

Proposed Hurunui Water Conservation Order

BRIEF OF EVIDENCE OF DI LUCAS Registered NZILA Landscape Architect

INTRODUCTION

1. My name is Diane Jean Lucas. I am a landscape architect and director of Lucas Associates Limited, a landscape planning, design and management practice established in Canterbury 30 years ago. I work throughout New Zealand.
2. I hold a BSc in natural sciences, Dip LA and Master of Landscape Architecture in planning (1994), am a Fellow of the New Zealand Institute of Landscape Architects (1987), and, a Registered NZILA Landscape Architect.
3. I have prepared land and ecosystem frameworks for various parts of New Zealand. I have undertaken landscape and natural character assessments for various parts of New Zealand and identified outstanding natural features and landscapes at district, regional and national scales and received the NZILA Landscape Planning Gold Award 2008.
4. My masters thesis used land systems analysis as a basis to developing methods to analyse the physical and perceived landscape.
5. I have been involved in a number of studies and plans for various lakes, rivers, streams and wetlands in various parts of New Zealand. I provided rebuttal evidence on the Buller Water Conservation hearing before the Planning Tribunal. Whilst the decision was not issued until 1996, the Buller Water Conservation Order was considered under the Water and Soil Conservation Act 1967. The approach taken in my evidence received professional endorsement with an award from the NZILA. I provided evidence to the Special tribunal and Environment Court for the Rangitata Water Conservation Order.
6. The Canterbury Regional Landscape Study (1993) was undertaken jointly with Boffa Miskell for the Regional Council, using a land systems framework, to identify the outstanding natural features and landscapes of Canterbury. I undertook a landscape study for the Hurunui District Council which proposed landscape management methods for the District Plan, and also identified outstanding and significant landscapes in the Hurunui District (1995).
7. I have undertaken research in local, rural and high country areas, including for my masters thesis, *Identifying Acceptable Vegetation Change in High Country Landscapes*. (Lincoln University. 1994) which involved an iterative case study on the Waimakariri - Rakaia high country. Development of pattern

analysis and land systems approaches has been fundamental to my approach.

8. I am somewhat familiar with the Hurunui River from visiting to visit, tramp and raft in the last 30 years. I have visited the various river sections and lakes on different occasions.
9. I have been requested by Fish and Game to provide an assessment of the amenity values, intrinsic values, and the wild and scenic and other natural characteristics of the Hurunui River down to the Mandamus confluence. I also append a study undertaken last year by my office for Forest and Bird regarding the Mandamus River.
10. I have read, and agree to comply with, the Code of Conduct for Expert Witnesses and unless otherwise stated, all my evidence is within my expertise.

AMBIT

11. I first provide my interpretation of the statutory framework as applicable to my landscape expertise and analysis.
12. I note identification of outstanding natural features and landscapes with respect to the Hurunui.
13. I provide an overview of the character and relative significance of the upper Hurunui.
14. I identify particular wild, scenic and natural characteristics for the various sections of the river, and evaluate these at a national level.
15. I briefly review some comparative landscape and river studies.

Part 1

STATUTORY CONTEXT

16. When considering evaluation for a Water Conservation Order under the RMA, the purpose (S.199) is to recognise and sustain -

"(1) (a) Outstanding amenity and intrinsic values which are afforded by waters in their natural state:

(b) Where waters are no longer in their natural state, the amenity or intrinsic values of those waters which themselves warrant protection because they are outstanding.

(2) A Water Conservation Order may provide for any of the following:

...

(b) The protection of characteristics which any water body has or contributes to, and which are considered to be outstanding, -...

iii) For its wild, scenic, or other natural characteristics."

OUTSTANDING

17. The test to qualify for “outstanding” status has been interpreted as a reasonably rigorous one. This does not, however, mean the characteristic is necessarily unique to the particular feature being evaluated. I understand that the scale of decision-making sets the scale for considering whether a feature is outstanding. Thus, for a national decision such as that of a Water Conservation Order considered under s.199, the scale of assessment is the national scale, not a regional scale.
18. In the analysis for the Canterbury Regional Landscape Study, the scale of assessment was given particular consideration. Refer Volume 2, ‘Appendix 3 - The Significance of the Scale at which “Outstanding” is Assessed’ pp.17-20. The question was asked (page 18), “*are nationally outstanding natural features and landscapes automatically included at the regional level?*” Whilst this may seem a logical assumption, we also noted the logic of addressing outstanding “big picture” natural features at the national level, and refining these at the regional and district levels (model 2, page 19).
19. Whilst the upper Hurunui has been identified as an outstanding natural feature and landscape at both a district¹ and a regional scale² (attachment 3), I recognise that the s.199 test involves assessment at a different scale. That

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¹ Lucas Associates 1995. *Hurunui Landscapes*. and the Hurunui District Plan

² Boffa Miskell & Lucas Associates. 1993. Canterbury Regional Landscape Study.

is, assessment at the national scale. To meet the s.199 threshold, the values associated with the water body, either in whole or in part, must stand out at a national scale.

20. The regional study recognised that for the outstanding areas identified the boundaries were approximate only (Vol. 1, page 79). It was recommended that the land types and landform components breakdown provides a valuable tool for analysis of specific areas (page 79). This has now been undertaken for the upper Hurunui.

AMENITY VALUES

21. “Amenity values” means those natural or physical qualities and characteristics of an area that contribute to people’s appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes. (RMA s.2). Whilst “aesthetic” is not defined in the statute, a professional working definition, supported in case law, is “*pertaining to the quality of human perceptual experience (including sight, sound, smell, touch, taste and movement) evoked by phenomena or elements or configurations of elements in the environment.*”³ It is clearly not merely the visual aesthetic that is to be considered.
22. “Coherence” can be defined as consistent and easily followed. Also, as the quality or state of cohering, especially a logical, orderly, and aesthetically consistent relationship of parts. Whether considering visual, audial, aural, tactile or kinetic dimensions, I interpret aesthetic coherence to encompass aesthetic harmony and legibility.
23. Amenity values address particular experiential values of both natural and physical resources. That is, as “natural and physical resources” specifically includes “structures” alongside the resources of land, water, soil, plants and animals (native or introduced)⁴, there is no direction, no preference, for natural values in identification of “outstanding amenity values” (s.199 (1) (a)).

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³ “*Canterbury Regional Landscape Study*” Boffa Miskell Limited and Lucas Associates. 1993. Vol

⁴ RMA S.2 Interpretation of “natural and physical resources”

INTRINSIC VALUES

24. The term “intrinsic values”, also contained in the Environment Act and Conservation Act, recognises the philosophical, scientific and intuitive idea of a value in nature that is inherent and separate from human reference. The concept recognises that the natural world has intrinsic values that go beyond utility, beyond concern for satisfying human preferences.⁵
25. The concept of intrinsic values was not addressed by the former Water Conservation Order legislation (Water and Soil Conservation Act 1967). In the Mohaka decision the concept was put forth, and it was recognised they were natural values, referring “*to nature having a value by its very existence, independent of any value to humans*” (page 38).
26. “Intrinsic values” is defined in the RMA, but not generically, and only with respect to ecosystems, as in Part II, S.7(d). That is, “*Intrinsic values*”, “*in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including -*
- a) *Their biological and genetic diversity; and*
 - b) *The essential characteristics that determine an ecosystem’s integrity, form, functioning, and resilience’*

Section 199 addresses intrinsic values generally, rather than only of ecosystems, and there is thus no specific focus on biotic systems and components.

27. Thus I understand the two fundamental bases for a water conservation order under RMA (S.199 (1) (a) and (b)) are to recognise and sustain waters of outstanding quality either for human enjoyment, their amenity values, or, for their inherent natural value regardless of human use, their intrinsic values.

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⁵ “Intrinsic Values” Camille Astbury et.al. Unpublished report for the Department of Conservation. Centre for Resource Management. 1988.

“WILD, SCENIC OR OTHER NATURAL CHARACTERISTICS”

28. “Natural characteristics” may include “natural features” and as such may be very localised or quite extensive. For example, the Environment Court supported my analysis that Golden Bay is in total an outstanding natural feature/landscape⁶. The Rakaia was identified as an outstanding natural characteristic in the form of a braided river in the WCO.⁷
29. Neither wild nor scenic have been defined in the RMA nor in predecessor legislation. Consideration of “natural characteristics” is not assumed to be synonymous with “natural character”. From my reading of the RMA, the only mention of “wild and scenic” is in S. 199. Elsewhere concepts centre on natural character, natural features and landscapes, and, landscape and visual effects.
30. An interpretation supported under the previous legislation was that “Inherent wild and scenic qualities may be given added importance by the significance attached to their beauty, grandeur or other qualities, or as a result of their accessibility.”⁸
31. The context for this hearing clearly indicates that the “wild and scenic” values are “natural” values, as S.199 (2)(b)(iii) refers to “*wild, scenic, or other natural characteristics*”. (my emphasis).

WILD

32. The concept of wild places, and THE experiences of wildness, should not be confused with concepts of wilderness.
33. The New Zealand concept of wilderness makes a distinction between a *wilderness experience* (the activity and the feeling) and a *wilderness area* (the wild place). These two concepts were expressed in government’s Wilderness Policy as:
 - Wilderness Experience: “*The idea of wilderness is very personal. It embodies remoteness and discovery, challenge, solitude, freedom and romance. It fosters self-reliance and empathy with wild nature. Wilderness is therefore*

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⁶ Golden Bay Marine Farmers & ors v. Tasman District Council W42/2001.

1. ⁷ National Water Conservation (Rakaia River) Order 1988

⁸ Rackham evidence to Buller Water Conservation Order hearing, p.29 para 68

principally a recreational and cultural concept which is compatible with nature conservation.”, and

- Wilderness Areas: *“Wilderness areas are wild lands designated for their protection and managed to perpetuate their natural condition and which appear to have been affected only by the forces of nature, with any imprint of human interference substantially unnoticeable.”*⁹

These interpretations relate to formal recognition of public lands as wilderness areas. A wild place, a place providing experience of wildness, need not be a wilderness, either in quality or in status.

34. A wild place will appear to have been affected only by the forces of nature. The forces of nature would be expected to be highly legible. The degree of wildness experienced depends on the context. For consideration under s. 199, the context is national.
35. In the Mohaka decision, it was found that intrinsic values *“might contribute to the wildness of a river”* (page 40). Thus whilst scenic characteristics are recognised as human experience values, “wild” characteristics are not related only to human experience. They can be recognised as both amenity values and intrinsic values.
36. Wildness is not wilderness, nor necessarily indigenousness, nor pristine. Linked with the words “other natural characteristics”, there is a presumption that greater indigenousness is greater naturalness and therefore the greatest wildness is likely to be a largely indigenous natural situation, where natural patterns, natural processes and natural elements are all of high integrity.

SCENIC

37. Studies of scenic values of rivers are briefly reviewed below.
38. I recognise dimensions to be assessed include:
 - a. naturalness, including natural patterns, processes and elements;
 - b. legibility / expressiveness;
 - c. context / setting / association;

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⁹ Department of Lands & Survey; NZ Forest Service, 1983. draft *Wilderness Policy*.

- d. sense of place / distinctiveness;
- e. aesthetic coherence;
- f. complexity / diversity;
- g. transient / ephemeral factors; and,
- h. involvement.

NATURAL

39. The environment court has interpreted naturalness under the RMA to include:
- *relatively unmodified and legible physical landform and relief*
 - *the landscape being uncluttered by structures &/or obvious human influence*
 - *the presence of water (lakes, rivers, sea)*
 - *the vegetation (especially native vegetation) and other ecological patterns”.¹⁰*
40. Research utilising Q-sort assessments to understand the valuing of natural character in New Zealand has distinguished more wild from more cultured naturalness.¹¹ The ‘wild nature’ paradigm correlates with the indigenous and a predominance of natural elements and patterns. The ‘cultured nature’ paradigm is more accepting of exotic vegetation and productive rural uses, but shows a strong aversion to obvious signs of development and buildings or structures in the landscape. Considering pastoral enclaves with occasional shelter plantings, the Environment Court has found that both wild nature and cultured nature are ‘natural’ in terms of considering natural character and natural landscapes.¹²
41. For consideration at the national scale, outstanding natural characteristics are assessed below for the landscape of each river length.

APPROACH

42. I reviewed landscape assessment methodologies for my landscape planning master’s degree, and subsequently. The limitations of assessments confined

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¹⁰ A078/2008 Long Bay-Okura Great Park Society vs. North Shore City Council, para. 135

¹¹ e.g. *Public Perceptions of Outstanding Natural Landscapes in the Auckland Region*, Research Report No. 273, John R Fairweather, Simon R Swaffield, David G Simmons. 2004.

to visual dimensions and/or quantitative methods has been thoroughly analysed and due to methodological limitations not utilised in my assessment.

43. I have reviewed various river assessments, as well as decisions, with regard to how and what to assess to evaluate the wild, scenic and other natural characteristics and amenity values in a New Zealand river and for the Hurunui River specifically.
44. From my master's research work, a land systems based approach to landscape analyses was identified to be an appropriate basis for analysis, and has since been widely tested at various scales. This systematic approach was endorsed for the Rangitata WCO.
45. I have assessed the water bodies and their context lands to identify the presence of any outstanding natural and physical resources in terms of their amenity values, intrinsic values, and wild, scenic and other natural characteristics.

ASSESSMENT FRAMEWORK

LANDSCAPE TYPOLOGY

46. The land systems methodology provides for a nested hierarchy approach to enable analysis at broader and finer scales. The lands of the Hurunui catchment have previously been analysed as broad landscape types at a regional scale, plus broad land type delineation. These have been variously utilised within Hurunui District planning. To address the upper Hurunui catchment, broad and finer scales land systems analysis have been applied to assist in "making sense" of the landscape and its character, and from there to assess its qualities.

High Country Landscape Types

1. **High Rainfall Divide** - Regional Landscape Type **J**
(Land Type **H19**; District Landscape Type 10, Main Divide)
2. **Intermontane Ranges and Basins** - Regional Landscape Type **I**
 - **Ranges** (District Landscape Type 9, Mountain Ranges;
Land Type **H13**)

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¹² A078/2008 Long Bay-Okura Great Park Society vs. North Shore City Council, para. 134

• **Basins** (District Landscape Type 8, Major River Valleys)

- Major River, valley fill (Land Type **H1**)
- Glacial & fluvial valley floor (Land Type **H2**)
- Isolated Mountains (Land Type **H7**)

Lowland Landscape Type

3. **Foothills & Downlands** – Regional Landscape Type **C**.
Land Type **L21**, Northern Hard Rock Hills; District Landscape
Type 5. Hard Rock Hills.

47. The water bodies that are the focus of the assessment are primarily within the **Intermontane Basin** lands, with complexes of glacial and fluvial landforms - land types **H1**, **H2** and **H7**. The land systems analysis has therefore been refined to enable assessment at a level of detail that enables the various stretches within the upper Hurunui to be addressed.
48. The North Branch Basin involves **H1**, **H2** and **H7**; the South Branch Basin involves only the H2 land type.
49. The **Main Divide (H19)** and **Mountain Range (H13)** lands provide their source and settings.
50. Each length of the upper Hurunui is assessed within this land systems framework:
- North Branch (above Lake Sumner)
 - Hurunui Lakes
 - Mainstem (Upper Hurunui)(Lake Sumner to Mandamus)
 - South Branch

INTERMONTANE RANGE AND BASIN LANDSCAPES

51. In 1993 the Canterbury Regional Landscape Study identified 10 broad landscape types in Canterbury based on land systems mapped at 1:250, 000. In the Intermontane Ranges and Basins the study identified (Vol 1. p. 58) the

suite from the Ahuriri in the south to St James Range in the north of Canterbury. *“They include the Mackenzie Basin in the south, the Rangitata Valley, the Lake Heron area, the Rakaia Valley, the Lake Coleridge area, the Upper Waimakariri Basin in the central high country; and the smaller scale glacial basins of the northern high country where significant beech forest remnants survive to recolonise lower slopes.”*

52. These ranges and basins were recognised as typifying the South Island high country landscape. The Ahuriri, Rangitata and Rakaia are recognised by Water Conservation Orders, and that the Arthurs Pass National Park and Lewis Pass National Reserve extend into them.

53. Lake Sumner and Lewis Pass were assessed as Regionally Outstanding natural features and landscapes (p.59).

“The Lake Sumner and Lewis Pass area (including the Upper Clarence, Waiau and Hurunui Rivers) is a landscape of mountains with bush clad slopes and clear mountain lakes and rivers. These are the best examples of these classic mountain landscapes within the region.”

The Lake Sumner area is defined as the visual catchments of Lake Marion, Sumner, Katrina, Taylor, Mason and Sheppard and down to the south branch of the Hurunui. These high country lakes are very popular with recreationalists and are recognised as being exceptionally beautiful.

The tangata whenua highly value these landscapes.” Canterbury Regional Landscape Study. Vol 1. p. 59.

54. The upper Hurunui, the ‘Lake Sumner Area’, is rated as “clearly outstanding” for aesthetic; shared and recognised; and, tangata whenua factors. And, probably outstanding for: natural science and legibility factors. Only transient (legibility) factors were not ranked as clearly or probably outstanding.

55. Beyond the lakes visual catchments, the remaining lands of the upper Hurunui catchment were identified as “regionally significant”. (BM & LA page 72, Figure 4)

56. Glacially derived, the Upper Hurunui is a complex system of tributaries and lakes, amidst forests of mountain, silver and red beech that are rich in wildlife. The Hurunui Lakes and their landscape context are a landscape gem of the Canterbury high country. Being a richly forested environment edging open valley and basin floors and abounding with forest birds which include the kaka, parakeet, mohua and kiwi, otherwise rare in Canterbury. The Upper Hurunui provides very special landscape experiences that are very different from any other eastern South Island landscapes.
57. The individual lakes, such as Loch Katrine, Lake Taylor, Lake Sumner, are all individual icons. Surrounded by steep, craggy mountain slopes and well-separated by ice-scoured isolated mountains, the lakes are each a special place with a separate identity. Whilst well-known in name, this mountains-lakes-river valley complex has a rugged and remote character, and not being traversed by highways or have other good road access, allows these landscapes to be experienced as special treasures, jewels tucked away to be discovered and savoured.
58. The natural, wild and scenic landscape complex of the Upper Hurunui is considered to have outstanding landscape qualities.
59. Assessing the outstanding natural features and landscapes of Canterbury, Boffa Miskell & Lucas Associates also identified the Waimakariri basin, the Upper Rakaia, Lake Heron and Ashburton Lakes, the Upper Rangitata and the Mackenzie Basin as outstanding. The sources of the four grand braided rivers that define and distinguish Canterbury, the Mackenzie Basin, upper Rangitata, upper Rakaia and upper Waimakariri are of immense scale as glaciated landscapes. Lake Heron and the Ashburton Lakes were recognised as smaller in scale. However their predominantly grassland character is very different from that of the bush-clad lakes environments of the Hurunui and of the Lewis Pass.
60. Below the less-accessible lands of the Main Divide, the inter-montane range and basin landscapes are the great signature natural landscapes of Canterbury. These high country greywacke basin landscapes are key signatures of the eastern South Island, and of Aotearoa New Zealand in total.

61. The full suite of intermontane basins through the region, from the small basins in the north, of the Clarence, Waiau and Hurunui, and the large basins further south, the Waimakariri, Rakaia, Rangitata and Mackenzie are considered (attachment 9). The Hurunui comprising the North and South Basins are evident as small, compact and well separated by mountain ranges from the lowland land types.
62. The upper Hurunui is a legible, natural and highly scenic example of the high country glaciated landscapes that distinguish New Zealand.
63. Whilst not the most grand landform features in terms of scale, the scale and character of the complex as a whole makes the Hurunui glaciated lands of particular experiential significance.
64. Glaciation has not ‘bulldozed’ through the Hurunui and wiped out former fluvial and ecological layers. Components remain evident and subsequent fluvial landforms have overlain most glacial deposits.
65. As recognised in the Geopreservation Inventory, the Hurunui Lakes are of National Importance. Lakes Sumner, Katrine, Mason, Sheppard and Taylor are identified as significant as *“Excellent examples of lake features in a formerly glaciated environment. Lakes occupy bedrock hollows and are impounded by moraines or fluvioglacial deposits, originating from ice lobes of the Hurunui glacier. Classified as extremely well defined landforms of scientific/educational and scenic value.”*¹³
66. Whilst mapped as the lakes, as stated by the compiler “On the maps they are shown with boundaries around the lakes but in reality is their setting that makes them significant with evidence of the glaciated landforms and dams of moraines or fluvioglacial deposits, so the boundaries should be much larger – ie landscape size.” (pers. comm. Bruce W. Hayward, Geomarine Research, Auckland. March 2009). That is, the identified lakes and their landscapes are of national importance as geomorphologically.

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¹³ Jill A. Kenny; Bruce W. Hayward. 1998. *Inventory and Maps of Important Geological Sites and Landforms in the Canterbury Region, including the Chatham*

67. Considering river gorges through mountain ranges at a national scale, Soons and Selby (1982) recognise the legible Hurunui gorges. They state *“the rivers whose courses include impressive gorges through ranges transverse to their principal directions that are outstanding in character. They include some of the major rivers of each island, from the Ngaruroro and Manawatu of the North Island to the Buller, Hurunui and Clutha, to name but a few, of the South Island. They exemplify the youth of the main ranges, the gorges resulting from antecedent or superposition, often both.”*
68. As demonstrated in the Landscape Typology, for the intermontane range and basin country, it is from the Hurunui Basins that the gorges carve through the mountain ranges. For others, such as the Rangitata, the gorge is only through the hard rock hills of the lowlands (attachment 10). A lowland hill country gorge, not a high country mountain gorge as those of the Hurunui are down to Surveyors Stream.
69. The vegetated character also contrasts around the mini-basins of the upper Hurunui and the great basins to the south. In the Rangitata, Rakaia, The main stronghold for beech forest in Canterbury begins in the north of the Waimakariri and extends rather continuously to the Spenser Range in the north. (attachment 6). The contrast in character between the southern intermontane basins is both in terms of landform scale but also in terms of vegetative cover. The predominant beech cover within and around the intimate scale basins of the upper Hurunui gives this catchment particular wild, scenic, natural and amenity characteristics.

Part 2 - The Reaches

"North Branch" - the Hurunui River upstream of Lake Sumner

70. The last few million years of mountain building continues today. The major marine sediments thrust up formed a highland criss-crossed with giant faults. River valleys formed along lines of weakness so that modern ranges and basins were gradually shaped. The Taramakau in the west and North Branch

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Islands. Geol. Soc. of NZ Misc. Pub. 98. page 33.L32, L33 [one volume of a series of inventories covering NZ]

in the east have formed along the Hope Fault. This major transcurrent fault is evident along the line of the upper North Branch valley continuing north of Dinner / Isolated Hill to run up McMillan Stream and through to the Hope.

71. During the Pleistocene, a glacier extended down from the head of the valley filling the full width of the valley, over-riding the centrally located Dinner Hill and Isolation Hill, and shearing off the ridges above, to reach Lake Sumner. The steep smooth lower slopes and gentle upper slopes demonstrate the glacial history in the upper valley walls. The *roche moutonnée* complex, Dinner Hill and Isolated Hill (**LT H7**, attachment 12) protrudes through the valley floor, hewn and left central in the corridor.
72. Valley fill from the pass and fans from the walls have overlain the glacier's floor. McKenzie and McMillan Streams have extensively infilled above the *roche moutonnée*, supporting red beech forest, with the river occupying the south side route. This North Branch stretch of river is entirely confined by the Main Divide Land Type (**H19**). From the mountain flanks, further coalescing fans encroach into the river corridor, confining it from north and south before it splays out on a dramatic delta into Lake Sumner.
73. Since the final glacial retreat some 14, 000 years ago (Suggate, 1965), the lands have been infilled and draped in fluvial outwash and then colonized by grassland-shrubland, then low podocarp forest and eventually by beech. Whilst slow to expand, lake bed sampling in Lake Taylor shows beech pollen there through the last three thousand years (Russell, 1980).
74. The 25 km length of river above Lake Sumner is confined below the steep greywacke mountain flanks of the main divide, draining The Nelson Tops in the north, and the Crawford Range to the south. The dynamic river valley floor is a substantial landscape unit. Arising in Harper Pass, the most easily traversed of the Southern Alps passes, the floodplain and river flat lands begin little more than a kilometre from the Pass summit (attachment 13). Braided river bird habitat occurs downstream of the No.3 hut.

75. As many continue to do today, the upper valley was approached from Lake Sumner by Julius von Haast. 150 years ago he recorded¹⁴ “*The character of the landscape now becomes continually more extensive and grander. Roaring torrents come down from the northern sides of the mountain, and Fagus solandri [mountain beech] gives place to Fagus menziesii [silver beech] which prefers a damper mountain climate.* He describes sub-alpine shrublands and herbs, “*Everything showed that we were now ascending more rapidly, and approaching the pass. At the foot of the saddle two mountain streams, coming from north-west and south-west unite and form the Hurunui.*” The river corridor is more wild and rugged toward the Pass.
76. The forests of the upper Hurunui catchment are almost entirely dominated by red, silver and mountain beech. Mountain beech extends on up to sub-alpine areas. Red beech, occurring only north of the Waimakariri, is widely distributed in the North Branch. Substantial stands of mountain totara-dominated forest, surrounded by beech forest, occur near the Harper Pass. Pāhautea (*Libocedrus bidwillii*, or NZ cedar) and the pink pine or yellow pine (*Halocarpus biformis*) are co-dominate with mountain and silver beech in stands on poorly drained bench sites, such as Dinner Hill and the Crawford Range lower slopes.
77. The 12,000 ha Hurunui Operation Ark, occupies the upper catchment or both the North and South Branches. The only Operation Ark in Canterbury, and one of six nationwide. Intensive pest and predator management has been undertaken for more than a decade in an effort to protect and restore the beech forest ecosystem, including mohua, orange-fronted parakeet, great spotted kiwi and whio (blue duck). The beech forest ecosystem is considered one of the most intact remaining in Canterbury. Whilst as up river, birdlife increases, the kaka and parakeet occur right through the valley and through the Hope to the Lewis. Typically people visiting the Park hear or see kaka and parakeet, as well as rifleman, bellbirds and tui, and perhaps see falcon.
78. Whilst at any one time the waters and riverbed gravels are clearly distinguishable from the floodplain lands alongside, the valley floor is

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¹⁴ Julius von Haast. 'A VISIT TO THE HURUNUI' in "Alone in a Mountain World" pp. 287

dynamic. The areas of shrubland and beech forest vary through time as the river moves across the valley floor. Unusual for a Canterbury mountain valley floor, substantial forest occurs on the river flats, fans and floodplain lands.

79. As well as a dramatic landform and landscape feature, the braided river and delta above Lake Sumner are of recognised habitat value for wading birds, gulls and terns.

HISTORY & RECREATION

80. The major former greenstone trail through to Arahura for tangata whenua, the Pass is now a recreational route. Tramping from west to east, from Harper Pass the track passes down the valley “*through increasingly attractive beech forest*” down old river terraces on the true right.
81. The original Lake Sumner homestead was located on a flat at the foot of the Crawford Range within 2 km of the top end of Lake Sumner. It was later dismantled and used at Lake Sheppard¹⁵ and the site is marked by pine trees and an old mustering hut. Whilst there is a substantial block of freehold grazing land in the valley above Lake Sumner, there is little land development evident so that the lands are an integral part of the valley with very scenic and naturalness.
82. Thousands of people used the Harper Pass route to the west coast goldfields prior to the Arthurs Pass Road opening in 1866 when the Harper Pass route was abandoned. In the late 1930 the government reopened the route “*in an effort to rival the Milford Track*” and built five large huts of hand hewn native timber. At the Cameron Hut the track emerges on to the first open grassy flat, formerly grazed. The Cameron Stream is crossed on a three-wire bridge and then “flat travel” down to the No. 3 Hut in a clearing. Operation Ark management base is nearby. The track continues east through beech forest above the river. There is a diversion track to the Hot Springs, having important geological value of national importance¹⁶ as well as scenic and amenity value. From the Hurunui Hut the track crosses the river on a long swingbridge and continues along matagouri flats and through impressive red

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¹⁵ Peter Newton. *High Country Journey*. page 166.

beech forest down to the shores of Lake Sumner. Lake Sumner Hut provides basic accommodation for back country fishing experience in the river upstream, and a 'wilderness fishery' may be of national significance (Greenaway p. 28).

83. Tramping, a peculiarly New Zealand activity that is "*often rough, frequently wet, but regularly inspiring*"¹⁷. The Harper Pass trip was selected as one of New Zealand's 'Top 40'¹⁸. *101 Great Tramps in New Zealand* recommend the 80km, four to six day Lewis Pass to Arthurs Pass trip through Harpers Pass as a "classic route". The Harper Pass route is identified in the *crème de la crème* list for New Zealand. With public accessibility from the Lewis Pass Road in the north, many trampers in to the upper Hurunui valley and Harpers Pass come via the Hope Valley over the Kiwi Saddle and down to the shore of Lake Sumner – the Hope Kiwi Track.
84. Within the North Branch, it has long been popular to have day and weekend tramps up from Loch Katrine to the Hot Springs. With the popularity of off-road vehicles, drive in access to Loch Katrine has made the North Branch increasingly accessible for shorter visits – the overnight and weekend trips.
85. As recognised by Greenaway (p.16), crossing at less than 1000 m asl, the Harper Pass is an important accessible route over the Main Divide. "*The greenstone and gold history of the route adds another dimension.*" Assessing recreational value, Greenaway (2004, page 21) assessed the upper North Branch as of national significance for tramping. He refers to the national reputation of the Harpers Pass route due to historic associations and its linkage between the Lewis Pass and Arthurs Pass. Egarr and Egarr identified that "*trampers use the area greatly and float down parts of the river before the shallow shingle lower reaches are met and the river flows into the lake.*"
86. DOC estimate some 3000 visits annually from the Hope-Kiwi to the Hurunui Huts and 1000 on to Harper Pass, or in reverse, from Arthurs Pass

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¹⁶ Kenny & Hayward.

¹⁷ Shaun Barnett & Roger Smith. 2005. "*Tramping in New Zealand. 40 great New Zealand tramping trips*" Bird's Eye Guides. page 8.

¹⁸ Shaun Barnett & Roger Smith. 2005. "*Tramping in New Zealand. 40 great New Zealand tramping trips*" Bird's Eye Guides.

(Greenaway, 2004). Track guide writer Mark Pickering assessed that the Harper Pass route would be assessed by tramping clubs as nationally important (Greenaway, 2004).

87. The North Branch valley experience is also regularly enjoyed by people walking up from Lake Sumner, Lake Taylor and Loch Katrine. The lakes as major destinations frequently involve tramping excursions up the North Branch. The steep rocky headwaters change to a gentle flow over gravel toward Lake Sumner. The river flows over a rocky bed confined between beech-clad ranges. This upper valley *“is most attractive. As the gradient of the river decreases, it flows out onto a fine gravel bed between grassy flats that become very wide immediately before entering Lake Sumner. The flats gradually shelve into the shallow head of the lake forming a marshy margin as it meets the lake. Much of the lake shore is beech-clad and is very attractive. ... Tussock-covered hills stand above the tree-line.”*¹⁹ The river is typically at its peak in spring due to snow melt plus heavy rain.

UPPER HURUNUI EVALUATION

88. The very high naturalness of the braided river course through a varied open valley floor amidst shrublands and beech forest with mountain surrounds, a corridor between mountain pass above and glacial lake below, is highly natural and picturesque. The valley displays highly legible natural processes from glacial and fluvial processes and the resultant landforms and biodiversity.
89. The North Branch is a grand and beautiful valley that is quite distinct due to its rich history, but subsequent wild and remote character, its rich biodiversity and highly picturesque qualities.
90. Considered at a national level, I assess the North Branch down from Harper Pass to have a high degree of wildness, and to have outstanding scenic and natural characteristics. The amenity and intrinsic values of the upper valley are outstanding.

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¹⁹ 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. Pt. 2, p. 121

2. “Hurunui Lakes” – the NORTH BASIN LAKES

LAKES SUMNER, MARION, KATRINE, TAYLOR, SHEPPARD & MARY

LAKE SUMNER / HOKA KURA

91. Arriving where Lake Sumner is located, millions of years ago the great glacier came down the North Branch and split into three lobes (Speight 1918²⁰. attachment 6). The main lobe scoured out the valley now occupied by Lake Sumner and the Hurunui Mainstem down to the South Branch confluence.
92. A second lobe came through where Loch Katrine lies and Speight suggests it split into three minor lobes forming the valleys now occupied by Lake Taylor, Lake Sheppard and the valley between The Brothers and The Sisters western extension.
93. The third lobe moved over a low pass opposite the head of Lake Sumner and came down the tributary now occupied by Lake Mason and the South Branch. Ice-shorn bedrock is displayed at the northern end of Woolshed Ridge, forming a hump and hollow landscape.
94. Glacier-truncated spurs to the mountain ranges flank Lake Sumner to north and south.
95. Lake Sumner earlier stood at higher levels and a series of raised old beaches remain displayed up to 20 metres above the existing lake level. Hence, whilst glacially sculpted originally, Lake Sumner and Lock Katrine and up the river above are covered with alluvial deposits.
96. Gouged out by the main glacier, Lake Sumner is almost 10 km long. Located at over 524 m above sea level and of unknown depth it is a cold lake.
97. The broad braided delta extends right across the western shore, arcing out into the lake, with much of it active (attachment 25). The dynamic natural

patterns, processes and elements of the delta landform provide the character to the western shore, complemented by the birdlife, the waders above and the deep water birds including crested grebe below. The openness character, numerous braids and subtle vertical variations giving changes in cover, substrate and flow pattern, demonstrate an important natural relationship between the wild, natural braided river above and the impounded waters below.

98. The dominant westerly winds mean they blow with the flow and offshore. During peak flows much debris and sediment is transported and delivered by the North Branch to the lake. This may cause some discolouring but the lake is typically very clear.
99. More stable deposition lands also arc out into the lake in the north-west, such as the extensive fan delta at the base of Three Mile Stream forming the extensive beech-forested headland of Charleys Point with the active fan enclosing Pinafore Bay (attachment 27-28).
100. Some 4 km south the large fan to Evangeline stream spills out around the glacially shorn snout to Mount Longfellow. It too is beech-clad to the shore with a narrow stream corridor meandering over the fan to the active area meeting the shore, the stream variously cuts channels through the beach gravels (attachments 27-28).
101. The juxtaposition of active fan and the stable beach margin to a deep clear lake is a natural and visual focus. The natural fluctuations in lake levels and the effects of wave action down the lake are evident. The natural patterns, processes and elements are highly evident and intact. Natural character is very high. When surveyed 5 years ago kiwi were present.
102. The fan delta of Charleys Point and fan of Evangeline Stream meet the great moraine landform which remains below the ice-shorn face of Niggerhead. The historic moraine emerges from Lake Sumner as Cape Josephine. Whilst now beech-forest clothed, the moraine humps and hollows remain legible. Lake

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²⁰ R. Speight. 1918. *Structural and Glacial Features of the Hurunui Valley*. Trans. of the NZ Inst. 50: 93-105

Marion is impounded within one and Marion Stream flows across the moraine down to Marion Bay. The Kiwi Saddle Track passes across this moraine.

103. West of the North Branch delta the coalescing fans to the base of the Crawford Range end at Taylor Stream to Home Bay. Thus a very changeable place. and unstable area, strongly contrasting with the bedrock shores eastwards. The Taylor Stream from the Mason saddle is along the route of the 3rd moraine lobe. The ice-sculpted snout to Woolshed Ridge emerges out of Lake Sumner. The path of the 2nd lobe between Woolshed Ridge and The Brothers is filled with glacial till forming a partial barricade that impounds Loch Katrine.
104. Loch Katrine flows directly into Lake Sumner. However "*in times of high flood reverse flow occurs between Sumner and Katrine increasing the detention time of the North Branch.*"²¹ Thus the canal between Sumner and Katrine flows either way depending on lake levels. Whilst opinions have varied, the canal is understood to be a natural waterway between Loch Katrine and Lake Sumner. West of the canal, the intricate and sheltered Nohoanga site is located within the glacier-moulded toe below the Mason Saddle to Shoal bay and involves wetlands, rock knoll and shrubland.
105. The low lands linking Katrine and Sumner are highly natural in character, including unusual native shrub species and wetlands (attachment 31).
106. The south shore to Lake Sumner involves The Brothers emerging steeply from the lake. The ice-moulded lower slopes are largely naturally wooded, especially further east, plus shrubland, bracken and grassland where disturbed. The rugged upper slopes above are less so. On the opposite shore, the slopes to Mount Longfellow have a somewhat similar character. The two mountain flanks dramatically enclose the lake to barely a kilometre width. Mountain slopes emerge resilient to contain the lake waters long naturally dammed against the bedrock. Some rata overhangs the northern shore.

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²¹ M.J.Bowden. 1977. *The Water Resources of the Hurunui Catchment*. North Canterbury Catchment Board and Regional water Board, Christchurch. page 22.

107. Spatially so compact, the steep forested mountain slopes enclosing a deep narrow lake displays very high natural character, legibility, wildness and aesthetic value (attachment 28-29 – view toward outlet). The separation of forested mountain slope from deep clear lake waters by only a narrow natural shoreline provides a natural delineator, a line threaded around delineated only by the lack of forest. The juxtaposition of lake waters against greywacke bedrock does not etch a shore. The forest-free zone of the shoreline displays the small natural pulses in water levels, and the wave action down the lake, to clearly demonstrate natural processes at work.
108. The evident small lake level changes, the steep bedrock shores and the lake water clarity, means the stability of natural processes is evident. Whilst historic upheavals from glacial gouging are evident, the regime that has now emerged is evident as a settled, stable place from century to century. Beech forest meets gravel beach. A beach of ancient gravels. Not river-rounded gravels, but sharp angular gravels. A timeless place. Nature's place.
109. Lake Sumner was gouged out deeply by the main lobe of the Hurunui Glacier and dammed by moraine during its retreat. Subsequently the moraine was buried under fluvial deposits. The broad gentle Gabriel Stream Fan overlies moraine around the eastern end of Lake Sumner. The shrubland clothed fan merges with the gravel beach. The lake level variations of around 3 metres are legible in the gravels of the beach (attachment 29-30).
110. Associated with the ancient lake shore deposits around the lower margins of the lake, are shrublands forming various dense and continuous stands. Dense shrublands have a good diversity of species including kowhai, mountain wineberry, korokio, matagouri, manuka, kanuka, lancewood and porcupine shrub. Old and diverse shrublands.
111. Close beside Gabriel Fan the lake waters gently begin flowing through a shallow channel through the impounding deposits. The Lake Outlet thus involves very unconsolidated substrate. The lake outlet is a gentle place, where the 10 km long deep water body is impounded behind a low gentle gravel formation. Old kowhai & kanuka woodlands around the outlet and close against the outgoing rivers edge tell of the stability of this place.

112. A series of old beach ridges showing a sequence of former higher lake levels demonstrate the natural dynamics of the place (attachment 40).
113. Experienced on a calm clear day, the outlet is an extremely peaceful, gentle and beautiful place.
114. The Lake Sumner landscape is highly legible as a complex of steep bedrock versus largely gentle fluvial deposition lands, plus moraine formations that have not been buried. The lake waters, the shore features and the containing lands are experienced as highly dramatic, natural and beautiful.
115. As recognised by the Geopreservation Inventory²², the experience of the geomorphology of this lake system is of national importance.
116. Approached 150 years ago as the public do today, Julius von Haast recorded²³ “The nearer we approached Sumner Lake, the more the high terraces walled in the river, till two miles from the lake it is quite confined between high shingle walls. Half a mile from the lake a moraine, situated about 250 feet above its surface, covers the valley, which, however, has been partly concealed or destroyed by the large cone of debris deposited by a mountain stream coming from the north, and flowing into the Hurunui. When we had ascended this cone, covered for the most part with thick beech forest, the peaceful deep blue surface of the beautiful lake lay quite 150 feet beneath us, surrounded on both sides by high mountains which, for about 2000 feet above it, were clothed with thick forest. Before the shore can be reached, at least ten old beaches, fully preserved and extending over the valley in a half circle, have to be descended. It was indeed a great pleasure to be able once more to enjoy nature in her pure virgin solitude. The quiet mirror of the lake, only disturbed here and there by ducks and other water birds; the dark forest, with the rugged rocky peaks above it, reflected in the lake, formed a landscape of such exquisite beauty that I was very unwilling to leave it.”

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²² Kenny & Hayward.

²³ Julius von Haast. A VISIT TO THE HURUNUI, in *Alone in a Mountain World*. page 287

RECREATION

117. Public access Lake Sumner by foot from the north, east and south. From the south they access from the track and canal from Loch Katrine. Lake Sumner is very popular for boating, both power and non-powered craft. Canoeists use the lake “a great deal” including accessing the river below.²⁴
118. The eastern walker access is to the Gabriel Fan via the Sisters Stream Track up the mainstem from the Sisters Swingbridge at Lake Sumner Road.
119. There are tracks the full length of the northern shore between Marion Stream, Charleys Point and the Delta. The Harpers Pass tramping route from the Hope-Kiwi and down around the northern edge of the lake has been assessed as of likely national significance (2004, p.28).
120. Surveying more than 300 recreationists, Greenaway assesses (p.22) that the Hurunui Lakes collectively are of national significance for trout fishing. He recorded their opinion that whilst there are other high country lakes, accessible forested lakes are rare. From the data he identified the lakes are of national significance for tramping, as part of longer routes.
121. As identified in early rivers assessments²⁵, in terms of landscape aesthetics “*Patterns of gently swirling water are often more visually interesting than the heaving turmoil of bigger rapids.*” The outlet waters are of this character.

LAKE SUMNER EVALUATION

122. The glaciated landforms, the old beaches, moraine, layers of fans, together and separately tell a story of this landscape. The landscape is highly picturesque, it is wild, scenic and natural, with very high amenity values. I assess waters and lands associated with Lake Sumner to be nationally outstanding in terms of the wild and scenic and natural characteristics.

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²⁴ 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. Pt. 2, p. 121

²⁵ 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. Pt. 1. p. 24.

LAKE MARION

- 123. Located within the moraine below the Kiwi saddle and perched above the northern shore to Lake Sumner, the 17 ha Lake Marion is completely surrounded by natural beech forest. This is unusual for Canterbury, and for the eastern South Island.
- 124. The lake is accessed via a track over the Kiwi Saddle and on to Charleys Point on Lake Sumner below. There is no vehicle access, and no kayaking. The lake is trout free.
- 125. In the proposed national list of protected waters, Lake Marion was individually identified in Group 1. It is one of few Faunistic Reserves in New Zealand, and one of only two in the South Island, and is to protect aquatic life. All aquatic biodiversity in Lake Marion is indigenous.
- 126. Gem-like, Lake Marion has very high natural landscape value. I assess the landscape associated with Lake Marion to have nationally outstanding wild and scenic values and natural characteristics.

Loch Katrine

- 127. Loch Katrine is a deep 83 ha glacially sculpted lake impounded and separated from Lake Sumner by glacial till, as described above. The lake is connected to Lake Sumner by a shallow canal around 500 m long through a wetland on the poorly drained till (attachment 31).
- 128. The Brothers and Woolshed Ridge that enclose this glaciated pathway exhibit the legible ice-smoothed slopes below the very rugged bluffs above. The glacier cut a bench to the south of the lake which is now buried under coalescing fans.
- 129. Loch Katrine and its context lands are recognised as of national geomorphological importance, along with the other nearby lake complexes.

130. Inflows include minor streams from the hills, plus freshwater springs. To the north west and south of Loch Katrine, creeks down the toe slopes are strongly gullied with vertical sides.
131. There is a steep shingle beach around the lake to the bedrock enclosure, and close to shore the water is more than 4 metres deep.
132. To the north the wetland sedges and reeds surround the natural narrow canal, with kanuka above. There is a mosaic of vegetative cover, with some beech forest and mixed woodland extending down to the lake on the slopes of The Brothers that enclose to the east, plus shrublands and an open silver tussock patch.
133. The lake has long had very high recreational use, for fishing, waterskiing and canoeing. Whilst the lake is open to the nor-westers, a small shingle spit in the south-east provides sheltered waters and boat moorings.
134. Some baches remain on a DOC camping reserve about 50 metres above the southern end of the lake, plus a bach on the north end on shore, with kanuka in front and thus scarcely visible. I understand an unofficial walk up the spine of The Brothers provides superb views over Loch Katrine and Lake Sumner and up the North Branch.
135. From the Greenaway survey of people associated with Loch Katrine baches (p.70), the main reason for their being at that location was for the scenery and peacefulness, and they used the tracks into the Park. Surveys have shown that fishers here also frequently camp, and variously tramp, shoot, canoe and picnic. From Loch Katrine there is a very rough 4WD track to access from Loch Katrine to Lake Sumner.
136. Whilst having some recreational development, it is confined and low key in character.
137. In the context of the North Basin lakes complex, as a major feature closely associated and inter-connected with Lake Sumner, the Loch Katrine landscape is assessed as contributing nationally outstanding scenic and natural value.

Lakes Taylor, Sheppard & Mary

138. Past the Loch Katrine site the central lobe of the Hurunui Glacier extended around both sides of Conical Hill and The Sisters, and over-rode these lands to form *roche moutonee* or isolated mountains. These hills have been smoothed off on their upstream flanks with steeper ice-plucked eastern or downstream flanks. The retreating glacier impounded Lake Taylor between Woolshed Ridge and Conical Hill. Lake Sheppard was impounded amidst the *roche moutonnée*. Lake Mary was impounded between The Sisters and The Brothers (attachment 32-37).
139. Riding up into the lakes basin, 150 years ago Julius von Haast recorded²⁶ “After a shingle wall, consisting of stratified subangular alluvium, is ascended, the path leaves the valley of the principal river and continues toward Lake Taylor, in a thickly grassed riverbed filled up with quaternary debris, leading us two miles further on to the remains of an old moraine. On the northern side the valley has been formed by a number of low roches moutonnées, all with their worn sides to the west. The contrast between these grassy rounded hills and the high rugged mountain, covered to a height of 4,000 feet with dark beech forest, was very attractive.”
140. Haast continued “I arrived at the grassy shores of Lake Taylor (1948 feet), the deep blue surface of which is charmingly situated between dark green beech forest, and in which mountains, rising abruptly at its southern shore, with its rugged peaks more than 6000 feet high, is reflected.”
141. In “A Visit to the Hurunui Lakes”²⁷ J C Crawford recounts his arrival on the exposed Jacks Saddle around 130 years ago, then rode along the true right bank close above the river where “*The mountains increased in height and wildness*”. Arriving at the station homestead “*situated in a most remarkable position, one of the lakes lying in front, separated from the house by a gentle*

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²⁶ Julius von Haast. A VISIT TO THE HURUNUI, in *Alone in a Mountain World*. page 286

slope and with a magnificent surrounding of high and wild mountains.” “Rising early the next morning, I had another fine view of the remarkable scene in which I was situated, and after breakfast I left Mr Taylor’s hospitable home and returned to Christchurch.”

142. In the lee of Conical Hill between Lakes Taylor and Sheppard has long been a base for The Lakes station. The lands associated with the lakes have varying naturalness, due to management activities and farm and recreation facilities.
143. There is considerable native shrubland, flaxland and grassland around the margins and steep slopes to the lakes, there is also pasture development. The landforms do however remain highly legible and with a ‘cultured nature’ character.
144. Lake Taylor is a very important recreational lake, including camping, picnics, and fishing.
145. Lake Taylor has high wildlife value. The lakes both drain to Raupo Lagoon and Sisters Stream. Both lakes are part of the lakes complex identified as nationally important geomorphologically.
146. The surrounds to Lakes Taylor and Sheppard have a considerably less forested character than Lake Sumner. They are more open. With a mountain backdrop, the sculpted *roche moutonnée* landforms centre stage above the small but deep and sinuous lakes, results in these lakes contributing highly scenic values to the greater basin complex.
147. Lake Mary is an 18 ha shallow tarn in moraine depression and outwash material with wetland surrounds. There is only around 1.5 ha of open water amidst the flax and sedgeland. It is important wildlife habitat. Lake Mary is fed from streams from both The Brothers and The Sisters. Lake Mary is highly natural with intact riparian lands.

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‘*Recollections of Travel in New Zealand and Australia*’ (Trubner & Co, Ludgate Hill, London, prior to 1880.

148. The landscapes associated with Lakes Taylor, Sheppard and Mary are assessed to contribute importantly to the nationally outstanding scenic and natural values of the Basin Lakes complex.

MAINSTEM

149. Continuing down the path of The Hurunui Glacier, the river flows out gently on a fine gravel bed to leave Lake Sumner in a single channel floodplain flanked by an array of fluvial terraces that are draped over the earlier moraine dam. Bands of old abandoned beach formations line the river entry, telling of chapters in the lake's past. The river passes across old glacial deposits, and areas of till still protrude through the fluvial overlay on either side (attachment 40).
150. Enclosing the river corridor on the true left, the mountain range is ice-shorn across its lower flanks, fronted by a large old terrace formation (attachment 14). The younger sweeping terrace sequence and floodplain formation below demonstrate more recent higher lake levels and flows. The river passes through forest, woodland and shrubland that line the old established pathways. The riparian kowhai forest is distinctive, along with mountain and scattered red beech, kanuka, matagouri mixed shrublands and lianes, plus sedgelands.
151. The natural lake outlet merging to natural river corridor provides an important natural experience. From the Lake to the South Branch confluence the Mainstem is a rather gentle river through short rocky gorges and open terraced country with hard tussock grasslands across the terrace treads and shrublands particularly concentrated on the risers (attachments 40 - 43)
152. Unlike the braided river above Lake Sumner, from the lake outlet, the Hurunui Mainstem is deeply entrenched and a single channel until it reaches the plains below the Mandamus confluence. The river is the Sumner Conservation Park boundary. The mainstem is generally free of scrubweeds above the South Branch confluence.
153. With Mount Longfellow enclosing the true left, the natural flats and riparian forest, the Mainstem is enjoyed as a particularly stable and natural river

corridor, with high aesthetic and amenity value. The landscape is highly legible, with occasional 'erratic' boulders telling of the glacial past (attachment 42 lower).

154. The river flows over a shallow bed of rock down to a short, narrow, steep gorge above the Jollie Brook. The Lake Sumner Road provides views and vistas (attachment 44). A walking track from Lake Sumner Road at Sisters Stream up to the Outlet provides access. A popular tramp in the Lake Sumner Conservation Park is the Jollie Brook, with a loop track up the true left of the Mainstem and up Gabriel Stream. Along the Jollie Brook the track is flood-prone.
155. The 10 km Lake to South Branch length, a quiet river stretch, was rated by Egarr and Egarr as having Moderate scenic values.²⁸ This length is kayaked, canoed, rafted, power boated and there are swimming holes. Slalom events are popular.
156. From the lake outlet the large and stable flows through 'short attractive gorges' are recognised as the best fishing in the upper Hurunui (Greenaway 2004). Below Lake Sumner is the most fished. A trout fishery of exceptional quality. Below Lake Sumner is often referred to as the upper Hurunui. Recognised by Draft Inventory as a 'nationally important scenic river fishery'.
157. The Jollie Brook and Glenrae Rivers drain the Glen Wye Range on the true left. Reaching the Jollie Brook confluence the Mainstem widens out and flows over a bouldery bed variously confined between rock walls. There are many quiet pools before the short gorge above the South Branch confluence.
158. From the Jollie Brook downstream the Lake Sumner Road runs alongside the river. Some 3 km upstream of the South Branch confluence, the Jolliebrook tramping route along the true left starts at the Sisters Swingbridge over the Mainstem from Lake Sumner Road. It is some three hours through to Gabriel Hut up at the Lake Outlet, then an hour or two over a low saddle to the Jollie Brook Hut.

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²⁸ 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. Pt. 2, p. 121

159. At the Jollie Brook confluence there is a great rapid which is popular for kayak training. Across the swing bridge is a popular kayak put in site for a trip down to the Seaward River confluence, and has multiple exit points. Alternatively the Top Gorge is accessed from Sisters Stream (through private land).
160. On the true right, The Sisters stream carries outflow from Lakes Taylor and Sheppard (attachment 39). Riding up the valley on his first visit 150 years ago, Julius von Haast recorded²⁹ that up-stream of the South Branch confluence the Mainstem *“valley assumes a less gorgelike character, and keeps on widening, until three miles westward it opens out completely. A wall of debris several hundred feet high forms the southern side of the valley, out of which grassy mounded roches moutonnées, 500 feet high rise, and are a sign that we are in the neighbourhood of the glacier lakes.*
161. Highly valued both instream and from the lands, the Mainstem from the Lake Sumner down to the South Branch confluence is assessed as having important scenic and natural values (attachment 42, upper; to attachment 47).
162. From the South Branch confluence the Mainstem flows quietly over shingle and stones, flanked by shrubland, down to the Seaward River entry.
163. Dozy Stream runs down the steep mountain flanks of the Hooligan Range to enter on the true left below the South Branch confluence (attachment 48).
164. Below the Seaward River confluence the mainstem turns east through a low, narrow rock gorge, Maori Gully, which is highly valued recreationally. Below the Seaward River confluence, more serious kayaking occurs with no exit available until 13 km downstream at the Mandamus confluence (attachment 48-49).
165. Below Maori Gully the valley opens up and the rapids ease at Surveyors Stream with more gentle rapids below. The Mainstem then enters a second main gorge below the Glenrae confluence. This, the Hawarden Gorge,

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²⁹ Julius von Haast. A VISIT TO THE HURUNUI, in *Alone in a Mountain World*. page 286

beginning with the Hawarden Gap, has impressive high rock gorge walls and chutes. The rapids include a narrow chute of fast water highly valued for recreation.

166. Below the Hawarden Gorge the Mainstem passes out of the bedrock confines to a shingle bed and onto the plains below the Mandamus. At the Mandamus confluence the Mainstem opens onto braided plains. The length of river over the plains to the Lowry Peaks Gorge was rated by river recreationists as Uninspiring scenically.³⁰
167. From Lake Sumner to the Mandamus, the New Zealand Whitewater advises paddlers to “Take in and appreciate the grandeur of this remote valley while carving and turning your way down river.” The “trip to Maori Gully is an eddy turning heaven.”
168. With a sequence of rapids and quiet pools, the mainstem is considered an excellent rafting river (for training mainly), and for kayaks and canoes. Jet boaters enjoy the chutes in these two gorges under higher flows, with white water equivalent to the former Cromwell Gap on the Clutha and the Rangitata Gorge.
169. Rafting operators on the upper Hurunui report the value of the ‘environmental quality’, the ‘scenery, environment and isolation’ as the main attractions (Greenaway 2004).
170. From the South Branch confluence to below the Mandamus, Egarr and Egarr rated all together as of high recreational value and moderate scenic value.
171. Allan Rackham (Canterbury Rivers Assessment, 2001) using a 5-pt scale, assessed the Naturalness of the Gorge as 4 for Land Cover; 5 for Flow Processes, 5 for Built modification; 5 for Riparian Edges, 5 for Water Quality, and 4 for Wildlife Quality. Overall a ranking of 29 points, thus High. That is, 29 of 30 pts. and was the highest rating allocated.

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³⁰ 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. Pt. 2, p. 122

172. Considering Outstandingness, Rackham assessed the Gorge as 4 for natural context; 4 for riparian edge, 3 for History and Art, 4 for Flow variability; 4 for Water Clarity, Colour; 4 for Features. Overall 26-27 a Mod/High rating.
173. Considering Visual Amenity values, Rackham assessed the Gorge as 3-4 on access; 4 for Drama/Wildness; **5 for Scenic**, thus 12-13 and a High rating.

MAINSTEM EVALUATION

174. The Mainstem from the Lake Outlet to the Mandamus involves a very important and varied landscape that is highly scenic and wild, with high amenity value and naturalness. I assess that from the Outlet down at least to the confluence of Surveyors Stream, the landscape associated with the Mainstem is nationally outstanding due to scenic and natural characteristics, and particularly from the Seaward confluence downstream the wild characteristics are outstanding.
175. The Mandamus valley on the true left contains a separate part landscape of the upper Hurunui. A valley with considerable wild, natural, heritage and amenity landscape value. The Mandamus catchment is described in an appended report.

ROAD ENTRY TO UPPER HURUNUI

176. 150 years ago Julius von Haast arrived on Jacks Saddle, and recorded that “a magnificent view opened out on the wild partly-wooded rocky mountains which bound both sides of the Hurunui Valley; the river itself is not visible; as it flows in a deep gorge.” “At the northern declivity of the pass was a little swampy valley, which runs for a short space along the principal river, and afterwards enters it in a narrow gorge. After we had crossed this we had to ascend a drift terrace, along which the road goes for a short distance. The old alluvial deposits lie about 150 feet above the present surface e of the river, but traces of higher, still older terraces, are also visible, 100 feet above the road on the mountainsides, consisting also of shingle deposits, out of which at some places rocks crop out. After a short distance, the foaming river washes against the southern bank, formed for the most part of wild rocky cliffs, between which small remains of a luxuriant forest are here and there visible.” “At some places enormous declivities covered with taluses of debris descend

from the mountains, four to five thousand feet high, into the valley". "The path continues along the mountainside for a few miles, often ascending three or four hundred feet, then again nearing the riverbed."

"The view of the jagged mountains, of the deep blue Hurunui rushing down its wild gorge, or of the romantic lonely valleys in which crystal streams trickled down, was really enchanting, and I was never tired of admiring the ever-changing picture before me."

177. The Lake Sumner Road similarly arrives on the hard rock hill country (L 21) of Jacks Pass and leads down to the terrace sequence flanking Mainstem. After crossing Surveyors Stream the Road enters the high country along the toe slope to Mt Noble, to closely follow the Mainstem corridor up the true right (attachment 44 and 49).
178. Downstream of this point the hill country and associated terrace lands of the true right are less wild, scenic and dramatic than those of the high country above. Surveyors Stream marks a landscape character and quality change point.

SOUTH BRANCH

179. Draining from the Main Divide between the Dampier and Crawford Ranges, the South Branch is a major headwaters tributary of the Hurunui. Ice-shorn on both northern and southern flanks, the Crawford Range (H19) divides the North and South Branches. Lake Mason lies between them at its terminus where the Hurunui Glacier lobe passed through.
180. The braided river through the upper valley of the South Branch is more confined and colder than in the North and the valley floor more wild, with forest, woodlands and birdlife, including kiwi and parakeet. The valley has been intensively managed for conservation values since 1995 – now Operation Ark. Beech forest clothes steep slopes down to meet the gravels of the riverbed.
181. The upper valley is highly wild and natural and confined until the change from the Main Divide character of the Dampier to the Mountain Range flanks of the Studleigh Range with wider floodplain and riverflats. Great distinctive active

fans splay out from the Studleigh at Swampy and Stony Streams (attachment 13).

- 182. Downstream from the great fans that confine the South Branch north close against the Crawford Range, the river provides braided river habitat for birdlife through to the gorge some 10 km below.
- 183. Below the Stoney Stream fan, Mason Stream enters on the true left.

LAKE MASON

- 184. Formed in the lee of the saddle in the corridor formed by the glacier lobe shearing off the western end of Woolshed Ridge, Lake Mason is the sole lake of the South Branch, and more isolated than others of the Hurunui Lakes complex. Like those of the North Branch, Lake Mason and its context lands are considered of national significance for their geomorphological value.
- 185. The 72 ha Lake Mason provides a microcosm of the glacial and fluvial ecosystems of the upper Hurunui. Beech forest clothes the mountain range flanks to west and east. The glacier pathway from north to south displays fluvial deposition over old glacial carvings and moraine deposits. Old fan deposits lead to the South Branch across which Mason Stream flows.
- 186. Active fans from the range slopes have infilled between the lake and Masons Saddle to the north, forming a tussock basin. Lake Mason is almost divided by two spits built out from the east and west shores. Little Mason and Lake Mason remain connected by a channel through a bed of shingle, a natural causeway (attachment 52).
- 187. A musterers' hut is located by the lake. Lake Mason is considered the most remote of the fishing lakes. Involves a 2-hour tramp from the Lake Sumner Hut at the head of Lake Sumner, or via a rough private farm track up the South Branch. Whilst isolated it is popular with fishers.
- 188. The Lake Sumner Conservation Park extends down to Lake Mason. From Harper Pass, a shorter tramping route via Lake Mason to the Lake Sumner

Road is also recognised.³¹ The Lake Mason Circuit provides an alternative 6 or 7 hour route between Lake Taylor and the Hurunui Hut, with permission required from Lake Taylor Station.

189. Lake Mason is very highly wild and scenic, with important natural characteristics and amenity values. As part of the South Branch Basin, I assess these values to be nationally outstanding.

SOUTH BRANCH BELOW LAKE MASON OUTLET

190. Opposite the Mason Stream outlet is Bell Knoll, a *roche moutonnée* (LT H7) clearly showing the glaciers path through its well ground down upstream finger to the Lake Mason corridor, and its steeper more rugged and plucked down-stream flank (attachment 54, left)
191. High terraces surround Bell Knoll, and its bedrock impound wetlands toward the range. The large scale river valley and broad open grassland and shrubland character of this South Branch Basin is in considerable contrast to the character of the North Branch Basin.
192. Like the other major Canterbury Rivers rising on the Main Divide, the Waitaki, Rangitata, Rakaia, Waimakariri and Clarence, they are flanked by sets of terraces, like great staircases, that record erosion phases as the rivers cut down into the vast thickness of gravel deposited in ice-age times. The South Branch Basin dramatically displays such flights, arguably the best in Canterbury. Superb sequences of terraces are displayed along the south bank as well as along the North Esk River corridor (attachments 12, 16, 17, 54, 58 – 60).
193. A large moraine remains evident adjoining downstream of Bell Knoll. Large red tussock wetlands and Homestead Stream are impounded behind on the high terraces against Island Hills and below the active fans to the Dampier Range (attachments 16, 55).

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³¹ Shaun Barnett & Roger Smith. 2005. "Tramping in New Zealand. 40 great New Zealand tramping trips" Bird's Eye Guides. page 55.

194. The South Branch floodplain and riverflats down to the gorge involve broad open country that is highly natural. The braided river moves across the broad valley floor with very subtle vertical changes guiding it through time and space. Old grey shrubland masses clothe river flats and extend up terrace risers (attachment 54).
195. The braids vary in location, depth and character (attachments 56 -57). rapids and pools, Boulders and stones. Wading birds and the black fronted tern. Native fish are evident even to the casual eye. Freshes flush through. The river is a clear expression of the dynamics of the associated mountain environment. A raw and open place. A natural place.
196. Between braids that are varying filled and dry there are extensive islands that to the casual eye would appear to be clothed in just rough dry grass. The very stable river islands are however clothed in a myriad of prostrate herbs, shrubs, cushion plants and shrubs. A variety of textures, of flowers and berries, A dense intertwined mass of indigenous riverbed flora is displayed (attachments 57 – 59). There are few exotics interfering and none of invasive stature.
197. The braided riverbed lands of the South Branch and the enclosing glacial and fluvial deposition lands, plus the ice-carved and non-carved bedrock above, are exceptionally natural and highly legible. The South Branch basin is in dramatic contrast to the intimacy and forested, picturesque character of the North Branch Basin. It is a very different place. But closely connected. The Lake Mason complex links the basins.
198. The South Branch Basin displays high naturalness with no signs of habitation/modification except occasional paddock, 4WD track and fence. There are no plantations, no woody exotics such as willows. It is a sprawling riverbed that has been allowed to remain natural within a natural landscape.
199. The mountain and basin building and shaping processes are clearly legible. The land systems are legible. The compact scale of the basin, with the array of land forming processes, patterns and elements clearly displayed, provides a classic demonstration of this intermontane basin land system (attachment 19, top).

200. The open braided river length of the South Branch from Stony down to the gorge and North Esk confluence is in very strong contrast to other parts of upper Hurunui waters' landscapes.
201. This river is not the recreational paradise of the North Branch but has very different values. Typically such open country has been under-valued in scenic assessments based on water-based views or picturesque values. The open high country natural landscape is a very different aesthetic, and is also highly valued.
202. The South Branch to the North Esk is assessed as of very high scenic value with very high natural characteristics as well as wildness.

SOUTH BRANCH GORGE

203. From the North Esk confluence the South Branch enters the gorge close against the Oronoko Range and displays a very different character (attachment 63 - 67).
204. The Esk Head Road and farm track allows vehicle access alongside the gorge. The bedrock country above and below are very steep.
205. Mrs Shona McRae describes the gorge itself as bush-lined and confined by 100 m high cliffs on both sides, and the most spectacular of the six gorges on the Hurunui.³² The gorge is seldom kayaked.
206. Both the open braided character above and the enclosed gorge character below, both have high naturalness.
207. In the midst of the gorge the Esk Head Station homestead node, perched on a remnant terrace above, is the core to a large run utilizing an extensive grazing system. There is very little intensive management and thus the broad landscape character has high naturalness. The river in the gorge below is highly natural.

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³² McRae, Shona. 1993. *Hurunui. Source to Sea*. Hurunui Press.

208. Overall, the natural character of the various lengths of the South Branch display contrasting but highly natural character.
209. I assess that the landscapes of the South Branch are outstanding at a national level, particularly with regard to scenic values and natural characteristics.

MANDAMUS CATCHMENT

210. Whereas the Hurunui River upstream of the confluence follows the Hard Rock Hills boundary, the Mandamus catchment is primarily within the Mountain Range **H13** landscape type around the Major River Valley **H2** land type (The Mandamus Landscape Study. p. 6p, 15-16). It too is an Intermontane Range and Basin landscape.
211. Excepting for a small eastern area, the Mandamus catchment was not identified as an outstanding natural landscape at the regional or district scale (Report p. 7).
212. The Mandamus catchment is geologically distinct (Report pp. 11-12) and as a consequence has distinct geomorphology, with various spectacular outcrops and the Island Hills Syncline of considerable natural, scientific and scenic interest.
213. Whilst the lower catchment has lessened natural values through extensive afforestation (Report p. 24), most of the catchment displays highly natural vegetation, including considerable beech forest, shrublands and tall tussock grasslands.
214. As with the Hurunui Lakes area, the Mandamus has long been a lived-in and travelled-through landscape. However, nodes of development are small and relatively unobtrusive, so that overall naturalness and amenity values remains high.

COMPARATIVE STUDIES

215. The Canterbury Regional Landscape Study has been demonstrated to be a benchmark study on many counts. The study utilised land systems to provide a basis for landscape assessment. Broad Landscape Types were delineated. The Hurunui River passes through from the High Rainfall Divide landscape type J, with the Hurunui 'Lake Sumner Area' recognised within the Inter-montane Range and Basin landscape type I, to the Foothills landscape type C below, before meeting the Low Altitude Plains (Vol. 1, page 59 and Figure 2, see attachment 50-51).
216. I assess that the water bodies of the Hurunui River within the Inter-montane Range and Basins landscape type are nationally outstanding in terms of wild and scenic and natural characteristics. That is, those of the compact basins of the North and South Branches involving the suite of lakes and other glacial formations; the glaciated valleys into these basins, and river gorges below; where glacier-carved, the rivers sprawl across the broad valley floors; And braided rivers. The basins display concentrated activity, both in advance and in retreat.
217. Considering the Rangitata River, I assessed that the headwaters in the Main Divide lands, and the upper Rangitata through the Intermontane Range and Basin, were outstanding in terms of s.199, but also that the gorge through the Foothills landscape, the L21 Hard Rock Hills, also meets that threshold, and the decision makers agreed. The Rangitata is however a much larger scale and more simple.
218. The comparative study of river value for anglers³³ identified that the Hurunui was considered '*remote*', and only moderately accessible, but '*scenic beauty*' was rated 'high', that is, 5 in a 5-point scale, as was '*solitude*'. Tributaries to the Waiau to the north, and the Wilberforce to the Rakaia, also rated 'high' for scenic beauty and for solitude. Unlike the upper Waiau tributaries which have

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³³ L.D.Tierney; J. Richardson; M.J.Unwin. 1987. The relative value of North Canterbury rivers to New Zealand anglers'. NZ Freshwater Fisheries Report No. 89. MAFFish, Wellington. p.27

much similarity, the upper Hurunui is renowned for its diversity. For trout fishers in the upper Hurunui, *“the expanse of fishable water amid impressive high country scenery more than compensated for the effort involved. The upper reaches, which flow through Lake Sumner Forest Park and through short attractive gorges downstream from the lake, were considered to have exceptional scenery by more than 80% of the respondents who restricted their fishing to these reaches. They also reported a very high catch rate of above average-sized trout.”*³⁴ Scenic and wilderness fishing were highly enjoyed above the South Branch confluence.

219. In the Fisheries Research Division submission on the Draft Inventory of Wild and Scenic Rivers³⁵, addressing the Hurunui to the Mandamus, excluding the South Branch, *“scenic beauty and solitude were considered outstanding in this reach, both attributes being rated as exceptional by 80% of the respondent.”* The researchers assessed that *“the upper Hurunui has all the attributes of a nationally important scenic river fishery”, “with Lake Sumner an integral part of the system”*.
220. Tierney et al. identified that respondents rarely confined their recreational activities to fishing. *“This river was extraordinarily popular with anglers for a range of activities. Almost 60% of the trout respondents specifically mentioned enjoying the scenery ... and preferred camping to picnicking, particularly in the headwaters.”* Hunting, tramping and swimming were popular.³⁶
221. The Tierney *et al* study (1987) questioned fishers about more than 50 stretches of North Canterbury rivers, with the Hurunui considered only as one stretch. The responses rated the Hurunui as of National Importance for Scenic value, with Outstanding characteristics including *“Exceptional scenic*

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³⁴ L.D.Tierney; J. Richardson; M.J.Unwin. 1987. The relative value of North Canterbury rivers to New Zealand anglers'. NZ Freshwater Fisheries Report No. 89. MAFFish, Wellington. p.37

³⁵ L.D.Tierney, M.J.Unwin, D.K.Rowe, R.M Mcdowell, E. Graynoth. 1982. *Submission on the Draft Inventory of Wild and Scenic Rivers of National Importance*. Fisheries Environmental report No. 28. Christchurch. p. 45

³⁶ L.D.Tierney; J. Richardson; M.J.Unwin. 1987. The relative value of North Canterbury rivers to New Zealand anglers'. NZ Freshwater Fisheries Report No. 89. MAFFish, Wellington. p.38

beauty and solitude".³⁷ This was the only North Canterbury river they rated as of national importance under a 'scenic' classification. Whilst 'remote and inaccessible', 'anglers greatly appreciated the solitude and outstanding scenery of the upper catchment'. Thus they identified "*The upper Hurunui qualifies on all counts as a scenic river fishery of national importance, worthy of being protected in its natural state*".³⁸ Unlike the surveys of people who may not know the river in question, the Tierney et al (1987) study questioned people who use that river.

222. Considering freshwater biodiversity, the fact the study selected a list of nationally important rivers is of interest.³⁹ The Lake Sumner catchment was assessed as Type I, in the "*final list of candidate rivers of national importance, is as combination of top sites ranked by heritage scores; the most important systems for threatened species; and those needed to make the list more representative*" biogeographically. The study identified that "*Canterbury is highly notable for its braided rivers of a type that is rare internationally (O'Donnell & Moore, 1983): most braided rivers elsewhere are formed by different geological processes*".

223. Also, "High levels of endemism among freshwater bird species occurring on New Zealand braided rivers highlight their importance internationally (e.g. wrybill, black stilts, black-billed gulls and black-fronted terns). Elsewhere in the world, few bird species have specifically adapted to braided rivers as they have in New Zealand (O'Donnell & Moore, 1983)." Thus the full lengths of the Rakaia and Waimakariri, and the Rangitata Headwaters, were identified as Waters of National Importance Type I. The upper Hurunui, referred to as the 'Lake Sumner catchment' but includingis also identified as Type I. Rating the Hurunui River catchment as Type II, the Special Features are identified as

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³⁷ L.D.Tierney; J. Richardson; M.J.Unwin. 1987. The relative value of North Canterbury rivers to New Zealand anglers'. NZ Freshwater Fisheries Report No. 89. MAFFish, Wellington. p.62

³⁸ L.D.Tierney; J. Richardson; M.J.Unwin. 1987. The relative value of North Canterbury rivers to New Zealand anglers'. NZ Freshwater Fisheries Report No. 89. MAFFish, Wellington. p. 64

³⁹ W. Lindsay Chadderton; Derek J Brown; R Theo Stephens. 2004. *Identifying freshwater ecosystems of national importance for biodiversity. Criteria, methods, and candidate list of nationally important rivers*. Department of Conservation, Wellington. pp. 32, 58-9

'Highly natural and diverse headwaters, including Lake. Nationally Significant braided river bird'.

224. The 132, 000 ha of the upper Hurunui catchment, addressed as the Lake Sumner catchment, was identified to have 74% native cover. In contrast, the full Hurunui River catchment from source to sea is 267,000 ha with an estimated 45% native cover. It is the highly natural upper catchment, and particularly the high country lands of the upper catchment, that I assess as outstanding at the national level.
225. The Canterbury Regional Planning Scheme 2nd Review, Section 3.1 Land and Water (North Canterbury) June 1991 sought:
- (i) maintenance of present character of the high country (landscape, water and soil), special recognition given to the following:
 - Hurunui Valley from source to 2km below the Lake Sumner outlet and escarpments and river margins to Mandamus confluence;
 - the South Branch of the Hurunui River above Mason Stream confluence; and,
 - the lake catchments of Katrine, Taylor, Sheppard, Sumner and Mason.
226. In 1993 Boffa Miskell and Lucas Associates assessed the upper Hurunui as outstanding at a regional level, identified the Hurunui River from the mouth to Harper Pass as of particular significance, to tangata whenua. Vol 2, Ch 7. From the district council data base, we identified the "*Hurunui Lakes - regional and national significance as a pristine lake environment.*"
227. In 1994 the multi-stakeholder Hurunui Lakes Working Party identified that the upper Hurunui is a significant semi-wilderness area and sought that the relatively remote and undeveloped character be protected. They agreed that the area provides "*in its location, landscape, general setting and remoteness, recreational and wilderness experiences that are not readily available in other*

parts of the Canterbury Region.” They sought that these values be maintained, protected and enhanced.⁴⁰

228. “*Canterbury Rivers: Assessment of the Natural Character, Landscape Quality and Amenity Values*” (Boffa Miskell 2001) provided a regional scale inventory using ‘eco-typologies’. Unlike the Clarence, Waimakariri, Rakaia and Ahuriri, surprisingly the Hurunui was not recognised as a Mountain River (Ch. 2). The Hurunui was assessed as a Foothills River (Ch.3. pp. 16-18 and 37).
229. The MFE “*Water Bodies of National Importance. Potential Water Bodies of National Importance for Recreation Value*” (2004) identified the Hurunui River as of likely national importance for kayaking and angling.
230. As stated by Egarr and Egarr “By far the majority of those people who seek recreation on rivers in New Zealand are attracted by the scenic attributes of the river valleys and the wilderness experience of nature as well as by the more explicit objectives of shooting rapids, catching a fish and competitive water sports.” Thus “the scenic aspect is an important value when measuring the recreational value of rivers.” on their survey, “wilderness or naturalness ... was measured according to how it appeared from the river.”⁴¹ The river-based assessment addressed the landscape context as “Vista”, involving “the more distant views beyond the immediate river bank area.” It is important to note that “Vista” was measured from the riverbed.
231. Egarr and Egarr identified that “a vista composed of a glimpse of far off landscape forms (mountains) together with more dramatic, localised landforms tends to be more highly regarded than a vista composed entirely of river bank scenery. Dramatic gorges and ravines, because of the tendency to draw the eye upwards to towering cliffs, are also highly regarded.”
232. Egarr and Egarr assessed that vegetation, vista and naturalness were the most important factors of scenery. They recognised regional diversity and the

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⁴⁰ *Hurunui Lakes Working Party Findings*. A Project Sponsored by the Hurunui District Council. 26 October 1994.

⁴¹ 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. Pt. 1 p. 24

importance of context for comparing river values. They identified the importance of memorability, and that exceptional sections tend to linger in the memory. Thus dull lengths and exceptional lengths together may be more important scenically than a full length of picturesque scenery. The assessment recognised the tension between prime recreation values and prime scenic values, and their assessment “*built in a recreation-preferred bias*”.⁴² [The Hurunui River through to Lowry Peaks Gorge was rated as Category C. Lake Sumner to Lowry Peaks rated High on recreation value p. 32. The Hurunui was identified for its slalom canoeing value, and Maori Gully assessed as best white water, but no good examples of wilderness type rivers in North Canterbury. p. 52]

233. Egarr & Egarr assessed scenic value on a 6-pt scale from Dull (1), Uninspiring (2), Moderate (3), Picturesque (4), Impressive (5), to Exceptional (6).

234. For comparison, the upper Rangitata was rated as Picturesque and the Gorge as Impressive.⁴³ They also assessed the stretch below the Gorge to Peel Forest, and the RDR water race as Picturesque. In contrast, the Water Conservation Order identifies both the upper and the Gorge as having Outstanding Wild, Scenic and Natural characteristics]

235. The upper Rakaia and Rakaia Gorge were assessed by Egarr and Egarr as Impressive scenically. The Rakaia WCO protects the Rakaia River and its tributaries as being an outstanding natural characteristic in the form of a braided river.

236. Egarr and Egarr assessed the upper North Branch and lakes as scenically Impressive. Overall on recreational and scenic values combined, Egarr & Egarr rated the Hurunui from Lake Sumner to the Mandamus as Category D, as compared to Category A rivers which were considered exceptional. The D

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⁴² 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. Pt. 1, pp. 28-9

⁴³ 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. Pt. 2, p. 105

rating is the same as for the upper Rangitata, Rakaia and Waimakariri above their gorges.

237. 'Scenic, Heritage and River Recreation Values' were identified from various national and regional studies including Egarr and Egarr. NZ Recreational River Survey, which identified the upper Hurunui as Scenically Impressive for ratings of 10 - 15, rating 14 and 15 for stretches of the North Branch and mainstem. (Vol. 2, Figure 7.2)
238. Egarr, Egarr and Mackay (64 *New Zealand Rivers*. 1979) assessed scenic quality of river corridors on a scale from dull (0), ordinary (1), interesting (2), impressive (3) and exceptional (4). The study also assessed on a 5-point scale vegetation, banks and riverbed, landscape, wilderness, water quality, water movement and other factors.
239. As well as Lake Marion specifically, Grindell and Guest (1986) had identified the Hurunui source to the Mandamus, including Lake Sumner, in "*A list of rivers and lakes deserving inclusion in a Schedule of Protected Waters*"⁴⁴ They identified the upper Hurunui as "*outstanding for its wilderness, scenic, recreational, fishery, wildlife and cultural values*". Lakes Katrine, Mason, Taylor and Sheppard were in a secondary listing.
240. A more recent quantitative river study "*Amenity Values of Spring Fed Stream and Rivers in Canterbury, New Zealand*" (Geoff Kerr and Simon Swaffield, AERU Res. Report 298. 2007) utilised a Q-sort assessment rating preferences for photos of unnamed waterbodies.
241. Rob Greenaway undertook a recreation survey specifically of the Hurunui River⁴⁵ in which he found that some 60% of people interviewed considered the river 'special' or 'unique'.

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⁴⁴ D.S. Grindell and P.A. Guest, ed. 1986. "*A list of rivers and lakes deserving inclusion in a Schedule of Protected Waters*." Report of the Protected Waters Assessment Committee. Wellington. Water & Soil Misc. Pub. No. 97.

⁴⁵ Rob Greenaway. 2004. *Hurunui River Recreation Study 2000/01*. for Environment Canterbury

242. Since 2004 Boffa Miskell has been undertaking research to develop “methods for the assessment of landscape values of rivers whose resources were likely to be used for water extraction, storage or power generation. The Boffa Miskell study focused primarily upon identifying acceptable flow levels for perennial rivers, and perceptions of thresholds of flow that trigger concern amongst stakeholders about low flow.” The Hurunui was one of four reference rivers for this research.
243. The Boffa Miskell research identified three broad descriptors of the attributes of:
- water course and river channel itself (size/scale, shape, materials, flow, surface texture, sound, appearance);
 - riparian edges (landform, land cover, built modification); and the
 - wider landscape context (landforms, land cover, built modifications).⁴⁶
244. Boffa Miskell combined these three attribute categories to identify a hierarchy of potentially relevant amenity attributes at three scales. It highlights:
- *in stream* qualities such as water presence and absence, variability in depth, and clarity;
 - *stream corridor* attributes such as single or multiple channels, and bankside planting; and
 - *contextual* attributes of landscape character and pattern.
245. They also identified potential amenity values and management opportunities.
246. In March 2006 Boffa Miskell reported on their research into protecting instream values⁴⁷ via researching people’s perception of low flows. The Hurunui was identified as a river selected for research, and was photographed at varying levels of flow, for focus group discussion and an on-line questionnaire undertaken in the autumn of 2007. The research was aimed at predicting preferences for flow levels. They sought to tease out which landscape characteristics people base their flow preferences on. However, the questionnaire addressed only photos of a river site at three

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⁴⁶ Kerr & Swaffield page 13

⁴⁷ Lincoln Ventures. Selwyn Water Allocation Liaison Group Research Update – March 2006.pp. 6-8

different levels. The articulation of the character of the river being addressed I assessed to be entirely inadequate, and hence when invited I declined to respond to the survey.

247. The quantitative river studies undertaken are limited in addressing the holistic river landscape resource. As evident from assessment of cultural values⁴⁸, the assessments reviewed generally presume a more Eurocentric approach to rivers.
248. As recognised by cultural values research, traditional sites must be addressed in their wider context, addressing the relationships between sites and the wider cultural landscape they inhabit.⁴⁹ Sites did not and do not exist in isolation, but were and are part of a wider cultural setting, including the waterway. The research was to identify a tool that could ensure a holistic perspective.
249. A different perspective is perhaps suggested by the Ngai Tahu research into river flows cueing to health – “We take too much out and don’t consider what the river actually needs”, and, “you consider the sound, clarity, look and taste of it.”⁵⁰, and the temperature.⁵¹ “A healthy river is a sense, a feeling, a sense, when you get to a river, lake or stream, you feel that it is in good shape. You can smell a healthy river.” “It would have all those, have those lovely smells.”
250. Whilst anathema for some recreational and aesthetic values, tangata whenua recognise the importance of over-hanging vegetation: *“Vegetation on the river margin provides shelter and food for what is in the river. The river supports a range of species. Fish in the water, trees and vegetation growing beside the water, birds on the water and in the trees. A full range of life is supported – linked by water.”*⁵²

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⁴⁸ Tipa & Tierney 2003

⁴⁹ Tipa & Tierney 2003, page 9

⁵⁰ Tipa & Tierney 2003, pages 19-20

⁵¹ Tipa & Tierney 2003, page 21

⁵² Tipa & Tierney 2003, page 20

251. Tangata whenua identify that it is important to recognise “The river fits the landscape: river, river margin, and land are all connected.”⁵³
252. The expression of mauri through natural character and the continuity of flow from the mountain source of a river to the sea, has been widely recognised.⁵⁴
253. Research has identified a correlation between percentage developed land in the catchment above and stream health below. Tangata whenua research identifies that evaluation appropriately addresses the overall state of a catchment, and not site based measurements such as invertebrate counts. Sampling and counting is a foreign approach for iwi in terms of assessing stream health.⁵⁵

SUMMARY

254. MFE proposed⁵⁶ that for assessing whether a water body was nationally significant could be based on the ‘disappointment factor’. “*A well-informed recreational visitor to an ‘outstanding’ waterway (see Water Conservation Orders for such waterways as the Kawarau and Buller) is very rarely ‘disappointed’ (That is, they know what to expect, and the waterway consistently delivers).*” From our undertaking of field work for this assessment, the upper Hurunui consistently passed this ‘disappointment test’ and delivered experiences at much higher levels than anticipated.
255. The upper Hurunui, from the Main Divide to the Mandamus confluence, crosses through High Country to LowLands, through 3 broad landscape types from the High Rainfall Divide; through the Intermontane Range and Basin lands down to the Foothills landscape (attachment 10). These landscapes have been assessed for their character, values and qualities.
256. The general north-east and south-west ‘grain’ of the mountains, hills and valleys of the wider district is crossed by the Hurunui flowing at right angles to the grain, to reach the sea via a series of gorges. Considered at a national scale, the hard rock hill country is typically not highly memorable, wild or scenic. However the high country basins, valleys and ranges above are in

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⁵³ Tipa & Tierney 2003, page 21

⁵⁴ MFE 1997. *Environmental Performance Indicators. Proposals for Air, Freshwater and Land.*

⁵⁵ Tipa & Tierney 2003, page 38

composite of much greater memorability, wildness and naturalness, and are very highly scenic. The upper Hurunui within the high country landscape types displays an intense, delightful, enjoyable and valued concentration of wild, scenic, natural and amenity values.

257. The upper Hurunui involving the north and south braided branches lying parallel east-west below the steep, forest clad slopes of the main divide lead to two very different landscapes. The North Branch glacier molded basin involves a spectacular complex of lakes, moraine, fans, deltas and terraces and roche moutonnee around The Brothers Range. The South Branch is in complete contrast with a dramatic broad open braided valley including a complex of wetlands, terrace flights, roche moutonnee encircling Island Hills. The South Branch is then tightly enclosed in a slot through the hard greywacke country, to then combine with the Mainstem through the gorge slot.
258. The scale and compact nature of this diverse upper Hurunui intermontane range and basin landscape is a spectacular demonstration of outstanding scenic and natural value.
259. Analysed using landscape systems, identifying their values and evaluating their quality, complemented by a review of other assessments, I have assessed that the Upper Hurunui to the confluence with the Mandamus is predominantly outstanding at a national scale with regard to various wild, scenic and natural characteristics.
260. The dominance of natural processes and the minimal effect of landscape intervention is a major dimension of the upper Hurunui. History suggests it is a remarkably stable place in terms of human activity. Due to the natural characteristics that dominate, in comparative terms, people have tread reasonably lightly in this place. The lands and waters remain remarkably natural.
261. Historical research indicates that the core of what has been legible and valued in these lands and waters has persisted through more than a century. Historic descriptions from 150 years ago and evaluations undertaken 30 years ago remain valid today.

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⁵⁶ Ministry for the Environment. 1998. *Flow Guidelines for Instream Values*.

262. The Main Divide and the Range and Basin landscapes associated with the upper Hurunui are assessed to have nationally outstanding characteristics in terms of wild and scenic and other natural characteristics.
263. The 150 km long Hurunui River involves 8 landscape types along its length from mountains to sea (attachment 11).
264. Tangata whenua recognise the mauri is sourced from the headwaters. The mountainous ranges are the home of the atua. “The mauri is sourced from the headwaters. They should be intact, unmodified, and protected. There are different parts to a catchment as there are parts to any living entity – damaging one part impacts on the whole.”
265. My assessment endorses recognition of the waters and landscapes of the upper Hurunui as of high naturalness and high natural character⁵⁷.
266. I assess that in terms of s.199, the lengths within the high country, predominantly the streams and lakes of the intermontane basin, exhibit outstanding wild and scenic and natural characteristics, and provide outstanding amenity.
267. Ecological Regions and Districts cues to the diversity in the Upper Hurunui landscape, with the junction of three different Ecological Regions and five Ecological Districts (attachment 8).
268. Harper Pass provides a gap in the Main divide through which westerly airflows are channeled giving a West Coast effect. The old glacial pathway down to Loch Katrine, Lake Taylor and Sheppard is a corridor for strong westerly and north-westerly winds, influencing landscape character and experience.
269. Rainfall is highest in the upper valley and drops off rapidly eastwards. It also diminishes rapidly from north to south across the basins, and the reduced

1. _____

2.

⁵⁷ *Canterbury Rivers: Assessment of the Natural Character, Landscape Quality and Amenity Values* Boffa Miskell. 2001. Figure 2.

forest cover demonstrates this contrasting the North Basin with the South Basin.

- 270. Burning has affected vegetative cover historically, primarily perhaps 600 years ago, and some has occurred along with chemical burning more recently.
- 271. Glaciated landforms, many since draped in fluvial deposits, have long been considered highly legible and scenic. Whilst there has been no specific study as yet, the furthest known extent to which the glaciers advanced is the South Branch confluence. The glaciated basin features are collectively of high significance geomorphologically.
- 272. Lakes have long been collectively assessed as of national importance for wildlife, as habitat for species such as crested grebe and NZ scaup. Of particular importance were Lakes Sheppard and Mary, and Raupo Lagoon.⁵⁸
- 273. Recognising the very high amenity values, the upper Hurunui in total has been assessed as of arguably national significance for recreation (Greenaway 2004, p. 28).

CONCLUSIONS

- 274. Assessed at a national scale, the wild and scenic landscapes of the upper Hurunui waters above Surveyors Stream, including those of the South Branch, display outstanding amenity values and natural characteristics.
- 275. The north and south intermontane basins of the upper Hurunui, together with their containing mountain ranges, involve exceptionally complex and diverse landscapes. As high country basins they are very compact and small scale, and their formative processes particularly legible.
- 276. I assess that it is the high country landscapes associated with the upper Hurunui waters that are outstanding at district, regional and national levels.

1. _____
2.
⁵⁸ Department of Lands and Survey, 1979.

277. The Mandamus catchment has also been considered and its distinctly different and complementary values addressed. I have not assessed it to be outstanding in itself but to contribute to the overall outstanding values of the upper Hurunui.

278. In my analysis and evaluations I have recognised dimensions to be assessed include:

- a. naturalness, including natural patterns, processes and elements;
- b. legibility / expressiveness;
- c. context / setting / association;
- d. sense of place / distinctiveness;
- e. aesthetic coherence;
- f. complexity / diversity;
- g. transient / ephemeral factors; and,
- h. involvement.

279. Considering the wild, scenic and natural characteristics of the stretches of the Upper Hurunui and its tributary water bodies, I assess that various stretches are Outstanding in terms of:

1. North Branch Harper Pass down to Lake Sumner - Scenic & Natural characteristics.
2. Lakes Sumner, Marion & Mason – Wild, Scenic and Natural.
3. Lakes Katrine, Taylor, Sheppard & Mary - Scenic and Natural.
4. Upper South Branch (to Stony Stream) - Natural and Wild
5. South Branch – from Stony and Mason to Esk - Scenic & Natural
6. South Branch Esk to Mainstem - Scenic
7. Mainstem from Sumner to above Maori Gully - Scenic
8. Mainstem Maori Gully to Surveyors Stream - Wild, Scenic and Natural.

280. All of these lakes and river lengths that meet a national threshold in the landscape assessment are within the Intermontane Basin landscape type.
281. Considered in total, from their sources the upper Hurunui North and South Branches together demonstrate outstanding wild and scenic, and natural characteristics.
282. The Mandamus catchment complements and adds to the identified values of the upper Hurunui.