

**IN THE MATTER** of the Resource Management Act 1991

**AND**

**IN THE MATTER** of Resource Consent Applications by Rangitata Diversion Race Management Limited to the Canterbury Regional Council and Ashburton District Council for resource consents for their construction, operation and maintenance of the Klondyke Water Storage Facility, its associated water takes from and discharges to the Rangitata River, and all associated activities

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**LEGAL SUBMISSIONS ON BEHALF OF RANGITATA DIVERSION RACE MANAGEMENT LIMITED**

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**Introduction**

1. Rangitata Diversion Race Management Limited (**RDRML**) proposes to construct, maintain and operate a water storage pond of up to 53Mm<sup>3</sup>. It proposes to take up to 10m<sup>3</sup>/s of high flow water from the Rangitata River to store in the pond. RDRML also proposes a new fish screen, modifications to the Rangitata Diversion Race (**RDR**), a white water course standing wave, and a substantial ecological refuge.
2. The applications by RDRML present an opportunity to:
  - (a) Create a water storage facility which will strengthen the security of supply and reliability for existing irrigation schemes serviced by the RDR, and buffer them against future regulatory and climatic risks;
  - (b) Anchor a significant storage facility in mid-Canterbury which may help deliver integrated storage and water delivery throughout Canterbury by facilitating supply to South Canterbury;
  - (c) Facilitate environmental initiatives such as targeted stream augmentation (**TSA**) and managed aquifer recharge (**MAR**).

3. The applications are relatively complex. They largely fall into the following categories:
  - (a) The ability to take 10m<sup>3</sup>/s flood flow water (or 'high flow' water) from the Rangitata River when it is flowing at greater than 142.6m<sup>3</sup>/s;
  - (b) Consent for a new fish screen. RDRML initially proposed a rock bund, in its 2016 application. After careful consideration of the submissions received, RDRML decided in November 2017 to lodge supplementary applications for a mechanical rotary drum fish screen, which has greater efficiency in terms of the removal of fish from the RDR itself. A flow of up to 5m<sup>3</sup>/s is required to operate the mechanical fish screen and RDRML has sought consent to take and subsequently discharge this from and to the Rangitata River. RDRML no longer wishes to advance the rock bund fish screen;
  - (c) A suite of consents associated with the construction and operation of the water storage facility itself. This includes:
    - (i) The construction of the embankments to form the pond, the commissioning and operation of the pond, and the positive aspects of the proposal, which are located in proximity to the pond. These comprise improved public access to the Rangitata River, increased establishment of indigenous terrestrial vegetation, the creation of a new habitat area for lizards and a wetland, and the creation of a white water course with a standing wave feature for recreational use. The standing wave feature and enhanced public access are not mitigation measures but a proactive effort to ensure that the water storage facility provides a net environmental gain and positively integrates into the social fabric of the mid-Canterbury community in keeping with tenets of the Canterbury Water Management Strategy;
    - (ii) The discharges proposed from the water storage facility to the Rangitata River. These are limited to occasional discharges via the discharge channel in four scenarios (heavy rain when the pond is at capacity, control failure when the water continues to be diverted into the pond after it is full (with or without rainfall), emergency discharge for lowering the pond which would

involve opening the lower level outlet, and periodic maintenance checks of the spillway gate).

4. RDRML had proposed to undertake periodic sluicing from the water storage facility every few years, but after receiving the s 42A report and considering the matter further, has decided not to proceed with the application to authorise the sluicing discharge to the Rangitata River. It will leave the sediment to accumulate in the pond in the form of 'dead storage' over the life of the resource consent granted and possibly beyond.<sup>1</sup>
5. The other application, which RDRML has decided not to proceed with, is the application for the fish screen that was initially proposed (the rock bund). It instead seeks consent for the mechanical fish screen, which has greater support from submitters and the support of ECan.
6. There have been other changes to the applications sought. For example, air discharge consents were sought but are no longer required, except as regards the discharge of combustion products from the diesel generators that will be used on the site. For completeness, a table setting out which consents were applied for (and when), together with details as to which consents are withdrawn or no longer required, is attached as Appendix A.
7. Overall these applications are a non-complying activity. The triggers for non-complying activity status arise from:<sup>2</sup>
  - (a) Overall non-complying activity status under the Ashburton District Plan (**ADP**) due to construction activities and deposition of rocks associated with the lower terrace ecological refuge, and the deposition of more than 200m<sup>3</sup> of clean fill and the deposition of rocks associated with the construction and armouring of the fish bypass outlet; and
  - (b) Overall non-complying activity status under the Canterbury Land and Water Regional Plan (**LWRP**) due to the non-consumptive take of up to 5m<sup>3</sup>/s of water from the Rangitata River associated with the fish bypass for the mechanical fish screen, where the point of return is located in excess of 250m from the point of extraction.

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<sup>1</sup> Steven Woods estimates that approximately 47 years' worth of sediment can be accommodated within the dead storage limit. Evidence of Steven Woods at 6.24.

<sup>2</sup> Evidence of David Greaves, Appendix 2.

### **The issues and the case for the applicant**

8. The case for the applicant is that it is appropriate for resource consents to be granted.
9. The most contentious issues relate to effects on the Rangitata River including particularly cumulative effects as a result of the proposed flood flow and fish bypass takes.
10. Other *key* issues are likely to be:
  - (a) Dam break effects of low probability but high potential impact.
  - (b) The performance of the proposed fish screen.
11. I deal with each of these in some detail before turning to the wider matters which are relevant to determination of the applications.

### ***Rangitata River – proposed flood flow and fish bypass takes***

12. The proposed flood flow take enhances the security of supply provided by the storage pond by reducing the pond footprint as ‘refill’ of the pond is enabled more quickly and more regularly. For example, 22Mm<sup>3</sup> of storage is required to meet reliability demands based on current application rates. With the proposed flood flow take only 14Mm<sup>3</sup> of storage needs to be built to deliver the same reliability target.<sup>3</sup> The flood flow take will also help manage against the impact of climate change and the increase in minimum flows in the Ashburton River.<sup>4</sup> Looking forward, the flood flow take would also give RDRML the ability to use the water for other purposes, such as irrigation outside of the RDRML area, TSA and MAR (though I acknowledge further resource consents would be required for these activities) and to convert to an irrigation application rate that is closer to peak evapotranspiration rates.<sup>5</sup> Ms Greer also sets out the in-farm financial benefits from increased reliability of supply.<sup>6</sup> Finally, as the flood flow take reduces the volume of storage required to achieve reliability of supply, the flood

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<sup>3</sup> Evidence of Bas Veendrick, at 7.13 and Table 4

<sup>4</sup> Evidence of Bas Veendrick at 10.4

<sup>5</sup> Evidence of Bas Veendrick at 7.16 and Table 4

<sup>6</sup> Evidence of Glen Greer, at 303.

flow take will increase the economic efficiency of the development and the cost of the facility construction.<sup>7</sup>

13. The Water Conservation (Rangitata River) Order 2006 (**WCO**) sets conditions, which act as minimum flow thresholds for the Rangitata River in order to protect its outstanding characteristics, features and values. There are no conditions, which act as maximum flow thresholds, which themselves constrain the allocation of flood flow or high flow water.
14. RDRML's case is that the proposed flood flow and fish bypass takes do not conflict with the WCO. It understands the reporting officer for ECan to agree with that.<sup>8</sup>
15. Nevertheless, the actual and potential effects on the environment of allowing the activity are relevant and this includes cumulative effects.<sup>9</sup> The effects of the proposed flood flow and fish bypass takes have been assessed by RDRML's expert witnesses, the key ones in this instance being Bas Veendrick (hydrology), Dr Greg Ryder (aquatic ecology and water quality), and Rob Greenaway (recreation).

#### Proposed flood flow take

16. The key hydrological impact of the proposed flood flow is that there is a small reduction in the residual flow in the Rangitata River. The duration of time that flows are stable at around 77m<sup>3</sup>/s increases slightly – by about 8 days per annum (approximately 2% of the time).<sup>10</sup> There is a small change to the flushing flow frequency in the Rangitata River and the accrual time between freshes, which Mr Veendrick considers to be a minor (very limited) change.<sup>11</sup> On wetted area, depth and velocity, Mr Veendrick assesses the largest reduction in wetted area at 5.6% (Ealing Reach), and the maximum reduction in depth and velocity at 4.1% and 3.9% respectively (Arundel Reach), although most of the time (84% of the time) there is no reduction in wetted area, depth or velocity as a result of the proposal.<sup>12</sup>

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<sup>7</sup> Evidence of Glen Greer, at 30.2.

<sup>8</sup> The ECan s 42A report raised issues regarding the compliance of the sluice discharge with the WCO, but not the proposed takes.

<sup>9</sup> Any cumulative effect which arises over time or in combination with other effects. Section 3(d), RMA.

<sup>10</sup> Evidence of Bas Veendrick, at 9.14.

<sup>11</sup> Evidence of Bas Veendrick, at 9.15.

<sup>12</sup> Evidence of Bas Veendrick, at 9.25.

17. Dr Ryder has considerable experience with the Rangitata River over a long period and has considered relevant available data and literature in forming his opinions. He has considered a one dimensional (1D) model developed by Ian Jowett and a two dimensional (2D) model developed by Duncan and Hicks and used the latter, which is more representative, to determine changes to the physical habitat of the river (changes in wetted width, water depth and velocity). He concludes that the small reduction in wetted habitat is unlikely to result in ecologically meaningful effects on downstream aquatic biota.<sup>13</sup> Dr Ryder also considers effects on flushing flows, sediment transport (in which he has particular expertise), water temperature and food availability, and does not identify any cause for concern. His opinion is that the fauna of the river is mainly determined by disturbance events, which will not change appreciably.<sup>14</sup>
18. In terms of recreational impacts, Mr Greenaway concludes that during the main recreation season (1 November to 30 April) the availability of moderate flows generally preferred for white water education (rafting and kayaking) and salmon angling are slightly enhanced, while the high flows generally preferred by advanced rafters and kayakers are slightly reduced from 20.1 days existing by 3.5 days. There is no effect on the frequency of flows which inhibit rafting or kayaking passage.<sup>15</sup>
19. Cumulative effects of the proposed flood flow take have been directly addressed by these witnesses.
20. Mr Veendrick acknowledges, for example, that the biggest change in flushing flow frequency and accrual time is between the natural and existing state,<sup>16</sup> also noting that the natural state has not been in place since at least the 1940s. On river mouth openings he considers that the changes in flows assumed to be capable of breaching a new mouth outlet are so small that they do not materially add to the effects already experienced on the river by the existing abstractions.<sup>17</sup>
21. From a water quality and aquatic ecology perspective, Dr Ryder has considered cumulative effects specifically including any evidence of concerning downward trends. Rangitata River

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<sup>13</sup> Evidence of Greg Ryder, at 20-30.

<sup>14</sup> Evidence of Greg Ryder, at 39 and 53.

<sup>15</sup> Evidence of Rob Greenaway, at 11-13.

<sup>16</sup> Evidence of Bas Veendrick, at 9.19.

<sup>17</sup> Evidence of Bas Veendrick, at 11.2.

water quality and periphyton monitoring does not indicate that the river is experiencing nuisance growths that might be related to elevated nutrients, sustained low flows or lack of flushing flows.<sup>18</sup> Dr Ryder notes only the decline of the salmon run, which is a South Island issue not particular to the Rangitata River (whilst salmon smolt entrainment is to be addressed by the new fish screen).<sup>19</sup>

22. Mr Greenaway considers that the application does not represent a tipping point where amenity for rafting or kayaking is lost or modified in a meaningful way. This is due to the broad bands of flow availability for the relevant activities, the minor scale of change to each (especially considering the natural variability in flow and the very small potential for a kayaker or rafter to be aware of the change in flow variability), and the preservation (increase) of flows suited to educational white water activities which the RDR to Arundel reach is especially recognised for. He would be concerned if educational opportunities were to be lost, which is not the case.<sup>20</sup>

Proposed fish bypass flow take

23. The take for the fish bypass flow is less contentious but has also been considered closely by RDRML's witnesses. It will require 3 to 5 m<sup>3</sup>/s to ensure that a strong current is maintained past the entire length of fish screen material to ensure fish are carried towards the bypass entrance, and the risk of fine sediment build-up on the floor of the canal in front of the fish screen is minimised.<sup>21</sup>
24. The 2.4 km stretch of the Rangitata River between the RDR intake and existing fish bypass return will be affected by the fish bypass take.<sup>22</sup> There are two distinct river reaches in this stretch that will experience changes in the flow regime. These are the 1.4 km 'upstream reach' (RDR intake to the proposed fish bypass return) and the 1.0 km 'downstream reach' (proposed fish bypass return to the existing fish bypass return).<sup>23</sup> The upstream reach will experience a reduction in flow and the downstream reach will experience an improvement in flows in the middle and lower flow bands and a reduction in flow in the higher flow bands.<sup>24</sup> A stepped

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<sup>18</sup> Evidence of Greg Ryder, at 54.

<sup>19</sup> Evidence of Greg Ryder, at 55.

<sup>20</sup> Evidence of Rob Greenaway, at 39.

<sup>21</sup> Evidence of Greg Ryder, at 74.

<sup>22</sup> Evidence of Bas Veendrick, at 9.1.

<sup>23</sup> Evidence of Bas Veendrick, at 9.1.

<sup>24</sup> Evidence of Bas Veendrick, at 9.2.

fish bypass flow regime has been developed to minimise the effects on residual flow in the upstream reach, especially on the low and middle flow bands.<sup>25</sup>

25. The physical changes to the instream habitat of the Rangitata River will be of little or no ecological consequence.<sup>26</sup> Water discharged in the fish screen bypass will reflect the water quality of the Rangitata River at the RDR intake and changes to river turbidity downstream of the bypass outfall are unlikely to be discernible with the naked eye.<sup>27</sup>
26. The section of the Rangitata River affected by the fish bypass take features a rocky section which could provide a hurdle for kayakers and rafters if flows are inadequate.<sup>28</sup> However, the changes in flow availability are quite minor, with more improvements than losses, and the ability to discern these changes will be very difficult.<sup>29</sup>
27. Central South Island Fish & Game Council's submission on the fish screen application suggests that the bypass flow be 5m<sup>3</sup>/s at all times. Although not opposed to that in principle, Rob Greenaway's advice to RDRML is that from a recreational perspective it would be preferable to minimise the reduction in flow in that stretch of the river as far as practicable. For that reason, RDRML maintains its proposal for a stepped flow.

#### Section 42A report

28. The s 42A report, particularly the appendix prepared by Dr Meredith, critiques the approach which Dr Ryder has taken to his assessment of the proposed flood flow take but notably Dr Meredith does not point to any science or data himself which leads to a different conclusion.
29. The reporting officer states that Dr Meredith considers that the applicant has not provided adequate information to usefully allow assessment of the instream habitat modelled effects to occur, only a small incrementation,<sup>30</sup> yet this was not expressed until the s 42A report was received. It is disappointing that 'concerns' were raised so late in the process as there was

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<sup>25</sup> Evidence of Bas Veendrick, at 9.8.

<sup>26</sup> Evidence of Greg Ryder, at 145.

<sup>27</sup> Evidence of Grey Ryder, at 78.

<sup>28</sup> Evidence of Rob Greenaway, at 73.

<sup>29</sup> Evidence of Rob Greenaway, at 74.

<sup>30</sup> Section 42A report, at 298.



ample time for ECan to make further information requests but instead the s 42A report has simply posed questions without itself answering them.

30. Dr Ryder has considerable experience with the Rangitata River, and he has considered all the available information regarding the river that he is aware of. He articulates this well in his evidence and responds to Dr Meredith. The Hearings Commissioners will need to consider *the evidence* they have before them and the evidence from Dr Ryder is the most comprehensive, the most thorough, and has considered relevant data and literature.

### Summary

31. The proposed fish bypass flow take is relatively non-contentious but has nevertheless been appropriately assessed.
32. The proposed flood flow take is the most contentious aspect of the applications being considered. I reiterate that it does not breach the WCO. The effects of it are in issue. It has been comprehensively assessed (including cumulative effects). RDRML's experts are of the considered opinion that the effects of the take are minor. Based on their evidence, consent to the flood flow take should be granted.

### ***Dam Break and Civil Safety***

33. The issue of potential dam failure and civil safety has always been a paramount concern for RDRML for this project. RDRML also acknowledges that this is a major concern for a number of submitters, stakeholders and the Panel in light of the Canterbury and Kaikoura earthquakes.
34. RDRML has undertaken a comprehensive assessment of the seismic landscape for the pond. The evidence of David Barrell addresses all identified active faults within 50km of the pond and the evidence of Dr McVerry provides a seismic hazard assessment considering these faults and the others of the National Seismic Hazard Model.
35. The evidence of Steven Woods confirms that the pond has been, and will be, designed to the required seismic standards in light of the seismic hazard assessment and other potential failure modes, and the evidence of Nathan Fletcher confirms that mitigation measures in a

dam break event have been approached on a conservative and worst case scenario in order to ensure civil safety has been robustly addressed.

36. I now address each of these aspects in turn, starting with the seismic hazards assessment.
37. The application was supported by the 2014 GNS Report<sup>31</sup>, which detailed the active fault earthquake sources near the pond and the potential hazards that these sources posed to the pond site. This report was used to inform the design standards for the pond and was based on the NZSOLD Guidelines 2000.
38. Following the release of the NZSOLD Guidelines 2015, RDRML commissioned GNS Science to update the 2014 GNS Report. The results of the 2017 GNS Report are set out in the evidence of Mr Barrell and Dr McVerry. The 2017 GNS Report assesses the seismic hazards for the pond site in light of the NZSOLD Guidelines 2015 and includes two additional potential active fault earthquake sources in the active fault earthquake source model, being the Klondyke-Moorhouse source and the Coal Creek source.
39. The evidence of Mr Barrell provides an overview of active fault structures in the region of the pond as a potential source of earthquake and related ground deformation. Mr Barrell sets out that the most important active fault earthquake source to the pond is the Hutt-Peel 2017 active fault earthquake source, which lies at least 1km southeast of the pond.<sup>32</sup> As a result of Mr Barrell's assessment and his own observations of the pond site, Mr Barrell concludes that there has been no recognisable fault related differential deformation of the ground surface at the pond site in at least the past 18,000 years.<sup>33</sup>
40. While I do not address all technical aspects of Dr McVerry's assessment in detail, his evidence sets out the seismic hazard analysis and the recommended motions for the design of the pond, requirements of the NZSOLD 2015 Guidelines regarding earthquake design motions and requirements and recommendations. This assessment has then been used to inform the design of the pond as detailed in the evidence of Mr Woods.<sup>34</sup>

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<sup>31</sup> Stirling, MW *Seismic design spectra for Klondyke Pond, Canterbury: GNS Science Consultancy Report 2014/82* (June 2014).

<sup>32</sup> Evidence of David Barrell, at 8.

<sup>33</sup> Evidence of David Barrell, at 46.

<sup>34</sup> Evidence of Dr McVerry, at 55; he sets out how his recent assessment in the 2017 GNS Report has varied from the earlier 2014 GNS Report in light of the updated NZSOLD 2015 Guidelines.

41. Turning to the design standards of the pond, the pond has been classified as a High Potential Impact Classification structure under the NZSOLD Guidelines 2015. The derivation of this classification is presented in the evidence of Nathan Fletcher.<sup>35</sup> Mr Fletcher is of the view that it is not conceivable under any scenario for the dam to be anything other than a high potential impact dam.<sup>36</sup>
42. A High Potential Impact Classification dam is the highest classification of structure under the NZSOLD Guidelines 2015. This classification is based on a worst case scenario and solely on the consequences if the pond were to fail, not on the probability of the pond failing. The potential impact classification is then used to outline the design requirements for the pond, including the embankments and liner and the construction and commissioning requirements and the operation of the pond.
43. Mr Fletcher sets out the design requirements for a High Potential Impact Classification dam, being that:
- (a) The highest design performance criteria is used in the design;
  - (b) The construction requires a contractor with experience in High Potential Impact Classification dams and complexity of the proposed Pond;
  - (c) The commissioning process requires a contractor and designer with appropriate management and safety of the dam; and
  - (d) That the operation of the Pond is in accordance with the NZSOLD Guidelines and the dam safety management for a high potential impact classification dam.<sup>37</sup>
44. Mr Woods acknowledges that the pond has not gone through a detailed design stage, as this is a matter for the building consent process. However, Mr Woods is of the opinion that sufficient design has been undertaken at this stage in order to test what, in his opinion, are the key elements of design against relevant guidelines and criteria, including seismic hazard.<sup>38</sup>

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<sup>35</sup> Evidence of Nathan Fletcher, at 5.7.

<sup>36</sup> Evidence of Nathan Fletcher, at 5.10.

<sup>37</sup> Evidence of Nathan Fletcher, at Summary of Evidence.

<sup>38</sup> Evidence of Steven Woods, at 6.1.

Mr Woods' evidence details the comprehensive checks and balances, including independent peer review, which will be carried out through the building consent process and the NZSOLD Guidelines for the design of the pond embankments, liner, flooding, wind and waves and sediment management.<sup>39</sup>

45. Critically, Mr Woods can confirm now that:

- (a) The design standards of the pond remain appropriate in light of the 2017 GNS Report;<sup>40</sup>
- (b) The design of the pond has taken into account the hazard assessment produced by Mr Barrell and Dr McVerry;
- (c) The Pond will be designed for, and is capable of resisting, the levels of ground shaking estimated by Dr McVerry for the pond;<sup>41</sup> and
- (d) The estimated water displacement from a seismic event is well within the freeboard allowance and that there is the ability of the Pond to undergo further displacement without loss of impounded water which will allow the pond to resist earthquake aftershocks as required by the NZSOLD Guidelines 2015.<sup>42</sup>

46. As a measure of the seriousness in which RDRML views civil safety, RDRML arranged a potential failure modes workshop, which was attended by Mr Fletcher, Mr Woods, Mr Tony Pickford<sup>43</sup> and Canterbury Regional Council's technical advisers Tonkin & Taylor. The purpose of this workshop was to review the overall design of the pond by identifying sequences of events that could potentially lead to dam failure so that appropriate design features could be incorporated to eliminate the potential failure modes or reduce the risk to a level that was deemed acceptable.<sup>44</sup> A summary of the potential failure modes workshop is set out at

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<sup>39</sup> Evidence of Steven Woods, at 6.

<sup>40</sup> Evidence of Steven Woods, at 6.13.

<sup>41</sup> Evidence of Steven Woods, at 5.3.

<sup>42</sup> Evidence of Steven Woods, at 6.14.

<sup>43</sup> Mr Pickford is a civil engineer with over 40 years of experience in the completion of dam safety reviews, the provision of peer review services for water resource projects, and the investigation, design and construction of dams and hydraulic structures for water resource projects in New Zealand, Australia, the Philippines, Fiji and the Cook Islands.

<sup>44</sup> Evidence of Steven Woods, at 6.32.

paragraphs 6.32 and 6.41 of Mr Woods' evidence and a summary of the workshop is set out in his Appendix E.<sup>45</sup>

47. In the unlikely, but very serious, event of the dam breaching, the evidence of Mr Fletcher assesses the impact of such a breach and the mitigation measures in response. Mr Fletcher has assessed the pond for a number of potential dam break scenarios from various locations around the pond, which are based on the most credible potential failure modes. Mr Fletcher confirms that the modelling of those break scenarios is based on conservative assumptions and inputs, which resulted in the dam being classified as High Potential Impact.<sup>46</sup>
48. RDRML has prepared a suite of measures to ensure the safety of the Pond or provide mitigation in the event of the dam break event, being a Water Storage Commissioning Plan, an Emergency Action Plan and a Dam Safety Management System. Insurance conditions are also proposed. These were initially developed by RDRML (in response to and provided to submitters<sup>47</sup>), based principally on similar conditions that had been imposed in relation to the storage proposal by Waimakariri Irrigation Limited, and also those relating to the Waimea Dam in the Tasman District. They have since been refined in the ECan s 42A report, and RDRML has no issue with the proposed refinements.
49. Mr Woods gives evidence about the Water Storage Commissioning Plan, which is required by the NZSOLD Guidelines. Mr Woods considers that in preparing such a plan, RDRML is demonstrating that the Pond will be operated in accordance with best practice.<sup>48</sup> This plan requires all the matters that must be addressed before commissioning, inspections that must occur during commissioning, any additional specialist inspections following rainfall, wind speed or earthquake events, testing for gates and control systems, performance criteria for the commissioning, and requirements should an adverse observation occur.
50. Mr Fletcher addresses the Emergency Action Plan and a Dam Safety Management System. The Dam Safety Management System is intended to minimise the risks associated with the

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<sup>45</sup> In terms of the credible seismic failure mode, the deformation of the Pond embankments causing failure of the liner and secondary soil liner was considered credible because at that time detailed deformation analysis of the embankment had not been undertaken to assess the stresses on the synthetic liner and deformation of the secondary liner. Mr Woods sets out that this assessment requires hundreds of hours of technical assessment and modelling and would be peer reviewed and addressed in the building consent process. Evidence of Steven Woods, at 41.

<sup>46</sup> Evidence of Nathan Fletcher, at 5.10.

<sup>47</sup> Principally the submission from the Early Family Trust.

<sup>48</sup> Evidence of Steven Woods, at 7.2.

ongoing existence and operation of the pond and has been prepared in accordance with the NZSOLD Guidelines.<sup>49</sup> These include the dam safety governance of the pond, the reservoir operation and maintenance, surveillance protocols, inspections, triggers for special inspections and safety reviews, identifying and managing dam safety issues, information management and the frequency of and approach to auditing.

51. The Emergency Action Plan is designed to minimise the potential for dam failure through pre-planned or preconceived intentions and actions and in the event, that dam failure cannot be prevented, to limit the effects of dam failure on people, property and the environment. Mr Fletcher confirms that the Emergency Action Plan has been prepared in accordance with the NZSOLD Guidelines, and includes maps of the areas identified as subject to inundation, contact details for people in those areas, contingency plans to be implemented by RDRML for alerting people and Civil Defence authorities, and the actions that would be taken to minimise the potential for an uncontrolled release of water from the pond.<sup>50</sup>
52. Mr Fletcher concludes that RDRML has followed the industry standard process which is a conservative and worst case approach for assessing and assigning the potential impact classification for the pond and that the dam safety management that will occur across the design, construction, commissioning and operation of the Pond.<sup>51</sup> His evidence is that the management plans and draft consent conditions followed required NZSOLD Guidelines, and are consistent with best practice for dam safety and build on and enhance the existing dam safety and operations that RDRML have in place.<sup>52</sup> Mr Fletcher considers that the management plans and conditions will ensure that the pond will be constructed, managed and operated in accordance with the required processes and any civil safety effects can be managed to the point that they are aligned with what is anticipated under the NZSOLD Guidelines and the requirements of the Building Act 2004.<sup>53</sup>
53. In summary, my submission is that the evidence of Mr Barrell and Dr McVerry provides significant comfort about the potential impact of the seismic hazards at the site. The engineering evidence of Mr Woods details how seismic hazards have been, and will be, factored into the design in accordance with the required guidelines. Should a breach event

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<sup>49</sup> Evidence of Nathan Fletcher, at 6.7.

<sup>50</sup> Evidence of Nathan Fletcher, at 6.9.

<sup>51</sup> Evidence of Nathan Fletcher, at 9.1.

<sup>52</sup> Evidence of Nathan Fletcher, at 9.1.

<sup>53</sup> Evidence of Nathan Fletcher, at 9.3.

occur, the evidence of Mr Fletcher confirms that RDRML has done everything required under the NZSOLD Guidelines to identify the effects of dam breach and mitigate the effects on life, property and the environment to the required standards.

***Performance of the proposed fish screen***

54. RDRML acknowledges that the performance of the mechanical fish screen is important in light of the WCO's recognition of salmon passage, the issues which have been encountered with the existing Bio-Acoustic Fish Fence Guidance System, or BAFF, down canal from the RDR intake site, and the desire to improve the existing situation. For that reason it has invested significant time and resource in trying to settle upon a proposed fish screen that will exclude juvenile salmon and native fish from the RDR as far as is reasonably practicable.
55. The move to the mechanical fish screen occurred after RDRML led a team of engineers and freshwater ecologists, including a representative from North Canterbury Fish & Game and a compliance officer from the Regional Council, to the United States of America to review fish screening policies and practices in April 2017. Dr Dana Schmidt, an American limnologist who works for Golder Consultants in Canada, was also invited to participate in part of the visit.<sup>54</sup> Upon returning, the mechanical fish screen concept was further considered in detail by Dr Ryder and Paul Morgan (engineer), culminating in the proposal now before the Panel.
56. It is important to RDRML that the mechanical fish screen 'works' or performs as expected. It is equally important to RDRML that the compliance mechanisms for testing this are ones that are able to be performed. If for example, a consent condition said simply that all fish must be excluded from the RDR it would be virtually impossible for RDRML to be able to *demonstrate* compliance with such a requirement.
57. There are two key documents, which guide performance of fish screens:
  - (a) The 'NIWA Guidelines'<sup>55</sup>; and
  - (b) Schedule 2 of the LWRP (Fish Screen Standards and Guidelines).

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<sup>54</sup> Evidence of Ben Curry, at 6.12.

<sup>55</sup> Jamieson, D., Bonnett, M., Jellyman, D., and Unwin, M. 2007. Fish screening: good practice guidelines for Canterbury. Prepared for the Fish Screen Working Party by NIWA. NIWA Client Report: CHC2007-092, October 2007.

58. There is some inconsistency between the two in that the LWRP uses the through-screen velocity rather than the approach velocity as the basis of design. For a mesh screen, the proportion of openings between the mesh is typically around 50% of the total area based on 2mm screens. Therefore, if through-screen velocity is used for the design it will result in screens needing to be twice as large in comparison to approach velocity. The infrastructure costs for a mesh screen that meets the NIWA Guidelines are already very high.<sup>56</sup>
59. The proposed conditions prepared by ECan appear to proceed on an 'and/or' basis with respect to the NIWA Guidelines and Schedule 2 of the LWRP. This is not as crisp as a requirement to meet one or other of the guidelines, and if the Panel is concerned about this it is important from RDRML's perspective that it is the NIWA Guidelines that are the performance standard. However, if there is agreement and understanding that it is an 'and/or' situation (and it may be worth testing this with relevant expert witnesses) RDRML accepts the proposed conditions.
60. The Joint Witness Statement on Aquatic Ecology and Water Quality dated 19 March 2018 devotes some time to the performance of the fish screen and there appears to be a high degree of agreement on detailed design matters. The key outstanding area of disagreement relates to whether conditions of consent should state an 'efficiency target' as follows:

Adrian Meredith, Greg Ryder, Marty Bonnett and Paul Morgan agreed that, if the proposed rotary fish screen and associated bypass was adopted and included the design criteria noted above, and met the NIWA fish screening guidelines (Jamieson et al. 2007) then fish screening efficiency performance numbers would not be required as conditions of consent. However, such performance criteria would be required for alternative fish screen designs. Mark Webb's position was that Fish & Game would agree to removing the 80% and 90% performance targets but these needed to be replaced with the WCO wording to the effect of "The fish exclusion or fish bypass system must prevent fish from being lost from the Rangitata River". Mark noted that meeting this criteria needs to be verified and verification should occur at critical periods that could be more frequent during first 5 years of operation and then at periodic intervals relative to maintenance/replacement of screens and seals. As proof of screen success is confirmed, verification frequency could be diminished.

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<sup>56</sup> Evidence of Paul Morgan, at 55.



61. Thus, the Panel will need to determine that it agrees with the weight of expert agreement that if the fish screen meets the NIWA Guidelines, it is not necessary to state a percentage performance target in the conditions of consent.
62. The reasons why RDRML resists an efficiency performance number are pragmatic reasons:
- (a) It is well aware of the difficulty in measuring fish screen efficiency. As Ben Curry states, BAFF trials have yielded erratic records ranging from as low as 4 per cent diversion efficiency to 90 per cent or more.<sup>57</sup>
  - (b) This view is supported by RDRML's expert evidence. In addition to the erratic records from the BAFF, Dr Ryder notes that an accurate assessment of efficiency would require being able to quantitatively survey fish in the RDR upstream and downstream of the fish screen. Further, all fish capture methods that he is familiar with are subject to considerable error, and the ability to capture or record all fish moving down the bypass is extremely challenging.<sup>58</sup> Mr Morgan gives similar evidence.<sup>59</sup>
63. For those reasons, it is RDRML's strong submission that conditions of consent should not state an efficiency target.

***Other issues relevant under the statutory framework***

64. Beyond those *key* issues, it is RDRML's evidence that on an overall basis potential adverse effects will be no more than minor. Effects are proposed to be managed so that any resulting adverse effects are minimal or result in a net benefit. Specifically:
- (a) Effects on the natural character values of the Rangitata River system will be neutral or positive in the long term. Any diminution of natural character values associated with construction of the storage pond will be gradually offset and then superseded by the proposed establishment of native vegetation along the main banks of the Rangitata River and the development of the lizard habitat and wetland.<sup>60</sup>

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<sup>57</sup> Evidence of Ben Curry, at 8.2.2.

<sup>58</sup> Evidence of Greg Ryder, at 71.

<sup>59</sup> Evidence of Paul Morgan, at 104.

<sup>60</sup> Evidence of Stephen Brown, at 120.

- (b) Landscape, visual and amenity impacts from the storage pond are generally low or (where higher) limited to 8-10 years,<sup>61</sup> with a long term moderate impact from elevated vantage points within Peel Forest (Little Mount Peel). The disruption of views to high country will be counterbalanced somewhat by the opening up of new views towards Mt Peel and the Tara Haoa Range through the removal of shelterbelts, whilst in the medium to longer term the completed water storage facility will integrate into its rural farmland setting.<sup>62</sup>
- (c) The broader natural character and amenity impacts of the proposal (aside from the water abstraction and storage pond) are less than minor, or minor in respect of the proposed fish screen.<sup>63</sup>
- (d) The loss of lizard habitat is potentially significantly adverse without mitigation. However, in the long term, the creation of proposed lizard habitat within the ecological refuge will result in a net benefit to lizards by increasing the area and quality of habitat.<sup>64</sup>
- (e) There will be a loss of scattered native plants but a net benefit by providing three contiguous areas of native vegetation, including the ecological refuge, where none exists currently, and which will be under long-term protection through consent conditions and a management plan. This contributes to the net benefit to be realised for birds by providing additional native vegetation and wetland habitat for birds.<sup>65</sup>
- (f) For recreation impacts (aside from those on the Rangitata River which I have already addressed), there is very little potential for adverse effects on hunting and fishing. The proposed white water course standing wave feature will provide a new family-focused recreation setting and offers benefits to recreation. Accordingly, the overall recreation impacts of the proposal will be balanced and acceptable.<sup>66</sup>

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<sup>61</sup> Viewpoints 1, 2 and 3. Evidence of Stephen Brown at 122.

<sup>62</sup> Evidence of Stephen Brown, at 118-119.

<sup>63</sup> Evidence of Stephen Brown at 122.

<sup>64</sup> Evidence of Mark Sanders, at 84-88 and 92.

<sup>65</sup> Evidence of Mark Sanders, at 70 – 83 and 90.

<sup>66</sup> Evidence of Rob Greenaway, at 31, 34 and 98.

- (g) Archaeological effects are unlikely to arise but measures are proposed to manage effects on archaeological resources if any are encountered.<sup>67</sup>
- (h) RDRML undertook a proper consultation process, identified, and considered cultural issues. Where necessary RDRML adapted the proposal to meet concerns or put suitable mitigation and consent conditions in place. Any adverse cultural effects will be no more than minor, and will result in some positive cultural outcomes, such as the ecological refuge.<sup>68</sup>
- (i) A draft cultural impact assessment was provided by Te Rūnanga o Arowhenua which identified cultural values impacted by the proposal and suggests appropriate responses.<sup>69</sup> Mr Mikaere believes that the proposal has been adapted to meet cultural concerns and that suitable mitigation and consent conditions are in place.<sup>70</sup>
- (j) Construction activities will be managed so that effects are acceptable. In this regard, noise is predicted to be less than minor, and dust and smoke control is to be managed so that any effects are less than minor, particularly through a draft Dust Management Plan and Smoke Management Plan.<sup>71</sup> The road network will continue to operate with a high level of service for other users, and a Construction Traffic Management Plan<sup>72</sup> and Road Improvement, Maintenance, Monitoring & Actions conditions are proposed to manage transportation related effects.<sup>73</sup> No measureable adverse effects on the general groundwater quality in the area or on groundwater users are expected from construction activities.<sup>74</sup>

65. The proposal will also have *positive* effects, some of which are significant, as follows:

- (a) Net improvements to native biodiversity, and to lizards, through increased area and quality of habitat (the creation of a 6 ha ecological refuge including 1 ha of lizard habitat, 3 ha of native plantings and 2 ha of constructed wetland).<sup>75</sup>

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<sup>67</sup> Evidence of Rod Clough, at 52 – 54.

<sup>68</sup> Evidence of Buddy Mikaere, at 14.1-14.2.

<sup>69</sup> Not included with the AEE as in draft form, but discussed in section 2.9 of the AEE.

<sup>70</sup> Evidence of Buddy Mikaere, at 14.1.

<sup>71</sup> Evidence of Prue Harwood, Attachments 8 and 9.

<sup>72</sup> Evidence of Andrew Metherell, Attachment B.

<sup>73</sup> ADC conditions 11.0-11.4.

<sup>74</sup> Evidence of Peter Callander, at 54.

<sup>75</sup> Evidence of Mark Sanders, at 65 – 69, 90 and 92.

- (b) Ecological benefits from replacing the existing BAFF.<sup>76</sup>
  - (c) Recreational benefits from the proposed white water course standing wave feature.<sup>77</sup>
  - (d) A net benefit for birds by providing native vegetation, open water and wetland habitat for birds (including threatened birds of braided rivers).<sup>78</sup>
  - (e) The opportunity for environmental restoration through TSA and MAR.<sup>79</sup>
  - (f) Direct economic benefits to the local and regional economies from the provision of a reliable water supply for irrigation and an expanded irrigated area, some of which are or have the potential to be significantly positive.<sup>80</sup>
66. RDRML's proposed conditions ensure that effects are avoided, remedied or mitigated to an acceptable level. An extended lapse period of 15 years<sup>81</sup> is sought to enable the degree of flexibility and surety needed to advance the proposal as economic conditions allow.
67. In terms of the relevant statutory directions, which directly apply to these applications, it is my submission that:
- (a) The proposal will not contravene any provisions of the WCO.
  - (b) A large number of statutory planning documents are relevant to the proposal including the National Policy Statement Freshwater Management, the National Policy Statement Renewable Electricity Generation, the Canterbury Regional Policy Statement, the LWRP and the ADP. A detailed assessment shows that the proposal is consistent with the relevant objectives and policies in those national, regional and district planning documents.<sup>82</sup>

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<sup>76</sup> Evidence of Greg Ryder, at 79.

<sup>77</sup> Evidence of Rob Greenaway, at 98.

<sup>78</sup> Evidence of Mark Sanders, at 76 – 83 and 91.

<sup>79</sup> Evidence of Ben Curry, at 5.8.

<sup>80</sup> Evidence of Glen Greer, at 12 – 17.

<sup>81</sup> The application sought a lapse period of 35 years but the applicant has modified this to 15 years.

<sup>82</sup> Evidence of David Greaves.

- (c) Given the effects assessments, and the consistency of the proposal with relevant planning documents, if assessed on an overall basis the proposal passes both 'gateway' tests in s 104D of the RMA.<sup>83</sup>
- (d) Under s 104(1)(c) the Canterbury Water Management Strategy is a relevant consideration. The proposal supports the delivery of the targets in the Canterbury Water Management Strategy.<sup>84</sup>
- (e) The consent authority can be satisfied that ss 105 and 107 of the RMA as to discharges to the Rangitata River have been addressed, and RDRML's assessment is that s 107(1) of the RMA is not contravened.<sup>85</sup> However, if the Panel finds otherwise, then the periodic discharge aspects of the proposal are appropriate because they are either of a temporary nature<sup>86</sup> or are associated with necessary maintenance work.<sup>87</sup>

#### **Issues addressed in these legal submissions**

- 68. I do not propose to labour further the extensive expert evidence, which has been pre-exchanged and read by the Commissioners, but rather focus on the legal issues that arise for the Commissioners' consideration.
- 69. In my submission, those can be grouped as follows:
  - (a) Resource consents required?
    - (i) Is resource consent required for the use of water for storage?
    - (ii) Is resource consent required for the emergency discharge of water down the emergency spillway?
  - (b) Issues relating to the substantive assessment:

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<sup>83</sup> Evidence of David Greaves, at 6.89-6.90.

<sup>84</sup> Evidence of David Greaves, at 6.80-6.84.

<sup>85</sup> Evidence of David Greaves, at 6.91-6.96.

<sup>86</sup> Occasional discharges via the discharge channel in two scenarios (heavy rain when the pond is either already at capacity, or there is a control failure and water continues to divert into the pond), emergency discharge via the emergency spillway which involves opening of the spillway gate.

<sup>87</sup> Periodic maintenance checks of the spillway gate.

- (i) What are the *key* provisions of the WCO which apply?
  - (ii) How should the 'existing environment' and cumulative effects be approached, particularly with regard to the proposed flood flow take?
  - (iii) How should the gateway tests for non-complying activities be approached?
  - (iv) What do the *Davidson* decisions mean for the application of Part 2?
- (c) Issues raised by submitters:
- (i) Are the effects of agricultural intensification relevant (Hermann Frank)?
  - (ii) Are compensation conditions required (Early Family Trust)?
  - (iii) Is the reasonable use of water made out (Rangitata Water Limited and others)?
  - (iv) Is the proposal a derogation to a subservient consent (Rangitata Water Limited)?

70. I now address those issues in turn.

### **Resource consent applications**

#### ***Use of water for storage***

71. RDRML did not initially apply for the use of water for storage as part of its resource consent applications. It is my submission that the use of water for storage is not an activity regulated by the RMA. Section 14 regulates the use of water. It also regulates damming (which is storage). The 'use of water for storage' conflates the two.

72. However the submission made by Rangitata Water Limited (**RWL**) on RDRML's resource consent applications suggested that this was an omission. Furthermore, RDRML understood that ECan had previously issued resource consents which infer that resource consent is required for the use of water for storage. For example:
- (a) Opuha Water Ltd obtained a resource consent (CRC151133) to "divert, take and use water". The conditions of the resource consent state that water shall only be used for irrigation or storage. This suggests that ECan classified water storage as a use in this particular consent.
  - (b) The s 42A report and ECan decision granting consents to Barrhill Chertsey Irrigation Limited for a 1.6Mm<sup>3</sup> storage pond (decision 1 September 2017) suggest that a consent for the use of water for storage was needed but not sought (it would be sought at a later stage).
73. Accordingly, when RDRML applied in November 2017 for resource consent for the replacement fish screen, it included an application for the use of water for storage.
74. Notwithstanding that, it remains my submission that the use of water for storage is not an activity that is regulated by the RMA. I address this in detail more shortly but note that the application was made out of an abundance of caution for a number of reasons – so that the Commissioners were not confined in their consideration of the matter, and so that there were no s 91 issues.
75. Under s 14 of the RMA no person may take, use, dam, or divert any water (excluding domestic and stock water needs) unless expressly allowed by a national environmental standard, a rule in a regional plan, or a resource consent. The heading and subsection (2) provide:

**Restrictions relating to water**

..

(2) No person may take, use, dam, or divert any of the following, unless the taking, using, damming, or diverting is allowed by subsection (3):

- (a) water other than open coastal water; or
- (b) heat or energy from water other than open coastal water; or
- (c) heat or energy from the material surrounding geothermal water.

76. The RMA does not define “take” or “dam”.
77. The Canterbury Regional Policy Statement (**RPS**) does not define “storage”, “use”, or “dam”, and does not explicitly state whether water storage would be classified as a “use”, a “dam” or both. However, the RPS does discuss water storage in the context of damming (for example, see policy 7.3.2 at 7-13).
78. The RPS does not define “take”. However, it discusses the benefits of water storage and provides for the conversion of resource consents for ‘run of river’ takes to takes to storage (see 7-26).
79. The LWRP refers to water storage numerous times, but does not explicitly state whether water storage would be classified as a *use*, *damming* or both.
80. The LWRP does not define “take”. However it does define “dam” and “damming”:
  - (a) Dam “means a structure used or to be used for the damming of any water, or waterbody where the structure is the full width of the waterbody and includes stormwater treatment ponds, sediment retention ponds and temporary impoundments used during site dewatering. It excludes bridges, intake bunding or structures for water takes provided the structures for water takes are not the full width of a waterbody, culverts except any culverts which have a mechanism that can be used to completely block the flow of water through the culvert, and any activities involved in the enhancement, creation or restoration of wetlands.”
  - (b) Damming “means the impounding of water by a dam.”
81. Section 14 of the RMA very clearly distinguishes between the activities of taking, using, damming or diverting. On a plain reading of the section, these are separate and different activities. They are separated by commas, and subsections 3 and 3(a) also refer to “taking, using, damming, or diverting”. Subsections 3(b)-(e) then only deal with taking and using.



82. The impounding of water is the same as storing water. For that reason, storing of water in a dam (or storage facility) is the activity of *damming*. It is not a *use*.
83. In contrast, the *uses* which s 14 of the RMA looks to regulate, are the 'end' uses of water such as irrigation, hydro-electricity generation, stockwater, municipal water supply etc.
84. ECan now appears to agree with this analysis.<sup>88</sup>
85. If the Commissioners agree with this analysis then the resource consent application for the use of water for storage can be declined. If the Commissioners do not agree with this analysis (or are unsure) then, assuming resource consents are granted, the application for the use of water for storage should be granted.

### ***Emergency spillway consent***

86. Section 330 of the RMA governs emergency works.<sup>89</sup> It essentially provides a statutory basis for an activity (in this case, a discharge) which would otherwise require resource consent because it would be in breach of s 15 RMA.
87. Following the emergency works, the operator must advise the consent authority within seven days that it has undertaken the activity.<sup>90</sup> If the activity required resource consent and the adverse effects of the activity continue, the operator must apply for resource consent within

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<sup>88</sup> Refer ECan s 42A report, at 32. See also Memo from Marie Dysart dated 23 February 2018, attached as Appendix B.

<sup>89</sup> **330 Emergency works and power to take preventive or remedial action**

(1) Where—

- (a) Any public work for which any person has financial responsibility; or
- (b) Any natural and physical resource or area for which a local authority or consent authority has jurisdiction under this Act; or
- (c) Any project or work (or network utility operation) for which any network utility operator is approved as a requiring authority under section 167; or
- (ca) any service or system that any lifeline utility operates or provides is, in the opinion of the person, authority, network utility operator, or lifeline utility, affected by or likely to be affected by—
- (d) An adverse effect on the environment which requires immediate preventive measures; or
- (e) An adverse effect on the environment which requires immediate remedial measures; or
- (f) Any sudden event causing or likely to cause loss of life, injury, or serious damage to property

the provisions of sections 9, 12, 13, 14, and 15 shall not apply to any activity undertaken by or on behalf of that person, authority, network utility operator, or lifeline utility to remove the cause of, or mitigate any actual or likely adverse effect of, the emergency.

(1A) Subsection (1) applies whether or not the adverse effect or sudden event was foreseeable..

<sup>90</sup> Section 330A(1) RMA.

20 working days of notifying the consent authority of the works.<sup>91</sup> If the application is made within these time limits then it can continue until appeals are determined.<sup>92</sup>

88. Accordingly, in many if not most cases, even if s 330 provides a statutory basis for an activity, which would otherwise require resource consent, resource consent must still be sought after the fact.
89. In this case, RDRML obviously plans not to have to activate an emergency spillway discharge. If an emergency did eventuate and the water storage facility had to be emptied due to an imminent dam break, it is possible if not likely that RDRML could seek to rely on s 330 RMA. Equally however, it is likely that it would subsequently require resource consent.
90. RDRML's prospective application for the emergency discharge of water down the emergency spillway enables the activity (and any suitable parameters which should be imposed on the activity) to be considered now.

#### **Issues relating to the substantive assessment**

#### ***WCO***

91. Section 217(2) of the RMA spells out the effect of a water conservation order:  
  

(2) Where a water conservation order is operative, the relevant consent authority—

  - (a) Shall not grant a water permit, coastal permit, or discharge permit if the grant of that permit would be contrary to any restriction or prohibition or any other provision of the order:
  - (b) Shall not grant a water permit, a coastal permit, or a discharge permit to discharge water or contaminants into water, unless the grant of any such permit or the combined effect of the grant of any such permit and of existing water permits and discharge permits and existing lawful discharges into the water or taking, use, damming, or diversion of the water is such that the provisions of the water conservation order can remain without change or variation:
  - (c) Shall, in granting any water permit, coastal permit, or discharge permit to discharge water or contaminants into water, impose such conditions as are necessary to ensure that the provisions of the water conservation order are maintained.

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<sup>91</sup> Section 330A(2) RMA.

<sup>92</sup> Section 330A(3) RMA.

92. As discussed, the WCO sets conditions, which act as minimum flow thresholds for the Rangitata River in order to protect its outstanding characteristics, features and values. There are no conditions, which act as maximum flow thresholds, which themselves constrain the allocation of flood flow or high flow water. The evidence from RDRML's expert witnesses (and the s 42A report writer) is that these provisions – found in clause 9 of the WCO – are maintained.
93. The sluicing discharge had, in the opinion of the s 42A report writer, the potential to contravene clause 11 of the WCO, which sets restrictions on the alteration of water quality, but RDRML is not pursuing consent for the sluicing discharge. Its evidence is that the remaining discharge activities will not contravene the WCO.<sup>93</sup>
94. The Rangitata River (from the RDR intake at Klondyke and downstream) was not in its natural state at the time the WCO was made. Accordingly, the purpose of water conservation orders in s 199(2) RMA is the relevant provision under which the WCO was made for that stretch:

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

95. The Report by the Special Tribunal on the WCO (October 2002) did not recommend restrictions on the taking of high flow water. The Environment Court further declined to include provisions about the extraction of water at flows above 110m<sup>3</sup>/s, saying specifically:<sup>94</sup>

[21] How the additional flows above 110m<sup>3</sup>/s may be allocated can be dealt with in a Regional Plan (as is recognised above when discussing the deletion of 9(3)(b)(ii) and 9(3)(c)(ii)). **It is the setting of the minimum flow and maximum extractions at flows above the minimum but less than 110m<sup>3</sup>/s for the protection of identified values which is the purpose of the water conservation order.** We find that the additional clause suggested by the applicants does little more than clarify the volumes available when flows exceed 110m<sup>3</sup>/s. Accordingly, we can see no reason for not including the additional term. It is intended for clarity, and does not impose any further controls.

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<sup>93</sup> Evidence of Greg Ryder, at 119 and 120.

<sup>94</sup> *Rangitata South Irrigation Limited v New Zealand and Central South Island Fish and Game Council* EnvC Christchurch, C135/05, 22 September 2005.

96. That is not to say that the effects of the proposed flood flow take are not relevant – they are effects to be assessed under s 104(1)(a) of the RMA. However, the proposed flood flow take does not breach the WCO, the purpose of which is the setting of the minimum flow and maximum extractions at flows above the minimum but less than 110m<sup>3</sup>/s for the protection of identified values.
97. The submissions from the Central South Island Fish & Game Council discuss clause 10(2) of the WCO, which provides:
- (2) No resource consent in relation to an intake site may be granted, or rule included in a regional plan, for the waters specified in Schedule 2 authorising an activity **unless that resource consent provides for fish exclusion or a fish bypass system to prevent fish from being lost from the specified waters.**
98. The directive words in clause 10(2) are that a resource consent provide for fish exclusion or a fish bypass system. The objective of the fish exclusion or fish bypass system is to prevent fish from being lost from the river.
99. The resource consent which RDRML already holds (CRC011327) contains a condition requiring it to take such measures as are appropriate to ensure that, so far as is reasonably practicable, juvenile salmon are excluded from the body of the diversion race and are returned to the river. Clause 10(2) of the WCO is therefore already addressed. RDRML acknowledges however that the current system for achieving that (the Bio-Acoustic Fish Fence Guidance System, or BAFF) is problematic, and proposes the mechanical rotary fish screen.

***Existing environment and cumulative effects***

100. There are two RMA terms, which are relevant to these issues:
- (a) "Environment"; and
- (b) "Effect".

### Environment

101. The term “environment” is important as it is any actual and potential effects *on the environment* of allowing the activity, which the consent authority must consider under s 104(1)(a) RMA.
102. A re-consenting decision, which also provides a summary of the relevant cases as at 2005, is *Alexandra District Flood Action Society Inc v Otago Regional Council*.<sup>95</sup> The Environment Court held in that particular case that the environment was the environment as it was during the hearings, but allowing for seasonal variations as they come and go. In this regard it is notable that the Court said:<sup>96</sup>

The important point is, in our view, that a consent authority considering an application for resource consent does not usually compare "environments", it usually compares "effects" on one environment. That is because effects are effects **on** someone or something.

103. Some key principles can be distilled from the cases and these are as follows:
- (a) It is for the decision maker to determine the existing environment. This is essentially an evaluative factual assessment.<sup>97</sup>
  - (b) This analysis includes having regard to lawfully authorised activities, including the environment as it might be modified by the implementation of resource consents which have been granted at the time a particular application is considered, where it appears likely that those resource consents will be implemented.<sup>98</sup>
  - (c) When a territorial authority is deciding the plan for the future, there is nothing in the RMA to constrain a forward looking thinking, and the 'likely to be implemented' test (in respect of resource consents) was intended to be a real-world analysis.<sup>99</sup>

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<sup>95</sup> *Alexandra District Flood Action Society Inc v Otago Regional Council* EnvC Christchurch C102/2005, 20 July 2005.

<sup>96</sup> At [70].

<sup>97</sup> *Arrigato Investments Limited v Auckland Regional Council* [2002] 1 NZLR 323 (CA); *Queenstown-Lakes District Council v Hawthorn Estate Limited* (2006) 12 ELRNZ 299 (CA).

<sup>98</sup> *Queenstown Lakes District Council v Hawthorn Estate Limited* (2006) 12 ELRNZ 299 (CA). See in particular [84].

<sup>99</sup> *Shotover Park v Queenstown Lakes District Council* [2013] NZHC 1712 at [115]-[117].

104. What falls within the "environment" is essentially an evaluative exercise for the decision maker. In this case it is the Rangitata River as modified by the RDR and the other resource consents which ECan has granted to take water from the Rangitata River. There is little dispute as to what the relevant *environment* is that effects are to be assessed against.

Cumulative effects

105. The definition of "effect" is extremely wide and includes cumulative effects.
106. Earlier case law, including *Dye v Auckland Regional Council*,<sup>100</sup> considered the cumulative effects of the proposed activity (i.e. cumulative effects of the same activity) while later case law has indicated that cumulative effects are not confined to cumulative effects of the same activity.
107. In the Unison Windfarms case,<sup>101</sup> in assessing adverse cumulative effects for the purpose of an appeal by the Outstanding Landscape Protection Society against the granting of consents to Unison to construct and operate stage 2 of a windfarm, the Court looked at the wider environment, which encompassed two other consented windfarms in the area. The Court stated that:<sup>102</sup>

If an existing activity has adverse effects, and the proposed activity also has an adverse effect which would add to the existing effects, then to comply with the definition one would have regard to the combined effects of both. That is because the proposal will have an impact in combination with other effects even if its ... scale, intensity, duration or frequency ... is not, of itself, more than minor. That would comply with the ordinary meaning of cumulative.

108. The Court stated that if a consent authority could never refuse consent on the basis that the current proposal is the straw that will break the camel's back, sustainable management is immediately imperiled.
109. The concept of cumulative effect as also been expressed by the Environment Court as an "assessment of an effect that is proposed to occur over and above an existing situation. That

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<sup>100</sup> *Dye v Auckland Regional Council* [2001] NZRMA 513 (CA).

<sup>101</sup> *Outstanding Landscape Protection Society Inc v Hastings District Council* [2008] NZRMA 8.

<sup>102</sup> At [50].

is, against an existent situation whether that came about gradually or as the result of a single event".<sup>103</sup>

110. Given that the definition of "effect" refers to any cumulative effect which arises over time "or in combination with other effects", it follows that it is referring to other lawfully established effects.
111. There is no prescribed methodological approach to an assessment of cumulative effects. Accordingly, it will be for the Commissioners to determine whether the way in which the assessment of cumulative effects has been approached is acceptable.
112. In this case for the key disciplines where cumulative effects are an issue:
  - (a) Hydrology: Mr Veendrick's evidence contains the necessary natural state information to enable an assessment against natural state. That enables cumulative effects to be assessed at their extreme. It is open to the Commissioners to take a less prescriptive approach and simply approach it as an assessment of an effect against the existent situation, including acknowledgment of the long term degree of modification of the Rangitata River and the protection of its outstanding characteristics, features and values through the minimum flow thresholds in the WCO.
  - (b) Aquatic ecology and water quality: Dr Ryder has (in addition to his assessment of the effects of the proposal on the environment as it exists today) turned his mind to whether there is any evidence of declining trends in the Rangitata River. This is a logical way in which to 'check' the potential for cumulative effects. His evidence does not identify any concern regarding cumulative effects.
  - (c) Recreation: Mr Greenaway has turned his mind to what the 'tipping point' would be. This is a pragmatic approach given that some recreational pursuits such as kayaking are unlikely to have been undertaken (or have been frequent) when the river was in its natural state. Mr Greenaway considers that a tipping point would be where amenity for rafting or kayaking is lost or modified in a meaningful way (particularly where educational opportunities are lost) which is not the case.

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<sup>103</sup> *Blampied v Whangarei District Council* [2012] NZEnvC 54, at [58].

113. I note for completeness that Stephen Brown has also assessed the cumulative/additive nature of the proposed water abstraction, and assesses any landscape and natural character effects associated with the proposed water abstraction as low or very low order.<sup>104</sup>
114. The Commissioners can be satisfied that RDRML's expert witnesses have examined the potential for cumulative effects and have a sound basis for concluding that there is no tipping point or adverse cumulative effect which warrants the decline of the proposed flood flow take.

### ***Non-complying activities***

115. Under s 104D(1) RMA, a consent authority may only grant a resource consent if it is satisfied that either of the following two gateway tests are met. These tests are:
- (a) The adverse effects of the activity on the environment (other than any effect on a person who has given written approval to the application) will be minor (gateway one); or
  - (b) The application is for an activity that will not be contrary to the objectives and policies of the relevant plan(s) (gateway two).
116. There is no authoritative statement from the higher Courts on whether the first gateway can be approached on an overall basis, but there is Environment Court authority that it can be approached in this way.
117. The Environment Court in *Living Earth Ltd v Auckland Regional Council*<sup>105</sup> stated that minor means lesser or comparatively small in size or importance; and the judgment is to be made taking the adverse effects as a whole. The Court stated that the question is whether the adverse effects of the activity on the environment would be minor so, having considered the possible effects by topic separately, the Court would then take an overall view of them all.

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<sup>104</sup> Evidence of Stephen Brown, at 93-95.

<sup>105</sup> *Living Earth Ltd v Auckland Regional Council* 4/10/2006, A126/06.



118. The Environment Court in *Fonterra Co-operative Group Ltd v Manawatu-Wanganui Regional Council*<sup>106</sup> cited *Living Earth Ltd v Auckland Regional Council*'s statement that minor means lesser or comparatively small in size or importance; and the judgment is to be made considering the adverse effects as a whole. The Court concluded that discharge into the river, establishment of the discharge infrastructure, and discharges to land and air will have adverse effects that are no more than minor. However, the effects of a discharge into a stream when viewed in isolation were more than minor. The Court nevertheless, while acknowledging ongoing adverse effects for a short term into the stream, concluded that given the proposed avoidance, remediation and mitigation measures, the adverse effects of the proposal as a whole are minor and the proposal passed through gateway one.
119. In contrast, the second gateway has received judicial attention from the higher Courts. The Court of Appeal in *Dye v Auckland Regional Council*<sup>107</sup> noted that in a case of a non-complying activity, one cannot expect to find support for the activity in the plan. The Court concluded that the view which the Environment Court took was open to it on a fair appraisal of the objectives and policies read as a whole and, in reaching its view, the Court committed no error of law.
120. The High Court in *Queenstown Central Limited v Queenstown Lakes District Council*<sup>108</sup> suggested that gateway two was not intended to be used for finessing out qualifiers of one objective by looking at another objective to reach some overall conclusion that viewed "as a whole" the objectives allowed the activity. The question is whether the proposal will not be contrary to any of the objectives or policies. However, this is an outlier in terms of the Court of Appeal decision in *Dye* and the weight of Environment Court authority:
- (a) The Environment Court in *Living Earth Ltd v Auckland Regional Council* concluded that the question was whether the proposal would be contrary to the objectives and policies of the relevant plans, in an overall consideration of the purposes and scheme of the plans.

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<sup>106</sup> *Fonterra Co-operative Group Ltd v Manawatu-Wanganui Regional Council* [2013] NZEnvC 250.

<sup>107</sup> *Dye v Auckland Regional Council* [2001] NZRMA 513 (CA).

<sup>108</sup> *Queenstown Central Limited v Queenstown Lakes District Council* [2013] NZHC 815 (*Foodstuffs*); *Queenstown Central Limited v Queenstown Lakes District Council* [2013] NZHC 817 (*Cross Roads*).

- (b) The Environment Court in *Fonterra Co-operative Group Ltd v Manawatu-Wanganui Regional Council* concluded that in considering the policy gateway it is necessary to consider relevant objectives and policies as a whole.
- (c) The Environment Court in *Saddle Views Estate Ltd v Dunedin City Council*<sup>109</sup> stated that for most of the life of the RMA the correct legal inquiry is whether the proposal is *generally* not contrary to the objectives and policies of a plan, not whether it is not contrary to *any* objective and policy. The Court noted that the *Queenstown Central Limited v Queenstown Lakes District Council* cases may have cast some doubt on this position, as the High Court seemed to suggest that being contrary to one objective in a proposed plan meant gateway two was not met. However, the Court preferred the approach taken by the Court of Appeal in *Dye v Auckland Regional Council* and concluded that the test requires standing back and looking at the objectives and policies read as a whole.

121. In summary, the assessment of whether the proposal passes the s 104D gateway tests for non-complying activities can be approached on an overall basis in both cases. On the evidence, approached in that way the proposal passes both gateways.<sup>110</sup>

### **Relevance of Part 2 RMA**

- 122. The High Court in *RJ Davidson Family Trust v Marlborough District Council*<sup>111</sup> concluded that Part 2 matters should not be considered in resource consent applications under s 104(1) RMA unless there is invalidity, incomplete coverage or uncertainty in planning documents.
- 123. That means that the Commissioners will need to consider whether and how to address Part 2 matters despite the conclusion reached in *Davidson*.
- 124. *Davidson* has been appealed to the Court of Appeal. That appeal has been heard but a decision is awaited.

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<sup>109</sup> *Saddle Views Estate Ltd v Dunedin City Council* [2014] NZEnvC 243, [2015] NZRMA 1.

<sup>110</sup> Evidence of David Greaves, at 6.89-6.90.

<sup>111</sup> *RJ Davidson Family Trust v Marlborough District Council* [2017] NZHC 52, [2017] NZRMA 227 (31/01/17).

125. The Environment Court distinguished *Davidson* in the following cases on the basis that the cases involved a designation whereas *Davidson* involved a resource consent application:<sup>112</sup>

(a) *Minister of Corrections v Otorohanga District Council*.<sup>113</sup>

(b) *Re Queenstown Airport Corporation Ltd*.<sup>114</sup>

126. The Environment Court distinguished *Davidson* in the following cases on the basis that the resource consent applications in *Davidson* involved an existing plan and these resource consent applications also involved a proposed plan:

(a) *Skyline Enterprises Ltd v Queenstown Lakes District Council*.<sup>115</sup>

(b) *Save Wanaka Lakefront Reserve Inc v Queenstown Lakes District Council*.<sup>116</sup>

127. The Environment Court in *Envirofume Ltd v Bay of Plenty Regional Council*<sup>117</sup> noted that *Davidson* extended *King Salmon* to resource consent applications but nevertheless concluded that Part 2 is still relevant to resource consent applications for three reasons:

(a) As an overview or check that the purpose of the Act and that Part 2 issues are properly covered and clear;

(b) To focus the Court or decision makers on the overall purpose of the consent in question; and

(c) As a check that the various documents have recognised, provided for or given effect to the Act and other documents in the hierarchy.

128. The Environment Court in *Ngāi Te Hapū Inc v Bay of Plenty Regional Council*<sup>118</sup> took a cautious approach and assumed *King Salmon* does apply to resource consent applications. However,

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<sup>112</sup> The Environment Court in both cases concluded it was bound by *New Zealand Transport Agency v Architectural Centre Inc* [2015] NZHC 1991 (*Basin Bridge*) (decided before *Davidson*) in which the High Court did not apply *King Salmon* to designations. This is despite both the s 104(1) test for resource consent applications and s 171(1) test for designations containing the *subject to Part 2* phrase.

<sup>113</sup> *Minister of Corrections v Otorohanga District Council* [2017] NZEnvC 213.

<sup>114</sup> *Re Queenstown Airport Corporation Ltd* [2017] NZEnvC 46.

<sup>115</sup> *Skyline Enterprises Ltd v Queenstown Lakes District Council* [2017] NZEnvC 124.

<sup>116</sup> *Save Wanaka Lakefront Reserve Inc v Queenstown Lakes District Council* [2017] NZEnvC 88.

<sup>117</sup> *Envirofume Ltd v Bay of Plenty Regional Council* [2017] NZEnvC 12, [2017] NZRMA 419.

<sup>118</sup> *Ngāi Te Hapū Inc v Bay of Plenty Regional Council* [2017] NZEnvC 73.

the Court also observed that *Davidson* conflicts with the *Basin Bridge* decision,<sup>119</sup> and repeated its observation in *Envirofume Ltd v Bay of Plenty Regional Council* that a Part 2 check can be useful to ensure nothing has been missed and the outcome meets the purpose of the RMA. The Court also noted that the *Davidson* decision is being appealed and its applicability to resource consents is unclear.

129. It is apparent from the case law following *Davidson* that different divisions of the Environment Court have applied *Davidson* in varying ways. In my submission the most cautious approach is to follow the division presided over by Judge Smith which approaches it on the basis that Part 2 is a useful check in resource consent applications to ensure nothing has been missed.
130. Mr Greaves has addressed the implications of *Davidson* in his evidence and discussed the proposal in light of Part 2 for completeness. In my submission this is prudent both in terms of the relevant planning documents and Part 2 given the uncertainty surrounding the *Davidson* decision and the fact that it is currently on appeal to the Court of Appeal.

#### **Issues raised by submitters**

##### ***Indirect effects of agricultural intensification***

131. A submission by Hermann Frank on the proposal raises a concern that the water storage must inevitably facilitate agricultural intensification, and the effects of that need to be addressed.
132. In my submission the broader question of agricultural intensification cannot be addressed by the Klondyke storage proposal. In particular:
  - (a) Firstly the storage proposal is primarily about increased reliability for existing irrigation within the Mayfield-Hinds Valetta and Ashburton Lyndhurst Irrigation Schemes. This includes an increase in irrigation application rate which is likely to result in an increase in uptake of nutrients (as a result of better meeting crop water requirements), which in turn is expected to lead to a reduction in nutrient leaching to the underlying groundwater.

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<sup>119</sup> The High Court in *Hokio Trusts v Manawatu-Wanganui Regional Council* [2017] HC 1355, [2017] NZRMA 543 also recognised that *Davidson* contradicts *Basin Bridge* but did not have to decide which decision was correct.

- (b) Secondly, beyond irrigation which is already existing and/or authorised, any further agricultural intensification would be governed by the relevant rules of the LWRP, which sit outside the scope of the Klondyke storage proposal. In particular, under that Plan, if farming activities are not permitted activities then they require resource consent which is subject to its own statutory process (including an assessment of environmental effects). The merits of agricultural intensification would be assessed through that separate process.

133. This is not unlike the submissions which the hearing committee (the Honourable Peter Salmon QC, Rau Kirikiri and Andrew Fenemor) had to consider when they determined the application by Trustpower Ltd to amend the National Water Conservation (Rakaia River) Order 1988. In particular, they were faced with submissions that the application should not proceed until Environment Canterbury had imposed nutrient limits, water quality standards, or land use rules in the Selwyn Waihora or Ashburton catchments. The committee said that:<sup>120</sup>

We do not have the power when considering an application under the ECan Act to require either the applicant or Environment Canterbury to undertake actions under a different statutory process. We cannot approve the application on condition that something occurs under another statute nor are we entitled to adjourn it until other statutory processes have been followed. We must take the application as it is in the circumstances that exist at this stage.

134. Although the committee was talking about the ECan Act as opposed to the RMA, this situation is no different where the Panel is faced with determining the resource consent applications before it. Other resource consent applications which may follow will be subject to their own process, and the hearings committee determining the Klondyke storage proposal will have no jurisdiction over those. Any indirect effects of the storage pond through further agricultural intensification (which as I have said above is not the primary purpose of the proposal) are better managed through that process - where they will be directly scrutinised - than they are through the storage proposal.

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<sup>120</sup> Paragraph 81.

***Are compensation conditions required (Early Family Trust)?***

135. Part of the storage pond is located on the Early Family Trust's land. The Early Family Trust's submission supports the proposal but seeks to ensure that any consent holder assumes full liability for all loss or damage to its farming operations in the event that its property or farming activities are adversely affected and suffer damage due to the effects of the applicant's activities. This is stated to be irrespective of insurance cover and appears to relate to construction, seepage and dam break. The Trust also requests conditions requiring a bank bond to secure the cost of any remedial works that may be required.s
136. RDRML has sought resource consents under the RMA to authorise the construction, operation and maintenance of the Klondyke storage facility. If resource consent is granted, there are some 'constraints' as to what sorts of conditions can be imposed on the consent.
137. In particular, in addition to the constraints established through caselaw that conditions must be logically connected to the development, not unrelated to it and not for exterior or ulterior concerns,<sup>121</sup> the RMA establishes constraints on what conditions can be imposed seeking financial contributions. Such conditions need to be imposed in accordance with relevant plan provisions (including as to the level of contribution required).<sup>122</sup>
138. Furthermore, bond conditions are for the purpose of securing the performance of conditions (i.e. they do not 'stand alone').<sup>123</sup>
139. Conditions imposed by a consent authority would not typically extend to compensation type conditions. This is principally because such condition essentially involve money which can be seen as a financial contribution and therefore *ultra vires* unless imposed in accordance with relevant plan provisions. It can also be argued that such conditions are for an exterior purpose (to address potential civil liability).
140. The Environment Court in *Alexandra District Flood Action Society Inc* was equivocal about whether or not it had the power to impose compensation conditions, saying:<sup>124</sup>

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<sup>121</sup> *Waitakere City Council v Estate Homes Limited* [2007] 2 NZLR 149.

<sup>122</sup> Section 108(1) RMA.

<sup>123</sup> Section 108A RMA.

<sup>124</sup> *Alexandra District Flood Action Society Inc v Otago Regional Council* EnvC Christchurch C102/2005, 20 July 2005, at [207]. The Environment Court persuaded Contact Energy Limited to volunteer a suite of compensation conditions in exchange for

There is some doubt whether we have the power to impose a compensation provision on Contact although our analysis of the meaning of "remedying" in section 5(2) of the Act suggests those doubts are misplaced. In any event we can create an incentive for Contact to volunteer one by providing for differential terms (35 or 15 years) depending on whether it is volunteered or not.

141. In my submission, such conditions are *ultra vires* unless volunteered by an applicant, primarily because they essentially amount to a financial contribution, and also because they can be seen as addressing an exterior concern (civil liability). For that reason, and given the cautious and considered approach which RDRML has taken to the issue of dam break and civil safety, it does not volunteer such conditions.
142. Furthermore, I have previously discussed the comprehensive insurance conditions that are proposed (originally prepared in response to the Early Family Trust's submission) and these provide an additional safeguard in the unlikely event of any issue.
143. I note that the Early Family Trust has filed valuation evidence. The Trust's submission does not take an issue with the partial location of the 53Mm<sup>3</sup> storage pond on the Trust's land and any issues of valuation would be a matter for property access when that is addressed as between RDRML and the Trust in the future. For this resource consent hearing, the Commissioners will be well aware that the law is quite clear that effects on property values are not a relevant consideration in determining whether a resource consent should be granted. If there is any diminution in property values then that is simply a measure of adverse effects on amenity values.<sup>125</sup>
144. Even then, the Environment Court has noted that:

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a longer consent term. In that case the Court had found that the level at which certain stopbanks would be overtopped would be reached more often now that the Roxburgh dam exists and that consequently landowners and occupiers would suffer damage more frequently than if the dam did not exist. It crudely estimated the different probabilities of floods at a 250% increase and determined that increasing the frequency of flooding by 2.5 times is a strong reason for asking the consent holder to remedy any damage caused by more frequent floods by paying for replacement and other reasonable costs. As the type of damage to be suffered was damage to property, the Court regarded it as appropriate to move the loss from the property owners to the consent holder, and suggested a framework as to what the suite of conditions could include. Contact Energy Limited ultimately volunteered such a suite of conditions and received a 35 year term consent. (See also *Alexandra District Flood Action Society Inc v Otago Regional Council* C34/2007).

<sup>125</sup> *Foot v Wellington City Council*, W73/98.

- (a) Evidence regarding effects on property values is generally speculative and therefore of less value to the decision making process than evidence regarding the physical effects of a proposal on the environment.<sup>126</sup>
- (b) To consider impacts on property values would essentially "double-count" effects on potentially affected properties.<sup>127</sup> Where the effects that are perceived to affect value are assessed, a second evaluation as to how these environmental effects may also impact on property values is therefore not required. In this respect, the Environment Court has found:<sup>128</sup>

A consent authority, and this Court on appeal, is required to have regard directly to the likely effects on the environment of allowing the activity. A valuer's appraisal of the way those effects might impact on market value would duplicate the consent authority's function in an indirect way. We prefer to rely on the evidence of the qualified resource management planners about the effects themselves.

145. On that basis, I strongly submit that the Hearings Commissioners should have no regard to any submission that the proposal will affect property values. Rather, the effects of the proposal have been directly assessed.<sup>129</sup>

***Is the reasonable use of water made out (RWL and others)?***

146. RWL submitted originally<sup>130</sup> that the application does not demonstrate that the allocation of water sought is reasonable or that the applicant reasonably needs the total allocation available to it. It has submitted again on the same issue in relation to the supplementary applications made in November 2017<sup>131</sup> although those applications did not include the flood flow take. RWL's concerns are not supported by the reporting officer who expressly states that she has no points of disagreement to make with the applicant's explanation for a more reliable and secure supply of water via the proposed 10 cumecs flood flow take.<sup>132</sup>

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<sup>126</sup> *North Canterbury Gas Limited v Waimakariri District Council*, A217/2002.

<sup>127</sup> *Chen v Christchurch City Council* EnvC Christchurch C102/97, 26 September 1997 at pages 18-19.

<sup>128</sup> *Giles v Christchurch City Council* EnvC Christchurch A92/00, 27 July 2000 at [59].

<sup>129</sup> Evidence of Stephen Brown. At 79: the panoramic nature of the current view would be diminished by the proposed development, but the rural nature of that outlook and many of the qualities associated with 'long views' to the nearby hill country, would remain intact. Construction effects are addressed specifically at 104-105.

<sup>130</sup> RWL submission dated 30 September 2016.

<sup>131</sup> RWL submission dated 19 February 2018.

<sup>132</sup> ECan s 42A report, at 333.



147. RWL's submission appears to proceed on two assumptions:
- (a) That every drop of water must be accounted for;
  - (b) That Schedule 10 of the LWRP (Reasonable Use Test) must be rigorously applied to the proposed flood flow take.
148. The evidence of Helen Marr for Central South Island Fish & Game Council also addresses these matters.
149. RDRML does not agree that every drop of water must be accounted for. It does agree that it is incumbent upon it to demonstrate that its proposed take is reasonable and appropriate and it has provided evidence which supports this on multiple fronts:
- (a) The flood flow take will enable the pond to be re-filled quicker and more regularly, which will enhance security of supply.<sup>133</sup>
  - (b) The flood flow take will buffer the RDR against regulatory and climatic risks. The regulatory risks are posed by the likely increase in the minimum flow in the Ashburton River, as set out in the LWRP. Climate change poses risks as temperatures are expected to rise in the coming decades and the incidence of droughts in the irrigation supply area is likely to increase.<sup>134</sup>
  - (c) The flood flow take will enable water to be available for environmental enhancement initiatives such as TSA and MAR – which are specifically encouraged by Section 13 of the LWRP.<sup>135</sup>
150. The storage proposal will assist in meeting the Canterbury Water Management Strategy,<sup>136</sup> including the attainment of the regional concept for water harvest, storage and distribution set out in Schedule 16 of the LWRP (as sought by Policy 4.8 of the LWRP).

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<sup>133</sup> Evidence of Bas Veendrick, at 10.3.

<sup>134</sup> Evidence of Bas Veendrick, at 6.11-6.24, and 10.4-10.5.

<sup>135</sup> Evidence of David Greaves, at 6.82.

<sup>136</sup> Evidence of David Greaves, at 6.80-6.84

151. Beyond that, there is the question of whether Schedule 10 of the LWRP applies. On this point, RWL appears to rely on Policy 4.53 of the LWRP, which relates to applications to change a resource consent to abstract surface water for irrigation as a “run-of-river” take to a “take to storage”. There are two main problems with this argument:
- (a) Policy 4.53 (and indeed all of the ‘reasonable use’ provisions) relate to takes for irrigation. The RDR supplies three uses (stockwater, hydro-electricity *and irrigation*) so it is not a straight irrigation take.
  - (b) The proposal is clear that it is also broader than simply irrigation and the existing uses, with reference to the potential for initiatives such as TSA and MAR. New uses such as these will require resource consents which will be determined on their merits, but it is axiomatic that there needs to be water available for such uses before they can proceed.
152. Any suggestion that RDRML’s proposal seeks to use more water than is reasonable is simply not made out.

***Is the flood flow take a derogation to a subservient consent (RWL)?***

153. Based on the submissions from RWL, it appears that RWL will argue that the proposal to store water in the Klondyke storage facility will be an unlawful derogation from grant in respect of the water sharing arrangement between RDRML and RWL. This is because water which would have been available to RWL will no longer be available as it is going into storage.
154. RDRML strongly resists this notion.
155. The factual situation is that both RDRML and RWL hold resource consents for the “take and use of water for irrigation” in relation to the Rangitata River. Both sets of consents are subject to usage limits, which restrict the volume of water which may be taken.

156. By way of a Water Exchange Agreement, dated 14 August 2013, RDRML and RWL agreed to apply for consents to permit them to offer each other any unused allowance under their consents. Under that agreement:
- (a) **Total Take:** If either party entirely ceased using its allocation it agreed to offer the complete volume to the other party. However, this reallocation can be terminated at any time.
  - (b) **Partial Take:** If either party used less than its total allocation, it agreed to offer the balance to the other party where practicable. However, this reallocation can be terminated at any time.
  - (c) **Termination:** Either party can terminate the entire agreement by 10 days' notice.
157. RDRML and RWL obtained resource consents CRC134808 and CRC134810 which permitted each party to use any allocation which the other was entitled to take. These consents did not contain any requirement that either party offer their allocation to the other, nor did it require either party to use less than its total allocation. However, each consent was conditional on the use of any take being within the usage allowed by the prior consents.
158. While the resource consents may prevent RDRML from entering into a similar exchange agreement with another party (because RWL would still have a right to use any unused allocation under CRC134810 until its expiry in 2042), it does not restrict RDRML from using its full allocation.
159. Since the water sharing arrangement was entered into, RDRML has made water available to RWL, about two thirds of which has been made available when the RDR is fully shut down, and a third when it has been taking part of its allocation.<sup>137</sup> In the future and if the pond is *not* built, water will still be available to RWL when the RDR is fully shut down, but there is no guarantee that partial water will continue to be available, and it is expected to decline for a number of reasons (including scheme expansion and storage).<sup>138</sup>

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<sup>137</sup> Evidence of Ben Curry, at 8.8.8.

<sup>138</sup> Evidence of Ben Curry, at 8.8.9.

160. In terms of any question of derogation, in *Hampton v Canterbury Regional Council*<sup>139</sup>, the Court of Appeal strongly doubted that the property based principle of non-derogation from grant, as applied in *Aoraki Water Trust v Meridian Energy Limited*<sup>140</sup>, applied in an RMA context. As a result of the Court of Appeal decision, any question of 'derogation' is no longer directly applicable.
161. At best, RWL might be able to argue that there would be an unacceptable adverse effect on it as a result of the application for the storage pond being granted. However this is not made out on the evidence, because water will still be available to RWL when the RDR is fully shut down, while there is no guarantee that partial water will still be available. Any detrimental effect is at best highly speculative.

### **Witnesses for the applicant**

162. I will be calling 20 witnesses in support of the resource consent applications:

- (a) Ben Curry
- (b) David Barrell
- (c) Graeme McVerry
- (d) Steven Woods
- (e) Nathan Fletcher
- (f) Bryan Peters
- (g) Bas Veendrick
- (h) Paul Morgan
- (i) Prue Harwood
- (j) Nevil Hegley
- (k) Andrew Metherell
- (l) Peter Callander
- (m) Greg Ryder
- (n) Mark Sanders
- (o) Stephen Brown
- (p) Rob Greenaway

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<sup>139</sup> *Hampton v Canterbury Regional Council* [2015] NZCA 509.

<sup>140</sup> *Aoraki Water Trust v Meridian Energy Limited* (2004) 11 ELRNZ 207.

- (q) Rod Clough
- (r) Buddy Mikaere
- (s) Glen Greer
- (t) David Greaves

**DATED** at Ashburton this 23<sup>rd</sup> day of April 2018



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Vanessa Jane Hamm

Counsel for Rangitata Diversion Race Management Limited

## Appendix A

Number	Purpose	Date	Status	Comment
CRC170651	Landuse consent for earthworks on the lower terrace, adjacent to the Rangitata River, to create a six hectare ecological refuge comprising of one hectare of lizard habitat, two hectares of native planting and three hectares of constructed wetland. In addition, earthworks are required to construct the gully race, drop structure for the white water course and the river outlet channel.	Lodged July 2016	Active.	
CRC170652	Landuse consent for earthworks to construct the 53 million cubic metre storage pond and to upgrade part of the RDR Canal.	Lodged July 2016	Active, amended to remove earthworks associated with the construction of a rock bund fish screen.	Rock bund fish screen aspect of application removed.
CRC170653	Landuse consent to disturb, and to remove vegetation from, the bed of the Rangitata River for the purposes of constructing a sluice outlet and fish bypass channel.	Lodged July 2016	Active.	
CRC170654	Water Permit to abstract an additional 10 cumecs from the Rangitata River, when the flows exceed 142.6 cumecs (as measured at Klondyke). The additional abstraction will be used to fill the storage pond and to provide supply to the RDR.	Lodged July 2016	Active.	
CRC170655	Water permit to take and use surface water at a rate not exceeding 0.5 cumecs from the Rangitata Diversion Race canals for construction purposes (i.e. dust suppression).	Lodged July 2016	Active.	
CRC170656	Water permit to take groundwater for dewatering purposes. Dewatering will only be required on the lower	Lodged July 2016	Active.	

Number	Purpose	Date	Status	Comment
	terrace where earthworks are being undertaken to create the ecological habitat.			
CRC170657	Water Permit to dam up to 53 million cubic metres of water outside of the riverbed.	Lodged July 2016	Active.	
CRC170658	Discharge permit to discharge dust to air from construction activities.	Lodged July 2016	Withdrawn.	No longer required following decisions to the CARP.
CRC170659	Discharge permit to discharge contaminants to air from the combustion of diesel from a generator during construction.	Lodged July 2016	Active.	
CRC170660	Discharge permit to discharge construction-phase stormwater and dewatering water to land via sediment retention ponds and soakage pits.	Lodged July 2016	Active.	
CRC170661	Discharge permit to discharge water and sediment from the storage pond to the Rangitata River via a sluicing channel / emergency spillway.	Lodged July 2016	Withdrawn.	Sluicing aspect of proposal no longer advanced.
CRC170662	Discharge permit to temporarily discharge water and sediment in the Rangitata River as a result of the works to be undertaken under resource consent CRC170653.	Lodged July 2016	Active.	
LUC16/0067 (Ashburton District Council)	Landuse consent to construct and operate all of the aforementioned activities on land that is zoned Rural B. This includes replacement of three bridges, re-alignment of Shepherds Bush Road and carparks, creation of carparks and toilets associated with white water course.	Lodged July 2016	Active.	
CRC173531	Water permit to use water for storage.	Lodged December 2016	Withdrawn	Replaced by application CRC182630.
CRC182535	Discharge permit to discharge water from the take authorised under CRC182536 and suspended sediment to	Lodged November 2017	Active.	

Number	Purpose	Date	Status	Comment
	the river via the fish bypass return.			
CRC182536	Water permit for a non-consumptive take of up to 5 cumecs of water from the Rangitata River associated with the operation of a fish screen.	Lodged November 2017	Active.	
CRC182537	Landuse consent to disturb the bed of the Rangitata River for the construction of the fish bypass outlet.	Lodged November 2017	Active.	
CRC182538	Discharge permit to temporarily discharge sediment to the Rangitata River as a result of the construction and maintenance of the fish bypass outlet.	Lodged November 2017	Active.	
CRC182539	Landuse consent to extract gravel for the construction and periodic maintenance of the fish bypass outlet.	Lodged November 2017	Active.	
CRC182540	Landuse consent for use earthworks over an aquifer associated with the construction of the rotary fish screen and bypass.	Lodged November 2017	Active.	
CRC182541	Discharge permit for the emergency discharge of water to the Rangitata River.	Lodged November 2017	Active.	
CRC182542	Section 127 to change conditions of CRC011237 to enable an alternative fish screen design to be used.	Lodged November 2017	Active.	
CRC182630	Water permit to use water for storage.	Lodged November 2017	Active.	
CRC182631	Water permit to use water under CRC170654 for storage, irrigation and stockwater purposes, and to generate electricity at Montalto and Highbank Power Stations.	Lodged November 2017	Active.	
LUC17/0122 (Ashburton District Council)	Landuse consent to construct and operate a Fish Screen on land that is zoned Rural B. This includes the construction of the fish bypass return on the bed of the Rangitata River and within the 20 metre setback	Lodged November 2017	Active.	



Number	Purpose	Date	Status	Comment
	and the upgrading of a utility structure exceeding the rural zone and geoconservation area earthworks standards.			

## Memo

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Date	23 February 2018
To	Phil Burge
CC	Lisa Jenkins David Just
From	Marie Dysart

### Inquiry about status of water storage as an RMA activity

#### Conclusion

1. We recently considered an issue of whether resource consents are required to “use” water for storage purposes. Our conclusion was no, that the activity of storage is a damming of water as referred to in section 14 of the Resource Management Act 1991 (“the RMA”)¹. Storage for the later use for irrigation would be the *purpose* for the activity of damming.
2. I agreed to record our reasoning as set out below.

#### Inquiry

3. A question has arisen as to whether consents should be required for “storage” when an applicant’s proposal includes an instream or out of stream dam in which water is held for use at a later time e.g. as an efficient alternative to a run of river irrigation proposal.

#### Explanation

4. I understand that in some instances consents have been required under s 14 for the activity of storage for both instream and out of stream impounding of water. Section 14 sets out the activities requiring consents as take, use, dam, or diversion of water. There is no direct reference to storage. I understand in the instances where a permit is sought for *storage* that the activity is deemed a “*use*” of water under s 14.
5. Damming water requires consent under s 14. All the effects of the activity on the instream environment should be assessed when processing the consent for damming. No RMA purpose is served by assessing the same effects on the basis that a consent is also required for the same activity relabelled as a *use of water for storage*.
6. In my view storage for later use is the *purpose* for having the activity of damming.

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¹ Set out below.

7. When an applicant applies to take water the reason or purpose for the take is given. This is usually specified in the grant e.g. to take water *for irrigation of crops*. The purpose may be considered by the decision-maker when deciding the application for the take. They may weigh the positive effects of enhanced crop growth against the adverse effects of the take on the instream environment before making their decision. A decision that the purpose for which water is taken is justified in that sense is part of the decision-making for the take.
8. A separate application and evaluation is also required for the use of water which involves putting water onto and into land. For the most part the use of the water will be the end use. Multiple uses may arise if there is an embedded hydro scheme and water is used further downstream for irrigation. The “storage” of water is for the purpose of enhancing the end use. Storage allows better control of the timing of the irrigation activity in environments where water supply does not match demand. Storage is nevertheless still damming in terms of s 14.
9. Even if the water storage site is out of stream, the activity such as a pond or bunded area the activity is still one of damming water. The damming activity may be covered by permitted activity rules or other authorisations.

M Dysart

23 02 2018

#### **Section 14 Restrictions relating to water**

- (1) No person may take, use, dam, or divert any open coastal water, or take or use any heat or energy from any open coastal water, in a manner that contravenes a national environmental standard or a regional rule unless the activity—
  - (a) is expressly allowed by a resource consent; or
  - (b) is an activity allowed by section 20A.
- (2) No person may take, use, dam, or divert any of the following, unless the taking, using, damming, or diverting is allowed by subsection (3):
  - (a) water other than open coastal water; or
  - (b) heat or energy from water other than open coastal water; or
  - (c) heat or energy from the material surrounding geothermal water.

- (3) A person is not prohibited by subsection (2) from taking, using, damming, or diverting any water, heat, or energy if—
- (a) the taking, using, damming, or diverting is expressly allowed by a national environmental standard, a rule in a regional plan as well as a rule in a proposed regional plan for the same region (if there is one), or a resource consent; or
  - (b) in the case of fresh water, the water, heat, or energy is required to be taken or used for—
    - (i) an individual's reasonable domestic needs; or
    - (ii) the reasonable needs of a person's animals for drinking water,—
- and the taking or use does not, or is not likely to, have an adverse effect on the environment; or
- (c) in the case of geothermal water, the water, heat, or energy is taken or used in accordance with tikanga Maori for the communal benefit of the tangata whenua of the area and does not have an adverse effect on the environment; or
  - (d) in the case of coastal water (other than open coastal water), the water, heat, or energy is required for an individual's reasonable domestic or recreational needs and the taking, use, or diversion does not, or is not likely to, have an adverse effect on the environment; or
  - (e) the water is required to be taken or used for emergency or training purposes in accordance with section 48 of the Fire and Emergency New Zealand Act 2017.

**Attachments:**

**File reference:**

