in the matter of: a submission on the proposed Hurunui and Waiau River

Regional Plan and Plan Change 3 to the Natural Resources Regional Plan under the Resource Management Act 1991

to: Environment Canterbury

submitter: Meridian Energy Limited

Statement of evidence of Robert James Greenaway

Dated: 12 October 2012

REFERENCE: JM Appleyard (jo.appleyard@chapmantripp.com)

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QUALIFICATIONS AND EXPERIENCE

- My full name is Robert James Greenaway. I am in practice as a consultant leisure and open space planner. I operate a private Nelson-based consultancy called Rob Greenaway & Associates and I am a Director of the Pacific-based leisure planning consortium, the Global Leisure Group Limited.
- 2. I graduated from Lincoln University in 1987 with a Parks and three-year Diploma in Management with Distinction, and then completed 18 months of postgraduate study. Between 1990 and 1995 I worked with an international tourism and recreation development consultancy -Resource Consultants - on a range of large and small development and advisory projects. These included ecotourism development planning in Samoa, investigating potential World Heritage Sites in the Solomon Islands for the Ministry of Foreign Affairs and Trade, event management, and domestic reserve, tourism and recreation management planning.
- 3. Between 1995 and 1997 I worked for Boffa Miskell Ltd, focusing on recreation planning for local authorities and tourism development planning for private agencies. Since 1997 I have worked independently. The majority of my work is for local and central government, private companies, and environmental and community agencies.
- 4. I have been a member of New Zealand's leading professional leisure management association the New Zealand Recreation Association (NZRA) since 1990 and was a member of the Association's National Executive from 2000 to 2006. In 2004 I was awarded the Ian Galloway Memorial Cup by the NZRA, 'to recognise excellence and outstanding personal contribution to the wider parks industry.' I am the Chair

of the NZRA's Board of Accreditation for assessing candidates for the status of Accredited Recreation Professional, and hold the status of an Accredited Recreation Professional. I am also a member of the New Zealand Association for Impact Assessment and the Australia and New Zealand Association for Leisure Studies.

- 5. Over the past several years, as an example, I have worked as either lead, co-lead or sole consultant in developing recreation, park and sport development strategies, and undertaking assessment of effects and research programmes, for a number of clients. These have included Meridian Energy, Contact Energy, TrustPower, King Country Energy, South Head Action Group, Mighty River Power, Genesis Energy, the Department of Conservation, Bay of Plenty Energy, Christchurch City Council, Sport New Zealand, the Royal Forest and Bird Protection Society, Summit Road Society, Landco, Fiordland Link Experience, Thames-Coromandel District Council, Hauraki District Council, Central Plains Water Trust, Christchurch Estuary Association, Port Levy Coastal and Marine Protection Society, Far North District Council, Infinity Investment Group, Darby Partners, Auckland Regional Council, Blueskin Projects Limited, the Canterbury West Coast Sports Trust, Environment Canterbury, Selwyn District Council and the Dunedin City Council.
- 6. In undertaking this work, I have completed assessment work on the following rivers and catchments: Mokau, Rangitaiki (Lake Matahina), Patea (Lake Rotorangi), Tarawera, Kaituna (Lake Rotoiti), Mohaka, Waiau (Canterbury), Waiau (Southland), Wairau (Marlborough), Arnold, Gowan, Hurunui, Waitaki, Waimakariri, Waitohi, Rakaia, Opihi/Opuha, Mararoa, Kawarau, Clutha, Shotover, Kaniere,

Waimea/Lee, and the Tongariro/Whanganui network, amongst others.

- 7. I have lectured at Lincoln University for several years on recreation planning, project design and professional development at under- and post-graduate level. In 1995 I wrote Massey University's original extra-mural third year outdoor recreation management course programme. I have had published over 100 articles on recreation and tourism in popular, professional and academic publications in Australasia and Asia and have managed several major multisport events.
- 8. Although this evidence has not been prepared for the Environment Court, I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note. This evidence has been prepared in accordance with it and I agree to comply with it. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

- 9. In my evidence I review:
- The type and location of recreation and tourism activity occurring within the Amuri Plains Reach of the Waiau River,
- The relative recreation and tourism value of the Amuri Plains Reach, compared with the remainder of the River,
- The recreation and tourism values of the River at the national, regional and local levels,
- The minimum and preferred flow conditions for relevant recreational uses.
- The effects of the environmental flow and allocation regime in the Proposed Hurunui Waiau River Regional Plan ("the Proposed Plan") on identified recreation activities along the Amuri Plains Reach of the Waiau River.

- 10. I understand that the Proposed Plan contains a focus on recreation, including the need to consider kayaking, jetboating, swimming, and salmon and trout fishing, as important recreation values.
- 11. As stated in the evidence of Dr Olsen, Dr Hayes and Mr Jowett, the 'modelled proposal' flows that would be associated with Meridian Energy's proposed Amuri Hydro Project (AHP) are slightly higher than that under the Proposed Plan, (by not including the 2 m³/s "gap" between the "A" and "B" allocation blocks), but this difference has little consequence for ecological values in the river. Many of the recreation values of the Amuri Plains Reach depend on the ecological functioning of the river. As I rely on the ecological assessments relating to periphyton, salmon and trout to identify many of the effects on recreation, the findings of Mr Jowett and Drs Olsen and Hayes in relation to the small difference between the modelled proposed and Proposed Plan are relevant to my findings.

METHOD

- 12. My research relies on:
- A review of popular and professional publications relating to recreation and tourism values on the Waiau River (see references),
- A review of on-line references to components of the study area,
- A review of recent primary data gathered by Environment Canterbury,
- A workshop held with local anglers in Waiau in May 2011, with the Cawthron Institute, to review angling and jet boating values in the Amuri Plains Reach,
- An intercept survey of recreational users of the Amuri Plains Reach that I carried out over the 2011/12 summer period, and which is available as a stand-alone report (summarised in Appendix 2),

- Five over-flights of the Waiau River from its mouth to the Hope River confluence to illustrate the locations and types of recreation activity carried out on the river, and which is available as a stand-alone report (summarised in Appendix 2),
- A jet boat run on the Amuri Plains Reach with Paul Vernel (Chair of the Canterbury Branch of the NZ Jet Boat Association) on 11 April 2012 during a low-flow period (28 m³/s at Marble Point with an abstraction flow of 6.5 m³/s from the Waiau Main Race = 21.5 m³/s in the Amuri Plains Reach),
- Review of relevant technical assessments of the Waiau River carried out by other specialists, particularly those relating to periphyton, aquatic ecology, landscape and geomorphology.
- 13. Much of this work was initially carried out to inform applications for resource consents lodged by Ngai Tahu Property Limited and Meridian Energy for what is known as the Amuri Hydro Project (AHP), as described in the evidence of Mr Woods. This proposed hydropower scheme will take up to 50 m³/s at about the Leslie Hills Bridge, and discharge the water back to the river downstream of the township of Waiau. In my evidence this section of the river is called the Amuri Plains Reach. The maximum length of river that will be affected is 29km. I prepared a report to inform the Assessment of Environmental Effects (AEE) to support these applications in 2011, and this document contains more detail from the secondary data sources I refer to above.1
- 14. Further work to survey recreational use on the river was carried out in the summer of 2011/12, and is separately reported.²

Greenaway, R., 2012. Waiau River Recreation Survey 2011-12. Client report prepared for: Meridian Energy Ltd

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Greenaway, R. 2011. Meridian Energy Amuri Hydro Project Tourism and Recreation Review. Client report prepared for Meridian Energy Ltd.
Greenaway, R. 2010. Meridian Energy Ltd.

- 15. The proposed hydropower scheme will take water from each of the A, B, and C allocation blocks when it is available. Irrigation will have priority for the A and B blocks at all times.
- 16. As modelled the AHP complies with the Environmental Flow and Allocation Regime proposed by the Plan for the Waiau River, except for the 2m3/s "gap" proposed between the "A" and "B" allocation blocks which has not been provided for in the modelling (see the evidence of Mr Steven Woods). As it would be difficult to detect visually this additional take of 2 m³/s, I consider the findings from the assessment of effects of operating the AHP to be equivalent to the effects of full practical implementation of the allocation regime in the Proposed Plan in the Amuri Plains Reach. This is called the "modelled proposal" in Mr Woods' evidence. I note also that the modelling undertaken takes into account all existing community water supply and irrigation abstractions, and likely future irrigation abstractions.
- 17. As the proposed AHP will operate largely as a run-ofriver scheme, and there are no significant flow or ramping rate effects on the river below the outfall.
- 18. As this evidence is focussed on the environmental flow and allocation regime for the Waiau River, it does not address terrestrial recreation in the catchment; rather I discuss only water-based recreation.

SUMMARY OF FINDINGS

Recreation use

19. The main flow-dependent activities carried out on the Waiau River are salmon and trout angling, jet boating, kayaking, rafting and swimming. The activities of local and regional importance on the Amuri Plains Reach are angling for trout and salmon, jet boating and swimming.

- 20. The Waiau River is generally absent from historical assessments of the significance of waterbodies to recreation and tourism at the national level. The Ministry of Tourism has nominated the Waiau River as potentially of national significance for tourism as a result of its proximity to Hanmer Springs and its use for commercial rafting and jet boating, and for fishing. National Angler Survey data indicate fewer than 10,000 angler days on the River, which has been used as a threshold for national significance. The draft South Island Sea Run Salmon Management Plan defines the Waiau as a regionally significant salmon fishery, with an estimated maximum historical salmon run of 600 fish. Dr Hayes considers the scale of the salmon run in more detail in his evidence.
- 21. No other report reviewed for this assessment rates the river as important at the national level.
- 22. The intercept survey of recreational users of the Amuri Plains Reach that I carried out over the 2011/12 summer showed that fishing activities (trout, salmon, trout and salmon) were undertaken by a large proportion of respondents (48%) as their main activity. Swimming was popular as a main (14%) and secondary (6%) activity. Jet boating was almost entirely a local activity carried out by residents of Waiau, Rotherham or Culverden. However, no jet boating events were encountered during the survey period and undoubtedly such use would have a more regional component. International visitors made up 15% of respondents fishing for salmon or trout, 9% of those salmon angling and 3% of trout anglers. Almost three-quarters (73%) of salmon anglers were locals (residents of Waiau, Rotherham or Culverden). Most non-local anglers were only 'passing through' with

- short visits near the easy access points at Leslie Hills Bridge and Waiau Bridge.
- 23. The five over-flights of the Waiau River that I carried out between November 2011 and March 2012 indicated that recreational use was dispersed throughout the river system, but most heavy at the river mouth despite its poor terrestrial access (39% of all observations and 62% of all angling observations). Sixteen percent of observations were recorded in the Amuri Plains Reach, and 10% of angling. Jet boating was only recorded during the overflights at the river mouth and in Marble Gorge, with the latter including only the commercial Thrillseekers boats. However, jet boating was recorded on the Amuri Plains Reach during the intercept survey.
- 24. I jet boated the Amuri Plains Reach with Mr Paul Vernel, Chair of the Canterbury Branch of Jet Boating New Zealand, at a flow of 21.5 m³/s and we were able to travel almost half-way from Waiau to the Leslie Hills Bridge before the main channel divided into impassable shallow braids. Our assessment was that at least 30 m³/s was required for safe boating in the Amuri Plains Reach, and at the flow we experienced, access was very challenging.
- 25. Mr Ian Jowett describes in his evidence jet boat passage along the Amuri Reach at flows of 23 m³/s. Mr Jowett's assessment reflects the difference between flows which permit passage and which allow for safe family boating.
- 26. The conclusions I have reached in relation to the Amuri Plains Reach are:
- The salmon fishery in the reach is of local significance, with activity concentrated below Waiau township.
 Although the river as a whole is regionally significant for

- salmon angling, the Amuri Plains Reach is predominantly fished by locals.
- The trout fishery is of only local significance. Although the trout fishery in the reach is visited by anglers from throughout Canterbury and beyond, as shown by my survey, it has low relative value compared with other regionally important trout fisheries.
- Although jet boating activity in the Amuri Plains Reach is predominantly local and the focus of casual activity is mostly below Waiau township, the reach is used occasionally for regional and national jet boating events, and my assessment of regional importance is based on this event-based use.
- The Amuri Plains Reach is locally significant for swimming, with activity focused at the Waiau township.

RECREATION AND TOURISM VALUES OF THE WAIAU RIVER

27. In this section of my evidence I describe the existing recreation and tourism uses of the Waiau River, focusing on the Amuri Plains Reach. My figures appear in Appendix 1, and include as Figures 1 and 2 a map showing the location of sites I refer to on and around the Waiau River and a map showing the river divisions I use.

Access

28. Figure 3 and Figure 4 show recommended access angling options to the lower and upper Waiau River. The river below Marble Point is characterised by mainly site-specific access points, rather than having long stretches of road or public access following the course of the river, which is the case between Marble Point and the Hope Confluence, and along the Boyle and Lewis Rivers. The river mouth has no public terrestrial access and a jet boat is required. A four wheel drive, or walking, is required to explore the

braided river area of the Amuri Plains beyond the three main access points (Leslie Hills Bridge, Caithness Road and Waiau township).

- 29. Figure 5 shows the formed and unformed legal roads and marginal strips in the Amuri Plains area. There are several public access opportunities on the northern side of the River which are not currently identified on the ground. Local information indicates that fourwheel-drive access and walking in the riverbed is an important means of reaching preferred angling sites.
- 30. There is very little land administered by the Department of Conservation (DOC) in the vicinity of the Waiau River downstream of Hanmer. Above this area large tracts of land are managed for conservation and recreation purposes: the St James Conservation Area, Lewis Pass Scenic Reserve, Lake Sumner Forest Park, Hanmer Forest Park and the Lochiel Conservation Area (Figure 1). Of greatest relevance to recreation and tourism on the Waiau River is the desire of DOC to assist in the management of the Lewis pass Highway (SH7) as a 'scenic corridor'.
- 31. There is a 4400m² area of Stewardship Area immediately east of SH7 at Marble Point (N32052 Cabbage Tree Island Waiau River). Otherwise, there is no conservation land through the Amuri Plains Reach until the marginal strip which extends approximately 7kms west of Waiau township on the north bank and 2kms west on the south bank (Figures 5 and 6).
- 32. My 2011/12 intercept survey of recreation use of the Amuri Plains Reach indicated very little use of the Caithness Road access and a strong focus on the Leslie Hills Bridge and Waiau Bridge areas. As I have stated, the five over-flights of the Waiau River indicated that recreational use was dispersed

throughout the river system, but with a strong focus at the river mouth.

Freshwater angling

The 1980/81, 1994/96, 2000/01 and 2007/08 national 33. angler surveys (NAS) report use levels, in angler days, for Waiau River and other rivers in the catchment (Ada, Boyle, Doubtful, Hanmer, Hope, Lewis, Mason, Nina Rivers and Lake Guyon) (Table 1).3 These show a steady increase in angling participation on the Waiau River since 1995/96 and a greater proportion of angling activity within the catchment on the Waiau River in comparison with its tributaries. The 1980/81 survey results are quite different from the later studies for both the Waiau and its tributaries, which could relate to the different survey methods as much as to changes in angling patterns. The 2007/08 season was reported to be a strong season for salmon angling (Unwin 2009).

Table 1: Angler days in the Waiau catchment		
Season	Waiau River	Other Waiau catchment rivers
1980/81 ⁴	6500	4610
1995/96 ⁵	1440 ± 490	1480
2000/01 ⁶	2130 ± 420	950
2007/08 ⁷	4340 ± 1020	1960

34. The difference between salmon and trout angling effort was reported in only the 1980/81 study, with an estimated 63% of angler days on the River carried out by salmon anglers. ECan (2011) included an estimate that in a bad year for salmon, 40% of the total effort would be for salmon and in a good year, 70%.

Unwin & Brown 1998. Does not include figures for child licence holders.

³ These data are based on limited numbers and have errors in the order of 25-50%

 $[\]begin{tabular}{ll} 4\\ - \end{tabular}$ Teirney et al 1987. Error margins were not reported.

⁶ Unwin & Image 2003. Does not include figures for child licence holders. Figure for the 'total river' count includes angler days on unspecified sections of the River.

⁷ Unwin 2009.

- 35. Figure 7 shows angling activity by two-month period, sourced from the national angler data (the 1980/81 survey did not subdivide results by months). There has been an apparent variability in angling activity by both timing and scale. December to March inclusive was the most popular period in 2007/08, but in 2001/02 angling was more evenly spread between August and March.
- 36. Salmon angling success has been variable on the Waiau River and Fish and Game estimates that the number of salmon caught in one season has not exceeded 200 since the year 2000 (Millichamp 2010). Figure 8 shows the seasonal salmon harvest for both the Hurunui and Waiau Rivers from 1996 to 2009. By comparison, the harvests for the Rakaia and Waimakariri Rivers are generally counted in the several thousands. These data are based on a telephone survey of 10% of Canterbury region licence holders and involves a "high error" when applied to "smaller fisheries" like the Hurunui and Waiau Rivers (Millichamp 2010).
- 37. The 2010/11 South Island Sports Fishing Regulations (Fish & Game 2010) state that the Waiau River is open for fishing all year below the Hope River confluence with a bag limit of two trout and two salmon.
- 38. ECan (2011) indicated that the Amuri Plains Reach had a 'high level' of fishing at the access points, with some 4WD use along the riverbed. Trout fishing was likely to dominate over salmon. Trout angling was described as locally significant and salmon angling as regionally significant in the Amuri Plains Reach.
- 39. The literature review I completed for my 2011 report⁸ indicated a preference for trout angling in the upper

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³ Greenaway, R. 2011. *Meridian Energy Amuri Hydro Project Tourism and Recreation Review*. Client report prepared for Meridian Energy Ltd.

Waiau River, above the Hope Confluence, with searun trout at the mouth. Low-flow conditions were described as common in summer. The river was considered to be 'lightly fished', and the mouth to be the most popular angling site, with salmon the main focus there.

- 40. Dr Hayes, in his evidence, notes that while general fish density in the Waiau River was found to be lower than other comparable east coast braided rivers, the density of brown trout in the river was very similar to the Ashley, Hurunui and Rakaia Rivers.
- 41. The draft South Island Sea Run Salmon Management Plan (Fish & Game 2010) defines the Waiau as a regionally significant salmon fishery, with an estimated maximum historical salmon run of 600 fish, with a range of 200 to 600 fish returning over the 2001 to 2005 period.
- 42. My intercept survey of recreational users of the Amuri Plains Reach indicated that fishing (trout, salmon, trout and salmon) were undertaken by a large proportion of respondents (48%) as a main activity. International visitors made up 15% of respondents fishing for salmon or trout, 9% of those salmon angling and 3% of trout anglers. Almost three-quarters (73%) of salmon anglers were locals. Local anglers were frequent users of the river with salmon anglers reporting an average of 83 days of activity over the preceding 12 months, compared with 6 days for non-locals. For comparison, I carried out the same type of survey of users of the Rakaia River over the 2010/11 season and the figures were 57 and 21 respectively - locals were less frequent users, but non-locals were more likely to visit the Rakaia more often.
- 43. Salmon anglers on the Amuri Plains Reach reported they dedicated, on average, 73% of their fishing time

to the Waiau River while trout anglers were more likely to visit other rivers and spent 43% of their activity time on the Waiau River. All those surveyed tended to favour the Amuri Plains Reach, with respondents spending, on average, 86% of their time on the Waiau River in the Amuri Plains Reach. These results were generally consistent for most activities but salmon anglers tended to be a little more mobile at 63%. Of the main activities, trout anglers were the least likely to describe the Waiau as a favourite (32%), while 75% of salmon anglers considered the Waiau their favourite, and 40% of salmon and trout anglers.

Jet boating

- 44. Figure 9 shows the classes of jet boating opportunity on the River and nearby. Downstream of Waiau township the river provides one of three 'easy boating' options in Canterbury, along with the Hurunui and Waimakariri Rivers. The river from Waiau township to the Hope confluence is defined by Jet Boating New Zealand as Class 2 for 'more advanced' boaters.
- 45. During the jet boat run that I organised on the 11th of April 2012 with the Chair of the Canterbury branch of Jet Boating New Zealand (Paul Vernel), we found the Amuri Plains Reach to be too difficult at a flow of 21.5 m³/s (28 m³/s at the Marble Point gauge less 6.5 m³/s abstraction at the Waiau Irrigation intake). Midway between Waiau and the Leslie Hills Bridge we decided to turn back to limit damage to the boat's hull where the main channel split into two apparently equal flows (Figure 10). The vessel we used was a new four-seater and representative of a standard recreational jet boat.
- 46. The Amuri Plains Reach is referred to as the 'Graveyard' by jet boaters and some level of challenge is expected. However, my experience was that the

reach was a challenging Class 3 ("Difficult boating – adventure, families not recommended") at around 20 m³/s, and some hull damage would (and did) result. Where the river was more easily navigable, such as below the Waiau township, there was only ever one braid that could be run. This experience supports the ECan (2011) finding that while the Amuri Plains Reach could be run at 20 to 25 m³/s, if the river braiding provided suitable channels, a higher flow was required for safe boating.

- 47. Paul Vernel's assessment was that with the braiding pattern present on the 11th of April 2012 at least 30 m³/s would be required to run the Amuri Plains Reach safely.
- 48. Launching sites on the River are available the Hope confluence, Hanmer Creek, the lower end of Marble Point Gorge, Waiau and at Spotswood.
- 49. Rivers to the Sea Fishing Tours offers guided boating and fishing on the River and out to sea, and occasionally accesses the Amuri Plains Reach. Other commercial providers are likely to be licensed to operate on the River. Jet Boating New Zealand Canterbury Branch runs regional events on the River annually one in each of the upper and lower sections. The International Jet Boat Marathon event uses the River every four years, running from Waiau to above Hanmer Ferry Bridge (around September). The New Zealand Jet Boat Marathon uses the River every two years (around November). The Canterbury 3 Race Series is held annually and uses the Waiau (around May).
- 50. There are no quantitative data to indicate relative values of rivers in Canterbury to jet boating. It is widely agreed that the Waimakariri River is the most heavily used river for jet boating in New Zealand. Other rivers,

such as the Rakaia and Waitaki have high levels of jet boating activity largely related to salmon angling. The Waiau River has limited terrestrial access to its mouth and jet boating is an important means of access there. Otherwise, the Waiau River compares to the Hurunui, having a low local population – meaning less frequent use from the main population centre of Christchurch – and relatively slight salmon angling pressure – and so less jet boat access for this activity – in comparison with the larger braided rivers further south.

51. Twelve jet boaters were questioned during my intercept survey of 2011/12 on the Amuri Plains Reach. One of those boated *only* on the Waiau River. All but one jet boating respondent was a local. During the five over-flights, all jet boating was recorded at either the river mouth (19 boats counted) or in Marble Gorge (seven boats counted).

Other Water-Based Activities

- 52. Other water based recreational activities that take place on the Waiau River include whitebaiting (which takes place only near the river mouth), kayaking, rafting and swimming.
- 53. Almost all kayaking and rafting is reported to take place upstream of the Amuri Plains Reach, although some limited kayaking occurs in Palm Gorge downstream of the Amuri Plains Reach.
- 54. Four kayakers were recorded during my intercept survey over the 2011/12 summer, all at Waiau (and three were not able to be questioned as they kayaked past). During the overflights, kayaking (one person) was observed at Palm Gorge only. No rafting was observed in the Amuri Plains Reach but use of the Marble Gorge reach was noted, with rafters (two groups) exiting the river at the Leslie Hills Bridge.

55. The intercept survey of 2011/12 found that swimming was relatively popular as an activity at Waiau township, and was one of the six most-recorded recreation activities in the Amuri Plains Reach (sightseeing, trout fishing, swimming, salmon and trout fishing, dog walking).

FLOW REQUIREMENTS FOR RECREATION

- 56. The Waiau River Environmental Flow and Allocation Planning Conservation / Recreation Stakeholder Workshop Results (ECan 2011) indicated that in Amuri Plains Reach a flow of 25-60 m³/s was necessary to sustain fish passage, and 20-65 m³/s was necessary for jet boat passage. My experience of jet boating the Amuri Plains Reach is that 30m³/s is required for safe family jet boating in a larger four seat boat. Passage is possible at lesser flows as described by Mr Jowett.
- 57. The Proposed Plan provides an environmental flow and allocation regime which is considered to balance demands for water takes with instream and recreation values. As my evidence indicates, these flows are broadly acceptable to recreation on the Waiau River generally, although I identify some potential for adverse effects on jet boat passage and swimming in the Amuri Plains Reach.
- 58. Fifteen percent of respondents to my intercept survey of 2011/12 knew a preferred flow for their main activity on the Amuri Plains Reach. When broken down by activity, the results gave very few respondents for each. Preferred flows for jet boaters ranged from 30 to 45 m³/s (n=4), for salmon anglers from 33 to 60 m³/s (n=4), and for trout anglers from 35 to 60 m³/s (n=4). Swimmers preferred flows that ranged from 50 to 60

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Nine participants contributed to the workshop including two jet boaters (one of whom was the Chair of the NZ Jet Boating Association Canterbury Branch who piloted the jet boat on my low-flow jet boat run), and one officer from Fish & Game Canterbury.

- m³/s (n=3). While the response sets are small, this merely reflects the light level of recreational activity encountered during the survey period on the river, and does not mean that the results are not valid in a statistical sense.
- 59. Minimum flows for jet boaters ranged from 20 to 30 m³/s (n=4), for salmon anglers from 15 to 60 m³/s (n=4), and for trout anglers from 25 to 110 m³/s (n=4) plus an additional comment 'the lower the better'. Swimmers' minimum flows ranged from 40 to 51 m³/s.
- 60. Dr Hayes, in his evidence, indicates that 20m³/s provides for salmon passage along the Amuri Plains Reach. Salmon have the highest passage depth requirement of all fish species in the river, and so providing for salmon passage also supports trout passage.
- 61. At 20m³/s Mr Jowett identifies that 56% of 'salmon angling habitat' is retained in comparison with that available at the natural mean annual low flow (MALF).
- 62. If recreation values are to be maintained throughout the Waiau catchment, in light of the proposal to modify the flow regime in the Amuri Plains Reach, flow requirements should be focused on supporting salmon and trout passage along the river system.
- 63. Jet boating in the river below the Amuri Reach is important to support salmon angling opportunities and for jet boating by itself. Casual jet boating on the Amuri Plains Reach occurs relatively infrequently, although the international jet boat marathon and national and regional events are held on this section.

EFFECTS OF THE PROPOSED FLOW AND ALLOCATION REGIME ON RECREATION

64. The main effect on the hydrology of the Waiau River from the proposed AHP is an increase in the number

of days that the river remains at 20 m³/s through the Amuri Plains reach (see the evidence of Mr Steven Woods). As the scheme would operate largely as run-of-river, there will be little if any direct effect on recreation below the outfall.

- The natural flow pattern for the River at Marble Point 65. sees it flowing between 20 and 30 m³/s for 3.7% of the time (14 days per year on average). Full irrigation development would increase the frequency of that flow band to 15.7% of the time (57 days). The hydro proposal, which is based on the full practical implementation of the environmental flow and allocation regime in the proposed plan, would result in the 20 to 30 m³/s flow band occurring 61% of the time (223 days) for the Amuri Plains Reach, and at 20 m³/s 45% of the time - ranging from 35% of the time in a typical wet year to 65% in a typical dry year. Low flow effects would be greatest in January, February and March when flows of 20 m³/s would be encountered 85% of the time, compared with 30% of the time if all existing irrigation consents are fully taken up. These findings are detailed in the evidence of Mr Woods.
- 66. In terms of scale of effect of the proposal on water-based recreation and tourism on the Waiau River in total, there will be no meaningful effects on kayaking, and rafting as these occur almost entirely outside the Amuri Plains Reach. 10 Dr Hayes and Dr Olsen's evidence is that there will be no effect on koaro migrations and so no effect on whitebaiting. Further, all recreation and tourism values of national importance will be maintained.
- 67. Effects of interest in the Amuri Plains Reach relate to those on the locally important trout fishery and regionally important salmon fishery, on regionally

important jet boating and in relation to periphyton growths which may reduce the river's visual amenity and amenity for contact recreation, which is important at the local level.

Salmon and trout angling

- 68. Mr Jowett indicates that a minimum flow of 20 m³/s in all months provides for salmon passage in the Amuri Plains Reach, but that the AHP flow regime decreases the amount of suitable habitat for salmon angling by about 17% compared to the status guo flow regime. Dr Hayes observes this reduction is unlikely significantly adversely affect salmon angling opportunities because lies are probably underutilised over most the Amuri Plains Reach.
- 69. Dr Hayes also indicates a minor increase in water temperature under the modelled proposal regime, resulting in the potential for infrequent changes to salmon and trout behaviour and some loss of angling amenity.
- 70. The scale of these effects depends on the duration of low flows in the river during the summer months, particularly February and March. As shown by the hydrographs attached to Mr Wood's evidence, there are sometimes sustained periods in late summer where natural flows remain below 40 m³/s, and all the water available in the river will be taken for irrigation. I note that these circumstances the flow regime in the Proposed Plan will sometimes increase the flow in the river from 15 m³/s to 20 m³/s in February and March (the critical months for upstream migrating adult salmonids are January to June).

 $^{^{10}}$ As indicated by the Waiau River Environmental Flow and Allocation Planning Conservation / Recreation Stakeholder Workshop Results and confirmed by my 2011/12 survey.

Jet boating

- 71. A flow of 20 m³/s has been described as the minimum flow for jet boating in the Amuri Plains Reach of the Waiau River¹¹, although at least 30 m³/s is required for 'safe boating'. My assessment indicates a flow of at least 30 m³/s is required for safe family boating.
- 72. Low flows change the jet boating amenity by increasing the level of challenge, which is of appeal to some, but also restricts the number of braids available for boating. It also has the potential to increase conflict with other river users by forcing boaters into areas of water most likely to be occupied by others, such as swimmers and anglers. More braids affords more options to avoid others.
- 73. The minimum flow of 20 m³/s in the Proposed Plan will limit the ability to jet boat the Amuri Plains Reach, and will require a shift in the level of skill required from Class 2 (More advanced boating - comfortable after one season's experience) to Class 3 (Difficult boating - adventure, families not recommended). This flow is, however, more than the 15 m³/s minimum flow provided for in February and March under the current water allocation regime. Users of the Amuri Plains Reach may need to seek more information than they do currently about the status of the reach before accessing it. In some seasons, patterns of shingle deposition and channel formation may make some sections impassable at the 20 m³/s minimum flow. At or about this flow boats with deeper draughts and preferring higher flows will be further disadvantaged and may find the Amuri Plains Reach no longer worth accessing on a casual basis.
- 74. At the regional level, Class 2 options are currently limited to the Waiau River (from Waiau to the Hope

confluence), the Rakaia River, the upper Ashley River and the Ashburton River below Ashburton. Class 3 options are more plentiful and are available on the Conway River, the Waiau River above the Hope confluence, and on the Hope River, the upper Hurunui River, the Waipara River, the Ashley River, the upper Waimakariri River, the upper Rakaia River and much of the Rangitata River.

- 75. The net effect on jet boating on the Waiau River would be to often increase the difficulty and challenge of using the Amuri Plains Reach as with the modelled proposal flows will be at the 20 m³/s minimum for nearly two thirds of the time. This effect will be greatest outside of the irrigation season, as existing takes often reduce flows to low levels during the irrigation season. While this is a 'moderately' popular reach of the River, it is not as important as the Marble Gorge (which is commercially run) and more scenic sections of the river above the Gorge. The lower river, below Waiau, is also more important for providing access to whitebaiting and angling resources where foot access is more difficult. Consequently, the regional effect on jet boating opportunity, considering the mitigations available, will represent limitations to casual access to a Class 2 opportunity.
- 76. Mitigation options also exist. For instance the proposed AHP scheme could stop taking water for a defined period if a national or international jet boating event was being held on the river.

Swimming

Swimming is dependent on water quality and quantity. 77. It will not take place at higher flows or in turbid water.

Waiau River Environmental Flow and Allocation Planning Conservation / Recreation Stakeholder Workshop Results

These factors also affect other river uses, such as jet boating and angling.

- 78. Dr Hayes found that chemical water quality is generally high in the Amuri Plains Reach under the 'Status Quo' flow regime owing to the low percentage of the catchment intensively farmed. He concludes that this suggests there will be little effect on water quality changes under the modelled proposed flow regime, which indicates there will be little effect on swimming due to water quality issues.
- 79. Dr Olsen reflects this finding in relation to periphyton, noting that the low nutrient levels in the Waiau River mean that nuisance periphyton proliferations are currently uncommon. Didymo has not been recorded from the river. Dr Olsen concludes that modelled proposed flows, which feature periods of shallow and stable flows, have the potential to increase periphyton levels in the Amuri Plains Reach. Should the AHP proceed, effects can be managed by providing flushing flows to limit periphyton biomass.
- 80. There may be some minor adverse effects via changes in visual amenity and a reduction in the quality of swimming experiences during dry years.

 These will mostly affect local recreation values.
- 81. Flows of 20m³/s are below those stated by swimmers in my survey as a preferred minimum (40m³/s). These effects will be most obvious during the summer months. Although the number of respondents in my survey for swimmers is small, the comments reflect my observations of the river at low flows.

CONCLUSION

82. The environmental flow and allocation regime in the Proposed Plan has the potential to affect recreation values on a locally important section of the Waiau

River. The proposal to use water for power generation along the Amuri Plains Reach (in accordance with the provisions of the Proposed Plan) will not affect the nationally important recreation values in the remainder of the Waiau, and at the regional level there will be little net effect on tourism and recreation values. However, the lower flows present will reduce the amenity of the river, particularly for local users such as jet boaters and swimmers. There will be some losses of amenity associated with salmon and trout fishing to local anglers.

- 83. Other water-based uses of the Waiau River including kayaking and rafting predominantly occur in other reaches of the Waiau and will be almost entirely unaffected.
- 84. Jet boaters will need to be more aware of flows on the Amuri Plains Reach and, if they have little boating experience, opt to use this reach only when flows are likely to remain high. Event organisers will need be more aware of low flow limitations and communicate with Meridian, if the AHP scheme is in place, when there is the potential to manage flows. Deep draught vessels will find the Amuri Plains Reach less appealing as a destination and be more frequently confined to the river below the outfall. Publicity and signage regarding the modified flow pattern will be required.
- 85. There are mitigation options that can offset the effects of the proposed hydropower scheme.
- 86. Overall, my assessment confirms that it is plausible that the Proposed Plan flow and allocation regime could be implemented while providing reasonable and similar opportunities as to what currently exists for kayaking, jetboating, swimming and salmon and trout fishing in the Waiau River generally, with some losses to recreation in the Amuri Plains Reach.

ROB GREENAWAY

12 October 2012

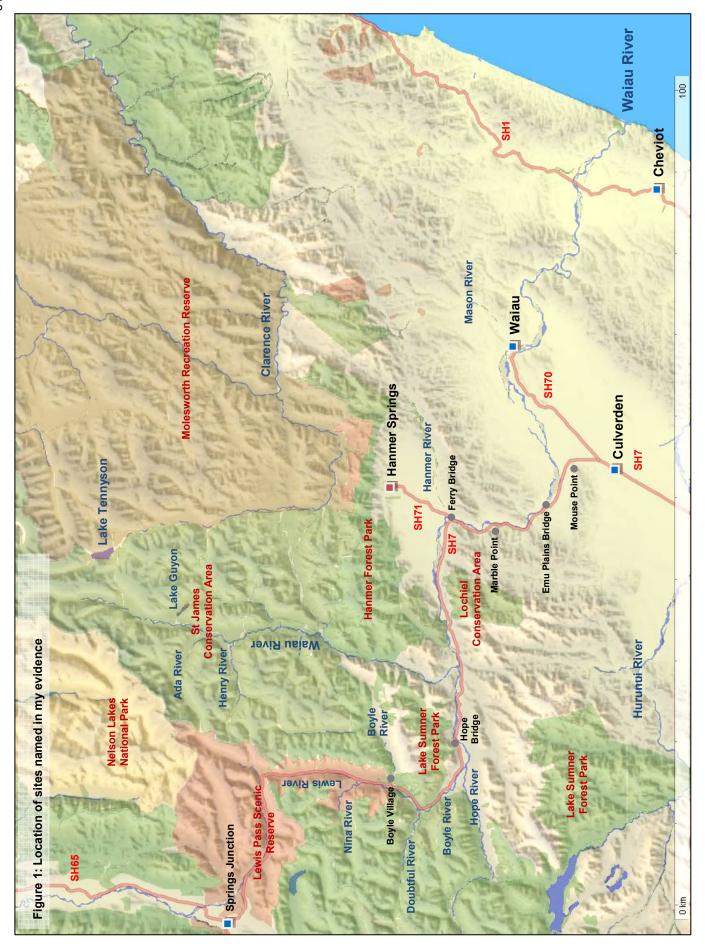
REFERENCES TO ORIGNAL RESEARCH

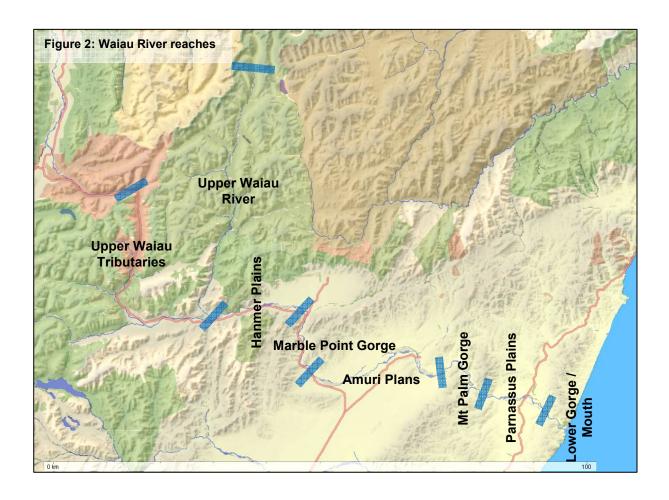
- Busch, T. 2003. *Trout Fishing, A Guide to New Zealand's South Island, 5th Edition.* David Bateman.
- Charles, G. 2006. New Zealand Whitewater, 125 great kayaking runs. Craig Potton Publishing.
- Daly, A. 2004. *Inventory of Instream Values of the Rivers and Lakes in Canterbury*. Environment Canterbury U04/13.
- Davis, S.F. 1987. *Wetlands of national importance to fisheries*. New Zealand Freshwater Fisheries Report No. 90. MAF Fisheries, Christchurch.
- Department of Conservation. 1994. *Recreation Strategy for Canterbury Conservancy*. DOC, Christchurch.
- Department of Conservation, 2002. *Canterbury Conservation Management Strategy*. DOC Canterbury Conservancy.
- Department of Conservation. 2003. *Towards a better network of visitor facilities. Canterbury Conservancy proposal summary*. DOC, Wellington.
- Department of Conservation. 2004. *Canterbury Conservancy recreation opportunities review submissions analysis and decisions*. DOC, Wellington.
- Duncan, M.; Bind, J. 2009. Waiau River instream habitat based on 2-D hydrodynamic modelling. Environment Canterbury Technical Report R09/26.
- Egarr, G. 1995. New Zealand's South Rivers, A Guide for Canoeists, Kayakers and Rafters . Nikau Press.
- Egarr, G.D, Egarr, J.H. 1981. *New Zealand Recreational River Survey Parts I, II and III*. Water & Soil Division, Ministry of Works and Development.
- Environment Canterbury, 2011. *Waiau River Environmental Flow and Allocation Planning Conservation / Recreation Stakeholder Workshop Results*. Environment Canterbury, Christchurch.
- Environment Canterbury 2004. *Proposed Canterbury Natural Resources Regional Plan* (NRRP). ECan, Christchurch.
- Fink-Jensen, K. Johnson, M. Simpson-Edwards, M. 2004a. *Freshwater recreational users. Survey of freshwater use in New Zealand*. BRC Marketing & Social Research for MfE.
- Fink-Jensen, K. Johnson, M. Simpson-Edwards, M. 2004b. *Freshwater recreational users. Internet survey of freshwater use in New Zealand.* BRC Marketing & Social Research for MfE.
- Fish and Game New Zealand, 2010. *Draft South Island sea run salmon management plan*. Fish & Game NZ
- Galloway, S. 2008. New Zealand Recreational River Use Study: Specialization, Motivation and Site Preference. School of Physical Education University of Otago.
- Giles, R.2000. Hooked on Trout, How are Where to Catch Large Trout in New Zealand. Reed Publishing (NZ) Ltd.
- Giles, R. 2002. Catch That Trout, Fishing the South Island of New Zealand. Reed Publishing (NZ) Ltd.
- Greenaway, R. 2011. *Rakaia River Recreation Survey 2010/11*. Rob Greenaway & Associates client report prepared for TrustPower Ltd.
- Greenaway, R. 2001. *Hurunui River Recreation Survey 2000/01*. Rob Greenaway & Associates client report prepared for Environment Canterbury and North Canterbury Fish and Game Council.

- Grindell and Guest (eds) 1986 A list of rivers and lakes deserving inclusion in a schedule of protected waters. Water and soil miscellaneous publications No.97
- Grindell, D.S. (ed) 1984. *A national inventory of wild and scenic rivers.* Water and Soil Directorate, Ministry of Works and Development.
- Kelly, G.R. 1988. *An inventory of whitebaiting rivers in the South Island.* New Zealand Freshwater Fisheries report No. 101. MAFFish, Christchurch.
- Kennett, J., Kennett, S., Kennett, P., Morgan, P. 2002, *Classic New Zealand Mountain Bike Rides, Ed 5.* Kennett Brothers, Wellington.
- Kent, J.2006. South Island, Trout Fishing Guide. Reed Publishing (NZ) Ltd.
- Kent, J.Magnano Madsen, P. 2003. *New Zealand's Top Trout Fishing Waters*. Reed Publishing (NZ) Ltd.
- Kerr, G. 2006. The New Zealand Camping Guide. Kerr, Plimmerton.
- Law, E. 1991a. Recreation Opportunities in Canterbury. Volume I The Recreation Opportunity Survey. DOC, Christchurch.
- Law, E. 1991b. Recreation Opportunities in Canterbury. Volume II Draft Recreation Strategy. DOC, Christchurch.
- Millichamp, R.2010. *A Fisheries Overview of the Hurunui Waiau Zone. Resource Document*. North Canterbury Fish and Game Council, Christchurch.
- Millichamp, R.1997. Salmon Fever. A Guide to Salmon Fishing in New Zealand. Shoal Bay Press.
- Ministry for the Environment. 2004a. *Potential Water Bodies of National Importance for Recreation Value*. MfE number 559. Wellington.
- Ministry for the Environment. 2004b. *Sustainable Water Programme of Action:*Potential water bodies of national importance. Technical Working Paper. MfE number 562. Wellington.
- Ministry of Tourism. 2004. *Waters of national importance for tourism*. Ministry of Tourism, Wellington.
- Moore, C. 2002. Weekends for trout fishing in New Zealand. New Holland.
- Mosley, P.M. 2004. *Waiau River: instream values and flow regime*. Report R04/02 for Environment Canterbury.
- Mosley, P.M. 1982. *Critical depths for passage in braided rivers, Canterbury, New Zealand*, in New Zealand Journal of Marine and Freshwater Research, 1982, Vol. 16: 351-357.
- Mosley, M.P. 1983. Flow requirements for recreation and wildlife in New Zealand rivers A Review. In *Journal of Hydrology* (NZ) Vol 22. No.2. 152-174.
- New Zealand Conservation Authority. 2003. New Zealand's Walkways, Department of Conservation, Wellington.
- Olsen, D. Maxwell, I. Holmes, R. Hay, J. Allen, C. Doehring, K. 2011. *Assessment of the Amuri Hydro Project on the Waiau River, North Canterbury*. Prepared for Meridian Energy Ltd. Cawthron Report No. XXXX.
- Richardson, J., Teirney, L.D., Unwin, M.J. 1987. The relative value of Central North Island Wildlife *Conservancy and Wanganui Rivers to New Zealand anglers*. Ministry of Agriculture and Fisheries. Fisheries Environmental Report No. 87.
- Sutherland-Downing, V. Elley, R. April 2004 (revised by Daly, A). *Inventory of Recreational Values of the Rivers and Lakes in Canterbury*. Environment Canterbury U04/14.
- Teirney, L.D., Unwin, M.J., Rowe, D.K., McDowall, R.M., Graynoth, E. 1982. Submission on the draft inventory of wild and scenic rivers of national importance. Ministry of Agriculture and Fisheries. Fisheries Environmental Report No. 28.

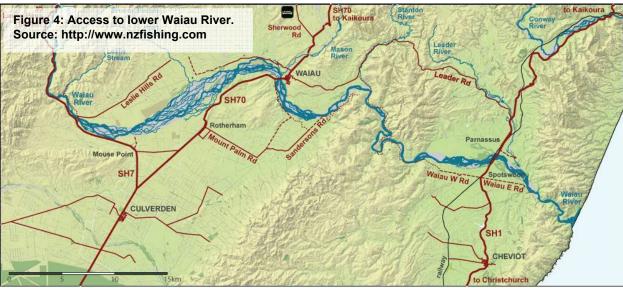
- Teirney, L.D. Richardson, J. Unwin, M.J. 1987. *The relative values of North Canterbury Rivers to New Zealand anglers*. Fisheries Environmental Report No. 89. NZ Ministry of Agriculture and Fisheries. Wellington.
- Teirney, L.D., Unwin, M.J., Rowe, D.K., McDowall, R.M., Graynoth, E. 1982. Submission on the draft inventory of wild and scenic rivers of national importance. Ministry of Agriculture and Fisheries. Fisheries Environmental Report No. 28.
- Unwin, M.J., Brown, S. 1998. *The geography of freshwater angling in New Zealand: A summary of results from the* 1994/96 *National Angling Survey.* NIWA Christchurch
- Unwin, M.J., Image, K. 2003. Angler usage of lake and river fisheries managed by Fish and Game New Zealand: results from the 2001/02 National Angling Survey. NIWA Christchurch.
- Unwin, M.J.. 2009. Angler usage of lake and river fisheries managed by Fish and Game New Zealand: results from the 2007/08 National Angling Survey. NIWA Christopurch

APPENDIX 1: FIGURES









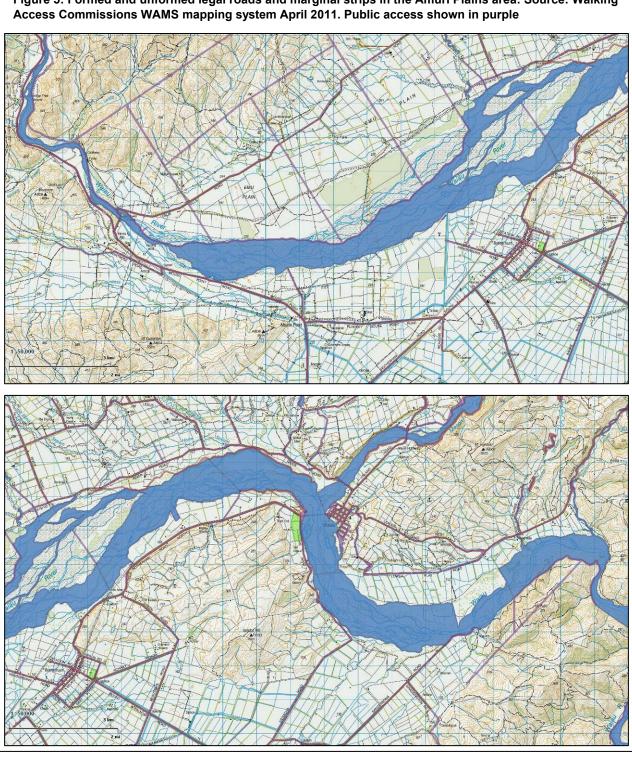


Figure 5: Formed and unformed legal roads and marginal strips in the Amuri Plains area: Source: Walking Access Commissions WAMS mapping system April 2011. Public access shown in purple

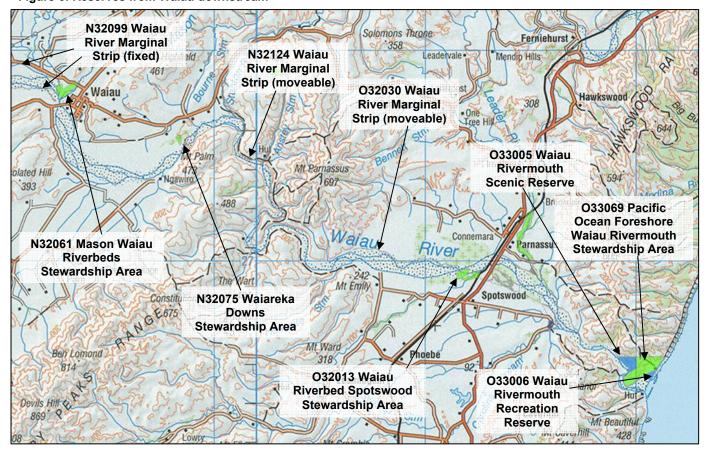
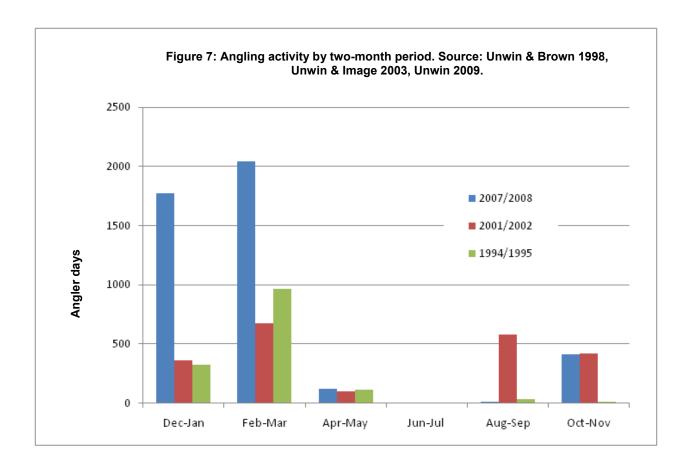


Figure 6: Reserves from Waiau downstream



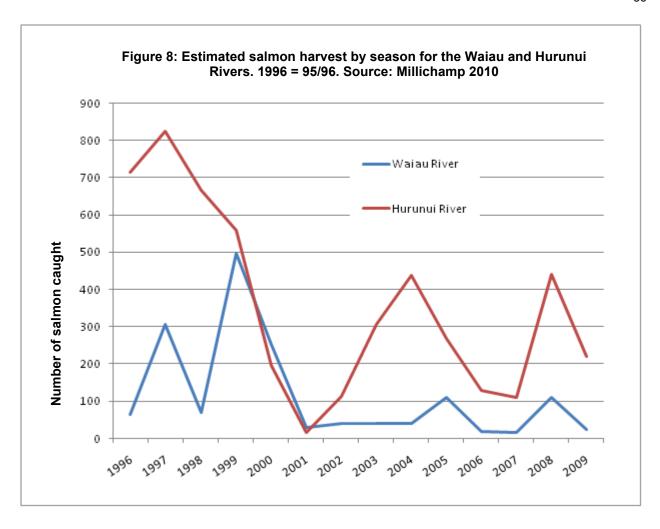


Figure 9: Jet boating classes, North Canterbury rivers. JBNZ 2005

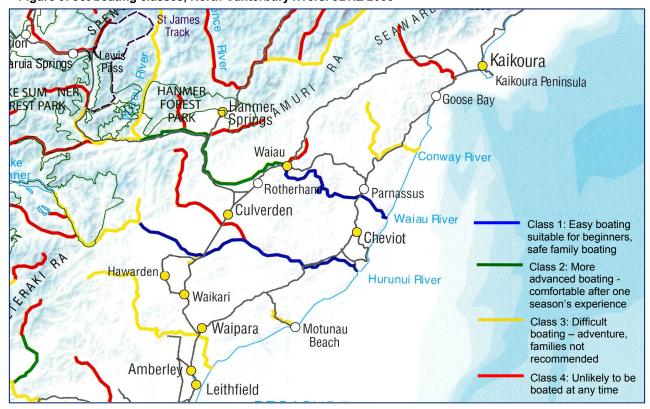


Figure 6: Extent of jet boat run on Waiau River 11 April 2012 (GPS track recording in red)

APPENDIX 2: SUMMARY OF FINDINGS, INTERCEPT AND OVERFLIGHTS

This appendix presents the findings of an intercept survey of visitors to the Amuri Reach of the Waiau River between 17 December 2011 and 12 February 2012, and five aerial counts of use of the Waiau River from the mouth to the Hope confluence. The intercept survey was limited to the Amuri Reach as it is potentially affected by a hydroelectric proposal by Meridian Energy Ltd. The aim of the aerial survey was to place the Amuri Reach in context when compared with recreation activities throughout the Waiau River.

The purpose of the study was to assist with the identification of the recreational values of the Waiau River, and the built and natural resources which support those activities.

While 279 intercept questionnaires were filled in, the sample included people who were approached twice or more over the course of the survey period. If they had already been surveyed, respondents were asked if they were carrying out the same main activity as previously. Those carrying out the same activity were noted and their activity recorded, but they did not complete another full questionnaire. A total of 191 completed questionnaires were gained.

The survey did not attempt a true random selection of visitors to the Waiau River or the Amuri Reach, but aimed at gaining a good level of response from participants in the main recreational uses of the river. As a result of this targeted sampling approach, the data do not show the true level of use of the river by each activity group.

The survey had eight focus areas:

- 1. Demographics. Compared with the general population, respondents were older, more likely to be male, in employment, and had a much higher level of tertiary qualification than the New Zealand average. The percentage of Maori participants was low (5%) compared with the national average but was closer to the percentage of Maori in the South Island population (7%). Almost three-quarters (70%) of respondents were from Canterbury (35% from Christchurch) and 86% lived in New Zealand. Locals (those living in Waiau, Rotherham and Culverden) made up 29% of respondents. Seventy-eight percent of respondents were not staying at home on the day of their visit, and of those 85% were staying overnight in either Waiau (61%), Hanmer (12%), Rotherham (7%) or Culverden (5%).
- 2. Location of activity. Almost three-quarters of responses were gained at the sites around Waiau township, as well as just over 80% of the non-responses. Very little activity was recorded at the angler access at Caithness Road (three responses and two non-responses). All other activity was recorded at Leslie Hill Bridge (25% of responses and 16% of non-responses). The Waiau township sites were more likely to be frequented by groups, with an average group size of 7.4. Leslie Hills Bridge was mostly frequented by individuals (37) or groups of two (54) and the average group size there was 1.6. The five over-flights indicated that use was dispersed throughout the River system, but most heavy at the river mouth (39% of all observations and 62% of all angling observations). Sixteen percent of observations were recorded in the Amuri Reach, and 10% of angling. Jet boating was recorded at the river mouth and in the Marble Gorge, with the latter only the Thrillseekers boats.
- 3. **Activity**. Fishing (trout, salmon, trout and salmon) were undertaken by a large proportion of respondents (48%) as a main activity. Swimming was popular as a main (14%) and secondary (6%) activity. Jet boating was almost entirely a local activity (92%) with 'locals' defined as those living in Waiau, Rotherham or Culverden. However, no jet boating events were encountered during the survey period and undoubtedly such use

would have a more regional component. International visitors made up 15% of respondents fishing for salmon or trout, 9% of those salmon angling and 3% of trout anglers. Almost three-quarters (73%) of salmon anglers were locals. The average number of days over the preceding 12 months spent recreating on the Waiau River was 67 for locals and six for non-locals (compared with 57 and 21 respectively for the Rakaia River (2010-11 season)). The majority of respondents (76%) had been visiting for 10 or fewer years and 35% were on their first visit to the Waiau River. Jet boaters had the longest average 'longevity' at 19 years, followed by salmon anglers at 14 years. Salmon anglers reported they dedicated, on average, 73% of their fishing time to the Waiau River; jet boaters reported 74%; while trout anglers were more likely to visit other rivers and spent 43% of their activity time on the Waiau River. Swimmers tended to be locals and spent almost all their activity time (94%) on the Waiau River and 58% of swimmers swam nowhere else. All those surveyed tended to favour the Amuri Reach, with respondents spending, on average, 86% of their time on the Waiau River in the Amuri Reach. These results were generally consistent for most activities but salmon anglers tended to be a little more mobile at 63%. Just over 50% of all respondents considered the Waiau to be their favourite river for their main activity. The most popular alternatives were the Waimakariri and the Hurunui Rivers. Thirty-two other rivers were named (in addition to the Waiau, Waimakariri and Hurunui), but most gained only one mention. Of the main activities, trout anglers were the least likely to describe the Waiau as a favourite (32%). Twenty-five percent of respondents visited only the Waiau River for their main activity.

- 4. River flows. Respondents were asked if they had ever visited the Waiau River and been dissatisfied with conditions. Forty-six percent of respondents recorded yes. Flooding, the river being too high or swift was the most frequent cause of dissatisfaction (29%), followed by low water levels (23%) and water quality (20%). High flows were more likely to be a problem for swimmers and low flows more likely to be a problem for salmon anglers. For most main activities, just over a third of respondents (36%) checked river levels prior to their visit: 23% used the internet (ECan website); and 75% were able to check visually. Twenty-one percent of respondents knew a minimum, preferred or maximum flow in cubic metres per second (cumecs). The mean flows given were, respectively, 37, 45 and 85 m³/s. Salmon anglers (36%) and jet boaters (33%) were most likely to know their flows. There was little difference in flow preference between each main fishing activity. Respondents were asked how often their main activity was not possible, or seriously limited, due to high or low flows. Forty-five percent of respondents felt they had insufficient experience on the river (they were on their first visit for example) or that flows did not affect their activity. For the remainder, it was more likely that high flows limited their main activity than low flows. Forty-eight percent of respondents reported that the river was never low enough to adversely affect their activity, including almost all trout anglers and those targeting salmon and trout. Salmon anglers were split, with 56% stating that low flows never affected them and 40% stating that they were occasionally or frequently affected. Respondents who could not name a preferred flow in cumecs were asked if they would prefer a flow that was: a lot lower than today; a little higher than today; like today; a little higher than today; or, a lot higher than today. The responses were cross-tabulated against the mean flow recorded at Marble Point for that day. Analysis showed salmon and salmon and trout anglers described flows ranging from 36 to 145 m³/s as being 'preferred'. The lowest flow during the survey period was 32 m³/s, and so flows below this level were not able to be assessed.
- Angling results. There were seventy-four responses to a set of questions, asked of
 anglers only, querying preferences and the effects of flows variability. Locals (residents
 of Waiau, Rotherham and Culverden) were more likely to complete short visits to known

spots on the River or to spend a long day on the River, again at known spots, and less likely to explore the River than non-locals. Locals were more likely to be affected by changes in river flow than non-locals: 63% versus 30%. At high flows, respondents were more likely to cease fishing, and at low flows, to change angling style. The majority (94%) of angling respondents did not know of a preferred range of flows for their preferred angling style. Single responses were given for 43 m³/s, 65 m³/s, less than 60 m³/s and more than 60 m³/s. Salmon (7) were caught in flows ranging from 39 to 76 m³/s and trout (20) were caught in flows ranging from 34 to 54 m³/s.

- 6. **Change over time**. Respondents were asked if they felt that their main activity 'in this area' was better, worse or the same as the first time they visited, and why they felt things had changed. Twelve percent thought things were worse. Most (49%) felt things were the same and 5% felt things were better (33% stated they had insufficient experience to comment). The biggest reasons for changed perception were lower water levels and fewer fish (20% and 17% of reasons for a worse state respectively).
- 7. Conflicts. Respondents were asked whether they saw or interacted with other visitors to the Waiau River on this or other visits. A total of 127 people (66%) said they had no interactions with other visitors. Fewer than 2% of respondents reported negative interactions, which suggests that the Amuri Reach is well below its social carrying capacity.
- 8. Preferences, improvement and general comments. Respondents were asked why they chose to undertake their main activity in the study area. Proximity to home (26%), the fact that it is considered 'nice' (14%), its accessibility (10% which may also relate to its proximity to home), and that it has good fishing (8%) were the main reasons. Thirty-four percent of respondents felt that the area was 'moderately natural', 32% felt it was 'highly natural', 19% felt it was 'partially modified', 11% felt it was 'untouched', and 4% felt it was 'heavily modified'. There was very little difference in perception between those surveyed at Leslie Hills Bridge and those at the Waiau township survey sites. Of the 57 general comments recorded, 22% were that the area was nice and/or beautiful or pretty, 14% were that the River should not be dammed and 10% that the River's current condition should be retained ('nice the way it is')'.

APPENDIX 3: SUMMARY OF ON-LINE REVIEW OF DATA RELATING TO RECREATION ON THE WAIAU RIVER

Activity	Text	Reference
Entertainme nt	The Waiau Lodge Hotel offers country hospitality at its best. Stop in for a coffee, great food or a glass of local wine beside the open fire. The cafe offers separate intimate restaurant dining and accommodation is available	http://www.newzealandnz. co.nz/hurunui/waiau- rotherham.html
Fishing	The braided Waiau River offers excellent fishing in stunning North Canterbury scenery. The Waiau is home to a large population of brown trout and seasonal sea run trout and salmon.	http://www.waiaunz.com/
Fishing	Rotherham and Waiau offer some of the best access to the Waiau River for freshwater fishing enthusiasts. Trout can be found here in good numbers and the salmon are found running from February - March each year.	http://www.newzealandnz. co.nz/hurunui/waiau- rotherham.html
Fishing	The braided Waiau River offers excellent fishing in stunning North Canterbury scenery. The Waiau is home to a large population of brown trout and seasonal sea run trout and salmonThe Waiau River rises in the Spenser Mountains. It flows south until it joins the Hope River, then sets off in an easterly direction parallel to SH7 (the Lewis Pass Highway). The river flows through hills and a series of gorges, from the alps to the sea just north of CheviotIt is located around 90km north of Christchurch, and parallels SH7 for much of its middle reaches.	http://www.nzfishing.com/F ishingWaters/NorthCanter bury/NCFishingWaters/NC Waiau.htm
Fishing	The Waiau River mouth is some 18 kilometres to the north east of the Hurunui River mouth. The River marks the northern boundary of Canterbury 's tremendous wild searun salmon fishery. The river does have good salmon runs but these tend to be sparodic. Water abstraction for farming has lowered the mid-summer river flows not helping the fishing at allAccess to the river for approximately 5kms either side of State Highway One at Spotswood is quite good. Access downstream of Waiau East Road down to the mouth is a problem unless you have a jet boat. With a jet boat the ride from Waiau East Road to the mouth takes only about ten minutes or so. River access upstream of Leamington Road is also difficult as there are no road access points. A Four-wheel-dive vehicle is a definite advantage if you want to avoid a good deal of walking to good casting spots. Many Canterbury anglers like to fish for salmon at river mouths. Unfortunate topography including a narrow gorge in the lower river and complete absence of road access makes fishing the Waiau River mouth the preserve of the jet boat equipped angler.	http://www.fishingmag.co.n z/locations-salmon-waiau- river.htm
Fishing	Rotherham and Waiau offer access to the Waiau River, brimming with trout for the skilful angler and where the salmon run during February and March	http://www.hurunui.govt.nz /our-district/our- towns/rotherham-waiau/
Fishing	The last of the big fish rivers in this region is the upper Waiau. Access by vehicle is restricted to the private road through St James Station and it is a long trek in some suitable 4 WD vehicle from Hanmer Springs through the Clarence Valley and across Malings Pass to the upper Waiau. However this is the river that is rumoured to have produced five double figure fish in one day for the English client of a local guide so it just might be worth the long drive! You certainly won't see a lot of other anglers as the only other access is a two day tramp in via the St James Walkway.	http://www.google.co.nz/# q=boyle+river&hl=en&cr=c ountryNZ&biw=1278&bih= 939&tbs=ctr:countryNZ≺ md=ivnsm&ei=KDuiTbmu MY66sQPw5rn6DA&start= 20&sa=N&fp=bed99b4444 669fd6
Fishing	Waiau River above the Hope River confluence (western zone)1 fish limit with a 400mm (or 40cm) maximum size on any fish takenHope River and its tributaries the Boyle, Lewis and Nina Rivers 1 fish limit with a 400mm (or 40cm) maximum size on any fish takenDoubtful River (tributary of the Boyle River) Now added to regulations and open to fly and spin fishing 1 Oct-30 April with a 1 trout limit and 400mm maximum size.	http://www.nzfishing.com/ Regulations/RegulationsC hanges2009-2010.htm
Fishing	useful addition to New Zealand's angling literature. This book looks at chasing big trout in some of New Zealand's lesser known waters. In the North Island these are: Waipapa River, Waitawheta River, Ruakituri River, Flaxy Lakes, Waipunga River, Maraetotara River, Lake Otamangakau, Manganui o te Ao River, Hautapu and Makuri River. In the4 South Island: Wangapeka River, Travers River, Rough River, Boyle River, Hurunui River, Tekapo River,	http://www.fishingmag.co.n z/book-giles-hooked.htm

	Cascade River, Greenstone River, and the Upukerora River.	
Fishing	HIGH COUNTRY SEVEN DAY TRIPSeven day all inclusive fully guided adventure fly fishing tripFishing high country rivers such as, The Hope/Kiwi Rivers, The Jacobs and Boyle River in the Lewis Pass on the way to the West Coast.	http://www.thehomesteadf armstay.co.nz/index.php/fl y-fishing
Fishing	Fish & Game New Zealand's North Canterbury region offers much to the angler. Without a doubt the star attraction of the region is the sea-run salmon fishery. The Rakaia, Waimakariri, Hurunui and Waiau rivers offer excellent sea-run salmon fishing between November and MarchBoyleDoubtfulNina	http://www.fishandgame.or g.nz/Site/Regions/NorthCa nterbury/fishingRegulation s.aspx
Fishing	The book covers ten rivers/lakes in both islands from the top of the North Island to the bottom of the South Island. Notable tourist attractions near the chapter locations are myriad. To mention just a few, listed from north to southThe entire length of the Boyle River is followed by the St James Walkway in the Lewis Pass area. This is perhaps the most popular tramp in Canterbury	http://www.babyboomersg uide.co.nz/Troutfishing/Ro n+Giles+- +Troutfishing+writer/Hooke d+on+Trout+Review.html
Fishing	Fishing locations that we frequentUpper Waiau RiverBoyle River	http://www.hanmerhelicopt ers.co.nz/Presentation/Pre sentation1.aspx?IDType=3 299
Fishing	Fishing for trout on the Waiau, Henry and Ada Rivers and Lakes Guyon and Tennyson is available to all fishing licence holders. The fishing seasons are detailed in the latest Fish and Game Sports Fishing Regulations provided when you purchase a fishing licence. Licences are available from fishing/outdoor sports shops, Fish and Game Council offices and information/visitor centres.	http://www.visithurunui.co. nz/hurunui/stjames_fishing /
Fishing	St James Conservation Area; discussion paper on future management, proposals by the Department of Conservation, with possible implementation ideasRecreational fishing is a popular activity on the Waiau, Ada and Henry rivers and at Lake Guyon and Lake Tennyson. Fishing is likely to be more popular now that access is more easily available. The fishing season is open from 1 October to 30 April. The New Zealand Fish and Game Council is responsible for the regulations that govern fishing for sports fish. A question for consideration is whether the Waiau River within St James should be designated as a 'catch and release' zone.	http://www.doc.govt.nz/upl oad/documents/getting- involved/consultations/curr ent- consultations/canterbury/st james-discussion- paper.pdf
Fishing	Fishing for trout on the Waiau, Henry and Ada rivers and lakes Guyon and Tennyson is available to all fishing licence holders. The fishing seasons are detailed in the latest Fish and Game Sports Fishing Regulations provided when you purchase a fishing licence. Licences are available from fishing / outdoor sports shops, Fish and Game Council offices and information / visitor centres.	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/places-to- visit/canterbury/waimakarir i/st-james-conservation- area.pdf
General	Waiau (meaning turbulent/racing water) is one of the oldest towns in North Canterbury. The township is nestled on the banks of the Waiau River renowned for its superb trout and salmon fishing. In the heart of the Hurunui, Waiau is a farming locale known for its Cob Cottage museum, renovated historic hotel and its old stone Anglican Church. The Village Green has a picnic area, playground, Museum (Cob Cottage historical cottage), former Waiau Jail, information board and public toilets. The township consisting of approximately 300 residents and local business service a large and well established farming community.	http://www.waiaunz.com/
General	On the north bank of the Waiau River, the small rural town of Waiau has a typical country charm. Historic Victorian buildings line the main street, including the old church and jail on the village green. You can discover the area's pioneer history at the Cob Cottage Museum, or head to nearby Rotherham to visit the old Watter's Cottage, a fine example of an original sod cottageBeyond the town, the Waiau River is an angler's delight with plenty of plump trout to catch, and salmon during February and MarchOther activities in the Waiau region include jetboating and rafting on the Waiau River, fishing, motorcycle and art tours, and 4WD excursions.	http://www.jasons.co.nz/w aiau
General	Waiau provides a friendly, safe and relaxing holiday venue which is an easy drive from Christchurch and the surrounding areas. The Waiau river is famous for its salmon and trout fishing. The local golf course is situated approximately 5 km from town.	http://www.nz.com/new- zealand/accommodation/h anmer-springs/waiau- motor-camp-and-

		backpackers.aspx
General	Waiau Gorge Bridge The bridge is an adventure centre location - you can bungy jump, take a jet boat ride or embark on a rafting trip.	http://dayout.co.nz/attracti ons/attraction.aspx?attracti onId=1611
General	Adventure and outdoor activity weekend for women. Fun, challenge, excitement, lots of outdoor activities beautiful scenery, new friends, no housework! Enjoy a weekend away in the beautiful surroundings of the Boyle River Outdoor Education Centre in the Lewis Pass. This is a taster weekend for women to try out some outdoor activities run by the very experienced Boyle Staff. There will be a variety of challenging fun activities for the group to choose from.	http://www.visithurunui.co. nz/hurunui/events/index.cf m/?fuseAction=detail&eve ntID=128
General	Sumner Lake Forest Park Another popular entry point is at Windy Point, further along the highway near the Boyle River.	http://www.world-wildlife- adventures.com/directory/ new-zealand/wildlife- park.asp?sanctuary=Lake +Sumner+Forest+Park&st ate=Canterbury+region
General	NINA - DOUBTFUL RIVERS CONSERVATION AREASForested mountain slopes and valleys in a formerly glaciated region. Extensive beech forest on steep sideslopes and parts of Nina River valley floor. Open tops and Doubtful River flats excluded. Location: 2 blocks, 1 on true L lower Doubtful River and slopes N of Boyle-Doubtful confluence, 1 in mid reaches of Nina River. Both abut National Reserve and Forest ParkPack track to West Coast	http://www.doc.govt.nz/upl oad/documents/about- doc/role/policies-and- plans/m32002_nina- doughtfulriversconareas.p df
General	But St James, a vast natural park on the doorstep of Hanmer Springs, the headwaters of both the Clarence and the Waiau rivers, offers so much more. Four- day tramps, freedom camping, horse- trekking, kayaking, hunting and fishing, and even four-wheel driving - all the recreational possibilities that, apart from the walking, are normally treated as heresy on conservation land	http://www.stuff.co.nz/the- press/lifestyle/mainlander/ 4315886/Unexplored- playground
General	Outdoors enthusiasts and conservationists are celebrating a \$40 million purchase of spectacular high-country land, ensuring its future protection and access for the public. The Government's purchase of the 78,196ha St James Station has put back into public hands a property Prime Minister Helen Clark describes as "staggering in scale and in terms of its natural attributes". Conservation lobby group Forest and Bird says the purchase, when added to other conservation land, makes the vision of a "coast-to-coast protected corridor" a reality. The central South Island station includes the largest area of land leased by the Crown for farming, but in recent years only 13 per cent has been used for grazing. It is located on three mountain ranges, and contains the headwaters of two major rivers - the Waiau and the Clarence. "It has 11 different tramping routes, the Amuri ski field, and great mountain biking, fishing, kayaking, horse riding and hunting opportunities," Helen Clark said. "The property's almost untouched landscape is dominated by exceptional natural features	http://www.nzherald.co.nz/ nz/news/article.cfm?c_id=1 &objectid=10536595
General	Fish & Game New Zealand welcomes the Government's purchase of the iconic St James Station as a valuable recreational and conservation treasure for all New Zealanders. "This very large Station's ecological diversity, varied geography and numerous recreational opportunities are priceless," said Bryce Johnson, Chief Executive Fish & Game New Zealand. "The upper Waiau in particular is a high quality backcountry trout fishery, and practical and certain access to this fishery will be a boon for anglers. There is very good Canada goose hunting there, and hunter access will assist in managing goose numbers." "Outside of Fish & Game's specific interests, kayakers, trampers, climbers, deer stalkers, skiers and any who appreciate outstanding scenery, geological and ecological diversity will celebrate access to this national treasure. It is crucially important that practicality of access for all recreational activities is managed for the benefit of all New Zealanders."	http://www.scoop.co.nz/stories/PO0810/S00114.htm
Geocaching	Nina River geocachecongratulations on your hundred cache finds. You have had an interesting few days. I loved your account of Nina.	http://forums.gps.org.nz/vi ewtopic.php?f=3&t=323
Horse trekking	The Magdalen Valley Hope Kiwi Adventure The Poplars Station is a property consisting of high country and vast flats running up five different rivers, the Boyle, Lewis, Doubtful, Hope, and Kiwi. An area of 7,200 hectares (18,000 acres) running 7,000 sheep and 1,600 cattle. We then ride under the Boyle Road bridge and follow down the Boyle River crossing the mouth of the	http://www.alpinehorse.co. nz/8day.html

	Doubtful River to our lunch stop, behind the Engineers Camp. From here we ride across Windy Point to the Hope River and follow it up until we reach the Hope Kiwi Lodge.	
Horse trekking	You can take horses through most of St James Conservation Area, with the exception of the St James Walkway and the privately fenced land around Ada homestead. The St James horse herd can be seen around the Henry, Waiau and Ada river valleys. These horses are mustered and the off-spring removed and sold every two years. A stallion and up to 30 brood mares are contained within the Henry River catchment (which includes the Henry Track and access to Anne Hut). Leave the gates closed at all times.	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/places-to- visit/canterbury/waimakarir i/st-james-conservation- area.pdf
Hunting	The Boyle River hunting area is part of Lake Sumner Forest Park. It borders the Lewis Pass National Reserve, St James Conservation Area and Glenhope StationThe terrain is moderate to steep. Vegetation is predominantly beech forest with shrubland, tussock and open tops. Pigs, red deer and chamois are present in low to moderate number	http://www.doc.govt.nz/par ks-and-recreation/places- to-visit/canterbury/north- canterbury-and-arthurs- pass/north-canterbury- and-arthurs-pass- hunting/where-to- hunt/boyle-river/
Hunting	A Doubtful Start, A Fantastic Finish"We are one hundred metres under you and directly opposite. There are eight chamois running past a bluff and they should be in full view of you"At dawn the previous morning we arrived on SH 7 (between Lewis Pass and Christchurch) at a point opposite the Doubtful River. Under heavy skies and with arms linked we had plunged into the Boyle River. The cold of the waist deep river was a big shock and quickly shattered my rose tinted memories of this area.	http://www.nzhuntinginfo.c om/printPage.php?pageNa me=./articles/doubtful
Jet boating	The nearby Waiau is a spectacular braided river, whose lower reaches can only be accessed by jet boat.	http://www.thegateslodge. co.nz/jetboating-
	Our marine-certified jet boat operator Mark Eastmond will take you down the Waiau, across the river bar and out to sea, exploring the rugged Kaikoura Coast.	fishing.html
	Try your hand at fresh and saltwater fishing for blue cod, trout, crayfish and salmon on the journey, then bring it home for us to cook for you!	
	Experience the thrill of riding the waves and the fun of the catch – beginners and experienced fishermen catered for.	
Jet boating	YOUR HOSTS: MARK & CAROLINE EASTMOND	http://www.nz-
	Combine the thrill of river jet boating with the excitement of sea fishing, then explore some of North Canterbury's best trout and salmon fishing spots-areas accessible only by boat on our one day package.	holiday.co.nz/waiau/
	Or plan your own intinerary fishing the way YOU want it, with a totally flexible 1-3 day package that can take you off the beaten track with your own personal guide to experience trout and salmon fishing New Zealand style!	
	Half the fun is getting there! Boating, four-wheel driving, spectacular scenery and comfort all the way!	
	ABOUT US Your guide, Mark, has 15 years experience boating, four-wheel driving and fishing in this region. With his vast local knowledge he will be able to take you to some sensational fishing spots sure to make your holiday a memorable one.	
	He is a member of the NZ Professional Fishing Guides Association, the NZ Tourism Association and NZ Jet Boating Association.	
	Your boat the 'Silver Streak' is a 19-foot jet boat powered by 4.2 turbo diesel engine and designed to handle both river and sea conditions with ease. The boat is fully equiped with life jackets, fish finder, GPS, cell phone and all safety equipment on board. Able to carry up to four passengers comfortably.	
Jet boating	Jet Boat Experience with Thrillseekers Adventures on the Waiau Gorge, Hanmer Springs jet boat experience with Thrillseekers Adventures on the Waiau Gorge in Hanmer Springs. Combine wind in your hair with river spray in your face, and you've got all the makings of the best river outing you've ever had.	http://www.grabone.co.nz/ christchurch/Thrillseekers
Jet boating	The 2009 Helipro World Jet Boat Marathon was held on the Waiau River, 23rd September 2009 as part of a weeklong jet boat race held in stages on rivers	http://www.waiaunz.com/

	around Canterbury. The World Championships only comes to NZ once every four years, so it was a great opportunity to see the World's fastest jet boats for real - in Waiau! A high calibre of teams competed such as: Canada's 7 time World champion Spencer King, New Zealand's own 3 time World Champion Mark Cromie (in his 2,000hp machine!) as well as American Ryan Ringer who is set to redefine fast with a General Electric T58 Gas-Turbine helicopter engine in a lightweight hull. The Waiau stage of the event started in the morning from Spotswood and up to the Hanmer Ferry Bridge, and then in the afternoon the boats I raced back down from the Ferry Bridge to Waiau Township. This enabled great spectator viewing from the Waiau Township Bridge for both the upstream and downstream legs, as well as having the boats accessible to view at the finish.	
Jet boating	Jetboat the Waiau Gorge - Hanmer SpringsIndisputably New Zealand's best Jet Boat trip by far, GUARANTEED! Join us as we jet the entire length on Hanmer Springs spectacular Waiau Gorge. 3 Options: The thrill of the Jet boat, a Raft/Jetboat combo or a Scenic River Jet ride.	http://www.letsgo.co.nz/zo nes/detail_activity.asp?id= 1782&theme=ts
Jet boating	Once again both the Hurunui and Waiau rivers are good for boating, both have boat trailer access, a four wheel drive vehicle is recommended for launching. The rivers are navigable most of the year and have a good variety of scenery and some exciting gorges.	http://www.cheviot.org.nz/l ocalinformation.html
Kayaking	Waiau / Upper Waiau, III-IV+It doesn't come much better. A multi-day package of interesting whitewater, great mountain scenery and fantastic camping makes the Waiau trip both rare and hard to turn down. One of the delightful features of this trip is excellent camping on flat grass sheltered by mature matagouri, surrounded by a plentiful manuka firewood supply. The trip can be done in two days, but considering the shuttle and the pleasurable camping many parties prefer three. Labour weekend, in October, is ideal as spring flows provide good water. The trip begins one of two ways: a helicopter trip to just above the Henry River confluence, or 4WD drive or walk from Lake Tennyson over Maling Pass. The walk is along a rough 4WD track and takes three to four hours depending on fitness and the efficiency of your carrying system	http://rivers.org.nz/nz/cant erbury/waiau/upper-waiau
Kayaking	Waiau Gorge BridgeWhite water: down, at the confluence with the Hanmer River is a popular destination for Canterbury University Paddling Club, a place to meet fellow paddlers for other trips, Grade 2 to 3.	http://dayout.co.nz/attracti ons/attraction.aspx?attracti onId=1611
Kayaking	The Narrows is the crux of the Upper Waiau River, a two day trip in north Canterbury. Due to problems with access, in the past kayakers have had to fly in by helicopter (expensive due to the lack of local operators) or shoulder their kayaks and overnight gear and walk over Malings Pass to the put in. St James' station was bought by the crown in 2008, and due almost entirely to the tireless efforts of Hugh Canard on behalf of Whitewater NZ, we were trialling a drive in trip with the blessing of the Department of Conservation. By taking a DOC official on the trip, we intended to show her how we are low impact, responsible recreationalists, and also share the outstanding character of the river with someone from the Department.	http://rivers.org.nz/article/t he-upper-waiau-river
Kayaking	I knew it would be a long and adventurous weekend when the Upper Waiau Gorge was suggested by Ollie but no one could have guessed just how good this one would beStill more bouncy wave-trains and boulder gardens brought us unexpectedly into the famous 'Narrows'. The guidebook offers the advice 'don't swim in the Narrows' and the reason became obvious as we scouted the first 500m of narrow bedrock gorge with some sizeable hydraulics and no opportunities for bank rescue. The crux move, called The Weir, was successfully run, by the book, after receiving too much scouting. The next section was the narrowest on the river, the whole river moving through a slot less than 6m wide pushing off both sides for probably over 20m	http://rivers.org.nz/article/u pper-waiau
Kayaking	Mighty Waiau River Race15.9km grade II+ downriver kayak race on the	http://www.sportzhub.com/ neilg/2006MWRRentry.pdf
Kayaking	The Hurunui River and the Waiau River are large mighty Waterways, both with different characters and challenges, offering interesting Kayaking.	http://www.cheviot.org.nz/l ocalinformation.html
Kayaking	The upper Waiau River from Maling Pass to the Hope River confluence is reputed to be one of the best rivers for rafting and kayaking in the eastern South Island. Experience is essential for those not in a guided party. There are four gorges graded 3–4 depending on river flow. The first gorge between Maling Pass and the Edwards River is the most challenging. The three gorges	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/places-to- visit/canterbury/waimakarir i/st-james-conservation-

	after the Edwards River confluence include the notorious Narrows'. The Edwards River confluence is the last exit point until the Waiau River runs alongside SH 7. There are limited access points for vehicles and some boat carrying will be necessary.	area.pdf
Kayaking	Upper Waiau AccessGraham Charles says, "A multi-day package of interesting whitewater, great mountain scenery and fantastic camping makes the [Upper] Waiau trip both rare and hard to turn down." Access to this classic run is usually via 4WD or portage over Maling Pass, or helicopter from Lake Tennyson or the take-out near the confluence with the Hope River. Access was sometimes problematic when the station was in private hands, but in October 2008 the Government purchased St James Station to be public conservation land administered by DOC. Kayakers need to ensure their pre-existing patterns of use are recognised and preserved, or even improved.	http://rivers.org.nz/article/u pper-waiau-access
Kayaking / rafting	North Canterbury rivers offer spine tingling, mind jarring thrills along with the beauty and solitude of remote gorges and valleys. The Waiau River provides the ideal environment for a fun-filled Grade 1 - 2 family float trip - a perfect 'Big Day Out'. The normal run is from Hanmer Ferry Bridge down to the gravel pit before Emu Plains Bridge. Commercial operators in Hanmer Springs and Christchurch offer a laid back 5 hour trip on the river. Thrillseekers Canyon at the Waiau Ferry Bridge has rafting, kayaking and jet boating on the river, plus bungy jumping from the bridge.	http://www.newzealandnz. co.nz/rafting- kayaking/north- canterbury.html
Kayaking / rafting	Kayaking/rafting in St James Conservation AreaThe upper Waiau River from Maling Pass to the Hope River confluence is reputed to be one of the best rivers for rafting and kayaking in the eastern South Island. Experience is essential for those not in a guided party. There are four gorges graded 3–4 depending on river flow. The first gorge between Maling Pass and the Edwards River is the most challenging. The three gorges after the Edwards River confluence include the notorious 'Narrows'. The Edwards River confluence is the last exit point until the Waiau River runs alongside SH 7. There are limited access points for vehicles and some boat carrying will be necessary.	http://www.doc.govt.nz/par ks-and-recreation/places- to-visit/canterbury/north- canterbury-and-arthurs- pass/st-james- conservation- area/activities/kayaking- rafting/
Kayaking / rafting	The upper Waiau River from Maling Pass to the Hope River confluence is reputed to be one of the best rivers for rafting and kayaking in the eastern South Island. Experience is essential for those not in a guided party. There are four gorges graded 3–4 depending on river flow. The first gorge between Maling Pass and the Edwards River is the most challenging. The three gorges after the Edwards River confluence include the notorious 'Narrows'. The Edwards River confluence is the last exit point until the Waiau River runs alongside SH 7. There are limited access points for vehicles and some boat carrying will be necessary.	http://www.visithurunui.co. nz/hurunui/stjames_fishing /
Kayaking / rafting	St James Conservation Area; a discussion paper on future management, proposals by the Department of Conservation, with possible implementation ideasContinued access to and use of the Waiau River for kayaking and rafting is considered appropriate. People undertaking these activities will be able to use any of the permitted access methods.	http://www.doc.govt.nz/upl oad/documents/getting- involved/consultations/curr ent- consultations/canterbury/st james-discussion- paper.pdf
Motor biking	This two day trail ride is a fun filled weekend, which is held on private farmland in the Waiau district, 120 Km north of Christchurch. This is a fundraiser for the local Waiau School, and has been a successful and popular event for many motorbike enthusiasts over the last twelve years. The courses provide an interesting variety of terrain including creeks, river beds and rolling hills and for the more experienced riders there are many enduro deviations.	http://www.theride.co.nz/
Mountain biking	St James Cycle Way – ItineraryWe follow the Waiau River along the cycle way to the bottom of Mailings Pass Cross over the low saddle to the Waiau River, with the option of attempting the Mountain Bike ride out and over Mailings Pass, back to the Clarence Valley. You now have the further option of riding some of the route back towards Hanmer SpringsDay 2: We follow the Waiau River and Cycle Way to the south. Climb over Charlie's Saddle (probably having to get off and push your Mountain Bike), and drop down to Scotties Camp, and camp the night near the small hut.	http://grumstours.com/st- james-cycle- way/itinerary.html
Mountain biking	St James Conservation Area; discussion paper on future management, proposals by the Department of Conservation, with possible implementation ideasMountain biking is an activity that can occur anywhere on St James, except on the St James Walkway, subject to the natural limitations of	http://www.doc.govt.nz/upl oad/documents/getting- involved/consultations/curr ent-

	topography. The use of the Anne and Christopher huts by mountain bikers is likely to be acceptable as long as the huts are approached on the farm tracks which run adjacent to the St James Walkway. It is also proposed to provide for moderate to adventurous mountain biking, predominately using existing access tracks connecting routes from the upper Clarence valley using the Maling, Fowlers and Edwards passes. Although it is proposed to have all-weather, bridged access across the lower Waiau River, access through the Waiau valley will involve some unbridged river crossings and will be subject to weather conditions	consultations/canterbury/st james-discussion- paper.pdf
Mountain biking	Mountain bikes are permitted on all tracks on the eastern side of the Waiau River. Fowlers Pass Track and the route from Stanley Vale Hut along the Stanley River are advanced mountain-biking grade – suitable for expert riders (grade 5).	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/places-to- visit/canterbury/waimakarir i/st-james-conservation- area.pdf
Outdoor education	The Boyle River Outdoor Education Centre is a leading provider of outdoor education to secondary schools and community groups in New Zealand. Our programmes engage, challenge and inspire the young and not so young in an alpine environment. We provide tailor made courses to suit our clients' needs so that they can	http://www.boyle.org.nz/
	experience personal development, teamwork, leadership training, outdoor activities, outdoor pursuits training, adventures and retreats all in the wonderful setting of the Lewis Pass.	
Rafting	We offer great day or half-day trips for beginners on the Boyle and Waiau Grade 2 and 3 rivers.	http://www.nz- rafting.co.nz/canterburyco mp.php
Rafting	Waiau River Journey (Grade 2-3) When describing the Waiau River in his book New Zealand White Water, Graham Charles says "Rafting doesn't come much better than this" – and he's right! A multi day package of fabulously interesting white water, great mountain scenery, fish and fantastic camping make the Waiau trip hard to turn down. With a surprise around every corner, the river provides a great trip for an outdoors oriented family or a group of friends or workmates. The Waiau offers a bit of everything for everyone. Scenic flight or hike in, great camping, stunning gorges to raft through, small to medium rapids and 'The Narrows' for the adventurous.	http://www.hiddenvalleys.c o.nz/new-zealand-rafting- print.html
Rafting	Waiau River Journey (Grade 2-3). When describing the Waiau River in his book New Zealand White Water, Graham Charles says "Rafting doesn't come much better than this" – and he's right! A multi day package of fabulously interesting white water, great mountain scenery, fish and fantastic camping make the Waiau rafting trip hard to turn down. With a surprise around every corner, the river provides a great trip for an outdoors oriented family or a group of friends or workmates. The Waiau offers a bit of everything for everyone. Scenic flight or hike in, great camping, stunning gorges to raft through, small to medium rapids and 'The Narrows' for the adventurous The river passes through several gorges and open valleys with gentle waves and some Grade 2-3 rapids. 'The Narrows', a section of water midway through the Gorge, is an extraordinary stretch of water well known to locals. Here, the river is only a couple of metres wide (the same width as the raft!), with several Grade 3-4+ rapids at the entrance; pure adrenaline	http://www.hiddenvalleys.c o.nz/new-zealand- rafting.html
Rafting	Great Rafting Locations:Waiau River (grade 2 - 3)	http://www.tourism.net.nz/ new-zealand/nz/rafting/
Rock climbing	Lewis Pass there is a route at the Boyle River OE centre that is quite reasonable that was put up by Pat Deavoll when she was working there I think.	http://mojozone.co.nz/foru m/climbing-south-island- lewis-pass-and-weka-pass
Tramping / walking	Waiau - Clarence Pass Lake Tennyson CircuitA challenging 4-5 day circuit in the St. James Conservation Area / Nelson Lakes National Park featuring two alpine pass crossings and some unmarked track route finding. Starts and ends at Lake Tennyson and can be done in either direction.	http://tramper.co.nz/?5343
Tramping / walking	The St James Walkway is ideal for family groups or those who have just started out tramping. It's best to start from the Lewis Pass and finish at the Boyle River. To enjoy this trip allow at least 5 days. It can be popular in the summer months. But doesn't attract the same large numbers as the Heaphy or Abel Tasman Tracks. All the huts are large enough to cope with big groups.	http://www.nelsonlakesshu ttles.co.nz/st_james_walk way.htm

	The track times are guides only	
Tramping / walking	St James - Waiau Pass TrackThe eastern side of St James Conservation Area can be reached via Tophouse Road. From Hanmer Springs take Clarence Valley Road over Jacks Pass to connect with Tophouse Road (about 13km from Hanmer Springs). The western side of St James Conservation Area and the St James Walkway is accessed from State Highway 7 (Lewis Pass Road)Located on three mountain ranges, the St James Conservation Area encompasses exceptional natural features and recreation opportunities. Waiau Pass Track follows the true right of the Waiau River from Anne Hut on the St James Walkway, to Caroline Bivvy. After Caroline Bivvy the track becomes a route to Waiau Pass and is suitable for experienced trampers only. Those walking to Caroline Bivvy from Maling Pass can use an old 4WD track on the true left of the Waiau River (not shown on map)	http://www.doc.govt.nz/par ks-and-recreation/tracks- and- walks/canterbury/north- canterbury-and-arthurs- pass/st-james-waiau-pass- track/
Tramping / walking	Lewis Pass - Waiau Pass - Blue Lake routeThe track begins in the Lewis Pass area, from the Tarn Nature WalkRemote high-country lakes, beech-clad mountains, wide rivers and hot springs complete this picturesque landscape, a tramper's mecca and a safe haven for endangered speciesLewis Pass to Ada Pass The track begins from the Tarn Nature Walk, across a natural bog, then enters the bush, descending 150 metres in a steep zigzag to Cannibal Gorge and the Maruia River. A swing bridge crosses Cannibal Gorge to the true right bank. From here it is about 6 km to the Cannibal Gorge Hut. Past the hut, the track follows an easy grade alongside the Maruia River, through beech forest and open alpinefields	http://www.doc.govt.nz/par ks-and-recreation/tracks- and-walks/west- coast/greymouth/lewis- pass-waiau-pass-blue- lake-route/
Tramping / walking	Harper Pass Track (Te Araroa Route). Northern Start St James carpark at Boyle Village - Lewis Pass Rd SH 7 Southern End SH 73 at the Morrison footbridge. Distance 81.5km, 4 - 6 days. This tramp follows an historic crossing of the Southern Alps at Harper Pass (962m). Maori used the route to access pounamu (greenstone) on the West Coast and European settlers used it for access and supply purposes during the gold rush of in the 1860s. Harper Pass is named after Leonard Harper who at 20 years of age became the first European to cross the pass and reach the West Coast in 1857 Assuming the Boyle River can be crossed safely then the track continues down the true right bank on river flats to the confluence with the Doubtful River. This river also poses a danger in high flows but can usually be crossed where marked a short distance above the confluence.	http://www.teararoa.org.nz /northcanterbury/harper- pass-track/
Tramping / walking	Lake Sumner Conservation Park Route Guide Doubtful River to Hope River, via Lake ManLewis Pass Highway to Doubtful Hut – 2 hours Leave Lewis Pass Highway 7 from the small parking area beside the Doubtful River. The parking area is on the left about 1½ km north of the Engineers Camp. Cross the Boyle River and look upstream towards the Doubtful and Boyle River junction for a large orange marker. From the marker the partly marked route meanders up the true right of the Doubtful River over matagouri covered river flats	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/tracks-and- walks/canterbury/lake- man-route-guide.pdf
Tramping / walking	St Arnaud - Travers Pass - Blue Lake - Waiau Pass -St James - Boyle River the steep mountain terrain and overgrown bush routes were replaced by easy walking over grassy "cattle flats" alongside the river. Nice that there were no fences anywhere to be seenthe upper forest and mountain slopes formed natural barriers and the entire valley belonged to the cattle station. It became necessary to cross the Waiau river several times to switch sides when steep forest came down to the riverbank on one side, and then later one crossing of the Ada River, but these proved quite easy and not dangerous, even enjoyable View at sunset from my campsite overlooking the beautiful Boyle River valley, on the last day before reaching Boyle Village at Lewis Pass and the end of the St. James Walkway	http://www.nelsonlakesshu ttles.co.nz/Waiau%20Pass .htm
Tramping / walking	Lake Sumner HikesThis scenic park provides a safe haven for rare species and is renowned for its rewarding multi-day hikes. All the routes involve river crossings and some navigation skills, so both previous hiking experience and suitable equipment are required. The Saint James Walkway (five days) is suitable for beginners and experienced trampers. It features native beech forest, sub-alpine terrain and open high country farm land Harper Pass Track (three to four days) leads through the lowest crossing over the Southern Alps, Harper Pass, and on past hot springs. This route was the main pathway for Maori trading pounamu (jade). Later it was an important stock route and gold rush trackDevilskin Saddle Track (two days) begins up the attractive Nina River valley near Lewis Pass. There is one hut, a bivouac and good	http://www.newzealand.co m/travel/sights- activities/scenic- highlights/walks- trails/scenic-highlight- details.cfm/businessid/687 14.html

	swimming holes in the river. Situated on a rise with a spectacular view, the hut is a good place to spend the night. From Nina Hut the trail continues via Devilskin Saddle and Sylvia Tops to complete an excellent round-tripLake Man Track (two to three days) is suitable for more experienced adventurers. The beautiful mountain lake is at an altitude of 1500 metres near the Lewis Pass highway. The track starts from the Boyle River valleyJolliebrook circuit makes a good two-day hike with a choice of three huts. The trail leads up the Hurunui River, over a low saddle and down the Jolliebrook hunting block.	
Tramping / walking	Waiau Track (Te Araroa Route) 113 km, 5 - 8 daysThe track follows the Waiau River down and stays mostly on the true right. The valley opens up towards Caroline Bivvy, a basic and cramped 2 bunk shelter. From here you will see sign of the cattle grazing which stopped following the Crown's 2008 purchase of the St James Station pastoral leaseCaroline Bivvy to Anne River Hut 7 to 9 hours (25 km) Travel down the valley is easy, through grassy flats, and on the Waiau River's true right. Two bush-clad terminal moraines add interest and provide good camping opportunities. In time the Ada homestead comes into view. The homestead area was reserved from the sale of St James Station and remains in private hands. Trampers should avoid this area and continue to the Ada River. This is a straightforward crossing in low to normal flows. Beyond the river trampers link to the St James Walkway	http://www.teararoa.org.nz /nelsonmarlborough/waiau -track/
Tramping / walking	Nina River to Doubtful River via Devilskin Saddle2 days The trip can be completed in either direction but starting from the Nina River is preferable The track finishes with a crossing of the Boyle River below its junction with the Doubtful River. If the river is high, cross the Doubtful first, above its junction with the Boyle river, then cross the Boyle River	http://www.doc.govt.nz/upl oad/documents/parks-and- recreation/tracks-and- walks/canterbury/Waimaka riri/route-guide-devilskin- saddle.pdf
Tramping / walking	Boyle to Fowlers HutWe set off the next morning (me with heavily strapped feet) in mist and light rain (an improvement!) following the Boyle River through beautiful beech forest, golden tussocked pasture and steep side valleys.	http://www.inspiringperfor mance.co.nz/TheBigWalk/ 2010/uncategorized/back- on-the-trail-boyle-to- fowlers-hut/
Tramping / walking	The Nina valley and Lewis Tops We followed a good track along the Nina past a gorge with deep blue pools. This took us to the site of the old Nina Hut, now removed and replaced with a newer building on the other side of the river. Three-wire bridges have been converted into more stable-looking ones with wire netting and planks down the centre	http://www.aucklandtrampi ng.org.nz/trips/reports/Can terbury/report_200801_Th e_Nina_Valley_and_Lewis _Tops.html
Tramping / walking	We entirely cross the South Island on lovely back roads, stopping at the Boyle River for a wilderness trek and picnic, crossing a swing bridge	http://www.nztravellers.co. nz/areyouadayhiker
Tramping / walking	St James WalkwayThis track takes five days (66 km) and although the walkway is not difficult in most weather, it is unsuited to inexperienced trampers during winter. It is well-formed track through pastoral and forested sub-alpine regions of the Main Divide, with five excellent huts en route. Ascending a branch of the Maruia River, it crosses the Spenser Mountains via 998m Ada Pass and descends the Ada, a Waiau River tributary, to a junction. Branching up the Henry and Anne river valleys, the track crosses the Anne saddle at 1136 metres and descends the Boyle River, rejoining the Lewis Pass Highway near the Boyle settlement.	http://www.reefton.co.nz/in dex.php?option=com_cont ent&view=article&id=157:w alks-and- tramps&catid=67:activities &Itemid=157
Tramping / walking	The Big Walk t was pouring rain when we met the group at the Boyle Outdoor Education Centre – Sam (female) and Dylan had been on the leg from Hurunui to Boyle, along with Jacinda Sleeman, and FYD Programme Director from Auckland. The new recruits, from Marlborough, were Jessie, Brendon and Chris Shaw, who FYD Programme Manager from Marlborough. Gemma and Dingo were the group leadersWhen we began tramping on the 11th the weather was trying its best to be fine. We tramped through pleasant beech forest beside the Boyle River.	http://www.fyd.org.nz/New sEvents/Events/TheBigWa lk/Stories/tabid/770/current page/2/Default.aspx
Tramping / walking	St James Walkway trip Dec 6th-10th 2010 Away 8 am fresh and off up the Anne river valley and then the wee grunt to top of Anne saddle 1135 mtrs. Down the other side after a morning tea break and into Boyle river valley. Nice sunny day and lunch stop at Rokeby hut. More river flats for another hour and across swing bridge to Boyle hut.	http://www.oftc.org.nz/new s_view.aspx?articleid=140
Tramping / walking	Tramping (Trekking) the Length of New Zealand St. Arnaud to Arthurs Pass Descending to the Waiau River just at Waiau Forks, when the stream from the left is reached, cross the stream to a cairn on the other side	http://www.martinot- nz.info/nztrek/j_data.htm

	rather than following the track down to the river. The cairn on the other side of the stream leads within a few hundred meters to the Waiau Forks Camp. Right from the camp, cairns soon indicate a crossing of the Waiau River to the true rightDescending into the Waiau River valley, the track is very poorly marked and overgrown, but possible to follow by feeling with the feet and occasional glimpses through the bush to the ground. Great care is needed to follow the track, and it looks much harder to follow in the opposite direction, going north over Waiau Pass Permission is needed from St James Station (03) 315.7066 to come down the Waiau River valley to St. James Walkway. They are very concerned that no one come near the buildings of Ada Homestead at Ada Flat. To avoid the homestead, follow this route: As you approach within 1-km of the homestead, the dirt vehicle track divides. Take the left fork and follow along the river bluffs to a gate on a fence which stretches all the way across the river (the first fence reached/seen this side of Waiau Pass). Go through the gate and immediately veer to the left, down an obvious track down to the river flat at the bottom of the bluff. Continue across the flats towards the left edge of the forest patch surrounding Ada Homestead, and then at the forest patch veer straight towards the Ada River to get to the St. James Walkway	
Tramping / walking	Nina River. Easy tramping up a pretty river valley near Lewis Pass. Location Lewis Pass National Reserve National Reserve. 18,295ha (71mi2). Begins Opposite Palmer Lodge (marked with "NZDA") 4km north of Boyle Village on SH7	http://tramper.co.nz/?343
Tramping / walking	Nina Valley, Lewis Pass The plan was to head up the beautiful Nina River, and cross over the next day to Lake Christabel, a jewel in the main divide.	http://www.ctc.org.nz/index .php?option=com_triprepor t&task=view&id=51
Tramping / walking	Nina ValleyBut the Nina keeps you in the bush just long enough so you really want to stop and enjoy its pretty river scenes when you come to themJohn parted company with us and headed off over Devilskin Saddle to the Doubtful River. We crossed the river to look at the old Nina hut site	http://tramping.typepad.co m/tramping_report/2005/0 5/nina_valley.html
Tramping / walking	Lake Sumner Devilskin Saddle RouteCross the Lewis River via the swingbridge and follow the true right bank for a short section before climbing briefly onto a terrace. The track then heads northwest away from the river and sidles through beech forest above the Nina River. The river is reached after about an hour of walking. The track continues up the true left of the river to where the Nina swingbridge crosses it. Nina swingbridge to Nina Hut – 2 hours. After crossing the bridge, the track heads up the true right of the river, gradually climbing to reach Nina Hut	http://www.doc.govt.nz/par ks-and-recreation/tracks- and- walks/canterbury/north- canterbury-and-arthurs- pass/lake-sumner- devilskin-saddle-route/
Tramping / walking	Devilskin Saddle RouteThis track starts on State Highway 7, opposite the NZDA Palmer Lodge (see above photo), approximately five kilometres north of the Boyle Village. Car parking is available at the Boyle entrance with Boyle River Outdoor Education Centre offering secure parking and a drop off service for a small fee. You can book this service by phoning +64 3 315 7082. The trip can be completed in either direction but starting from the Nina River is preferable	http://www.wonderwalkers. co.nz/default,1799,devilski n-saddle-route.sm
Tramping /	Nina Valley To Doubtful Valley Track The 10 Closest Tracks	http://nzwalksinfo.co.nz/tra
walking	(with approximate distance from this track)	cks/3076-nina-valley-to- doubtful-valley-track-via
	Doubtful Valley To Amuri Pass Track (ca. 4 kms)	acception rainey trains the
	Nina Valley Track: Sh7 To Nina Biv (ca. 6 kms)	
	Doubtful Valley To Amuri Pass Track (ca. 7 kms)	
	True Right Nina Valley Track (ca. 7 kms)	
	Doubtful River To Hope River Track(Via L (ca. 8 kms)	
	Lk Christabel Hut: Rough Saddle Track (ca. 8 kms)	
	Robinson Saddle: Top Rob Hut Track (ca. 8 kms)	
	Lk Chris Hut: Robinson Saddle Track (ca. 9 kms)	
	Lk Christabel(West End) To Hut Track (ca. 10 kms)	
	St James Walkway: Boyle Shelter To Magdal (ca. 12 kms)	
Tramping /	Lewis Pass, Ada Pass, Waiau Pass to Blue Lake Christopher Hut to Caroline	http://www.doc.govt.nz/upl
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Wa	alking	Bivvy Time: 7 hours 30 minutes (20 km). Cross the Ada River below Christopher Hut and follow the 4WD track into the Waiau Valley. This area is private property (St James Station)Follow up the Waiau River on the true right bank over mainly broad, grassy flats. Two old, bush-covered terminal moraines are crossed further up the Waiau as the valley starts to narrow	oad/documents/parks-and- recreation/tracks-and- walks/canterbury/Waimaka riri/lewis-blue-lake-route- quide.pdf
		moralities are crossed further up the vivaled as the valley starts to harrow	guide.pui