

Proposed Hurunui and Waiau River Regional Plan

Statement of evidence of

Di Lucas

for the Snowdon family

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INTRODUCTION

- I. 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 more than 30 years ago. I work throughout New Zealand.
- II. I hold a BSc in natural sciences, a Dip LA and a 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.
- III. For various parts of New Zealand, I have prepared land and ecosystem frameworks; undertaken landscape and natural character assessments and identified outstanding natural features and landscapes at district, regional and national scales and received the NZILA Landscape Planning Gold Award 1998 and 2008.
- IV. 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 previously provided evidence to the Hurunui Water Conservation Order hearings.
- V. The Canterbury Regional Landscape Study (1993) was undertaken jointly with Boffa Miskell for the Regional Council, using a land systems framework and what subsequently became known as the 'Pigeon Bay factors', to identify the outstanding natural features and landscapes of Canterbury. I reviewed and then contributed to the Boffa Miskell 2010 study that is referenced and unchallenged in the Proposed Regional Policy Statement (PRPS).
- VI. I undertook a landscape study for the Hurunui District Council which proposed landscape management methods then used the District Plan, and through a consultative process I identified outstanding and significant natural landscapes of the Hurunui District (1995).
- VII. I have undertaken research in local, rural and high country areas, including for my master's 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. My masters thesis used land systems analysis as a basis to developing methods to analyse the physical and perceived landscape and identify limits of acceptable change, with a high country case study focus on vegetation change.

- VIII. I am familiar with the Hurunui and Waiau Rivers from visiting in the last 30 years. I have visited various Waiau and Hurunui river sections and lakes on different occasions, by 4WD, air, raft and by foot.
- IX. I have been requested by the Snowdon Family to provide an assessment of the natural landscape, natural character, amenity, and intrinsic values of the upper Hurunui River plus an overview of the upper Waiau down to the Hanmer Basin.
- X. I have read, and agree to comply with, the Code of Conduct for Expert Witnesses (Environment Court Consolidated Practice Note 2006). This evidence is within my area of expertise, except where I state that I am relying on facts or information provided to me by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Scope of Evidence

- XI. I first summarise and note the statutory framework as applicable to my landscape expertise and analysis and provide brief comment on the proposed planning regime.
- XII. I provide an overview of the natural landscape character and values of the upper Waiau and then in more detail of the upper Hurunui landscapes.
- XIII. I assess the values with regard to the Development Zoning in the Proposed Hurunui and Waiau Regional River Plan (PHWRRP) and recommend revised delineation of Zone A.

CONTENTS	from paragraph
STATUTORY REGIME	1
APPROACH	42
ASSESSMENT FRAMEWORK	46
UPPER WAIUAU	59
UPPER HURUNUI	66
Upper North Branch	75
North Branch Lakes	
Lake Sumner	93
Lake Marion	127
Loch Katrine	131
Lakes Taylor, Sheppard & Mary	140
North Branch below Lake Sumner	152
South Branch	
Above Lake Mason	175
Lake Mason	181
Below Mason Stream	188
South Branch Gorge	202
Comparative studies	208
Hurunui Summary	217
CONCLUSIONS	229

Attachments

A substantial set of A3 size attachments (printed double-sided and bound) accompanies the text with maps to provide the spatial information, and photographs to demonstrate something of the character and values, of both the upper Waiau and upper Hurunui.

STATUTORY REGIME

1. Considered in terms of the landscape resource, the Proposed Hurunui and Waiau River Regional Plan (PHWRRP) is set within an RMA framework involving:
 - RMA Part 2, including the matters of national importance as per s.6a (preserving natural character), s.6b (outstanding natural landscapes), s.6c (significant biota), and s.6f (heritage) and protecting them from inappropriate use and development.
 - Regional Policy Statement (PRPS), including Chapter 12 and the protection of Outstanding Natural Landscapes, and Chapter 13 of Historic Heritage landscapes.
 - Canterbury Water Management Strategy (CWMS), and the
 - Natural Resources Regional Plan (NRRP).

Part 2

2. In her S.42A report, Liz White acknowledges (page 12, para. 30) that the PHWRRP must achieve Part 2. I note the S.32 states that the objectives are assessed with respect to S.5 of the Act. However as noted on page 19 of the S.32, this plan development needs to be assessed with respect to other clauses in Part 2, that is, also against s.6, 7 and 8 - the Purpose and Principles, not the purpose alone. It would appear that due to this oversight, s.6 matters have not been adequately addressed in the PHWRRP.
3. The evaluation of objectives in the s.32 (pages 24 – 33) is inadequate in being limited to s.5 matters, and hence has not identified the gaps in the Proposed Plan, for example in Objective 6 (s.32 page 30). Revision is desirable to ensure such work is undertaken. (PRPS Chapter 9, Policy 1).

Natural Landscapes

4. The entire landscapes of the upper Hurunui and upper Waiau have been identified for ECan as outstanding natural landscapes as per s6(b). Referenced in the Proposed Regional Policy Statement Chapter 12, this is unchallenged. Whilst the S.32 quotes the RPS Chapter 9, Objective 1, including (e) and (f) addressing s.6a and s.6b

requirements, and (h) addressing s.7(c), the plan unfortunately provides no encouragement to assess proposals against these provisions.

5. Considering s.6b, the test to qualify for “outstanding” natural landscape 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.
6. As has been identified in various studies over the last 19 years, the upper Waiau and upper Hurunui are both outstanding natural features and landscapes at district¹ and regional scales² (**attachment 3**). The upper catchments are both thus of national importance, and need to be protected from significant adverse effects that cannot be remedied or mitigated.
7. Whilst the PHWRRP is not explicit in recognising the upper Waiau and upper Hurunui landscapes as “outstanding natural landscapes”, their assessment as such is recognised in the PRPS. Recognition in the PHWRRP would also be appropriate.

Natural Character

8. S.6a requires the natural character of the various waterways and lakes be preserved, and not just the braided river sections as stated.
9. RMA s.6a and RPS Policy 3 Objective 7.2.1 require that abstraction activities preserve natural character values (2). Whilst this measure must be had regard to, it is not adequately recognised in the PHWRRP.
10. I note an interpretation of “natural character” is provided in the PRPS, and as footnote 18 in Liz White’s s.42A, page 36. The “*values and characteristics*” can include experiential dimensions. I also note the CWMS does not address natural character in terms of effects on

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

² Boffa Miskell & Lucas Associates. 1993. Canterbury Regional Landscape Study. Boffa Miskell. 2010. Canterbury Regional Landscape Study Review.

natural landscapes and natural features. Whilst the experiential dimensions of natural character are not adequately addressed in the document, they can be assumed as relevant from practice and case law.

Defining Rivers and Lakes

11. The Hurunui North Branch is recognised in the PHWRRP as the 'mainstem', but excludes 'Lake Sumner'. A mainstem in the proposed RPS is defined as:

- *"Main stem - In relation to braided rivers refers to that stem of the river which flows to the sea, and applies from the source of that stem to the sea, but excludes any tributary."*

However I note the definition does not exclude any lake within that stem. Yet the interpretation in the PHWRRP excludes Lake Sumner.

12. I note the PHWRRP defines Lake Sumner as a natural lake.

- *"Natural lake - A lake which is formed by natural geomorphic processes, whether modified by human activity or not, and, excludes any artificially made lake or pond."*

Whilst this definition applies to Lake Sumner, I understood the 'mainstem' is an overall term that can include lakes. Similarly the classification of a "braided river" is an overall term and does not refer to only the braided sections within a river.

Development Zones

13. As well as an in-stream water quantity zoning method, the PHWRRP uses a spatial zoning method to address where water storage might or might not be appropriate – Zones A, B and C. The spatial method addresses the whole of the Waiau and Hurunui catchment lands, not merely the main waterways. From my review I consider the zoning method is confused as the spatial delineation does not align with the associated text in the Plan or with other aspects of the statutory

context. Liz White's S.42A report at para. 41 – 42, explains Zones A, B and C:

- **Zone A** - *'High Value Areas'* represents areas where water storage should not be progressed, implemented through a prohibited activity status for damming or impoundment of water within these areas. This is because the environmental costs associated with storage in these areas are considered to outweigh any economic benefit (HWRRP, p. 9).
- **Zone B** - *'Infrastructure Development Areas'* represents areas identified as suitable for the development of water storage infrastructure (HWRRP, p. 9).
- **Zone C** - *'Areas not identified as High Value or Infrastructure Development'* are areas where either limited investigations have been carried out, or where storage may be appropriate only if a range of effects are addressed, and where it is demonstrated that storage within less sensitive areas (i.e. Zone B) is not able to proceed.'

14. The Proposed Zone A, B and C areas are identified at Map 3. The Zone A - C boundary extends along the alpine watershed between the Waiau and Hurunui catchments, down to the Organ Range where Zone C straddles the range to link through to the Hanmer Basin. Whilst similarly high value, as I explain below, I note that the Upper Waiau is mapped entirely as Zone A and the Upper Hurunui entirely as Zone C. The boundary does not appear logical. It does not delineate the "high values".

15. The text quoted suggests that Zone C is the "left over" land that has neither "high values" nor is suited to infrastructure development. However the mapping of Zone C includes all of the Upper Hurunui. That is, it includes the South Branch and all 6 lakes including Lake Sumner. This categorisation is very confusing and misleading. My

analysis to follow confirms that the Upper Hurunui catchment most definitely does have “high values” in terms of natural landscape and natural character and I am aware that considerable investigations for water storage have already been undertaken. Zone C is inappropriate.

16. The policy framework for the zones includes Policy 6.1 *To prohibit the damming or impoundment of water within the parts of the Hurunui and Waiau River Catchments shown as Zone A ‘High Value Areas’, on Map 3, or on the mainstem of the Hurunui and Waiau Rivers.* However, Map 3 includes **no** Zone A land within the Hurunui. With current mapping it is therefore an entirely misleading policy.
17. Due to the proposed zoning, damming of the South Branch or a weir at Lake Sumner would be non-complying activities. Knowing that proposals have been prepared and are likely, I question whether the non-complying planning regime provides an adequate basis for the assessment of potential landscape change.
18. Policy 6.3 (f) is to *“maintain the upper catchment alpine rivers as natural ecosystems and landscapes”*. The alpine rivers of the Hurunui, including the South Branch, have very high value as natural ecosystems and landscapes, but Zone C does not recognise such values.
19. I question the mapping of the Hurunui alpine areas as Zone C. The methods provided are inadequate to protect the natural ecosystems and landscapes of these areas. There are no explicit analysis or methods provided that substantiate the proposed delineation.
20. Also, for Rule 5.1, the wording is questioned when there are no areas in the Hurunui catchment that are proposed as Zone A in Map 3.
21. For the Hurunui and Waiau, Zone B is delineated for all of the lowlands, including the Waitohi River in the former but excluding the hills and downlands around Cheviot. Damming of water is a permitted activity in Zone B.

22. I note from the submissions that the Snowdon family seek deletion of Zone C, becoming Zone A instead. I note that Forest & Bird seek amendment to include entire upper Hurunui catchment including the South Branch, upstream from Surveyors Stream, as Zone A. Also, DOC also seek that all land & waterways west of the true right bank of Surveyors Stream, and the mainstem of the Mandamus, be changed from Zone C to Zone A (para 5.2.1, page 21). My analysis below supports a change to Zone A for the upper Hurunui, and this is shown at **attachment 19**.

Zone Implications

23. Policy 6.1 "prohibits dams and impoundments in Zone A, the "*High Value areas*", and enables storage in Zone B, the "*Infrastructure Development Areas*" (policy 6.2), and also enables dams in Zone C "*Areas not identified as High Value or Infrastructure Development*" (Policy 6.3).

24. As per the mainstem definition, the South Branch is a tributary. I note that Policy 6.3 (e) requires the braided character be "preserved" (Liz White page 168, para 674). The South Branch involves substantial braided character including between Mason Stream and the gorge below. My assessment to follow finds that there are very high natural values in the South Branch. To place a dam across the South Branch would involve substantial inundation of the braided character and thus it would not be preserved.

25. Policy 7.3.2(3) requires that for any damming of Lake Sumner, water storage is limited to within the "natural operating range". However there is no interpretation of the natural range, and hence it does not require that operation mirror the dynamics of the fluctuations especially regarding the length of time the levels are up or down. Without interpretation to limit the fluctuations to akin to those that occur naturally, what may be a brief and rare high lake level naturally could be transposed to a typical 'between season' level which might be for a third of the year. From my analysis to follow I assess that the

landscape effects from the inundation, and then the landscape effects from dropping to the natural low level, would be significant. Brief inundation has very different effects to that over long periods.

26. Damming of Lake Sumner is proposed as a non-complying activity (see footnote Liz White page 168, para. 676). However this is problematic. It is an inadequate method. As reminded by Liz White, the Special Tribunal that sat in 2009 concluded that damming of Lake Sumner should be 'prohibited'. The officer supports that method being applied (para. 669), and thus prohibit storage explicitly at Lake Sumner. Providing a "back door" invitation as non-complying is not an adequate method.
27. Surprisingly, in the mainstem above Lake Sumner, water storage is not prohibited. Whilst the Mainstem above Lake Sumner has phenomenally high natural values which are formally recognised, the PHWRRP ignores these and maps it as Zone C. Considering Rule 5.1(b), as recognised by Liz White (para. 677) , this demonstrates that inappropriate zoning has been applied in the upper Hurunui.
28. Policy 6.3(a) DOC seek amendment to "*not impound water on the mainstem of the Hurunui River or Waiau River.*" That is, the policy would address the whole of the mainstems, not just above South Branch confluence nor just below the Hope confluence. (Liz White supports. Para. 680, page 169). The South Branch and Lake Sumner are not addressed by this policy, existing or amended, as they are not recognised as mainstem in the definitions used.
29. Under Policy 6.3, the dam proposals are stated would "*maintain the upper catchment alpine rivers as natural ecosystems and landscapes*". I note that the full length of the South Branch is an "alpine river³", as is the mainstem below and that above Lake Sumner. With other conflicting policies enabling storage in these rivers, there is conflict and a lack of clarity as to the intent.

³ ECan GIS River Type

High Value Areas

30. Objective 6 and Zone A address 'high values'. I note the S.42 (Liz White para. 301 and 302) recognises that through previous analyses the Hurunui upper catchment is recognised as a "high value" area. Yet, with no Zone A mapping in the whole of the Hurunui catchment, it is not mapped as having high value areas. Para 302 notes that the high value area extends down to Surveyors Stream.

31. White's para. 302 notes the recommendation of the special tribunal on the Water Conservation Order for the Hurunui River identified Surveyors Stream as being an important threshold area from the high value area in the upper catchment to the less valued area below.

32. Rule 5.1 states prohibited activities, including the damming of the Hurunui River mainstem below the North and South Branch confluence, (b) or (c) for tributaries of the Hurunui and Waiau Rivers, in Zone A on Map 3, damming is prohibited. However there is no Hurunui River, tributary or catchment currently included in the Zone A mapping, suggesting the Rule is poorly drafted. A re-draft of the map to include areas of the upper Hurunui exhibiting "high values" would be appropriate, and would enable some of the proposed methods to make more sense.

Assessment Dimensions

33. As well as relevant Part 2 matters, considering the PHWRRP Objectives and Policies, landscape aspects to be considered include:
 - intrinsic, cultural and recreational values (Objective 6).
 - mauri, including aesthetic qualities such as water clarity, natural character and indigenous flora and fauna (Objective 2)
 - existing landscape and amenity values present (Objective 2).
 - natural ecosystems and landscapes (Policy 6.3)

Intrinsic Values

34. Objective 6 of the PHWRRP seeks to provide for irrigation whilst protecting areas with high intrinsic, cultural and recreational values. I interpret the term “intrinsic values”, (also contained in the Environment Act and Conservation Act), as recognising 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.⁴

35. “Intrinsic values” is defined in section 2 of the RMA, but not generically, and only with respect to ecosystems (as in Part II, S.7(d)). That is

- *‘in relation to ecosystems, means those aspects of ecosystems and their constituent parts which have value in their own right, including -*
- *Their biological and genetic diversity; and*
- *The essential characteristics that determine an ecosystem’s integrity, form, functioning, and resilience’.*

36. RMA s.199 addresses intrinsic values generally, rather than only of ecosystems, and there is thus no specific focus on biotic systems and components. The PHWRRP (page 2) identifies “*intrinsic natural values present*” where “*the cultural, environmental and social effects of storage*” would be difficult to mitigate. It is implicit in these that the intrinsic values to be addressed are not limited to the ecological.

37. The concept of intrinsic values is relevant to my assessment of natural landscape values because it recognises nature having a value by its very existence, independent of any value to humans. This allows for recognition of physical landscape values separate from perceptual values.

⁴ “Intrinsic Values” Camille Astbury et.al. Unpublished report for the Department of Conservation. Centre for Resource Management. 1988.

Natural

38. Policy 6.3 includes to “*maintain the upper catchment alpine rivers as natural ecosystems and landscapes*”.
39. In my opinion natural, or naturalness, under the RMA includes:
- 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); and,
 - the vegetation (especially native vegetation) and other ecological patterns”.⁵
40. Research utilising Q-sort assessments to understand the valuing of natural character in New Zealand has distinguished more wild from more cultured naturalness.⁶ 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. The upper Hurunui and upper Waiau both qualify to be assessed as “natural”.

⁵ A078/2008 Long Bay-Okura Great Park Society vs. North Shore City Council, para. 135

⁶ 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.

APPROACH

42. I reviewed landscape assessment methodologies for my landscape planning master's degree, and subsequently. The limitations of assessments confined to quantitative methods has been thoroughly analysed and due to methodological limitations are not utilised in my assessment.

43. I have reviewed various river assessments, as well as Court and tribunal decisions, with regard to how and what to assess to evaluate the landscape, wild, scenic, intrinsic, natural and amenity values in a New Zealand river and for the Waiau and Hurunui Rivers specifically.

44. From my master's research work, a land systems based approach⁷ to landscape analysis was identified to be an appropriate basis for analysis, and has since been widely tested at various scales. This systematic approach has been successfully applied to river and lake assessments.

45. I have assessed the water bodies and their context lands to identify the presence of high value natural and physical resources in terms of their intrinsic, aesthetic, amenity, natural character and other natural landscape dimensions.

⁷ Christian, C.S.; Stewart, G.A. 1953. *General Report on Survey of Katherine-Darwin Region, 1946*. CSIRO Australian Land Resources Survey No 1

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 Waiau and Hurunui catchments have previously been analysed as broad landscape types at a regional scale, through broad land type delineation.⁸

Intermontane range and basic landscapes

47. 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 identified⁹ 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.”* These are the Waiau, Hurunui and Clarence basins.

48. Below the less-accessible lands of the Main Divide and above the developed lowlands, 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.

49. The broad high country landscape types comprising the upper Waiau and upper Hurunui are shown at **attachment 1**. This demonstrates these as the two northern intermontane range and basin complexes of Canterbury below the High Rainfall Divide.

⁸ Basher, L & Lynn, I. Landcare Research.

Lynn, Canterbury 1993. Hurunui Land Types. 1995. Landcare Research.

⁹ Boffa Miskell & Lucas Associates. 1993. Canterbury Regional Landscape Study. Vol 1. p. 58

50. At differing scales, these landscape types have been variously utilised within Canterbury Regional and Hurunui District planning since 1993, including in the recent Canterbury Regional Landscape Study (Boffa Miskell, 2010). To address the two catchments (**attachment 2**), broad and finer scale land systems analysis has been applied to assist in “making sense” of the upper Waiau and upper Hurunui landscape and their character, to identify their attributes, and from there to assess their qualities (**attachments 6 – 10**).

High Country Landscape Types

- **High Rainfall Divide** - Regional Landscape Type **J**
(Land Type **H19**; District Landscape Type 10, Main Divide)

- **Intermontane Ranges and Basins** - Regional Landscape Type **I**
 - **Ranges** (District Landscape Type 9, Mountain Ranges; Land Type **H13**)
 - **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**)

51. 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.

52. The land systems analysis has been refined to enable assessment at a level of detail that enables the various stretches within the upper Hurunui to be addressed (**attachments 37 – 44**)

- The North Branch Basin involves H1, H2 and H7;
- The South Branch Basin involves only the H2 land type;
- The Main Divide (H19) and Mountain Range (H13) lands provide their source and settings.

These areas have been mapped out to show the landforms within each land type for each upper Hurunui waterway – upper North

Branch; Hurunui Lakes; Mainstem (below Lake Sumner); South Branch (**attachments 39 – 43**).

53. Glacially derived (**attachment 13**, right), the upper Waiau, Hope and Boyle rivers, and the upper Hurunui, are together a complex of tributaries and lakes, amidst forests of mountain, silver and red beech that are rich in wildlife (**attachment 13**, left; **attachment 5**). The great valleys of the Waiau system, and the Hurunui Lakes with their landscape context, are landscape gems of the Canterbury high country. These richly forested environments edging open valley and basin floors have forest birds such as kaka, parakeet, mohua and kiwi¹⁰ that are otherwise rare or absent in Canterbury. In my opinion, the upper Waiau and upper Hurunui catchments provide very special landscape experiences very different from other eastern South Island landscapes.
54. The vegetated character around the mini-basins of the upper Hurunui and upper Waiau contrasts with that of the great basins to the south. 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 upper Waiau (**attachments 13**, left, and **5**). The contrast in character between the Hurunui and Waiau and the southern intermontane basins is both in terms of landform scale but also in terms of vegetative cover. The predominant beech cover around the intimate scale basins of the upper Hurunui and upper Waiau gives both these catchments particular natural landscape, natural character, aesthetic, intrinsic and amenity value. The shrubland, wetland and grasslands of the basins floors are also reasonably intact.
55. Glaciation has not 'bulldozed' through the Hurunui and Waiau and wiped out former fluvial and ecological layers. Components remain evident and subsequent fluvial landforms have overlain most glacial deposits.

56. The forested slopes enclosing open valley floors are a North Canterbury signature. In 1993 our study grouped the Waiau and Hurunui, assessing that the Lake Sumner and Lewis Pass landscapes were 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.’¹¹

57. The 2010 regional study, now referenced unchallenged in the PRPS, identifies the entire upper Waiau and upper Hurunui as outstanding natural landscapes at the regional scale, and hence as matters of national importance as per s.6(b) (**attachments 3 and 19**).

58. As is evident at **attachment 11**, both the upper Waiau and the upper Hurunui have extensive public conservation land. Whilst the upper Hurunui is more of a secret, the upper Waiau catchment is well-known being experienced from the Lewis Pass highway, SH 7.

UPPER WAIAU

59. Only broad scale analysis has been undertaken for the Waiau. The Hope-Boyle-Waiiau Rivers are considered within the broad land systems framework (**attachment 10**).

60. Coming into Canterbury over the Lewis Pass, State Highway 7 follows the Lewis River tributary down to meet and follow the Boyle

¹¹ Canterbury Regional Landscape Study. Vol 1. p. 59.

River, following around to the Hope River confluence and following that east to the Waiau confluence before the landscape opens to the Hanmer Basin (**attachments 21, 29, 30 left, 31 left**).

61. The upper Waiau flows in parallel to the main ranges, along a major fault (map **attachment 22**, photos **attachments 23 – 28 and 30**). Hard rock intrusions form spectacular gorges where shady cliffs meet tumultuous waters beneath suspended botanical treasures. I understand the upper Waiau River has some of the longest boulder rapids in the country.
62. As in the upper Hurunui, a series of geopreservation sites in the Waiau valleys denote the significance of landforms displaying the legible and notable natural processes that abound in these lands (**attachment 4**).
63. The dramatic natural valley systems of the upper Waiau have been recognised with substantial government acquisition in recent years of pastoral lease lands to provide as public conservation land.
64. The nationwide Te Araroa Walking Trail passes down from Nelson Lakes and up over the Waiau Pass into the Waiau valley, to the St James Walkway, and down the Waiau to the Boyle Village. The trail connects through the Hope to the upper Hurunui.
65. The landscape assessments and other data, and my own observation, supports the delineation of the upper Waiau catchment as Zone A in the PHWRRP, due to the abundance of high natural values.

UPPER HURUNUI

66. 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.

67. 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 1 and 10**). The Hurunui comprising the North and South Basins are evident as small, compact and well separated by mountain ranges from the lowland land and landscape types.
68. The upper Hurunui is a legible, natural and highly scenic example of the high country glaciated landscapes that distinguish New Zealand. 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.
69. 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.”*¹² In terms of geopreservation, this is a high value area. This includes important natural landscape and intrinsic value.
70. Whilst mapped as the lakes only, as stated by the compiler *“On the maps they are shown with boundaries around the lakes but in reality (it) 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.”*¹³ That

¹² Jill A. Kenny; Bruce W. Hayward. 1998. *Inventory and Maps of Important Geological Sites and Landforms in the Canterbury Region, including the Chatham Islands*. Geol. Soc. of NZ Misc. Pub. 98. page 33.L32, L33 [one volume of a series of inventories covering NZ]

¹³ pers. comm. Bruce W. Hayward, Geomarine Research, Auckland. March 2009.

is, the identified lakes and their landscapes are of national importance geomorphologically.

71. The lakes complex can be considered an outstanding natural feature within the regional ONL, and individually or collectively ONFL at the District scale.

72. Considering river gorges through mountain ranges at a national scale, Soons and Selby (1982) recognise the legible Hurunui gorges. They note *“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.”*

73. 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. This is in contrast to other Canterbury range and basin country, such as the Rangitata whose gorge is through only the hard rock hills of the lowlands. Thus, whilst the high country basin of the Rangitata is above a lowland hill country gorge, the Hurunui basins are within the high country, above a high country mountain gorge as those of the Hurunui do down to Surveyors Stream (**attachment 37**).

74. I address the upper Hurunui in waterway based sections – Upper North Branch, Lakes, Mainstem below Sumner, and, the South Branch.

UPPER NORTH BRANCH – Mainstem upstream of Lake Sumner

75. 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 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.

76. During the Pleistocene, a glacier extended down from Harper Pass 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, attachments 37 and 39**) protrudes through the valley floor, hewn and left central in the corridor.
77. 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 (**attachment 49**).
78. Since the final glacial retreat some 14,000 years ago¹⁴, 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 years¹⁵.
79. 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 (**attachment 50**). 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

¹⁴ Suggate, 1965 (to complete)

¹⁵ Russell, 1980

little more than a kilometre down from the Pass summit (**attachment 39a**). Braided river bird habitat occurs downstream of the No.3 hut.

80. As many continue to do today, the upper valley was approached from Lake Sumner by Julius von Haast. 150 years ago he recorded¹⁶ “*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.
81. 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.*” The river is typically at its peak in spring due to snow melt plus heavy rain.
82. 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

¹⁶ Julius von Haast. ‘A VISIT TO THE HURUNUI’ in “*Alone in a Mountain World*” pp. 287

lower slopes. This valley and the forested floor is of very high natural landscape, intrinsic, natural character and amenity value.

83. Whilst at any one time the waters and riverbed gravels are clearly distinguishable from the floodplain lands alongside, the valley floor is 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.
84. 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.
85. 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 Sheppard¹⁷ 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 characteristics and high naturalness.
86. The North Branch can be accessed via the Harper Pass. The former greenstone trail through to Arahura for tangata whenua, later the goldfields access route, the Pass is now a recreational route. Tramping from west to east over this the lowest Southern Alps crossing (at less than 1000 m asl), from Harper Pass the track passes down the valley “*through increasingly attractive beech forest*” on old river terraces of the true right.
87. With public accessibility from the Lewis Pass Road in the north, trampers in to the upper Hurunui valley and Harpers Pass come via the Waiau’s Hope Valley over the Kiwi Saddle and down to the shore of Lake Sumner – the Hope Kiwi Track. DOC estimate some 3000

¹⁷ Peter Newton. *High Country Journey*, page 166.

visits annually from the Hope-Kiwi to the Hurunui Huts and 1000 on to Harper Pass, or in reverse, from Arthurs Pass.

88. The North Branch is accessed for day and weekend tramps up from Loch Katrine to the fishery and the Hot Springs. With four-wheel drive access available to Loch Katrine, the North Branch has become increasingly accessible for shorter visits – the overnight and weekend trips.

89. The North Branch valley experience is also enjoyed by people walking up from Lake Sumner, Lake Taylor and Loch Katrine, and by people floating down. The lakes as major destinations frequently involve tramping excursions up and down the North Branch.

Upper North Branch Evaluation

(Note Photo Locations shown **attachments 47& 48**)

90. Above Lake Sumner, 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.

91. The Upper North Branch is a grand and beautiful valley that is quite distinct due to its rich history, subsequent wild and remote character, its rich biodiversity, very high naturalness and highly picturesque qualities.

92. Considered at a national level, I assess the Upper North Branch down from Harper Pass to have very high amenity, intrinsic, natural character and natural landscape values., and to exhibit important natural features.

NORTH BRANCH LAKES

Lake Sumner / Hoka Kura

93. Arriving where Lake Sumner is located, millions of years ago the great glacier came down the North Branch and split into three lobes¹⁸ (**attachment 13**, lower).
94. The main lobe scoured out the valley now occupied by Lake Sumner and the Hurunui Mainstem down to the South Branch confluence.
95. 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.
96. 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.
97. Glacier-truncated spurs to the mountain ranges flank Lake Sumner to north and south. Gouged out by the main glacier, Lake Sumner is almost 10 km long. Being very deep and with a surface at over 524 m asl, it is a cold lake.
98. Lake Sumner waters were earlier at higher levels as evidenced by a series of raised old beaches that remain displayed up to 20 metres above the existing lake level. Hence, whilst glacially sculpted originally, Lake Sumner and Loch Katrine, and up the river above, were each then covered with alluvial deposits.
99. At the Upper North Branch in-flow, the broad braided delta extends right across the western shore, arcing out into the lake, with much of it active (**attachments 39** and **49**). The dynamic natural patterns,

¹⁸ R. Speight. 1918. *Structural and Glacial Features of the Hurunui Valley*. Trans. of the NZ Inst. 50: 93-105

processes and elements of the delta landform provide the character to the western shore, complemented by the birdlife, the waders reside above and the deep water birds including crested grebe below. The open 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 – the lake.

100. The dominant westerly winds mean they blow with the flow direction and blow 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.

101. More stable deposition lands also arc out into the lake in the north-west, such as the broad 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 (**attachments 51 and 53**).

102. 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. A narrow stream corridor meanders over the fan to the active area meeting the shore. The stream variously cuts channels through the beach gravels (**attachments 51 and 53**).

103. 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 reportedly present.

104. 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 Marion is impounded within one hollow and Marion Stream flows across the moraine down to Marion Bay. The Kiwi Saddle Track passes across this moraine. (**attachments 39, 53, 56** left).

105. West of the Upper North Branch delta the coalescing fans to the base of the Crawford Range end at Taylor Stream to Home Bay. A very changeable and unstable area, it strongly contrasts with the bedrock shores eastwards. The Taylor Stream from the Mason Saddle flows along the route of the third moraine lobe. The ice-sculpted snout to Woolshed Ridge emerges out of Lake Sumner. The path of the second lobe between Woolshed Ridge and The Brothers is filled with glacial till forming a partial barricade that impounds Loch Katrine. (**attachments 39; and 56** lower)

106. 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."¹⁹ 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. (**attachment 56**, photo locations **11** and **12**).

107. The low lands linking Katrine and Sumner are highly natural in character, including unusual native shrub species and wetlands (**attachment 46**). The link lands have very high naturalness, with highly natural patterns, processes and elements. The link lands have very high intrinsic and amenity value, plus high natural landscape and natural character value.

108. Whilst the coarse vegetation mapping (LCDB2, **attachment 45**) suggests these link lands are 'primarily pasture', east of The Canal, they are natural tussocklands.

¹⁹ M.J.Bowden. 1977. *The Water Resources of the Hurunui Catchment*. North Canterbury Catchment Board and Regional Water Board, Christchurch. page 22.

109. 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.
110. 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. Some rata overhangs the northern shore. The two mountain flanks dramatically enclose the lake to barely a kilometre in width. Mountain slopes emerge resilient to contain the lake waters that have long been naturally dammed against the bedrock.
111. Spatially so compact, the steep forested mountain slopes enclosing a deep narrow lake displays very high natural character, natural landscape, intrinsic, aesthetic and amenity value (**attachment 51, photo location 5** – view toward outlet). The separation of forested mountain slope from deep clear lake waters by only a narrow natural shoreline provides a natural delineator. The narrow band of change signifies and abrupt change from terrestrial to aquatic environments. The juxtaposition of lake waters against greywacke bedrock does not etch a shore. The narrow 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. Vegetation presence and absence cues to temporary and longer inundation cycles. With the beech forest extending right down, a diverse forest fringe in response to the waterside micro-climate signifies a stable environment though considerable time.
112. The evident small lake level changes, the steep bedrock shores and the lake water clarity, mean the stability of natural processes is evident. Whilst historic upheavals from glacial gouging are evident, the regime that has now emerged is legible 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 that cue to an old, stable and natural place.

113. 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 adjoins the gravel beach. The natural lake level variations of around 3 metres are legible in the gravels of the beach (**attachments 54 - 55**).

114. Associated with the ancient lake shore deposits around the lower margins of the lake, are shrublands forming various dense and continuous stands. The dense shrublands have a diversity of species including kowhai, mountain wineberry, korokio, matagouri, manuka, kanuka, lancewood and porcupine shrub. There are old and diverse shrublands, demonstrating the natural dynamics of the deposited shorelands.

115. Close beside Gabriel Fan the lake waters begin to gently flow in 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 and kanuka woodlands around the outlet and close against the outgoing river's edge tell of the stability of this place. A timeless place. A place entirely of nature. With a dominance of natural patterns, natural processes and natural elements, exceptional natural character is displayed. It is a highly legible natural landscape with very high aesthetic, intrinsic, and amenity value (**attachment 52, 54, 55 and 65**).

116. A series of old beach ridges showing a sequence of former higher lake levels demonstrate the longer term natural dynamics of the place (**attachment 66**).

117. Experienced on a calm clear day, the Lake Sumner outlet is an extremely peaceful, gentle and beautiful place.
118. As identified in early rivers assessments²⁰, 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.
119. The Lake Sumner landscape is highly legible as a complex of steep bedrock adjoining 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.
120. As recognised by the Geopreservation Inventory²¹, the experience of the geomorphology of this lake system is of national importance.
121. Approached 150 years ago as the public do today, Julius von Haast recorded²² “*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*

²⁰ 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.

²¹ Kenny & Hayward. Geopreservation inventory. Canterbury ...1998

²² Julius von Haast. A VISIT TO THE HURUNUI, in *Alone in a Mountain World*. page 287

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."

122. There is public access to Lake Sumner by foot from the north, east and south. From the south they access from the track and canal from Loch Katrine. Powered and non-powered boats access Lake Sumner, with canoes continuing down the river below. Fishing occurs from boats and from the shore.

123. 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.

124. To head over the Harpers Pass tramping route from the Hope-Kiwi, you pass down around the northern edge of the lake. There are tramping tracks the full length of the northern shore between Marion Stream, Charleys Point and the Delta.

Lake Sumner evaluation

125. The naturally vegetated glacial landforms - the old beaches, moraine, and the 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. It appears much as it did a century and more ago.

126. Through its integrity with natural processes almost entirely intact, with inflows and outflows, beaches and slopes all natural, Lake Sumner and its environs is exceptionally natural. Lake Sumner exhibits very high natural character, intrinsic value, classic picturesque aesthetic qualities, and very high natural landscape value. It is an outstanding natural feature within an outstanding natural landscape.

Lake Marion

127. 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.
128. 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.
129. Lake Marion is one of few Faunistic Reserves in New Zealand, one of only two in the South Island, and is to protect aquatic life. Aquatic biodiversity in Lake Marion has all been recorded as indigenous.
130. Gem-like, Lake Marion has exceptional natural landscape characteristics (**attachment 56**, upper left). I assess the landscape associated with Lake Marion to have exceptional natural character, intrinsic, aesthetic, amenity and landscape value.

Loch Katrine

131. 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 56**).
132. The Brothers and Woolshed Ridge that enclose this glaciated pathway exhibit the legible ice-smoothed slopes below very rugged bluffs. The glacier cut a bench to the south of the lake which is now buried under coalescing fans.

133. Loch Katrine and its context lands are recognised as of national geomorphological importance²³, along with the other nearby lake complexes.
134. 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.
135. 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.
136. 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.
137. The lake has long had high recreational use, for fishing, waterskiing and canoeing. Whilst the lake is open to the north-west, a small shingle spit in the south-east provides sheltered waters and boat moorings.
138. 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 the shore, with kanuka in front it is 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.
139. 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 high natural character, natural landscape, intrinsic, aesthetic and other amenity values.

²³ Kenny & Hayward. 1998. Geopreservation Inventory and maps. Canterbury

Lakes Taylor, Sheppard & Mary

140. Downstream of the narrow confines at Loch Katrine the central lobe of the Hurunui Glacier splayed out to extend around both sides of Conical Hill and The Sisters, and over-rode these lands to form *roche moutonnée* or isolated mountains. These hills have been smoothed by the glacial ice 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 (**attachments 37, 41, 42 and 57**).

141. The smaller third lake, Lake Mary, is an 18 ha shallow tarn in a moraine depression and outwash lands with wetland surrounds. There is only around 1.5 ha of open water amidst the flax and sedgelands. (**attachment 57**) It is important wildlife habitat.²⁴ Lake Mary is fed from streams from both The Brothers and The Sisters. Lake Mary is highly natural with intact riparian lands. The 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 below.²⁵

142. 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*

²⁵ Department of Lands and Survey, 1979.

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

and the high rugged mountain, covered to a height of 4,000 feet with dark beech forest, was very attractive.”

143. 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.”*

144. 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 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.”*

145. In the lee of Conical Hill between Lakes Taylor and Sheppard has long been a base for The Lakes Station hub. The lands associated with the lakes have varying naturalness, due to management activities and farm and recreation facilities (**attachments 57, 58 and 63**).

146. There is considerable native shrubland, flaxland and grassland around the margins and steep slopes to the lakes, plus some forest (attachment 36). Native forest remains on the south facing slope of Conical Hill, above Lake Taylor (**attachments 58 and 62**). There is also pasture development and an area of exotic pines (**attachment 60**, photopoint **19**). The landforms do however remain highly legible and overall with a ‘cultured nature’ character.

²⁷*‘Recollections of Travel in New Zealand and Australia’* (Trubner & Co, Ludgate Hill, London, prior to 1880.

147. Lake Taylor is an important recreational lake, including for camping, picnics, and fishing, and a base for accessing the parklands above. Lake Taylor reportedly 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.²⁸
148. The surrounds to Lakes Taylor and Sheppard have a considerably less forested character than Lake Sumner. They are more open. With a mountain backdrop, and the sculpted *roche moutonnée* landforms centre stage above the small but deep and sinuous lakes, results in these lakes contributing high amenity values to the greater basin complex.
149. Lakes Sheppard and Taylor terminate alongside the terminus to Conical Hill, thus reading as a trio of glacially sculpted features. Emerging from near their junction, confined by a series of terraces, Sisters Stream flows down south of The Sisters and closely around Little Sisters to join the Mainstem. The formerly willow-infested Raupo Pond contributes to Sisters Stream up near its source. **(attachments 58, 60 and 62).**
150. The valley floor occupied by Sisters Stream involves a sequence of diverse wetlands and riparian vegetation. The Lake Sumner Road follows the stream along its lower length. The stream corridor is enclosed to the south by Cherry Tree Hill. The stream corridor exhibits remarkably high natural values. The confined scale, natural waters and associated riparian lands, and the high aesthetic and other amenity qualities provide a very important lead in to the lakes landscapes above. The Sisters Stream corridor landscape is an important contributor to the upper Hurunui experience. **(attachment 64).**
151. The landscapes associated with Lakes Mary, Taylor and Sheppard are assessed to contribute importantly to the nationally outstanding scenic and natural characteristics of the Basin Lakes

²⁸ Kenny & Hayward. 1998. Geopreservation Inventory. Canterbury

complex, and along with Sisters Stream below, have outstanding amenity and intrinsic values.

NORTH BRANCH – the MAINSTEM

between Lake Sumner and the South Branch confluence

152. Continuing down the path of The Hurunui Glacier, from Lake Sumner the river flows out gently on a fine gravel bed to leave the lake 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 (**attachments 65 and 66**).

153. 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 41**). 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 sedgeland.

154. The natural lake outlet merging to natural river corridor provides an important natural experience. From the Lake to the South Branch confluence the North Branch is a rather gentle river through short rocky gorges and open terraced country with fescue tussock grasslands across the terrace treads and shrublands particularly concentrated on the risers (**attachments 65 - 69**)

155. Unlike the braided river above Lake Sumner, from the lake outlet, the North Branch 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 North Branch lands are generally free of scrubweeds above the South Branch confluence.

156. With Mount Longfellow enclosing the true left, the natural flats and riparian forest, the North Branch 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 68**, lower).
157. On the true right, The Sisters stream carries outflow from Lakes Taylor and Sheppard (**attachment 64**).
158. 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 (**attachments 70 - 71**). 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 North Branch and up Gabriel Stream. Along the Jollie Brook the track is flood-prone.
159. The 10 km Lake to South Branch length, a quiet river stretch, was rated by Egarr and Egarr as having Moderate scenic values.²⁹ This length is kayaked, canoed, rafted, power boated and there are swimming holes. 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).
160. 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 (**attachments 72 - 73**).
161. At the Jollie Brook confluence there is a great rapid which is popular for kayak training. 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

²⁹ 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

the true left starts at the Sisters Swingbridge over the North Branch 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.

162. Riding up the valley on his first visit 150 years ago, Julius von Haast recorded³⁰ 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.*”
163. Highly valued both instream and from the land, the North Branch from Lake Sumner down to the South Branch confluence is assessed as having high aesthetic and natural landscape values, and high natural character (**attachments 65 - 73**).
164. From the South Branch confluence the Hurunui flows quietly over shingle and stones, flanked by shrubland, down to the Seaward River entry. Dozy Stream runs down the steep mountain flanks of the Hooligan Range to enter on the true left below the South Branch confluence (**attachment 74**, upper left).
165. Below the Seaward River confluence the Hurunui 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 74**, lower).
166. Below Maori Gully the valley opens up and the rapids ease at Surveyors Stream with more gentle rapids below as the river ceases to be bounded by Lake Sumner Forest Park on the true left. The naturalness of the context lands lessens and these lands are beyond the ONL as per the PRPS (**attachment 35, 36, 37 and 75**).

³⁰ Julius von Haast. A VISIT TO THE HURUNUI, in *Alone in a Mountain World*. page 286

167. The Hurunui then enters a second main gorge below the Glenrae confluence. This, the Hawarden Gorge, 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. Below the Hawarden Gorge the Hurunui passes out of the bedrock confines to a shingle bed and onto the plains below the Mandamus. At the Mandamus confluence the Hurunui opens onto braided plains (**attachments 2, 10 and 77**).

168. 150 years ago Julius von Haast arrived on Jacks Saddle, and recorded that *“a magnificent view opened out on the 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 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.”

169. The Lake Sumner Road similarly arrives on the hard rock hill country (land type 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 North Branch corridor up the true right. Surveyors Stream is at a change point in the landscape, between the lowland and high country landscape types (**attachments 75 and 49**).

170. With a sequence of rapids and quiet pools, the North Branch is used for rafting, kayaking, canoeing and jet boating. From the South Branch confluence to below the Mandamus, Egarr and Egarr³¹ rated all together as of high recreational value and moderate scenic value.

North Branch Evaluation

171. The North Branch from the Lake Outlet down to the Mandamus involves a very important and varied landscape that is highly scenic and wild, with high amenity value and naturalness.

172. I assess that from the Lake Sumner Outlet down at least to the confluence of Surveyors Stream, the landscape associated with the North Branch has high natural character, intrinsic, aesthetic and other amenity value, and particularly from the Seaward confluence downstream the natural landscape characteristics are outstanding.

173. Downstream of this point the hill country and associated terrace lands of the true right are less natural and are less dramatic and hence with less amenity value than those of the high country above. Surveyors Stream marks a landscape character and quality change point.

174. Due to the high values experienced and the high intrinsic values, I assess that it would be appropriate to re-zone the upper Hurunui North Branch catchment at least down to Surveyors Stream as Zone A in the PHWRRP.

31

SOUTH BRANCH

Above Lake Mason

175. 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.

176. 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 vulnerable kiwi and parakeet populations. The South Branch 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 (**attachment 78**).

177. The 5550 ha Hurunui Operation Ark³², occupies the upper catchment of the South Branch. Intensive pest and predator management has been undertaken in an effort to protect and restore the beech forest ecosystem, including mohua, orange-fronted parakeet, great spotted kiwi, kaka and yellow-crowned parakeet³³. The beech forest ecosystem is considered one of the most intact remaining in Canterbury. Whilst up-river the birdlife increases, the kaka and parakeet occur right through the valley. Typically people visiting the Park hear or see kaka and parakeet, as well as rifleman, bellbirds and tui, and perhaps see falcon.

178. The South Branch upper valley is exceptionally wild and natural and confined down to the change point from the Main Divide character of the Dampier to the Mountain Range flanks of the Studleigh Range where there is the wider floodplain and riverflats. Great distinctive active fans splay out from the Studleigh at Swampy and Stony Streams (**attachment 40a**).

³² *Operation Ark – Three year progress report*, Department of Conservation, October 2007, page 37

179. These great fans that push the South Branch north close against the Crawford Range. Downstream the river spreads and provides braided river habitat for birdlife through to the gorge some 10 km below. Below the Stoney Stream fan, Mason Stream enters on the true left.
180. The South Branch down to the Mason Stream confluence is assessed to have very high natural character, intrinsic, natural landscape and amenity value.

Lake Mason

181. Formed in the lee of the saddle in the corridor formed by the glacier lobe shearing off the western end of Woolshed Ridge (**attachment 13**, lower), 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.³⁴ (**attachments 39a, 43 and 79**).
182. The 72 ha Lake Mason duplex 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 down to the South Branch across which Mason Stream flows.
183. 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, giving the duplex of Little Mason and Lake Mason. They remain connected by a channel through a bed of shingle, a natural causeway (**attachment 79**).
184. A musterers' hut is located by the lake. Lake Mason is considered the most remote of the fishing lakes. Access involves a 2-

³⁴ Kenny & Hayward. 1998. Geopres Inventory. Canterbury

hour tramp from the Lake Sumner Hut at the head of Lake Sumner, or via a rough private farm track up the South Branch. From Harper Pass, a shorter tramping route via Lake Mason to the Lake Sumner Road is also recognised.³⁵

185. Whilst isolated it is popular with fishers. Modifications in the Lake Mason landscape are limited to low-key tracking, a hut, and some stock damage.

186. The Lake Sumner Conservation Park extends down to Lake Mason. Lake Mason is almost surrounded by Conservation Land, and currently forms the boundary for Lake Taylor and The Lakes Stations (**attachment 34**)

187. Located at a park edge, the Lake Mason landscape has high natural character, intrinsic, amenity, aesthetic and landscape value. It contributes importantly to the South Branch Basin natural landscape.

Below Mason Stream

188. Across the South Branch 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 80, 84, 87 and 88**).

189. High terraces surround Bell Knoll, and its bedrock impounds 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 (**attachments 81, 83, 85, 86-7 and 88**).

190. The South Branch Basin dramatically displays flights of terraces, like great staircases, that record erosion phases as the rivers have cut down into the vast thickness of gravel deposited in ice-age times. Such flights are arguably the best in Canterbury. Superb

³⁵ Shaun Barnett & Roger Smith. 2005. "Tramping in New Zealand. 40 great New Zealand tramping trips" Bird's Eye Guides. page 55.

sequences of terraces are displayed along the south bank as well as along the North Esk River corridor, a southern tributary (**attachments 41, 80, 85, 86-7 and 88**).

191. 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 82 and 88**).

192. 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. Matagouri woodlands, with trees several hundred years old (**attachment 86-7**), enclose grasslands superficially appearing as induced but containing a high proportion of native carpeting plants and native grasses. On the flats a very extensive wetland, whilst grazed by cattle, demonstrates remarkable naturalness. Various native *Carex* species form the dominant cover (**attachment 88**).

193. The braids vary in location, depth and character (**attachments 83 - 85**), with rapids and pools, boulders and stones. Wading birds and the black fronted tern are present. 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.

194. The important natural habitats of the South Branch braided floor have not been recognised in some previous landscape and ecological surveys by people perhaps unfamiliar with the high values of such ecosystems and their diminutive plant communities.

195. Between braids that are varyingly 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

grasses. A variety of textures, of flowers and berries. and a dense intertwined mass of indigenous riverbed flora is displayed (**attachments 84 – 87**). There are few exotics interfering and none of invasive stature.

196. 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 forest is primarily confined to the bedrock country above (**attachments 89 and 90**). 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.

197. 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. The terrace lands alongside are highly natural.

198. 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.

199. 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 (**attachment 91**). The low-stature natural cover and braided river are in strong contrast to the forest-surrounded lakes character. But whilst very different, the South Branch landscape is no less natural. The valley sides and the valley floor demonstrate very high naturalness. Modifications are limited to a hut and low key tracks and a few fences - very minor and localised reductions in naturalness.

200. 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.

201. The South Branch down to the North Esk is assessed as having very high natural character, intrinsic and natural landscape value, and high aesthetic and other amenity value.

South Branch Gorge

202. Below the North Esk confluence the South Branch enters the gorge close against the Oronoko Range and displays a very different character (**attachments 92 - 95**).

203. The Esk Head Road and farm track allows vehicle access alongside the gorge. The bedrock country above and below are very steep.

204. Mrs Shona McRae describes the gorge as confined by 100 m high cliffs on both sides, and the most spectacular of the six gorges on the Hurunui.³⁶ Both the open braided character upstream and the enclosed gorge character below, have very high naturalness.

205. 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.

206. Overall, the natural character of the various lengths of the South Branch display contrasting but highly natural character. The enclosing landforms are spatially very different and have very different vegetative cover.

³⁶ McRae, Shona. 1993. *Hurunui. Source to Sea*. Hurunui Press.

207. I assess that the landscapes of the South Branch have high natural character, intrinsic and natural landscape values.

COMPARATIVE STUDIES

208. A comparative study of river value for anglers³⁷ 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 also rated 'high' for scenic beauty and for solitude. Unlike the upper Waiau tributaries which have 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.*"³⁸ Scenic and wilderness fishing were highly enjoyed above the South Branch confluence.
209. In the Fisheries Research Division submission on the Draft Inventory of Wild and Scenic Rivers³⁹, 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 respondents.*" 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*".
210. 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*

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.27

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.37

³⁹ 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

respondents specifically mentioned enjoying the scenery ... and preferred camping to picnicking, particularly in the headwaters." Hunting, tramping and swimming were popular.⁴⁰

211. 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).

212. 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. Burning has affected vegetative cover historically, primarily perhaps 600 years ago, and some has occurred along with chemical burning more recently. The native vegetation of much of the upper Hurunui is surprisingly intact. Most is managed as conservation land. It is the highly natural upper catchment, and particularly the high country lands of the upper catchment, that I assess as of very high value.

213. In 1993 Boffa Miskell and Lucas Associates assessed the upper Hurunui as an outstanding natural landscape at a regional level.

214. 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.⁴¹

215. As recognised by cultural values research, traditional sites must be addressed in their wider context, addressing the relationships

⁴⁰ 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

⁴¹ *Hurunui Lakes Working Party Findings*. A Project Sponsored by the Hurunui District Council. 26 October 1994.

between sites and the wider cultural landscape they inhabit.⁴² 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.

216. A different perspective is perhaps suggested by the Ngai Tahu research into river flows cueing to health – “*you consider the sound, clarity, look and taste of it.*”⁴³, and the temperature.⁴⁴ “*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.*” Tangata whenua identify that it is important to recognise “*The river fits the landscape: river, river margin, and land are all connected.*”⁴⁵ The expression of mauri through aesthetic value, through natural character and the continuity of flow from the mountain source of a river to the sea, is widely recognised and in the upper Hurunui I understand is of high value.⁴⁶

HURUNUI SUMMARY

217. The 150 km long Hurunui River involves 8 landscape types along its length from mountains to sea (**attachment 38**). 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 38a**). These landscapes have been assessed for their character, values and qualities.

218. 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 natural character and landscape. That is, the waters of the compact basins of the North and South Branches involving the suite of lakes and other glacial formations; the glaciated

⁴² Tipa, G & Tierney, L. 2003. *A Cultural Health Index for Streams and Waterways: Indicators for Recognising and Expressing Māori Values.* page 9

⁴³ Tipa & Tierney, 2003, pages 19-20

⁴⁴ Tipa & Tierney, 2003, page 21

⁴⁵ Tipa & Tierney, 2003, page 21

⁴⁶ MFE 1997. *Environmental Performance Indicators. Proposals for Air, Freshwater and Land.*

valleys into these basins, and river gorges below; where glacier-carved, the rivers sprawl and braid across the broad valley floors. These exhibit very high intrinsic, aesthetic and other amenity value.

219. 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. Rainfall is thus highest in the upper valley and drops off rapidly eastwards. It also diminishes rapidly from north to south across the basins, and the reduced forest cover demonstrates this contrasting the North Basin with the South Basin. Ecological Regions and Districts thus cue to this diversity in the Upper Hurunui landscape, with the junction of three different Ecological Regions and five Ecological Districts (**attachment 12**).

220. 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.

221. 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. However the high country basins, valleys and ranges above are in composite of much greater memorability, have greater naturalness, high intrinsic values, very high natural landscape values, and with very high aesthetic and other amenity values. The upper Hurunui within the high country landscape types displays an intense, delightful, enjoyable and valued concentration of natural character, natural landscape and amenity values. The intrinsic values of this place are exceptional.

222. 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 moutonnée 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, and roche moutonnée encircling Island Hills. The South Branch is then tightly enclosed in a slot through the hard greywacke country, to combine below with the North Branch to flow through the mainstem gorge slot.

223. The scale and compact nature of this diverse upper Hurunui intermontane range and basin landscape is a spectacular demonstration of outstanding natural landscape and amenity value.

224. The intermontane basins of the upper Hurunui, together with their containing mountain ranges, involve exceptionally complex and diverse landscapes. The north and south Hurunui high country basins are very compact and small scale, and their formative processes are particularly legible. 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 treaded reasonably lightly in this place. The lands and waters remain remarkably natural.

225. 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.

226. 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.”

227. Analysed using landscape systems, identifying their values and evaluating their quality, complemented by a review of other assessments⁴⁷, my assessment endorses recognition of the high country waters and landscapes of the upper Hurunui down to Surveyors Stream as of very high naturalness, intrinsic, natural character, natural landscape and amenity value including aesthetic value. The system has very high integrity and intactness. It is a high value system.

228. It is the high country landscapes associated with the upper Hurunui waters, both the North and South Branch systems, that are recognised as outstanding natural landscapes (**attachment 35**). The Mandamus catchment complements and adds to the identified values of the upper Hurunui.

CONCLUSIONS

229. Assessed at a regional scale, the landscapes of the upper Waiau and Hurunui high country display very high amenity and intrinsic values along with very high natural character and natural landscape values.

230. The upper Waiau and upper Hurunui are already recognised as outstanding natural landscapes in the PRPS (and that is not challenged). It would be appropriate for the upper Hurunui as well as the Upper Waiau to be recognised as comprising high values through application of Zone A in the PHWRRP.

⁴⁷ *Canterbury Rivers: Assessment of the Natural Character, Landscape Quality and Amenity Values* Boffa Miskell. 2001. Figure 2.