

**IN THE  
MATTER**

of the Resource Management Act 1991

**AND**

**IN THE  
MATTER**

of applications for resource consents to  
take and use water in the Waitaki River  
Catchments

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Memorandum from reporting officer Michael Conrad Freeman for  
Environment Canterbury

28 April 2010

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1. The purpose of this memorandum is to respond to a number of specific clarification questions asked by commissioners during the presentation of my second addendum section 42A report on 19 April 2010.

### Lake Tekapo TLI data

2. My recommendations were based on the data reported in Hayward *et al* (2009)<sup>1</sup>. That report included annual (summer) TLI data for the period 2003 – 2008. The reported (summer) TLI range for that period was 1.1 – 1.3 with a mean of 1.2. However, Dr Meredith and I have checked the data for the period 2004 – 2009 and after this check we agree that the summer range is 1.1 – 1.8 with an overall mean of 1.3. Therefore my earlier recommendation that an early warning summer trigger TLI of 1.4 is now inappropriate, and our view is that a more appropriate value in the light of the re-analysed data would be 1.8.
3. It should be noted that this data and analysis is based on surface water grab samples, and monthly data from the summer season only (December or January to April inclusive). It is therefore only representative of a summer TLI value. An annual TLI target based upon monthly samples is likely to be a considerably lower value.
4. While depth integrated sampling is generally preferable, given the limited data (surface sample data) available, trigger values should be based on surface water grab sampling rather than depth integrated sampling.

### Lake Aviemore TLI data

5. NIWA collected fortnightly water quality data from both Lake Aviemore and Lake Waitaki during the 2008/09 data gathering for the lake water quality modelling. This data was not presented in the Benmore modelling reports but can be used to generate a 2008/09 summer TLI for both Lake Aviemore and Lake Waitaki.
6. Recent Environment Canterbury (09/10) and NIWA/Meridian (08/09) data for surface or near surface sampling of Lake Aviemore are as follows:

ECan		NIWA/Meridian	
Sample date	TLI	Sample date	TLI
17-Dec-2009	2.1	09-Dec-2008	2.1
27-Jan-2010	1.8	22-Dec-2008	2.7
23-Feb-2010	1.6	06-Jan-2009	2.4
29-Mar-2010	2.0	20-Jan-2009	2.3
Mean	1.9	03-Feb-2009	2.3
		16-Feb-2009	2.2
		02-Mar-2009	2.1
		Mean	2.3

7. Hayward *et al* (2009) recommended to the NRRP hearing commissioners that the TLI objective for the broad class of such artificial lakes should be a maximum TLI of 3.0. This recommendation was also generated without sufficient monitoring data to

<sup>1</sup> Hayward, Meredith & Stevenson, 2009, Review of Proposed NRRP water quality objectives and standards for rivers and lakes in the Canterbury region.

determine the true natural range of TLI in such lakes (and no data was available at that time from Lakes Aviemore, Waitaki, Ahuriri arm, etc.).

8. On the basis of the 75% approach an early warning trigger TLI value would be 2.2. This is just above the peak value found from recent ECan sampling but is below the mean summer result of 2.3 from the previous summer sampling round undertaken by NIWA. It is therefore proposed that an appropriate early warning trigger would be 2.5. As with Lake Tekapo, given the limited amount of depth integrated sampling and the limited number and scale of consent applications, surface grab sampling would be appropriate for Lake Aviemore.

### **Status of replacement consent applications where land may not have been irrigated**

9. The details relating to those consents previously referred to as 'New (Replacement)' have been investigated in detail. The details of the original consents have been sighted and compared with the details in the current applications. The original presentation of information on the basis of each property has been changed to a consideration based solely on resource consents. The situation for each paired combination is summarised in the attached table.
10. The information in the table clarifies a number of potentially significant issues, if in the consideration of the effects of each proposed activity in the Ahuriri Arm catchment, the status of an application as either replacement or new becomes significant.
11. The detailed assessment has identified some minor interpretation issues relating to the identity of original resource consent holders. However, I am satisfied that there are strong grounds for continuity between original consent holders and current applicants. In addition, the assessment has clarified the relationships between consent holder/applicants and properties.
12. The process has identified situations where under an original consent water has been used on one but not other properties. My understanding is that this situation is not fundamentally different from a situation where one water permit has not been fully used on one property, and therefore does not change the status of the overall water permit application as a replacement application under section 124.
13. I consider that the balance of information supports a conclusion that each specific 'New (replacement)' application is actually a replacement application. An amended Table 7 is attached.



Mike Freeman

**Environment Canterbury reporting officer**

28 April 2010

**Table summarising information on 'paired' consents to clarify status as new or replacement**

	<b>Consent holder/ applicant</b>	<b>Consent number</b>	<b>Abstraction rate specified</b>	<b>Area/location specified in consent or application</b>	<b>Comment</b>	<b>Conclusion</b>
Old resource consents	Bog Roy and Rostriever Stations (Anderson)	WTK691221A (divert) & B (take)	110 l/s	No area or location specified	Original consent holder name on consent document not a 'person' under the RMA. Contact information indicates that Anderson was consent holder. Consent only exercised on Bog Roy property.	
Subsequent consent application	KJ, DK & SR Anderson	CRC012017	110 l/s	210 ha Composed of: Rostriever: 60 ha, Otematata: 90 ha, Bog Roy: 60 ha of 165 ha	Change of applicants has been undertaken. Application made 6+ months prior to expiry of previous consent. ECan officers consider that the application has replacement status and indicated accordingly to applicant that has s124 status. Physical evidence is that Rostriever and Otematata properties have never used water under the old consent. However, this is one consent and it has been exercised, therefore it has replacement status.	Replacement.
Old resource consents	Bog Roy and Rostriever Stations	WTK691231 & WTK691232	110 l/s	No area or location specified	Original consent holder name on consent document not a 'person' under the RMA. Contact information indicates that Anderson was consent holder. Consent exercised on property.	
Subsequent consent application	KJ, DK & SR Anderson	CRC012019	110 l/s	105 ha of Bog Roy Station	Change of applicants has been undertaken. Application made 6+ months prior to expiry of previous	Replacement

					consent. ECan officers consider that the application has replacement status and indicated accordingly that has s124 status.	
Old resource consent	W H McAughtrie	WTK691631B	85 l/s	No area or location specified	Consent exercised on property.	
Subsequent consent application	D W McAughtrie	CRC011940	85 l/s	85 ha	Change of applicants has been undertaken in the application process. Application made 6+ months prior to expiry of previous consent. ECan officers consider that the application has replacement status and indicated accordingly that has s124 status.	Replacement
Old resource consent	J B Mitchell McAughtrie, Blackstock & Aubrey	WTK890012 WTK691641A, B & C	9.5 l/s 170 l/s	No area or location specified		
Subsequent consent application	D W McAughtrie, Ellis-Lea Farms (2000) Ltd & Greenfield Rural Opportunities Ltd	CRC991473	170 l/s	255 ha (reduced from original notified 500 ha)	Change of applicants has been undertaken. Application made 6+ months prior to expiry of previous consent. ECan officers consider that the application has replacement status and indicated accordingly that has s124 status. Physical evidence is that McAughtrie and Greenfield Rural Opportunities properties may not have used water under the old consent. However, this is one consent and it has been exercised, therefore it has replacement status.	Replacement

## Updated Table 7 with changes 'track changed'

**Table 7 A summary of the estimated total property loads associated with proposed irrigation development proposals** (Priority is that determined by Commissioner Skelton, and was determined on the basis of the date the application was deemed to be notifiable. Consent applications for locations outside of the Ahuriri Arm catchment have not been included.)

Applicant	Station name	Consent number(s)	Receipt date	Notifiable date (used to determine priority by Peter Skelton)	Priority (numbers added)	Replacement or new	Irrigation area (ha)	Nitrogen loading from Overseer modelling (kg N/yr)	Applicant proposed nitrogen loading threshold (kg N/yr)
Dunstan Peaks	Clifton Downs/Dunstan Peaks/Twin Burn	CRC011361	15 Jan 2001	19 Jul 2002	1	Replacement	344	15,032	28,109
Otamatapaio Station	Otamatapaio including Glenburn	CRC012047	7 May 2001	4 Mar 2003	2	Replacement	200	16,747	22,466
Anderson	Bog Roy	CRC012017 & CRC012019	28 Mar 2001	20 Jun 2003	3	Replacement	165	8,511	8,834
Anderson	Rostreiver	CRC012017	28 Mar 2001	20 Jun 2003	3	<del>New (Replacement)</del>	60	5,243	5,226
Otematata <sup>#</sup> Station	Otematata	<del>CRC041033 &amp; CRC012017</del>	28 Mar 2001	20 Jun 2003	3	<del>New (Replacement)</del>	90	23,286	28,255
Killermont Station	Killermont (Ahuriri River)	CRC041331	28 Jul 2003	3 Dec 2003	4	New	216	4,902	4,902
Killermont Station	Killermont (Ahuriri River)	CRC041777	22 Dec 2003	22 Dec 2003	4	New	300	6,812	6,812
Killermont Station	Killermont (Frosty Gully)	CRC040180	27 Feb 2004	27 Feb 2004	4	Replacement	28	632	632
Southdown Holdings	SHL Killermont	CRC041788	27 Feb 2004	27 Feb 2004	5	New	1049	20,576	28,611
McAughtrie et al (Greenfield Rural)	Riverside (300 Sold to Quailburn Downs)	CRC991473	23 Dec 1998	29 Oct 2004	6	<del>New (Replacement)</del>	85	5,841	5,930
McAughtrie et al (Ellis-Lea Farms)	The Glens	CRC991473	23 Dec 1998	29 Oct 2004	6	Replacement	85	11,170	11,858
McAughtrie + McAughtrie	Willowburn	CRC991473 & CRC011940	28 Mar 2001	10 Nov 2004	7	<del>New (Replacement)</del> (CRC991473)	170	6,452	6,584

**Comment [MCF1]:** Discharge permit, inclusion an error, therefore deleted.

Applicant	Station name	Consent number(s)	Receipt date	Notifiable date (used to determine priority by Peter Skelton)	Priority (numbers added)	Replacement or new	Irrigation area (ha)	Nitrogen loading from Overseer modelling (kg N/yr)	Applicant proposed nitrogen loading threshold (kg N/yr)
et al						Replacement (CRC011940)			
Bellfield Land Co <sup>®</sup>	Quailburn Downs (load apportioned)	CRC011987	29 Mar 2001	15 Nov 2004	8	Replacement	190	5,771	5,774
Killermont Station	Killermont	CRC041798	1 Mar 2004	3 Mar 2005	9	New	75	1,699	1,699
Southdown Holdings	Glen Eyrie	CRC040835	31 Oct 2003	21 Mar 2005	10	New	1096 <sup>‡</sup>	17,347	20,214
Otematata <sup>#</sup> Station	Otematata	CRC041033 & CRC012017	14 Nov 2003	21 Mar 2005	11	New	30	7,762	9,417
Horo <sup>@</sup>	Ribbonwood	CRC042020, CRC042011, CRC042015, CRC042017, & CRC042018	23 Mar 2004	24 Mar 2005	12	New	500	12,457	12,717
Twin Peaks	Twin Peaks	CRC063564	7 Apr 2006	7 Apr 2006	13	New	72	9,462	10,937
Bellfield Land Co <sup>®</sup>	Quailburn Downs (load apportioned)	CRC071649	1 Dec 2006	1 Dec 2006	14	New	52	1,581	1,581
<b>Applications total N load</b>								<b>181,283</b>	<b>220,554</b>
Southdown Holdings*	SHL Killermont Alternate	CRC073115	23 Mar 2007	1 May 2007	15	New	1049	20,576	28,611

<sup>#</sup> Load split on basis of catchment and irrigation area only.

<sup>‡</sup> Area split from total of 2068 ha to take account of two catchments for Glen Eyrie irrigation area. 53% of revised overseer cubicle option (e.g., 0.53 x 32,721=17,347)

\* Note SHL Killermont total nitrogen load only included once.

<sup>@</sup> Splits on a simple irrigation area proportional basis.

<sup>Φ</sup> Splits on a simple irrigation area proportional basis.

Note: New(replacement) means that the application(s) is for replacing an expired consent for irrigation but that development has not occurred