

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER OF: the Resource Management Act
1991

AND

IN THE MATTER OF: a submission on the Proposed
Canterbury Land and Water
Regional Plan

**EVIDENCE OF DR DAVID WILLIAM WEST
FOR DIRECTOR-GENERAL OF CONSERVATION**

Dated 13 May 2013

**Director General of Conservation
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Counsel: Tara Allardyce**

STATEMENT OF EVIDENCE OF DR DAVID WILLIAM WEST

INTRODUCTION

- 1 My full name is **David William West**.
- 2 I am a Freshwater Scientific Officer with the Department of Conservation (“DOC”) based in Christchurch. I hold the degrees of BSc, MSc and PhD in sciences and freshwater was the focus of my MSc and PhD studies. Since finishing my MSc I have spent over 22 years working on and researching New Zealand freshwaters. I have also undertaken freshwater research in Canada during my Postdoctoral Fellowship at the University of Saskatchewan Toxicology Centre. I have been a lead author or co-author of 12 peer reviewed papers, over 40 reports and 20 conference presentations. I have worked for NZ Fish and Game, NIWA and DOC.
- 3 I am one of the key researchers involved in the implementation of the river, lake and wetland management decision support tool Freshwater Ecosystems of New Zealand (FENZ) and regularly interact and train freshwater experts (including Canterbury Regional Council staff) in the use of FENZ. I undertake collaborative research with regional councils, Crown Research Institutes (CRIs) and Universities on river values which range from recreational (e.g. salmonid angling and whitebaiting) to biodiversity values (e.g. native fisheries).
- 4 I am familiar with the classification, ranking and valuing of rivers, lakes and wetlands (freshwaters) as pertains to the short-listing of “High Naturalness Waterbodies” and “Outstanding fresh waterbodies” and other areas deemed worthy of increased protection to which these proceedings relate.
- 5 I have read the Environment Court’s Code of Conduct for Expert Witnesses, and I agree to comply with it. My qualifications as an expert are set out above. I confirm that the issues addressed in this evidence are within my

area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

6 This evidence is in response to comments under “High Naturalness Waterbodies” Section 1.3 of Canterbury Regional Council’s Section 42A Report Volume 3, pages 7 and 8, (the Section 42A Report), specifically:

- (a) The misconception that the Director General of Conservation (DG) concerns could be primarily addressed by the sole inclusion of FENZ lists as provided in my evidence in chief for Hearing Group 1;
- (b) The inference that because the DG had not identified which High Naturalness Waterbodies listed in the sub-regional sections are also identified in suggested FENZ lists that the whole list is more difficult to use; and
- (c) The contention that because the DG suggested catchments be considered, not just the extent of the only the waterbodies themselves, this makes incorporation of the request potentially incompatible as the proposed areas are much larger than the waterbodies currently listed;

7 To answer points raised in section 1.3 of the Section 42A Report I have zoomed into the Ashburton Water Zone and mapped waterbodies to illustrate that FENZ can and does provide the means to address points raised by the Canterbury Regional Council (“ECan”)

FENZ IS ONLY PART OF THE SOLUTION

8 Section 1.3 of the Section 42A Report does not acknowledge the primary thrust of my evidence from Hearing Group 1, (paragraphs 14 and 15 page 6) that there are a number of tools and concepts that should be used to identify potential lists of waterbodies deserving of and requiring of preservation.

FENZ maps are the start of a complete and comprehensive listing of waterbodies, not the complete answer.

- 9 Other witnesses for the DG (Drs Dunn and Gerbeaux) highlight other important freshwater values such as whitebait spawning sites and wetlands that should be part of sound management and management plans.

REPRESENTATIVENESS

CASE STUDY: ASHBURTON WATER ZONE AND THE USE OF FENZ

- 10 To further illustrate how FENZ can be used at a Water Zone scale, FENZ river catchments identified in the Ashburton Water Zone are shown in Figure 1. I chose this water zone because it had a range of environments typical of the Canterbury Region ranging from the Southern Alps to the sea and was not confounded by large urban areas.
- 11 No rivers are identified as “High Naturalness” water bodies in this sub-region. This is co-incidental but re-iterates the unrepresentative nature of the pCLWRP lists. The catchments FENZ identifies should have been used by ECan planners and ecologists to develop viable catchments and planning provisions to acknowledge the higher values of the waterbodies they contain.
- 12 It is encouraging that 13 of the top 20% of Lakes identified through the FENZ analysis of lakes that are currently outside of protected areas but which are deserving of protection are also identified in pCLWRP “High Naturalness Waterbody – Lakes” (Figure 2, Appendix 2). This shows that there are some water bodies which have core values that will be highlighted through objective, holistic processes as well as less rigorous listing processes. The fact that those 13 are all in upland areas does re-enforce that pCLWRP lists may not be representative of the range of lake types present in Canterbury.

WATERBODY VALUES NEED MANAGEMENT IN THEIR CATCHMENTS

- 13 The lists and maps of pCLWRP High Naturalness Waterbodies in sub regional chapter 6-15 are at range of scales with river reach, lakes and catchments all being used. It is widely acknowledged in the scientific literature and most other regional plans that a waterbody can not be managed independently of its catchment. Expensive and challenging plan variations and land management being enforced to protect Lake Taupo and Rotorua Lakes are ample evidence of this. Therefore, the use of catchment boundaries in FENZ is appropriate. The fact that the extent of pCLWRP High Naturalness Waterbodies is almost always limited to the extent of the waterbody itself suggests necessary extents of catchment management are being ignored.
- 14 If communities are not guided to manage the right aspects of the catchments in which waterbodies lie, their aspirations for the waterbody may not be met by purely instream actions. For example if they wish to look after whitebait spawning sites and carry out extensive and valuable fencing and planting of spawning sites but have all their good work undone by a large dump of silt from the upstream catchment.

CONCLUSIONS

- 15 Responses to my Hearing Group 1 evidence of the pCLWRP suggest either the primary thrust of my evidence has been missed or is disputed.
- 16 I re-iterate that the best lists of waterbodies deserving extra planning protection are developed proactively using a range of tools such as FENZ, preferably in a collaborative manner.
- 17 Management of waterbody values needs to start at the catchment within which it sits to allow communities to achieve the waterbody outcomes they want.

- 18 If implemented in its current state, the pCLWRP would mean that many rivers, lakes and wetlands, and the habitats and species associated with them will be afforded inadequate or no protection which may result in their degradation and loss.

A handwritten signature in cursive script, appearing to read 'Dr West', written in black ink.

Dr David William West

13 May 2013

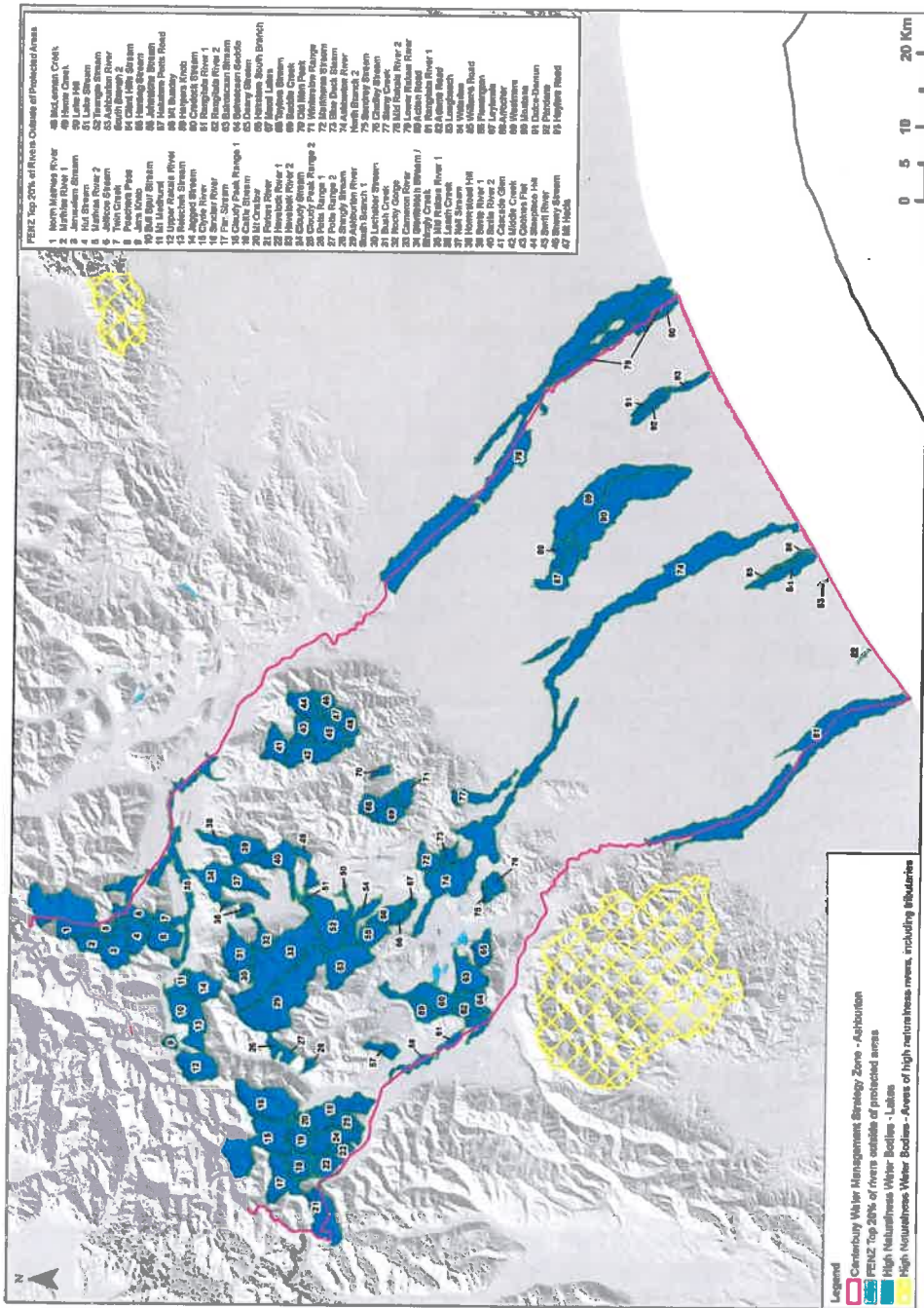


Figure 1. Top 20% of FENZ river catchments outside of existing protected areas in Ashburton Water Management Zone. Overlain are proposed plan High Naturalness Water Bodies - Areas of high naturalness rivers, including tributaries. Note there are no High Naturalness Rivers or Streams listed in the Ashburton Water Zone. Full list of FENZ identified catchments included as table in Appendix 1.

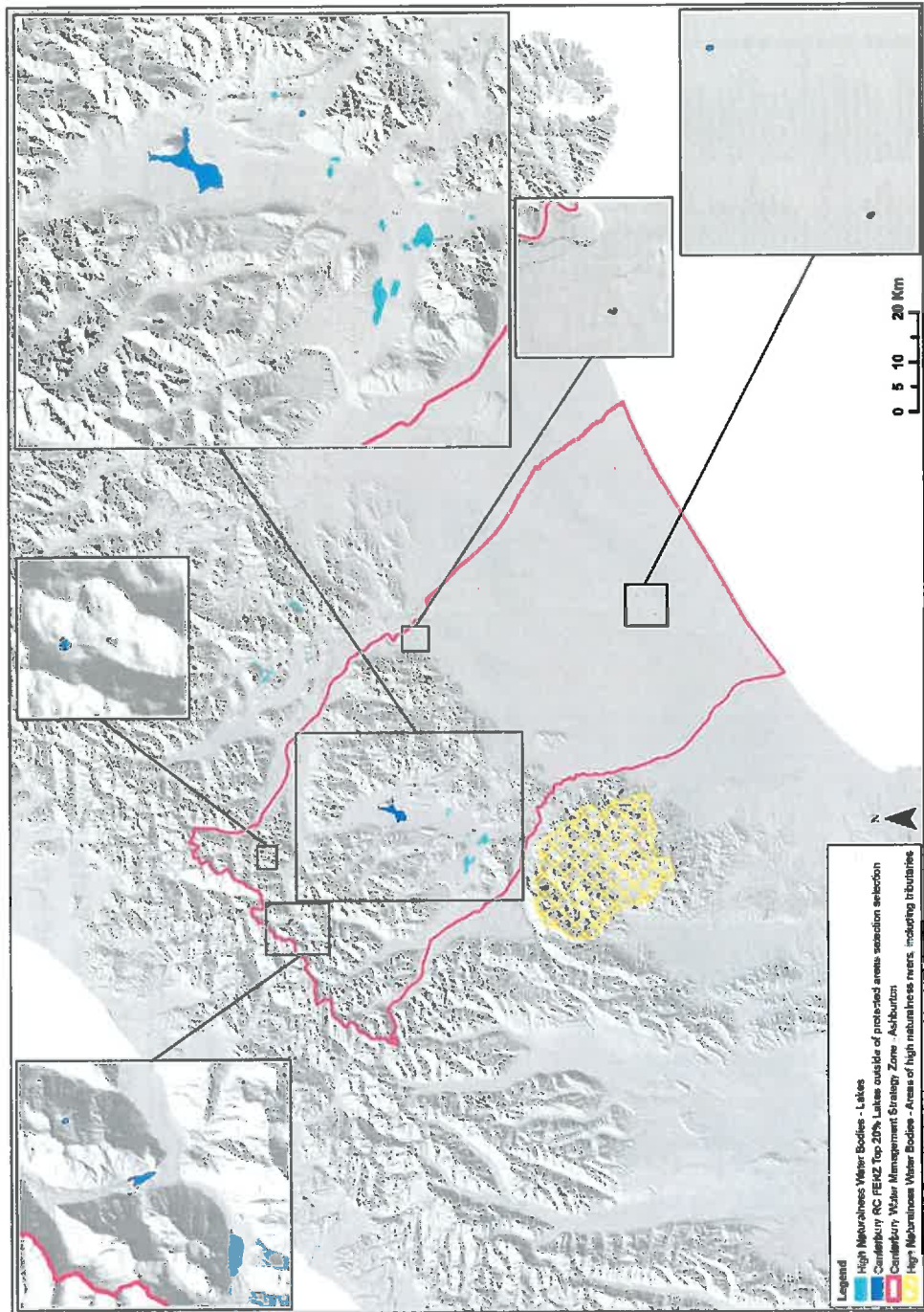


Figure 2. Top 20% of FENZ lakes outside of existing protected areas in Ashburton Water Management Zone. Overlain are proposed plan High Naturalness Water Bodies - Areas of high naturalness rivers, including tributaries. Note 13 of the possible 42 FENZ identified lakes are listed as High Naturalness Lakes in the Ashburton Water Zone. Full list of FENZ identified lakes included as table in Appendix 2.

Appendix 1. Full list of Top 20% of FENZ (outside protected areas analysis) river catchments identified within the Ashburton Water Zone.

Catchment Name	Easting	Northing
Action Road	1531664	5143187
Adams Road	1486381	5112533
Arrochar	1499923	5154259
Ashburton River North Branch 1	1486667	5155685
Ashburton River North Branch 2	1461586	5165231
Ashburton River South Branch 1	1439177	5191235
Ashburton River South Branch 2	1443540	5183022
Balmacaan Saddle	1438721	5164652
Balmacaan Stream	1442069	5166023
Blue Duck Stream	1458648	5168753
Bull Spur Stream	1437365	5205378
Bush Creek	1445011	5197858
Cameron River	1443889	5192181
Cascade Glen	1473324	5192880
Cattle Stream	1419571	5189070
Chaffey Stream	1454724	5162455
Clent Hills Stream	1447658	5182388
Cloudy Peak Range 1	1415918	5189062
Cloudy Peak Range 2	1421922	5182710
Cloudy Stream	1419476	5184272
Clyde River	1419969	5192438
Cookies Flat	1475347	5189425
Cradock Stream	1438989	5170718
Denny Stream	1445640	5164028
Dulce-Domun	1521780	5141440
Fan Stream	1414078	5190888
Flemington	1499380	5122750
Forbes River	1409059	5185548
Glenfalloch Stream / Shingly Creek	1455047	5201257
Hakatere Potts Road	1431729	5176988
Hakatere South Branch	1450178	5175429
Harding Stream	1447561	5179417
Harpers Knob	1437285	5172286
Havelock River 1	1416025	5185017
Havelock River 2	1418137	5183250
Haylors Road	1522890	5137391
Home Creek	1458159	5188479
Homestead Hill	1460489	5201031
Hut Stream	1447238	5211322
Jagged Stream	1440363	5202323
Jellicoe Stream	1447120	5207959
Jerusalem Stream	1445439	5214262
Jims Knob	1432637	5206663
Johnstone Stream	1450267	5177677
Lake Hill	1453546	5183343
Lake Stream	1452484	5188511

Catchment Name	Easting	Northing
Leach Creek	1450843	5196780
Leylands	1496569	5154602
Lochaber Stream	1441825	5196971
Longbeach	1496425	5118065
Lower Rakaia River	1529712	5147784
Maori Lakes	1451655	5174090
Markhams Stream	1457913	5171785
Mathias River 1	1446356	5217780
Mathias River 2	1452338	5212611
McLennan Creek	1476289	5182819
Mid Rakaia River 1	1452532	5204362
Mid Rakaia River 2	1516064	5159539
Middle Creek	1472355	5187977
Montana	1508779	5143552
Mt Hecla	1477661	5185091
Mt Medhurst	1440366	5205459
Mt Onslow	1421603	5188253
Mt Sunday	1430296	5172217
Nell Stream	1454666	5196956
North Mathias River	1450364	5221582
Old Man Peak	1469912	5178443
Pendene	1519773	5142245
Poachers Pass	1450139	5211289
Potts Range 1	1432208	5192629
Potts Range 2	1430931	5190719
Rangitata River 1	1475800	5117734
Rangitata River 2	1437469	5166204
Reischek Stream	1434474	5203121
Rocky Gorge	1447003	5194376
Saddle Creek	1463902	5177260
Sandrey Stream	1453300	5163712
Shingly Stream	1429683	5187826
Sinclair River	1424570	5193552
Smite River 1	1459238	5196833
Smite River 2	1458457	5192453
Snowy Stream	1479495	5186142
Steepface Hill	1479238	5189265
Stony Creek	1466460	5165576
Swift River	1475430	5185876
Taylor's Stream	1465542	5179036
Triangle Stream	1449317	5185044
Twin Creek	1449553	5207395
Upper Rakaia River	1429412	5202975
Waterton	1497626	5123679
Westmere	1506753	5150870
Williams Road	1499770	5121265
Winterslow Range	1467018	5174801

Appendix 2. Full list of Top 20% of FENZ Lakes (outside protected areas analysis) identified within the Ashburton Water Zone with pCLWRP listed High Naturalness Water Body - lakes identified.

pCLWRP High Naturalness Water Body - Lakes	FENZ Lake Name	Eastings	Northing
	Ashburton River Lake	1444951	5180377
	Balmacaan Lake	1446101	5167899
	Boundary Creek Lake	1437650	5181581
	Cameron River Lake	1438782	5197832
	Cameron River Lake 2	1448307	5188300
	Dunbar Lake	1449516	5185662
	Harper Lake	1445972	5160879
	Harpers Knob Lake	1438033	5172182
	Jims Knob	1430921	5206557
	Kirk Stream Lake	1428273	5203229
	Lagoon Peak Lake	1457460	5195494
Yes	Lake Camp	1443099	5169090
Yes	Lake Clearwater	1442213	5170377
Yes	Lake Denny	1448597	5163011
	Lake Donne	1447936	5169894
Yes	Lake Emily	1456802	5176445
Yes	Lake Emma	1447237	5166732
	Lake Heron	1451853	5183773
Yes	Lake Roundabout	1446308	5168247
	Lake Stream	1450468	5193694
Yes	Lake Trinity	1451278	5167287
	Lambies Stream Lake 1	1448912	5168909
	Lambies Stream Lake 2	1448958	5169226
Yes	Manuka Lake	1458258	5178628
Yes	Maori Lakes East	1453262	5173732
Yes	Maori Lakes Eastb	1452753	5174160
Yes	Maori Lakes West	1452095	5174221
Yes	Maori Lakes Westb	1452433	5174247
	Mt Butler	1432983	5209277
	Mt Hutt Lake	1487443	5180265
	Mystery Lake	1440576	5177132
	Possession Lake	1448932	5163719
	Quagmire Tarn	1447684	5201682
	Ricki Lake	1456577	5181815
	Seagull Lake	1458295	5181012
	Seagull Lake 2	1457081	5179769
Yes	Spider Lakes	1448110	5170226
	St James	1430390	5206955
	Tinwald	1496121	5135882
	Totara Stream 1	1443710	5211723
	Totara Stream 2	1443753	5210966
	Winslow	1492372	5132303

