigators Collective
R. and S. Dyer
M. and A. Goodworth
M. Little
Concerned Farmers of Eastern Cannington
D. and S Murray
B. and H. Scott
P.J. Moynihan
P. Miller
W. and S. Wright
Silver Fern Farms Ltd.

8. The last submission listed was received late, but has been granted a waiver by the Regional Council.

9. In summary, concerns were expressed by submitters in the lower Pareora River area about the effects of the proposed abstraction on instream flows and water levels in the Pareora River, and on associated springs, groundwater resources, and water quality. Submitters in the Cannington Basin were concerned about potentially reduced yields from existing bores or springs on nearby properties. A monitoring condition and recompense for any reduced flows were also sought. One submitter (Miller, who did not appear) was concerned about the effects of nutrient rich runoff on the Pareora River and the noise of pumps and irrigators.

Statutory provisions

10. This application before us is subject to the provisions of both the Proposed Natural Resources Regional Plan (PNRRP) as well as the Transitional Regional Plan (TRP). The PNRRP is subject to a large number of submissions, many of which have yet to be heard.

11. The TRP contains a General Authorisation (GA) for the abstraction of natural water. Where a property is greater than 20 ha in size, the Plan provides that the taking of groundwater is permitted provided that the volume of water abstracted shall not exceed 100 cubic metres per day per property, at a rate not exceeding 10 litres per second for any well. In this application, the proposed volumes and instantaneous rates of abstraction are greater than those specified as permitted in the GA, and accordingly the application requires consent as a discretionary activity under the TRP.

12. Chapter 5 of the PNRRP relates to water quantity issues. As notified, under the PNRRP the applicant's property is not located within a Groundwater Allocation Zone.

13. Rule WQN 13 permits the taking of groundwater, provided that it does not exceed five litres/ second or 10 cubic metres per day. The proposed activity exceeds the rates and volumes outlined in Rule WQN 13 and proposed take is therefore not permitted under the PNRRP.

14. Rule WQN 23 classifies the taking of groundwater for which no allocation limit has been set, or that is not been classified as a permitted, restricted discretionary or discretionary activity, as a non complying activity.

15. Turning to the use of water, Rule WQN 25 permits the use of groundwater for irrigation on a property supplied entirely from private groundwater or surface water under certain conditions. The proposed use of water for irrigation meets the conditions of Rule WQN 25 and is accordingly a permitted activity under the PNRRP.

16. In summary, the taking and using of water is a ***discretionary activity*** under the TRP.

17. The taking of water in this location under the PNRRP is a ***non-complying activity***, while the use of water is a ***permitted activity*** under that Plan.

Appearances and evidence

18. No expert evidence was called in support of the application, which we found unusual in these circumstances and caused us some consternation. These concerns were reinforced by the application being, in effect, an assessment of two different bores (J39/0719 and J39/0720) which were a considerable distance from bore J39/0705 which was subject to public notification, and upon which much of the evidence we heard was based. These factors had an inevitable influence on our final decision. The applicant's legal counsel presented brief submissions, followed by a statement of evidence by the applicant himself. This is summarised below, followed by the evidence presented on behalf of the Regional Council, upon which considerable reliance was placed by both the applicant and the Pareora River

Irrigators Collective. As a departure from the usual practice, the evidence on behalf of the submitters is summarised last in this decision.

19. The hydrogeological background to this application is somewhat unusual and complex, involving a proposed take from the isolated Cannington Basin in the upper reaches of the Pareora River. This raised issues both in terms of the availability of water and potential effects on other abstractors in the Cannington Basin, and more particularly any potential baseflow contribution from groundwater to the river above the Pareora Gorge and consequent effects on abstractors in the lower Pareora River area.

For the Applicant

20. **Mr C. O'Connor**, of Gresson Dorman & Co, appeared as legal counsel for the applicant. He submitted that the evidence showed that the proposed take would be an efficient use of water and that any effects on aquifer stability or cross connection on groundwater quality are likely to be minor. He acknowledged that a difficulty arose with the officers conclusion that there was insufficient information available on the quantity of water in the area and possible effects on other groundwater users. In response to this he argued that the Resource Management Act was not a 'no risk regime' and that his client should not be penalised because there is a lack of knowledge about the groundwater resource in the area.

21. In his submission, the proposed mitigation measures contained under the conditions in the officers section 42a report (assuming consent were granted) would address concerns relating to cumulative effects on other groundwater users, and he added that the conditions were framed so that the applicant would assume the risks, not other users. His conclusions were reinforced by what he argued to be the "cautious and conservative approach" (paragraph 21) taken by the applicants consultant, by Environment Canterbury, and by the consultants for Motukaika Dairies Ltd, a submitter in opposition and nearby landowner.

22. **Mr. Bruce Eggleton** then presented his statement of evidence in support of this application. By way of background he explained that in late 2007 he acquired two farms at Cannington which had a total area of 221 ha. These were subsequently purchased with the primary purpose of undertaking dairying.

23. He explained that he obtained advice from a water diviner who advised that there would be good supplies of groundwater in the vicinity. After obtaining consent from ECAN, bore J39/0705 was drilled. For various reasons, it appeared that this well could not provide an adequate or reliable source of water, and accordingly a further application was made to ECAN (subsequently granted in February 2008) to drill another two bores approximately 700 m to the southwest, these being J39/0719 and J39/0720 referred to earlier in paragraphs 6 and 18. He said that at about this time the application was placed on hold pending a review by ECAN of water allocation in the Cannington Basin as a whole. Following the completion of this report,

he said that he was advised by ECAN his application should be publicly notified.

24. Mr. Eggleton stated that he was aggrieved at what transpired, as this had exacerbated the substantial costs he had incurred in developing the property. He said he was under the impression that his application would not be notified and would be favourably considered.

25. At this point we would like to comment that we were left in no doubt (and acknowledge) that a combination of events including the nature of the consent process, a family tragedy, the opposition generated to his application, and the obvious costs that must have been incurred in drilling an unsuccessful deep well, and a second well, had weighed heavily on the applicant and caused him considerable distress.

26. Although we understood that Mr. Eggleton had originally employed qualified technical advisers, he was not represented at the hearing by anybody having expertise in the field of groundwater management and abstraction.

Evidence for the Canterbury Regional Council

27. As noted earlier, in light of the complexities associated with this proposed take, and the reliance on evidence presented on behalf of the Regional Council, their evidence is summarized under four broad headings;

- The water resources on the can basin and potential effects of the proposed abstraction
- The hydrology of the upper Pareora
- The hydrogeology of the Cannington Basin
- The potential interference effects from the proposal

The Water resources of Cannington Basin & the potential effects of the proposed abstraction

28. Expert technical evidence on the water resources of the catchment and the potential effects of the proposed abstraction was restricted to that presented in the section 42A reports (Just, Heller, Davie & Ritson) and evidence presented by Richard de Joux (Motukaika Dairies Limited).

29. **Mr David Just** in his section 42A report described the geology and groundwater availability of the area. He said the Pareora Valley, south of Timaru, has been formed by the erosion and deposition of gravels by the Pareora River. The Pareora River drains from the Hunter Hills to the west from a North and South branch, and then travels down-plain to the sea in an incised valley of re-worked gravels within the rolling topography of South Canterbury. Groundwater resources are located in the recent sediments of the Pareora River between the northernmost terrace, and the hills to the south of the River. Deep groundwater at 80-100m has been discovered at the coast, and is utilised by the PPCS Freezing Works plant (Aitchison-Earl, 2001). This

deeper aquifer is said to be from beach gravel deposits, and similar aquifers are also found in the Otaio and Makikihi Zones.

30. He said the valley is comprised of greywacke of the Torlesse Group, overlain by Tertiary sediments faulted against the Torlesse at the eastern base of the Hunter Hills. The Tertiary sediments are overlain by Cannington Gravels, an early Pleistocene gravel formed by rapid erosion of the foothills and deposited as gravels with silts and sands in marine and terrestrial conditions. Overlying the Cannington Gravels, are a series of glacial deposits, followed by the post-glacial deposits along the coastline and alluvial fans beside the Pareora River. The groundwater resource is concentrated in the recent alluvial deposits, but there is likely to be economic groundwater available in the older gravels (such as the deep PPCS Freezing Works wells in the Cannington Gravels which yield up to 100 l/sec (Royds Garden Ltd, 1987)). The extent of the shallow aquifer is limited by the terraces of the valley however deeper groundwater may be found on the downlands elsewhere in this zone.

31. Over 150 wells are located in the Pareora Valley, of which all but two are located in the recent alluvial deposits of the Pareora River. The yields for these wells vary between 0.1 and 30l/sec, with specific capacities of between 0.04 and 63 l/s/m. The average depth of these wells is 5 to 15m. Piezometric surveys show that water is lost from the Pareora River to the surrounding groundwater in the reaches below Holme Station. Groundwater subsequently flows out to the sea, or resurfaces in the lower reaches of the Pareora River. River gauging information confirms this pattern of behaviour, showing losses from the river to the groundwater between the gorge and Springbrook school, and then gains from Springbrook to the coast as groundwater feeds the river. Portions of the Pareora River channel often cease to flow.

32. Mr Just said that depths to groundwater in the unconfined aquifer are shallow ranging from less than 1 m to 6m below the surface. Wells show the influence of recharge from increased flow in the Pareora River, and conversely drop when the river is low, and recharge decreases.

The Hydrology Of The Upper Pareora

33. **Ms Jen Ritson & Dr Tim Davie** in their section of the 42A report, provided a description of the hydrology of the Upper Pareora, detailed the current surface water allocation and analysed the reliability of supply of the downstream users.

The key points of their evidence were:

- (i) The Pareora River receives a significant gain in surface flow as it passes through the Lower Gorge and it is believed this gain comes from groundwater from the Cannington Basin.
- (ii). They believe that surface water in the Lower Pareora (below the Lower Gorge) is fully allocated to water users.

(iii). They believed also that allowing more water to be allocated from groundwater would cause a significant change in the reliability of supply to the downstream users.

34. The Upper Pareora flows out from the Upper Gorge in the Hunter Hills, through the Cannington Basin before entering the Lower Gorge. After the Lower Gorge the Pareora joins the South Branch and flows down to the sea just beyond Pareora township.

35. As the Pareora flows out from the Hunter Hills there are losses and gains down the mainstem. This is a common phenomenon in South Canterbury rivers flowing out from the Hunter Hills.

36. In early 2008 Environment Canterbury set up a hydrological investigation to quantify these losses and gains through concurrent gauging runs. The concurrent gauging run has been conducted nine times when flows are in recession and between 2000 l/s and 400 l/s (the first restriction level) at the Huts Recorder.

37. They said overall more water is gained through the Lower Gorge than is previously lost between the Hunter Hills and the start of the Lower Gorge. There is a consistent pattern of gain with an average of 97 l/s at the Evans Crossing site. They believe that the additional gain comes from deep groundwater forced up through the gorge. They consider the surface water and groundwater resource to be one, and believe that abstraction from groundwater at any depth in the Cannington Basin should be allocated taking account of the downstream water users' reliability of supply.

Current surface water allocation

38. Ritson and Davie also told us the allocation block of the Pareora River has not yet been set. Potential 'A' permit allocation blocks for the Pareora using Policy WQN14 and Schedule WQN2 of the proposed NRRP have been calculated based on the naturalised flow record from 1982 through to 1999. This is to provide an indication of what size the allocation block would be if there was no current allocation. Using the existing minimum flow of 300 l/s, criteria set out in Schedule WQN2 provides for a surface water allocation block of 199 l/s; Policy WQN14(4)(a) provides for an allocation block of 224 l/s; Policy WQN14(4)(b) provides for an allocation block of 188 l/s.

39. Surface water and hydraulically connected groundwater allocation from the whole catchment is currently 732.98 l/s. The currently allocated block (732.98 l/s) exceeds any of the calculated allocation blocks derived using the proposed NRRP criteria. Of the 732.98 l/s, 114.95 l/s is currently consented for takes above the minimum flow site, with the remaining 618.03 l/s for consented takes downstream of the Huts Recorder site.

Reliability of supply

40. Ritson and Davie said that at present full restrictions occur on average 2 days per year. Under Policy WQN 19 (1) it is possible that water users downstream of the minimum flow site will not be able to fully utilise their consented take (i.e. there will not be enough water in the river for full take) on an average of 68 days per irrigation season.

41. They believe that allowing more water to be allocated from the Cannington Basin would cause a significant change in the reliability of supply to the downstream users.

The hydrogeology of the Cannington Basin

42. **Thomas Heller** is a Director of Environmental Associates Limited, a private environmental consultancy based in Dunedin with over 25 years' experience working in surface water and groundwater resource evaluation.

43. The information presented by Mr Heller on Cannington Basin Hydrogeology was taken from Thorley, M., Aitichison-Earl, P., Ritson, J and Hayward, S, (2008). 'Proposed Additions to South Canterbury Groundwater Allocation Zones' Environment Canterbury Technical Report R08/42.

44. He said that the geological structure indicated that any groundwater within the older gravels/Tertiary units would most likely flow with the direction of dip, and topography.

45. In the north, the Cannington Basin boundary follows the margin of the Pareora River and Te Ngawai catchments. In the east and west, the boundary is defined by the mapped extents of the Cannington and Quaternary gravels. In the southwest, the boundary follows the Pareora River catchment boundary, and in the southeast, it follows the contact between the Tertiary and Quaternary strata.

Recharge Estimates

46. Mr Heller informed us that land surface recharge has been estimated for the Cannington Basin Groundwater Allocation Zone. The procedure is described in Thorley and Ettema (2007)

47. As in Thorley and Ettema (2007), recharge under loess soils has been assumed to be limited by the overlying low permeability materials, thus reducing mean annual dryland recharge. The 'excess drainage' is the balance between the unconstrained land surface recharge and constraining land surface recharge of 3 mm/day. The excess component of the land surface recharge is thought to be an approximate description of the surface water runoff in loess dominated areas of the catchments.

48. He also said that the dryland drainage evaluation results in estimates of land surface recharge of 24% (for the Cannington Basin) of mean annual rainfall. This quantum of land surface recharge in the Cannington Basin is mostly due to the low spatial coverage of loess. In addition, increased

recharge occurs in the Cannington Basin due to the increased rainfall experienced in that sub-catchment.

49. The recharge estimates for the Cannington Basin do not include any potential losses from surface waters to the groundwater system. However, based on topographical and geological evidence, available stream flow information and in respect of catchment water balance analyses (provided in the following section), surface waters in the Cannington Basin are either groundwater sinks or simply show localised riparian losses within adjacent alluvial strata.

Groundwater Discharge and Stream Flow

50. Mr Heller said that the Pareora River (main-stem) and tributaries flow through the Cannington Basin Groundwater Allocation Zone, toward the Lower Gorge, and then through the Pareora Groundwater Allocation Zone to the sea. The underlying geology, inferred direction of groundwater flow and topographic boundaries of the basin indicate that groundwater recharge for the Cannington Basin will re-emerge at the surface and contribute to the flow in the Pareora River.

51. The flow gauging data available suggests that surface water is lost to groundwater down the main-stem from the upper Pareora Gorge until the river reaches a point between Cave-Pareora and the Lower Gorge, where there is a significant surface water gain continuing through to Evans Crossing.

52. This is not unexpected due to the nature of the surrounding local alluvium adjacent to the Pareora River upstream of Cave-Pareora and the confining nature of the lower gorge, where based on hydrogeology, there is a strong indication that both local riparian and deep groundwater emergence is highly plausible (i.e. from a thinning of alluvial gravels and the location of impermeable basement strata).

53. Based on the magnitude of groundwater baseflow input and considering the Cannington Basin hydrogeology (presented above), there is most likely a connection between deeper groundwater and shallow groundwater, and then ultimately with the Pareora River (or tributary streams).

54. Abstraction from deeper groundwater sources, will most likely cause a response in the shallow water table over time, which in turn based on the location, timing and magnitude of the take, will have a stream depletion or baseflow reduction effect on the Pareora River (or tributary streams).

Potential Cumulative Effects Upon Surface Waters

55. From recharge calculations given previously, Mr Heller concluded the average groundwater through-flow in the Cannington Basin equates to 537 l/s. However, a proportion of this through flow will be discharged to the Pareora River and tributaries within a short time-frame of a recharge event i.e. from shallow sub-surface flow. The balance of the groundwater through-flow to the

Pareora River is from deeper and/or distant sources, which produces a delayed (baseflow) component of outflow to the river.

56. Flow proportioning and catchment water balance calculations indicate that this baseflow contribution from the Cannington Basin to the Pareora River lies between 97 l/s and 158 l/s. Further statistical assessment of each low-flow gauging run in combination with expected water abstraction, realised a constant baseflow contribution of 125 l/s.

57. Thus, in his view it can be seen that a reasonable percentage of recharge to groundwater from the Cannington Basin provides for baseflow contribution to the Pareora River as a steady input.

Groundwater Allocation

58. Mr Heller pointed out there are five current groundwater consents in the Cannington Basin area. One of these is from shallow hydraulically connected groundwater in recent river gravels, (hydraulic connection = high) and it is treated as a surface water take. Three takes (all for the same consent holder and the same area) are from the Cannington Gravels, and one take is from the White Rock Formation. These takes total an effective allocation of 1,312,146 m³/annum.

59. From analysis of stream flow gauging data and simple catchment water balances, he believes the contribution of water from groundwater storage in the Cannington Basin provides significant support to the baseflow of the Pareora River. Further allocation of groundwater for abstraction at any location or depth in the Cannington Basin will decrease this baseflow contribution (unless mitigated), which may affect downstream water users' reliability of supply and compromise existing levels of surface water allocation for the Pareora River catchment.

The Potential Interference Effects From The Proposal

Cannington Basin

60. **Mr Richard de Joux** a hydrologist and hydrogeologist, holds the qualifications of Bachelor of Science (Geology) and New Zealand Certificate of Engineering (Civil) and has 33 years experience in surface water and groundwater hydrology. He presented evidence on behalf of Motukaika Dairy Ltd.

61. He said the drawdown interference calculations show that all three of Motukaika Dairy Ltd's consented bores will be adversely affected. The direct effect of the proposed abstractions will have a direct effect of 10.7 metres in each of the Motukaika Dairy Ltd bores. Even with the inherent uncertainties regarding the assumptions used in the radial flow calculations, he believed these are significant theoretical effect on bores which have an allowable interference drawdown of between 13 and 17 metres.

62. He made the point that there is still a large degree of uncertainty regarding drawdown interference effects from the proposal. The applicant has only drilled one of the two bores (ie J39/0719), and from the drillers information that bore is unlikely to maintain 40 l/s during times of low groundwater pressures. The effects of the second proposed bore have been assessed at a distance of only 56 metres from J39/0719. At that distance, pumping from both bores can be expected to cause significant drawdown interference effects, reducing the maximum yields attainable. He considered that [and we agree] that any second bore should be located at least 200 metres from the existing bore.

63. In order to protect the ability of Motukaika Dairy Ltd to abstract groundwater at the consented rates from their bores, he requested that if the application is granted then conditions should be imposed requiring that:

a. The consent shall not be exercised until:

(i). The location and yield of both bores has been confirmed through drilling and pump testing; and

(ii). The applicant carries out an aquifer test to the standards set out in a Schedule attached to this consent. The aquifer test shall monitor water levels in at least one of bores J39/0496, J39/0699 or J39/0701; and

(iii). The results of the aquifer test shall be used to determine the direct well interference effects on bore J39/0496, J39/0699 and J39/0701.

And;

b. If the results of the analysis undertaken in (iii) above demonstrates that the protected available drawdown (as described in Schedule WQN10 of the Canterbury Regional Council's Proposed Natural Resources Regional Plan set out in Schedule 2 attached to this consent) for bores J39/0496, J39/0699 and J39/0701 will be exceeded the consent holder shall provide to the Canterbury Regional Council, Attention: RMA Compliance and Enforcement Manager:

(i). Measures proposed to avoid remedy or mitigate adverse effects of well interference; and

(ii). A well interference assessment that demonstrates to the satisfaction of the Canterbury Regional Council that the measures proposed in (b)(i) are adequate to ensure that the well interference effects on bores J39/0496, J39/0699 and J39/0701 are within the thresholds set out in Schedule WQN10 of the Canterbury Regional Council's Proposed Natural Resources Regional Plan.

64. **Mr Peter Moynihan** (PJ & JH Moynihan) is the owner of 'Braeval' a 799 hectare property on the left bank of the Pareora River to the east of the applicant's property. He expressed concern that proposed abstraction may, reduce the flow from their springs or even lose their supply all together, rendering their farm valueless Their property is operated as a dry land grazing property and the water supply from the springs is used as stock water. They

have no other reliable alternative, as Burnett Creek that follows their flats is often dry in the summer.

Lower Pareora Area

65. **Ms Margot Perpick** presented submissions on behalf of the Lower Pareora Irrigators Collective, and introduced a number of Collective members who gave evidence. The key point of her clients case was that if the application was granted, it would adversely affect the reliability of supply of those downstream consent holders who are already in a red zone. She said that it was possible that the proposed groundwater abstraction would limit the long term viability of the farming activities carried out by the members of the Collective, who rely on irrigation to operate. Evidence for the Collective focussed on the consequences of any connection between the proposed take of the Eggleton's in the Cannington Basin, rather than evidence of a connection, upon which reliance was placed on the evidence of the Regional Council.

66. She submitted that the application was likely to cause a significant increase in the frequency, duration and severity of breaches of minimum flow. All witnesses for the Collective noted that once flows at the Mount Horrible recorder site fall below 400/l per second, a 50% reduction in takes is imposed by the Regional Council. If flows fall below 300/l per second, no takes are permitted. This was evidenced by Ritson and Davie who stated that under Policy WQN19(1) it is possible that water users downstream of the minimum flow site will not be able to fully utilise their consented take (i.e. there will not be enough water in the river for full take) on average of 68 days per irrigation season, and *"allowing more water to be allocated from the Cannington Basin would cause a significant change in the reliability of supply to downstream users."* Flow and level regimes would also not be maintained as ECan will be allowing an abstraction of water that may increase the length and frequency of periods that the Pareora River is dry, and may induce the river to go dry in additional places.

67. Ms Perpick submitted that the Regional Council's officer reports and the evidence of the members of the Collective, suggested a grant of the application would compromise the environmental values sustained by groundwater levels, such as flows and levels in rivers, and will compromise the reliability of supply for downstream users. She said that a groundwater allocation limit has not been determined using Schedule WQN4, and that Report WO8/42 on groundwater resources recommended that an allocation zone be created in the Cannington Basin as the area is already fully allocated. It was noted that members of the Collective were located within the Pareora Groundwater Allocation Zone, which is a "red zone" within which groundwater abstraction is no longer permitted.

68. She and the witnesses appearing for the Collective sought that the application be declined.

69. **Mr. Peter Collins** has been a landowner adjoining the Pareora River since 1970. He is a part owner of a number of properties on the northern side of the Pareora River, which are all located within a red zone. He farms the property along with his two sons. Initially cropping was the mainstay of the property but they have now moved into horticulture. In particular, they now grow blackcurrants and also take a couple of cuts of silage from the pasture paddocks.

70. They have a number of consents to take water for the purposes of irrigation. They mainly use surface water takes, but due to the unreliability of supply, in the last two years they have put down a deep bore. The consents they have to take water from bores and galleries that are hydraulically linked to the Pareora River are restricted in times of low water levels.

71. Mr Collins said without irrigation the growing of blackcurrants would not be a viable option. Not only do they need the water to plump the berries, but it is also necessary to have overhead sprinkler systems in place to protect the flowering crop from frost damage.

72. **Mr. Alastair Midgley** and his wife currently farm 248 hectares on the south side of the Pareora River. .

73. He said the Pareora River Irrigators Association was formed in February 1985. Thirty irrigators had water rights at that date and were concerned about protecting their existing consents and investments. Even at that time, 23 years ago, mention was made of potential over-use of what was regarded as a finite resource.

74. Mr Midgley said the decision to irrigate their property was not only to improve production, but to insulate their farming operation against regular droughts affecting the region.

75. They have a resource consent to take water from a gallery in the bed of the Pareora River at a rate not exceeding 60 litres per second, with a volume not exceeding 4,580 cubic metres per day, for irrigation of up to 185 hectares. The balance of their 248 hectare property is dryland farmed. They farm 2000 Stud Deer built up over the forty years they have been irrigating, and they have established one of New Zealand's leading Simmental Cattle Studs, selling bulls at local and national sales since 1986. The variance of soil types has also allowed them to produce a large variety of small seeds and cereal crops, maize silage and vegetable crops. The yield of these crops is very dependant on adequate water for their growth.

76. He said a number of deep wells have been drilled in the last decade, with about a 50% success rate. They drilled a well in 2005 but did not find sufficient water for irrigation.

77. Mr. Midgley was concerned that dry periods in the past have put considerable pressure on prioritising water use and in some years at least

50% of their irrigated area has had to revert to dryland farming as a result of the imposition of 50% restrictions.

78. He said if the water stored in the Cannington Basin is abstracted, it will have a detrimental effect on the residual flow in the river. The combined effect of several bores extracting water from this basin for dairy farming, which means constant use all summer would have a disastrous effect on the river downstream.

79. Mr Midgley then presented two tables relating to the number of days that abstraction of water from the lower Pareora River had been restricted in the past. Table 1 below shows the number of days and date on which restrictions have been triggered, dating back to 1982. Table 2 shows the total number of days of restrictions for each year.

Table 1

50% Restriction		Total Restriction	
8 Aug 1982	10 days	2 April 1985	2 days
17 Feb 1983	3 days	31 Oct 1988	6 days
4 March 1983	6 days	3 Jan 1989	1 day
30 Oct 1984	14 days	14 Feb 1998	3 days
7 Feb 1985	2 days	10 April 2001	26 days
15 Feb 1985	4 days	18 Jan 2004	1 day
5 March 1985	28 days	24 Jan 2004	1 day
4 April 1985	38 days		
28 Dec 1986	14 days		
3 Oct 1988	1 day		
6 Oct 1988	14 days		
25 Oct 1988	3 days		
15 Nov 1988	5 days		
27 Dec 1988	5 days		
3 Dec 1989	2 days		
15 March 1992	32 days		
15 Nov 1993	3 days		
18 Jan 1998	27 days		
18 Feb 1998	6 days		
25 Feb 1999	1 day		
18 March 2001	23 days		
6 May 2001	3 days		
13 Feb 2003	1 day		
7 March 2003	5 days		
15 March 2003	1 day		
24 March 2003	5 days		
31 Dec 2003	18 days		
19 Jan 2004	5 days		
25 Jan 2004	2 days		

Table 2

50% Restriction		Total Restriction	
1982	10 days	1985	2 days
1983	9 days	1988	6 days
1984	14 days	1989	1 day
1985	72 days	1998	3 days
1986	14 days	2001	26 days
1988	28 days	2004	2 days
1989	2 days		
1992	32 days		
1993	2 day		
1998	32 days		
1999	1 day		
2001	26 days		
2003	13 days		
2004	24 days		

80. **Mr. Gareth Hale** is the Managing Director of Fernwood Dairies Limited (FDL) which runs a large scale dairying operation. FDL's operation is based on Pareora River Road and Beaconsfield Road. FDL owns a number of properties along the eastern and western side of the Pareora River, the total area being approximately 700 hectares. The property runs approximately one kilometre above Holme Station Bridge and 3 kilometres below the bridge.

81. FDL farms approximately 400 hectares under dairy. They irrigate this area using centre-pivots and K-Line, running 4 cows per hectare, with a total of 1600 cows. The remainder of the property is an intensive wintering and young stock operation, as well as silage and grain production on 150 hectares. Of this area, 120 hectares is irrigated.

82. FDL employs a contract milker, who employs 6-7 full time staff (and himself) on dairy operations. FDL also employs at least two full time staff on cropping and development work. FDL has a resource consent to take water from the Pareora River for the irrigation of up to 40 hectares, at a rate not exceeding 30 litres per second. FDL also has a resource consents to take water from an open pond and the gallery J39/0529 at a rate not exceeding 94 l/s and from water hole J39/0338 (5 metres deep) and associated gallery at a rate not exceeding 30.3 l/s.

83. In the last 8 seasons that FDL had operated with consents to take water from the Pareora River, there have been 38 days when FDL was only able to take 50% of its normal take and 3 days of full restrictions. There have been many other times where it has been close to the trigger point with minimum restrictions.

84. Mr Hale said that due to the unreliability of supply, FDL has plans to use existing water permits and harvest and store water in storage ponds on the property, and if necessary amend its water permits so that it can harvest greater amounts at times when the river flow is higher. Another option they considered was to take deeper groundwater, rather than surface water or shallow groundwater. In about 2003 they obtained consents and drilled two bores, one of which did not yield any water and cost about \$100,000 to drill. The other bore is only capable of producing 15 l/s, and it has cost about \$130,000 getting that bore into production. They have consent to drill another three bores, but given their experience with the other two bores, and others in the area that they are aware of, they have decided not to proceed with them. Since the formation of FDL, approximately \$20,000,000 has been spent on development of this property.

85. Mr Hale said that they believe the Cannington Basin must provide a lot of water to keep the Pareora River above the minimum flow as river flows persist above cut off for long periods of time when there is no rain. Accordingly, any reduction of water flowing into the Pareora River during these times even by 50- 100 litres per second, could result in days or months of additional restrictions for consent holders in the Collective, and make FDL's business unprofitable.

86. Mr. John De Veth and his wife own a 206 hectare dairy farm on the south side of the Pareora River. They have a resource consent to take from a water hole in the Pareora River bed for irrigation of up to 80 hectares at a rate not exceeding 42 litres per second.

87. The property is a dairy farm and they milk approximately 720 to 750 cows. Mr De Veth said that they are very concerned that if the application was granted, this may have an effect on the Pareora River flow as the Cannington area is a large part of the catchment and ground storage for the Pareora River.

88. Restrictions on takes have been triggered in previous years as is shown in the evidence of Alastair Midgley. He said that unreliability of supply and inability to irrigate at times during dry months has adversely affected milk production and grass growth. He said if the application for consent was granted, the water take is likely to reduce the flow in the Pareora River. If that happens he would expect at least one to four months of restrictions each year.

89. Mr. Owen Scott is a part owner of a 204 hectare farm located at 37 Scotts Road, Southburn, Timaru. He said that they run sheep and beef on the property and approximately 20 hectares of the property is used for cropping.

90. They have a resource consent to take water from the Pareora River at a rate not exceeding 38 litres per second it has trigger flows for restrictions similar to others on the river. This allows them to irrigate approximately 25% of their farm.

91. The ability to irrigate means that during last year's drought they were able to fatten lambs and sell them at an average price of \$60.00. Without irrigation they would have been selling store lambs at a store price of \$30.00. The difference on 1,000 lambs would have been \$30,000.00. Mr Scott said that since 1988 they had invested a total of \$250,000 on irrigation equipment and if this application was to be granted, this would effect the reliability of their supply. The granting of this application in his view would have an adverse effect on the present exercise of his water rights and therefore it should be refused.

92. Robert James Dron and his wife own a 59 hectare property located on Pookes Road in Pareora. He said that they bought the property in 1974 for the water and the locality. In 1978, they put in underground mains and power supply. They have consent to take up to 25 l/s from a shallow bore that is hydraulically connected to the Pareora River and has similar restrictions on river surface water takes.

93. They now run 250 breeding hinds and fatten all weaners. They also run a 400 calf rearing operation relying on water to grow summer and winter feed for stock. They have also grown 6 hectares of potatoes. They opposed the grant of the application.

94. **Stephen Bell** is a joint owner of two blocks of land, one situated at 365 Pareora River Road, being 127 hectares, and another situated at 677 Pareora River Road, comprising 37 hectares.

95. Both blocks are used for rearing and growing bull beef. On the larger block I they hold a resource consent to take up to 41.6 l/s of shallow groundwater hydraulically connected to the Pareora River and have the same trigger flows as surface water take restrictions. They also have consent to abstract deep groundwater.

96. He said the two wells under these resource consents are run in conjunction with each other to irrigate the 127 hectares. This land is used to rear and grow bulls to 400 kilogram weight. Winter feed is grown for bulls and dairy grazing. With high stocking rates they rely on good water supply from irrigation.

97. On the smaller block he said they were consented to take and use groundwater from a deep bore (101 metres) at a rate not exceeding 25 litres per second. Under technosystem grazing management, a high stocking rate is maintained (20 plus per hectare).

98. He said that with the two deeper groundwater bores, as well as his shallower bore, there are times when the shallower take is restricted because of low water levels in the river, whereupon they are totally reliant upon the deeper takes. Taking water from the deeper bores increases their pumping costs. He estimates it costs about twice as much to obtain water from the deeper bores as from the shallow bore.

99. Mr Bell said the combined costs of drilling two wells over 100 metres deep, and purchasing irrigating guns, K-L, piping and other incidentals, has resulted in a very high development cost for the farm, and has resulted in a need for high stocking rates.

100. He said that the allocation of any further water rights to the present scheme will adversely effect the amount of water this farm could take and will have a direct impact on farm profitability, and indeed, viability.

Summary

101. We were left in absolutely no doubt that should there be a connection between the proposed groundwater take, and consequent downstream flows in the Pareora River, that there could be serious adverse economic consequences for members of the Lower Pareora River Collective.

Assessment

Status of the report *'Proposed Additions to South Canterbury Groundwater Allocation Zones'*

102. This Environment Canterbury Technical Report R08/42 is an unpublished technical report prepared by Regional Council staff and in its final form has been subjected to internal staff review. It was prepared to assist the Regional Council and the local community address flow regimes and water allocation for the Pareora River. The report also describes the hydrogeology of the area and makes recommendations on the possible creation of two new groundwater allocation zones. Those recommendations will be subjected to further scrutiny by the Regional Council and through consultation between the Council and the local community.

103. The recommendations regarding the creation of new groundwater zones and the size of any associated allocation blocks are matters for another hearing and are irrelevant to this hearing. A groundwater allocation limit has not been determined using Schedule WQN4. The report recommended that an allocation zone be created in the Cannington Basin as the authors believe that groundwater in the basin is already fully allocated, but report's status is simply that of a staff recommendation, and we are unable to give it any weight.

104. What was of assistance however was water resource information which had been assembled to support those recommendations. Because neither of the co-authors of the hydrogeology section of the report were available, the weight that could be assigned to the analytical and interpretative information of that section was however limited.

Interface between surface water bodies and groundwater

105. A major issue in determining the effects of this application is the nature of the interface between surface water bodies within the catchment and the groundwater stored within the catchment. During periods of rain part of the runoff is conveyed by the surface water bodies to the sea and part percolates into groundwater storage. During periods when there is no rainfall within the catchment, water from groundwater storage that is hydraulically linked to the surface water bodies flows to those water bodies. Initially water stored in riparian gravels adjacent to water bodies will maintain the surface flow but in time, as the surface water levels lower, the hydraulic gradient in groundwater storage will decline and water will flow from greater distances.

106. There are a number of factors which will influence whether or not water will flow from groundwater storage to specific water bodies during such dry periods and if it does, the probable flow rate and duration. The nature of the strata between the storage and the surface water body will determine whether or not there is a hydraulic connection and head required to maintain a flow through that strata. Faulting of the strata can also influence whether or not there is a hydraulic connection between stored groundwater and a surface water body.

107. Work undertaken by Canterbury Regional Council staff for the preparation of report R08/42 identified two main reasons for suggesting that any further groundwater abstractions in the Cannington Basin may affect the

reliability of supply to abstractors from the lower Pareora River and hydraulically connected groundwater. They were:

1. The geological information indicates that any groundwater within older gravels/Tertiary units would most likely flow in the direction of dip, and topography – from west to east. The presence of the up thrust greywacke basement in the east may force the groundwater upwards.
2. Concurrent gaugings showed that surface water is lost to groundwater all the way down the main stem until the river reaches a point between Cave / Pareora and the Lower Gorge, where there is a significant surface water gain which continues through to Evans Crossing. Overall more water is gained through the Lower Gorge than is previously lost between the Hunter Hills and the start of the Lower Gorge.

108. However as Mr Heller quite rightly cautioned, there are insufficient wells and piezometric data available to accurately map the direction of groundwater flow in the Cannington Basin with any degree of confidence. Also, the increase in flow in the lower gorge may not necessarily come from deep groundwater. The thinning of alluvial gravels and the location of impermeable basement strata may force more of the shallower groundwater to appear as surface water flow.

109. Specific to this application we were advised that one of the hydrogeologists that co-authored the Cannington Basin report advised the applicant's [then] technical adviser that for the purposes of calculating interference effects, bores shallower than 20 metres could be ignored, which would also imply that there was no hydraulic connection with the Pareora River other than possibly through faulting. This advice was based on the original application to abstract 80 l/s from the first bore (J39/0705) screened at a depth of 150 metres. The bore log from that deep bore indicated that the advice given was correct. Unfortunately the yield from that bore was too low for it to be used.

110. The applicant subsequently applied to drill a further two bores (J39/0719 & J39/0720) approximately 700 metres from the initial bore J39/0705 at depths of 89 metres, approximately half the depth of J39/0705. The applicant amended his application to take 40 l/s from each of those bores and has drilled the first of those bores (J39/0719). That bore is screened between 81 to 89 metres bgl. Somewhat unusually, after the hearing we were sent results from a limited well test stating that the bore was pumped in four steps to a maximum rate of 34.1 l/s which resulted in a maximum drawdown of 40.42 metres.

111. The second bore (J39/0720), not yet drilled, is shown on the amended application at a distance of only 56 metres from J39/0719. The effects of the second proposed bore have been assessed by Mr de Joux at that distance, and pumping from both bores can be expected to cause significant drawdown

interference effects, reducing the maximum yields attainable. It was Mr de Joux's opinion that any second bore should be located at least 200 metres from the existing bore and we concur with that opinion. We have no evidence on behalf of the applicant to contradict this view.

112. There was evidence that any reduction in surface flow from the Cannington Basin would cause a significant change in the reliability of supply to downstream users. Flow and level regimes may also not be maintained as the Regional Council will be allowing an abstraction of water that may induce an increase in length and frequency that the Pareora River is dry, and may induce the river to go dry in additional places.

113. The members of the Lower Pareora River Irrigators Collective described the impact on their farming operations under the current regime and its flow restrictions, and how some had endeavoured to obtain deep groundwater to avoid these restrictions. All were concerned that the proposed abstraction may potentially make their surface water abstractions less reliable. Mr Midgely, a member of the collective, presented two tables (referred to earlier) detailing the number of days abstractions from the Pareora River and hydraulically connected groundwater have been restricted or banned in the period 1982 and 2004 inclusive. There were 279 days in that period that a 50% restriction was imposed on abstraction, and 40 days when there was total restriction.

114. Ritson and Davie said that at present full restrictions occur on average 2 days per year. Under Policy WQN 19 (1) it is possible that water users downstream of the minimum flow site will not be able to fully utilise their consented take (i.e. there will not be enough water in the river for full take) on average 68 days per irrigation season.

115. Turning now to the Cannington Basin itself, given the location and altitude of the springs on Mr Moynihan's property we consider it is unlikely that the springs on his property will be affected by abstracting groundwater from a depth of 80 to 90 metres on the applicant's property. However it would be prudent to monitor the springs if a consent were to be granted.

116. With regards to potential effects on the Motukaika Dairy Ltd. bores, we agree with Mr de Joux that until a constant discharge aquifer test of at least three days duration is conducted with drawdown observed in at least one observation bore, it would not be possible to determine the interference effects from the proposed abstraction. Nor in our opinion would it be possible to determine whether or mitigation would be possible before such a test was carried out.

117. There was no conclusive evidence presented that established that the proposed abstraction was or was not hydraulically linked to the Pareora River. The base flow of that river, like other East Coast rivers, is sustained by groundwater released from storage. The evidence clearly established a link between groundwater and river base flow but that was to be expected, what it

did not establish was a clear hydraulic link between the source of proposed abstractions and the Pareora River base flow. On the other hand no evidence was produced that established that the source of the abstractions was not hydraulically linked to the river, as no acceptable aquifer testing had been carried out.

118. All the concerns expressed by the members of the irrigators collective and their counsel were based on the proposed abstraction reducing the flow of the Pareora River particularly during periods of low flow. It is incumbent upon us therefore to be convinced on the evidence that there is no hydraulic link between the abstraction source and the Pareora River. Based on the evidence provided, we have concluded that there is such a possible potential link.

119. In his summary, Mr. Heller said [paragraph 47];

"From an analysis of streamflow gauging data and simple catchment water balances, the contribution or water from groundwater storage in the Cannington Basin provides significant support to the baseflow of the Pareora River. Further allocation of groundwater for abstraction at any location or depth in the Cannington basin will decrease this baseflow contribution [unless mitigated] which may affect downstream water users reliability of supply and compromise existing levels of surface water allocation for the Pareora River catchment".

120. This evidence was unchallenged, although we did not have the benefit of being able to question the authors of that report who were not in attendance. In his summary, Mr. Heller went on to say that *"any new take should demonstrate less than a low degree of hydraulic connection to surface waters"*.

121. He went on to suggest that if we decided to grant the application, an aquifer test should be carried out on any irrigation bore to determine that there was less than a low degree of hydraulic connection to surface waters in the Cannington Basin, and an assessment of the degree of hydraulic connection to the shallow parts of the aquifer system and the volume of leakage sourced from overlying strata. However we were frustrated by the lack of any proper aquifer test and analysis to enable us to draw any firm conclusions on these matters.

122. In his right of reply for the applicant, Mr. O'Connor on behalf of his client sought comfort in the conditions suggested by Mr. Heller although we were left with the distinct impression that Mr. Heller did not favour a grant of consent, nor did the reporting officers as a whole. The absence of any technical support for the application was most unfortunate bearing in mind that it was a non-complying activity, and that it had attracted significant opposition. The applicant appears to have formed a view at some point to dispense with such advice following the drilling of bore J39/0705, or concluded there would be no difficulty in obtaining a consent – as indicated by his complaints about the treatment of his application by Regional Council staff.

123. We again acknowledge the invidious position that the applicant finds himself in, and reiterate our sympathy for him. His first well was an unsuccessful and undoubtedly very costly venture. The second well, quite apart from the probable drilling costs associated with it, appears to have produced a disappointing volume of water - at least when groundwater resources are under pressure. He faces strong opposition from a number of fellow farmers, both in the immediate vicinity and downstream, a situation which no doubt none of these parties like to find themselves in.

124. However in considering whether or not to grant consent, we are faced with the following issues;

125. Firstly, there is a lack of any technical evidence on behalf of the applicant in support of his position, and particularly with respect to testing the interference effects of proposed bore J39/0719. This well is shallower and at a considerable distance from the bore location notified to the public and upon which much of the technical assessment by officers was based. Furthermore, there was no evidence introduced in rebuttal of the concerns raised in the officers reports.

126. Secondly we concur with Mr. deJoux's conclusions that bores J39/0719 and J39/0720 may have a significant interference effect on other wells in the Cannington Basin with particular reference to those of Motukaika Farms Ltd.

127. Thirdly, we consider it highly likely that there would be a significant interference effect between J39/0719 and the proposed well J39/0720 which is proposed to be drilled only 56 m away. This reinforces our doubts that the volume of water sought through the application would in fact be available.

128. Fourthly we cannot be confident that (in Mr. Heller's words) there is "less than a low degree of hydraulic connection to surface waters", certainly in the absence of aquifer testing. Given the low base flows and trigger levels for irrigation restrictions downstream in the Pareora River, should even small takes have a hydraulic connection to the river, the adverse effects on other abstractors would be significant.

129. The application wording seeks to take water up to a *maximum rate*.....and a volume *not exceeding*.....We accordingly considered that we had scope to permit a take of water at a lower rate and lesser volume than the maximum sought in the application. This would take account of the likely *reliable* volume of water available from J39/0719, the implications of effects on other bores in the vicinity, and on flows in the Pareora River. We would discount any water from proposed well J39/0720 because of well interference effects. This would potentially provide the applicant with considerably less water than sought through this application, but would mean he would at least have something to show for his efforts and expense.

130. In carefully considering this option, we concluded that given the very limited flow of water in the Pareora River, and its sensitivity of its flow levels

with respect to restrictions on takes in its lower reaches, we could not justify taking the risk of granting a consent on this basis either, mindful as we were of Mr. O'Connors submission that the RMA is not a 'no risk statute'.

131. We concur with the views expressed by Ms. Perpick and downstream abstractors that any further reductions and restrictions on their own takes could have very serious adverse consequences for them. While we understand the applicants perception that the process is "bureaucratic", it is essential that it recognise the existing rights of other users who could be adversely affected by a new take. What we think differentiates this case from other locations where there is an element of uncertainty about the effects of an abstraction, is the extreme sensitivity of the Pareora River to reduced flows and the consequent implications for downstream users, in addition to the effects of restrictions which they are already experiencing.

132. This left the option suggested by Mr O'Connor that consent could be granted subject to conditions. In these circumstances we are reluctant to grant consent to an application subject to conditions which could subsequently deprive the applicant of certainty and security of supply. Such a scenario could well arise if a mitigation condition were imposed requiring his take to cease when downstream users were deemed to be affected. Alternatively should the Regional Council seek to restrict the applicants take, this could raise the spectre of debate or even litigation as to what extent the applicants take was responsible for reduced flows. We consider that it is appropriate, in a case such as this, that any adverse effects are determined at the time of the application and hearing, rather than attempting to do so through subsequent consent conditions. We were not persuaded by Mr. O'Connor's submission that it was a case of the applicant accepting the risks.

133. It may be that in the fullness of time an alternative scheme may provide for more secure irrigation water for the lower Pareora area, but that is quite outside the scope of this current hearing.

134. Following the template provided for in Section 104 we will now consider the actual or potential effects on the environment of allowing the activity. We have broken down those effects in to the following sub-sets:

- Cumulative effect of takes on other groundwater users
- Adverse effect of takes on groundwater allocation
- Adverse effect from cross connection on groundwater quality
- adverse effects on aquifer stability
- Adverse effect of inefficient take on other groundwater users
- Adverse effect of takes on surface water flows
- Adverse effects of well interference
- Adverse effect of use of water on water quality
- Adverse effects on Tangata Whenua values

135. We did not hear any evidence to suggest that there would necessarily be any adverse effects on aquifer stability, cross connection effects on

groundwater quality, or adverse effects of water use on water quality. In respect to effects on groundwater quality, the position is somewhat uncertain although the officers remained concerned with the lack of information on groundwater quality in the Cannington Basin. However in respect to all of the other criteria set out above, we conclude that there is a likelihood of adverse effects, or put another way, little confidence that there will not be adverse effects. This applies particularly in respect to potential adverse effects in terms of well interference and especially surface water flows downstream in the Pareora River. In respect to effects on Tangata Whenua values, we consider that any reduction in surface water flows would potentially be contrary to these values.

Objectives and Policies

136. There are objectives and policies in the operative Regional Policy Statement (RPS) which are relevant to the taking and use of groundwater.

137. The PNRRP contains more detailed policy provisions, but as it is at an early statutory stage on its way to eventually becoming operative, the weight that it can be given to it at this time is limited. However balanced with this factor, we note that of the objectives and policies in the PNRRP broadly accord in principle with those in the RPS. There are no objectives and policies in the transitional instruments comprising the Transitional Regional Plan.

138. Chapter 9 of the RPS provides the framework for the taking and use of water including groundwater resources. Objective 1 provides a broad overarching goal which is to;

"Achieve sufficient quantities of water in the region's water bodies to enable present and future generations to gain cultural, social, recreational, economic and other benefits from those water bodies....." subject to a range of qualifications. In this case these are specifically addressed through Policies 5 and 6;

"Policy 5

Where a water flow, level, or allocation regime for a water body has not been specified, the granting of a permit for the taking, use, damming or diversion of water should not preclude the reasonable exercise of an existing resource consent to take, use, dam or divert water; except with the agreement of the holder of that existing consent".

"Policy 6

In considering a permit to take water, a consent authority should, as part of the requirements of section 104 of the Act, consider the need to:

.....

(c) provide for existing water permit holders to have priority for the term of their permits"

139. Turning now to the PNRRP, Objective WQN7 "Interference effects between bores" states as follows;

"Ensure that groundwater abstractions from new bores, in conjunction with all other abstraction from existing bores, do not significantly affect the yield from neighbouring bores that are adequately penetrating the aquifer".

140. This is implemented through Policy WQN 20 "Managing the effects of interference between bores". The states as follows;

"To limit interference effects between bores. Where a new bore is proposed to be installed and used, the correct cumulative interference effects should be limited to no more than 20% of the available drawdown in any other bore with an existing authorisation that is within two kilometres, unless the effect is mitigated".

141. The taking of water for the intended purpose is subject to Objective WQN3 and Policy WQN9 in the PNRRP.

142. Objective WQN3 is entitled "Groundwater management". The relevant provisions of this objective seek to ensure that:

"(a) abstractions from groundwater that is hydraulically connected to surface water do not cause adverse effects on flow, level and allocation regimes, including effects such as:

- (i) not maintaining instream values;*
- (ii) significantly increasing the length and frequency of naturally occurring dry river or stream beds; and*

(b) the cumulative effects of groundwater abstractions do not cause a significant continuing long term decline in mean annual groundwater levels and artesian pressures in each aquifer;
....."

143. Policy WQN 9 of the PNRRP "Prevent long-term decline in groundwater levels" states as follows;

"Control the total amount of groundwater allocated for abstraction so there is not a significant long-term decline in mean annual groundwater levels and artesian pressures".

144. As noted earlier, it is the intention of the Regional Council staff to recommend the implementation of a groundwater allocation zone over the Cannington Basin, based on report W08/42. We cannot give any statutory weight to that report at this stage. However all the evidence put before us led us to conclude that groundwater within the basin is now substantially allocated.

145. The only evidence before us was that the proposed take was likely to have a significant interference effect, at least on the nearby bores of Motukaika Dairies. In terms of policies WQN 9 and WQN 20 however, there is no conclusive evidence on this matter, but we remind ourselves of the lack of evidence to the contrary and the implications of there being any hydrological connection to the lower Pareora River.

146. Policy WQN3 "Flow and level regimes", subclause (2)(c) states that;

"Controlling the taking and using of water from an individual bore or borefield where this causes a high or moderate stream depletion effect".

147. Based on the evidence available to us, we concluded that even a relatively small additional groundwater take in the Cannington Basin, if connected to flows in the Pareora River below the gorge would, given the sensitivity of river flows and consequent restrictions on abstraction in that area, have an adverse effect of the kind that this policy seeks to avoid.

Part 2, Resource Management Act

148. The purpose of the Act (Section 5) is to promote the sustainable management of natural and physical resources. This is defined as *"managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well-being and for their health and safety while*

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life - supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

149. A relevant matter under Section 6 that we are required to recognise and provide for, relates to some of the matters under subsection (a) which calls for *"the preservation of the natural character of..... rivers and their margins, and the protection of them from inappropriate..... use and development"*.

150. We concluded that the proposed groundwater take(s) sought through this application would be contrary to subsection 6(a), as they could diminish surface flows in the Pareora River.

151. The relevant matters under Section 7 that we are required to have particular regard to in this case are;

(b) the efficient use and development of natural and physical resources

(g) any finite characteristics of natural physical resources.

152. On the evidence presented to us, it appeared that the application would represent an efficient use of water resources. However it was potentially in conflict with subclause (g). Although there were no submissions from representatives of Tangata Whenua, diminished flows in the Pareora River would be inconsistent with Sections 6 (b) and 7 of the Act.

153. We accept that is entirely proper to take account of the benefits that granting the application would provide both to the applicant personally, and to the wider community through increased production and its associated economic benefits. We doubt that the volume of water actually available through the two bores would provide the level of benefits expected through the application. However, even if this was so, we are satisfied that increased production could still be achieved if consent were granted for the abstraction of groundwater at less than the maximum rates or annual volumes sought through the application.

154. However subsection (2) of section 5 requires us to take into account the three qualifications to the ability of people to enable provision of their social and economic welfare. In this case, we have to take into account any adverse effects of granting the application on the social and economic welfare of other abstractors in the vicinity, and indirectly through likely reductions in surface water flows in the Pareora River, to a substantial number of landholders in the lower Pareora area. For these reasons, we conclude that granting the application would be contrary to subsections 5(2)(a) and (c) of the Act.

Section 104 Resource Management Act

155. Because the application is to take groundwater from an area where there is no groundwater allocation zone, and the activity is not elsewhere specified as permitted or discretionary, pursuant to Rule WQN23 of the PNRRP the application is to be classified as a non-complying activity. Accordingly, the application must pass one of the two tests under section 104D of the Act. The relevant provisions of Section 104D state as follows;

"..... a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either –

*[a] the adverse effects of the activity on the environment will be minor; or
[b] the application is for an activity that will not be contrary to the objectives and policies of -*

[i] the relevant plan, if there is a plan but no proposed plan in respect of the activity; or

[ii] the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or

[iii] both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity".

156. We are not satisfied that the effects of the activity, with particular reference to effects on other bores in the Cannington Basin, and on surface water flows in the Pareora River, will be minor.

157. In this case there is both a proposed plan (the PNRRP) and a Transitional Plan (the TRP) applicable to the proposal. The latter does not contain any objectives and policies. However, we consider that the proposed take is contrary to the relevant objectives and policies of the PNRRP outlined above, and is also contrary to the relevant objectives and policies of the RPS.

158. Noting that the TDP does not contain any objectives and policies, and in case we are wrong in our interpretation of section 104D of the Act, we have also considered the application in light of the provisions of this section 104(1).

Section 104 (1) (relevantly) states as follows;

(1) when considering an application for resource consent and any submissions received, the consent authority must, subject to Part 2, have regard to -

(a) any actual and potential effects on the environment of allowing the activity; and

(b) any relevant provisions of -

.....

(iii) a regional policy statement or proposed regional policy statement:

(iv) a plan or proposed plan, and.

(c) any other matter that consent authority considers relevant and reasonably necessary to determine the application.

159. The effects of the proposed water take(s) on the environment have been assessed earlier in this decision and both on the weight of evidence, and the absence of evidence to the contrary, have been found to be more than minor on the receiving environment, and in particular the groundwater resources of the Cannington Basin, and surface water flows in the Pareora River. In addition, we consider that the proposal is contrary to the objectives and policies of the RPS and the PNRRP, with reference to those provisions relating to interference effects and the maintenance of surface water flows.

Determination

Accordingly it is our decision that pursuant to Sections 104 and 104D of the Resource Management Act 1991, that application CRC 082186 be refused.

DATED the 30th day of January 2009


Robert Nixon

Chairperson