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**OPENING STATEMENT OF JACQUELINE ANN TODD**  
**SRMR – Significant resource management issues for the region**

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- 1 This statement provides an update on my understanding of the key issues in contention for the SRMR chapter of the proposed Otago Regional Policy Statement 2021 (pORPS) since I prepared the section 42A report (s42A Report)<sup>1</sup> on this topic. The scope of this statement is limited to the significant resource management issues for the region which have been identified as part of the Freshwater Planning Instrument (FPI). The following provisions are discussed in this statement:
  - 1.1 A new significant resource management issue for the region;
  - 1.2 SRMR-I5 – Freshwater demand exceeds capacity in places;
  - 1.3 SRMR-I6 – Declining water quality has adverse effects on the environment, our communities, and the economy; and
  - 1.4 SRMR-I9 – Otago lakes are subject to pressures from tourism, and population growth.
- 2 If I have not discussed an issue considered in my s42A, I consider that either the issues have been resolved, or the remaining issues are not significant.
- 3 To assist the Hearing Panel and signal to submitters where my views may be changing in response to the evidence, I have outlined any recommended amendments to SRMR-I5, SRMR-I6 and SRMR-I9. These views are preliminary given that I have not heard the presentation of evidence at the hearing, or questions from the Hearing Panel to submitters. A final recommendation will be provided in the reply report.

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<sup>1</sup> Section 42A Hearing Report. Proposed Otago Regional Policy Statement. Parts considered to be a Freshwater Planning Instrument under section 80A of the Resource Management Act 1991. 2 June 2023.

- 4 **Appendix 1** contains updated versions of the provisions I discuss in this statement. Tracked changes shown in red are updated changes recommended since the s42A recommendation report.
- 5 The remaining points of contention for the SRMR chapter are not significant in my opinion. I address the points of contention for each issue below.

### **New significant resource management issue for the region**

- 6 Four submitters seek new issue statements. These submissions are discussed in section 6.4 of the s42A report, with my analysis in paragraphs [499] to [502]. At the time of preparing the s42A report, I considered that it was more appropriate to consider new issue statements in the non-FPI process, where a wide range of submitters were seeking new issue statements. Since that time, in my Reply Report for the non-FPI part of the pORPS, I have recommended a new significant resource management issue (SRMR-I10A).<sup>2</sup>
- 7 Submitters have not raised any concerns in evidence with the recommended new significant resource management issue, and a number of submitters have expressed support for it. The following points are raised in evidence:
  - 7.1 Mr Farrell for Realnz and NZSki maintains his opinion that a new SRMR should be included.<sup>3</sup>
  - 7.2 Ms Hunter, for Contact Energy, accepts the recommended amendments to SRMR-I5, SRMR-I6 and SRMR-I9, subject to being coupled with the new issue statement.<sup>4</sup>
  - 7.3 Ms Tait, for Fonterra, supports the recommended amendments to SRMR-I6, subject to the new SRMR-I10A being adopted.<sup>5</sup> If the new issue is not adopted, she still seeks amendments to SRMR-I6.

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<sup>2</sup> Paragraph 35 of the Reply Report, Proposed Otago Regional Policy Statement 2021 5A: SRMR – Significant Resource management Issues for the region, 23 May 2023.

<sup>3</sup> FPI038.017 NZSki, FPI039.019 Realnz

<sup>4</sup> Claire Hunter for Contact Energy, Appendix B.

<sup>5</sup> Susannah Tait for Fonterra, paragraphs [5.3] to [5.5]

- 8 I agree with Mr Farrell that a new SRMR should be included for the Otago region. I consider that the underlying issue identified by Mr Farrell is essentially the same as that identified by the new issue: the conflict between using natural and physical resources, and the need to manage the adverse effects of these uses on the environment. The wording proposed by Mr Farrell was considered and incorporated into my recommendation for SRMR-I10A.
- 9 SRMR-I10A was recommended as part of the non-FPI process but for completeness I consider that the issues raised by submitters in regard to the FPI provisions are addressed by SRMR-I10A.

### **SRMR-I5 – Freshwater demand exceeds capacity in some places**

- 10 SRMR-I5 was discussed in section 6.5 of the s42A report, with my analysis in paragraphs [541] to [556].
- 11 Two submitters still seek amendments to the Context of SRMR-I5.
- 12 Mr Hodgson for Horticulture NZ notes that the first sentence of the second paragraph reads as if human consumption, irrigation and renewable electricity generation uses are all economic. He suggests that the word 'economic' be deleted to widen the context. I agree with Mr Hodgson and recommend that the sentence be amended as follows:

Population growth and land-use intensification in urban and rural environments can create in increased demand for *freshwater* for human consumption, irrigation, *renewable electricity generation*<sup>6</sup> and other ~~economic~~<sup>7</sup> uses.

- 13 Ms Perkins for OWRUG, Federated Farmers and Dairy NZ seeks minor amendments to the Context of SRMR-I5, including minor grammatical edits and the following amendments:<sup>8</sup>

13.1 Delete the reference to freshwater being a finite resource;

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<sup>6</sup> FPI016.009 Meridian

<sup>7</sup> FPI047.009 Horticulture NZ

<sup>8</sup> Claire Perkins for OWRUG, Federated Farmers and Dairy NZ. Appendix 2.

- 13.2 Add a sentence to clarify that deemed permits have been replaced with short term consents until the new planning framework gives effect to Te Mana o te Wai.
- 13.3 Amend to state that the NPSFM seeks to make immediate improvements to water quality within ten years (rather than five). She does not agree that there is a specific reference to a five year period in the NPSFM. She suggests that it should instead reference a ten year period, being the maximum timeframe for achieving interim target attribute states in the NPSFM.<sup>9</sup>
- 14 I do not recommend the amendments sought by Ms Perkins for the following reasons:
- 14.1 In my opinion water is a finite resource;
- 14.2 As discussed in paragraph [544] of my s42A report, the reference to deemed permits is intended to provide historical context about their impact on water allocation. In my opinion further detail about replacement consents is not necessary to provide this historical context.
- 14.3 I do not agree that the reference to the five year period for improving water quality should be deleted given that it is one of the three objectives of the Essential Freshwater Work programme, which the NPSFM is part of.<sup>10</sup>

**SRMR-I6 – Declining water quality has adverse effects on the environment, our communities, and the economy**

- 15 SRMR-I6 was discussed in section 6.6 of the s42A report, with my analysis in paragraphs [597] to [620].
- 16 The following submitters discuss outstanding issues with SRMR-I6 in their evidence.

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<sup>9</sup> Clause 3.11(6)(a) of the NPSFM

<sup>10</sup> Action for Healthy Waterways Section 32 Evaluation, 22 July 2020, section 1, page 2.

- 17 Ms Bartlett for Ngāi Tahu ki Murihiku notes that SRMR-I6 replicates an error identified in RMIA-WAI-I3<sup>11</sup> which has been corrected.<sup>12</sup> She requests that SRMR-I6 be amended to ensure consistency throughout the pORPS.
- 18 I agree with Ms Bartlett that this is an error and recommend that the final sentence of SRMR-I6 (Social impact snapshot) be amended to be consistent with the RMIA chapter as follows:
- It culminates in a ~~loss of rakatirataka and~~ diminishing of mana.<sup>13</sup>
- 19 Ms Perkins for OWRUG, Federated Farmers and Dairy NZ still seeks amendments to the Context and Environmental and Economic impact snapshots to recognise the change happening with water quality in the region.<sup>14</sup> The changes sought by Ms Perkins include minor changes to the second paragraph of the Environmental impact snapshot which I agree improve the grammar and readability of this paragraph, and recommend they be adopted.<sup>15</sup>
- 20 As for SRMR-I5, Ms Perkins suggests an amendment to the Context to state that the NPSFM seeks to make immediate improvements to water quality within ten years, rather than five. For the reasons discussed for SRMR-I5, I consider that reference to the five year goal of the Essential Freshwater work programme is appropriate and do not recommend that this submission be adopted.
- 21 Ms Perkins seeks an amendment to the first sentence of the Environmental impact snapshot to say that there is reason for concern about water quality in ‘some’ rather than ‘many’ areas in Otago.<sup>16</sup> I discussed this in paragraph [606(a)] of my s42A report and am still of the opinion that there is reason for concern about water quality in many lakes and rivers in Otago, based on the information in the Statement of Environment report.<sup>17</sup>

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<sup>11</sup> FPI030.014 Kāi Tahu ki Otago

<sup>12</sup> Paragraphs [677] and [680] of the s42A Report.

<sup>13</sup> FPI030.014 Kāi Tahu ki Otago

<sup>14</sup> Claire Perkins for OWRUG, Federated Farmers and Dairy NZ, Appendix 2.

<sup>15</sup> FPI026.013 Federated Farmers

<sup>16</sup> Claire Perkins for OWRUG, Appendix 2.

<sup>17</sup> Rachel Ozanne and Adam Uytendaal (2017) State of the Environment Surface Water Quality in Otago 2006 to 2017: Otago Regional Council p ii

- 22 Ms Perkins also seeks an additional sentence in the Environmental impact snapshot acknowledging the positive changes catchment group initiatives in Otago are making to address water quality concerns in some areas.<sup>18</sup> I do not recommend that it be adopted. In my opinion it does not assist in outlining the environmental impact of the water quality issue.
- 23 Ms Perkins for OWRUG, Federated Farmers and Dairy NZ and Mr Hodgson for Horticulture NZ both still seek a change to the first sentence of the Economic impact snapshot to acknowledge the impacts of water pollution on the primary sector. I discussed this in paragraph [612(a)] of my s42A report. I am still of the opinion that it is not necessary to expand on the list of industries and sectors referenced in this sentence, because they are all covered more generally by the reference to “many other sectors”.
- 24 Finally, Mr Dicey, for COWA, seeks an amendment to the Context to clarify that it is poorly managed agriculture, rather than agriculture more generally, which causes some of the biggest impacts on water quality in Otago.<sup>19</sup> I discussed this matter in paragraphs [601] to [602] of my s42A report, and it is still my opinion that no evidence has been provided that it is only poorly managed land uses that impact on water quality. I do not recommend accepting this submission point.

### **SRMR-I9 – Otago’s lakes are subject to pressures from tourism and population growth**

- 25 SRMR-I9 was discussed in section 6.7 of the S42A report, with my analysis in paragraphs [638] to [648].
- 26 The first paragraph of the Context discusses the value of lakes in the region. Ms Perkins for OWRUG, Federated Farmers and Dairy NZ seeks an amendment to acknowledge the values of Otago’s lakes as a source of water for primary production.<sup>20</sup>

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<sup>18</sup> FPI026.013 Federated Farmers

<sup>19</sup> James Dicey for COWA, paragraph [71]

<sup>20</sup> Claire Perkins for OWRUG, Federated Farmers and Dairy NZ, Appendix 2. This change to SRMR-I9 was not requested in their submission, but in my opinion it does fall within the scope of OWRUG’s overall submission about the importance of water for primary production.

- 27 I do not consider that the addition of primary production to this paragraph is necessary, as it is covered more broadly by the acknowledgement of the value of the quality and quantity of water accessible to Otago communities.
- 28 Therefore, no further amendments to SRMR-19 are recommended.



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Jacqueline Ann Todd

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28 August 2023

## Appendix 1 Recommended amendments to SRMR-I5, SRMR-I6 and SRMR-I9.

### SRMR-I5 – *Freshwater demand exceeds capacity in some places*

#### Statement

In *water*-short catchments, *freshwater* availability may not be able to meet competing demands from the health and well-being needs of the *environment*, the health and well-being needs of people, and the ability of people and communities to provide for their social, economic and cultural well-being. Many of these catchments are also experiencing urban growth, changes in rural *land* uses, and increased demand for hydro-electric generation. Individually and cumulatively these can alter demand including further increases in demand on *freshwater* supply. Some catchments are complex, making it challenging to identify or mitigate these *effects*.

#### Context

*Freshwater*, including *rivers* and streams, *lakes*, *groundwater* systems, and *wetlands*, is a finite resource, critical to the *environment*, society and the economy. In Otago, access to, allocation, and *use* of *freshwater* reflects current demands and historical development associated with “deemed permits” (water permits under the RMA 1991) and a permissive water resource management regime. The deemed permits originated from mining licences issued under historic mining legislation and which enable water to continue to be used for a range of uses until October 2021.

Population growth and land-use intensification in urban and rural environments can create increased demand for *freshwater* for human consumption, irrigation, *renewable electricity generation*<sup>21</sup> and other *economic*<sup>22</sup> uses. *Freshwater* resources in some places are reaching, or are beyond, their sustainable abstraction limits. However, there continues to be debate in the community about how historical *freshwater* allocations can be adjusted to achieve a balance of prioritise protection of the mauri of water bodies, meet the health needs of people, and provide for economic, environmental, social and cultural needs-well-being.<sup>23</sup>

On 3 September 2020, new National Environmental Standards for Freshwater (NESF) and a new National Policy Statement for Freshwater Management (NPSFM)<sup>24</sup> came into force. They have a goal of making immediate improvements so that improving<sup>25</sup> *freshwater* quality is materially improving<sup>26</sup> within five years, reversing past damage degradation<sup>27</sup> and bringing New Zealand’s *freshwater* resources, waterways and ecosystems to a healthy state within a generation. The NPS-FM also clarified the need to provide first for the health and well-being of *water bodies* and *freshwater* ecosystems; then health and needs of people (such as *drinking water*); and finally the

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<sup>21</sup> FPI016.009 Meridian

<sup>22</sup> FPI047.009 Horticulture NZ

<sup>23</sup> FPI047.004 Ngāi Tahu ki Murihiku

<sup>24</sup> <https://www.mfe.govt.nz/fresh-water/freshwater-acts-and-regulations/national-policy-statement-freshwater-management> (accessed 26 May 2021)

<sup>25</sup> FPI025.010 Beef + Lamb and DINZ, FPI026.006 Federated Farmers

<sup>26</sup> FPI025.010 Beef + Lamb and DINZ, FPI026.006 Federated Farmers

<sup>27</sup> FPI027.010 Contact, FPI026.006 Federated Farmers



ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

## Impact snapshot

### Environmental

*Freshwater* abstraction can reduce *water* level or flow and connections between different *water bodies*. This can negatively impact ecosystems by affecting<sup>28</sup> *freshwater* habitat size and the shape and condition of the *water body*, including *bed*, banks, margin, riparian vegetation, connections to *groundwater*, *water* chemistry (for example by increasing concentrations of pollutants), and interaction between species and their habitat. How much an ecosystem is affected by taking *freshwater* is determined by departure from natural flow regimes, taking into account magnitude, frequency, timing, duration and rate of change, and ecosystem capacity to recover.

### Economic

*Freshwater* in the Otago region is a factor of production that directly contributes to human needs (~~urban~~<sup>29</sup> water supply) ~~agriculture~~ *primary production*,<sup>30</sup> *industry*,<sup>31</sup> and hydro-electric power supply, ~~and mineral extraction~~.<sup>32</sup> *Freshwater* also indirectly contributes to the tourism industry through maintenance of *freshwater* assets for aesthetic and commercial recreational purposes. Lack of *freshwater* can negatively impact economic output of those industries that rely on *water* in the production process. To varying degrees these impacts can be mitigated through *water* efficiency measures and innovation. At the same time other industries, such as tourism that rely on the aesthetic characteristic of *rivers* and *lakes*, do not have such opportunities available to them and instead rely on management regimes that sustain flows and *water* levels suitable for their activities.

### Social

Ensuring appropriate *freshwater* supply for human use ~~is available~~ is essential, including<sup>33</sup> as part of planned urban growth and to support rural communities<sup>34</sup> ~~is essential~~.<sup>35</sup> It is possible this may require consideration of additional *freshwater* storage in the future. The region's *freshwater* assets also support a range of recreation uses, for example camping, fishing, *water* sports, and swimming. These values are strongly linked to environmental, health, landscape and aesthetic<sup>36</sup> values and as such, reduced environmental flows have a corresponding negative impact on social and cultural values, including people's wellbeing.<sup>37</sup>

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<sup>28</sup> Clapcott, 2018, Our Freshwater 2020

<sup>29</sup> Consequential amendment to FPI026.008 Federated Farmers, FPI023.003 Moutere Station

<sup>30</sup> FPI041.001 McArthur Ridge Vineyard

<sup>31</sup> FPI019.001 Fonterra, FPI020.008 Silver Fern Farms

<sup>32</sup> Consequential amendment to FPI041.001 McArthur Ridge Vineyard

<sup>33</sup> FPI038.020 NZSki, FPI039.022 Realnz

<sup>34</sup> FPI026.008 Federated Farmers, FPI023.003 Moutere Station

<sup>35</sup> FPI038.020 NZSki, FPI039.022 Realnz

<sup>36</sup> FPI037.007 Fish and Game

<sup>37</sup> FPI037.007 Fish and Game, FPI038.020 NZSki, FPI039.022 Realnz

## SRMR-16 – Declining *water* quality has adverse *effects* on the *environment*, our communities, and the economy

### Statement

While the pristine areas of Otago generally maintain very<sup>38</sup> good *water* quality, some areas of Otago demonstrate poorer quality and declining trends in *water* quality which can often<sup>39</sup> be attributed to *discharges* from *land use* intensification (both rural and urban) and *land* management practices. Erosion, run-off and soil loss can lead to sediment and nutrients being deposited into *freshwater* bodies resulting in declining *water* quality.

### Context

The health of *water* is vital for the health of the *environment*, people and the economy. It is at the heart of culture and identity. Nationally, and in parts of Otago, *freshwater* is facing significant pressure. Population growth and land-use intensification in urban and rural *environments* has impacted the quality of *water*, increasing contamination from nutrients and sediment.

*Water* quality affects a wide range of environmental health factors, human health and<sup>40</sup> survival needs, and cultural, social, recreational, and economic uses. Some of the biggest impacts on *water* quality in Otago are considered to come from agriculture and urbanisation, through diffuse *discharges* and point source *discharges*.

On 3 September 2020, new National Environmental Standards (NESF) and a new National Policy Statement (NPSFM)<sup>41</sup> came into force to make immediate improvements to improve<sup>42</sup> *water* quality within five years; and reverse past damage degradation<sup>43</sup> and bring New Zealand's *freshwater* resources, waterways and ecosystems to a healthy state within a generation.

### Impact snapshot

#### Environmental

Despite the region's *lakes* and *rivers* being highly valued by Otago communities, reports indicate that in many areas<sup>44</sup> there are reasons for concern about *water* quality and its trends with consequent potential impact on ecosystems and people.

*Water* quality across Otago is variable. *River water* quality is best at *river* and stream reaches located at high or mountainous elevations under predominantly native vegetation cover, and mostly good in the upper areas of large *river* catchment and outlets from large *lakes*. *Water* quality is generally poorer in smaller low-elevation streams and coastal shallow lakes where they receive *water* from upstream pastoral areas or urban catchments. For example, catchments such as the Waiareka Creek,

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<sup>38</sup> FPI038.021 NZSki, FPI039.023 Realnz

<sup>39</sup> FPI026.011 Federated Farmers

<sup>40</sup> FPI047.010 Horticulture NZ, FPI043.023 OWRUG

<sup>41</sup> <https://www.mfe.govt.nz/fresh-water/freshwater-acts-and-regulations/national-policy-statement-freshwater-management> (accessed 26 May 2021)

<sup>42</sup> FPI026.012 Federated Farmers, FPI025.011 Beef + Lamb and DINZ

<sup>43</sup> FPI026.012 Federated Farmers

<sup>44</sup> FPI043.023 OWRUG

Kaikorai Stream, and sub-catchments within<sup>45</sup> the lower Clutha catchment rohe<sup>46</sup>, have some of the worst poorest<sup>47</sup> *water* quality in the region; Otago's central lakes are impacted by increased population, urban development and tourism demand; other areas, such as urban streams in Dunedin, intensified catchments in North Otago and some tributaries, also have poor *water* quality.<sup>48</sup> Between 2006 and 2017, trends in a number of *water* quality parameters were worsening.<sup>49</sup>

For *E. coli*, for example, 30% of sites had a probable or significant worsening trend compared to 7% of sites that had either stable or improving trends. In urban streams in Dunedin, intensified catchments in North Otago and some tributaries of the ~~Pomahaka-Pomahaka~~ Pomahaka-Poumāhaka,<sup>50</sup> *E. coli* was the worst performing variable<sup>51</sup>. In many cases, the specific source of contamination is unknown.

There are many different types and sizes of *lakes* in Otago. ORC monitors *water* quality in *lakes*, of which eight have generally shown good *water* quality. There have been concerns within the community about the quality of *water* in Lakes Wānaka, Whakatipu Waimāori/Lake Wakatipu<sup>52</sup> and Lake<sup>53</sup> Hayes.

*Groundwater* quality also varies across the region, with some areas having elevated *E. coli* and nitrate concentrations above the NZ Drinking Water Standards. The main areas with elevated nitrate concentrations are North Otago and the Lower Clutha. Some bores across the region have exceeded the drinking *water* standards for *E. coli*; highlighting localized problems, likely due to inadequate bore head security. In addition to human sources of poorer *groundwater* quality, low *groundwater* quality from natural or geologic sources may also affect the potability of bore *water* throughout Otago (e.g. naturally occurring arsenic or boron concentrations found in bores associated with particularly geologies).

Stock entering *water bodies* can lead to pugging and destruction of riparian soils and *beds* that play an important role in filtering *contaminants*, as well as excreting directly in waterways. The growing practice of wintering cattle in Otago can exacerbate leaching *effects*, which may not connect to surface *water* until spring, creating spikes in nutrient loads.<sup>54</sup>

Sediment is a key issue for *freshwater* quality throughout Otago, including coastal estuaries where it can significantly impact the life supporting capacity of waterways. Urban development is a key generator of sediment input to *lakes* and *rivers* in Central

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<sup>45</sup> FPI026.013 Federated Farmers

<sup>46</sup> FPI026.013 Federated Farmers

<sup>47</sup> FPI026.013 Federated Farmers

<sup>48</sup> Rachel Ozanne and Adam Uytendaal (2017) *State of the Environment Surface Water Quality in Otago 2006 to 2017*: Otago Regional Council p ii

<sup>49</sup> Ibid.

<sup>50</sup> FPI030.049 Kāi Tahu ki Otago

<sup>51</sup> Ibid.

<sup>52</sup> FPI030.049 Kāi Tahu ki Otago

<sup>53</sup> Clause 10(2)(b)(i), Schedule 1, RMA – consequential amendment arising from FPI030.049 Kāi Tahu ki Otago

<sup>54</sup> Science Staff Survey, June 2020.

Otago, from *building* platforms and from *stormwater* contamination. Activities such as agricultural intensification land use,<sup>55</sup> mining, and forestry also contribute.

Agricultural intensification land use<sup>56</sup> also contributes to nutrients (nitrogen and phosphorus) leaching into underlying *groundwater* or running off into surface *water bodies*, and can also increase the risk of *E.coli* contamination from animal waste.

*Urban environmental contaminants* include hydrocarbons, and metals from *roads* and *structures*. They often wash into urban *stormwater* systems and pass unfiltered into *water bodies*, or the *coastal marine area*. *Stormwater effects*, particularly in *urban areas*, are poorly understood. *Wastewater* and *stormwater* systems may not be adequate in some places due to aging *infrastructure*, rapid growth pressure, or insufficient investment in replacement or upgrades. Overflows of *wastewater* (*sewage* and *waste products*) create significant *risks* for *water quality*. These can enter the *environment* either directly or through *stormwater* systems, particularly in flood events.

### **Economic**

*Water pollution* (from nutrients, chemicals, pathogens, ~~and~~ sediment and other contaminants)<sup>57</sup> can have far-reaching effects potentially impacting tourism, property values, commercial fishing, recreational businesses, and many other sectors that depend on clean *water*.<sup>58</sup>

These impacts can be direct (varying the quality of *primary production* outputs such as fish); increasing costs of production through mitigation or remediation costs (*drinking water* treatment cost, riparian restoration); loss of enjoyment and benefit from tourism uses, and indirect such as cost to human health and associated medical costs, or reduction in brand value (e.g. Brand New Zealand).

### **Social**

For the wider community, *water* is a source of kai ~~and~~ for harvesting and food production. *Water is also a source*<sup>59</sup> of recreation, including swimming, fishing and *water sports*. There are multiple dimensions to the way *water* quality impacts on peoples' interaction with *water bodies*, including environmental, health, landscape, and aesthetic factors.<sup>60</sup> Otago's *rivers, lakes, estuaries* and *bays* are important destinations for recreational *use* including swimming, fishing and *water sports*. Eighty-two per cent of Otago's *rivers* and *lakes* are swimmable.<sup>61</sup> Where *water* quality cannot support these activities, the lifestyle of those living in Otago is impacted.

Degraded *water* quality reduces the mauri of the *water* and the habitats and species it supports, therefore also negatively affecting *mahika kai* and taoka species and places.

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<sup>55</sup> FPI019.002 Fonterra, FPI043.023 OWRUG

<sup>56</sup> FPI043.023 OWRUG

<sup>57</sup> FPI026.014 Federated Farmers

<sup>58</sup> <https://www.epa.gov/nutrientpollution/effects-economy> (accessed 26 May 2021)

<sup>59</sup> FPI043.023 OWRUG

<sup>60</sup> FPI037.008 Fish and Game

<sup>61</sup> This estimate applies to larger rivers and lakes, defined as "rivers that are fourth order in the River Environment Classification system and lakes with a perimeter of 1.5km or more" – ORC Policy Committee Report – 29 Nov 2018 - PPRM1843

This constitutes a loss of Kāi Tahu culture, affecting the intergenerational transfer of knowledge handed down from tūpuna over hundreds of years; and it culminates in a ~~loss of rakatirataka and diminishing of~~<sup>62</sup> mana.

## **SRMR-19 – Otago lakes are subject to pressures from tourism and population growth**

### **Statement**

The beauty, recreational opportunities and regional climate of Lakes ~~Wanaka~~ Wānaka,<sup>63</sup> Whakatipu Waimāori/Lake Wakatipu, Lake<sup>64</sup> Hāwea and Te Wairere/Lake<sup>65</sup> Dunstan and their environs attract visitors and residents from around the region, the country and the world. This influx supports human health and well-being and<sup>66</sup> brings economic opportunity, but the activities and services created to take advantage of it can degrade the *environment* and undermine the experience that underpins their attractiveness.

### **Context**

Healthy *lakes* are one of Otago's most valued natural resources and for the most part *water* quality is good. The values assigned to *lakes* include the natural features and landscapes, the quality and quantity of *water* accessible to the Otago communities, the accessibility of these resources for recreation, the health of native flora and fauna associated with Otago's *rivers and lakes*, and renewable ~~energy production~~ electricity generation.<sup>67</sup>

Urban growth is adversely affecting the natural features and landscapes around the lakes. The amount of growth is demonstrated in the Queenstown Lakes District, including Queenstown and ~~Wanaka~~ Wānaka,<sup>68</sup> where the population tripled in the last 20 years from 16,750 in 1999 to 47,400 in 2020.<sup>69</sup> Continued growth is projected over the 30 years from 2020 to 2050 (by 63%).<sup>70</sup>

This desire of ~~New Zealanders and international visitors~~<sup>71</sup> to enjoy the outstanding natural environments of the Otago *lakes* has placed significant pressures on the *environment*, transport, energy and other *infrastructure*, health services and social structures. At the same time the economy of the Otago lakes area is heavily dependent on tourism. For example in 2020, tourism employment accounted for an estimated 56% (or 17,758) of the jobs in the Queenstown-Lakes district; tourism GDP accounted for 43.7% (or NZ \$1.7 billion) of the district's GDP and international tourism

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<sup>62</sup> FPI030.014 Kāi Tahu ki Otago

<sup>63</sup> FPI027.038 Contact, FPI042.142 Te Rūnanga o Ngāi Tahu, FPI042.132 Ngāi Tahu ki Murihiku

<sup>64</sup> Clause 10(2)(b)(i), Schedule 1, RMA – consequential amendment arising from FPI030.049 Kāi Tahu ki Otago

<sup>65</sup> FPI030.049 Kāi Tahu ki Otago

<sup>66</sup> FPI037.009 Fish and Game

<sup>67</sup> FPI027.012 Contact

<sup>68</sup> FPI027.038 Contact, FPI042.142 Te Rūnanga o Ngāi Tahu, FPI042.132 Ngāi Tahu ki Murihiku

<sup>69</sup> Infometrics online database (February 2021)

<sup>70</sup> Queenstown-Lakes District Council demand projections by Utility

<sup>71</sup> FPI046.002 QLDC

contributed 64% (or NZ \$1.89 billion).<sup>72</sup> The Otago-Lakes area also supplies significant ~~renewable energy~~ electricity<sup>73</sup> for use in Otago and beyond.

## Impact snapshot

### Environmental

Population pressures arising from urban development, and tourism population pressures are impacting on the *environment*. Lake ~~Wanaka~~ Wānaka,<sup>74</sup> Lake Hāwea, and Whakatipu Waimāori/Lake Wakatipu,<sup>75</sup> as well as the Kawarau River and upper reaches of the Clutha Mata-au and ~~Tieri~~ Tairā<sup>76</sup> Rivers all have good *water* quality which equates to the “A” band (being top/best level) for the *National Objectives Framework*.<sup>77</sup>

However, *water* quality is being adversely impacted by increased population, urban development and tourism demand which is straining existing waste management infrastructure. In addition, localised degradation of some areas is occurring due to overuse and unregulated use (e.g. freedom camping). The amenity of these areas is being compromised in some places by over-crowding.

Recreation *use* impacts on the *environment* can be a *risk*, for example the distribution of pest species can be accelerated as has occurred for lake snow and *Lagarosiphon* weeds being spread by recreation boating movements. Natural features and landscape values ~~are also~~ can be adversely impacted by tourism and urban growth, and ~~energy production~~ electricity generation.<sup>78</sup>

### Economic

The economic benefits of urban development, tourism, ~~agriculture~~ primary production,<sup>79</sup> ~~energy production~~ renewable electricity generation<sup>80</sup> and *water* supply can be positive for the Otago-Lakes’ communities and visitors. It also impacts on the region’s natural assets with a growing cost to the region that puts at *risk* the *environment* highly prized by residents and visitors. There are also impacts between industry sectors.

For example, the clean green image of New Zealand, of which the Otago Lakes area is symbolic, is at *risk* of being compromised ~~because of over-crowding in peak tourism seasons~~ if the quality of lakes becomes degraded or visitor numbers exceed the servicing capacity of the district.<sup>81</sup> This has the potential to adversely affect the existing regional economy and future economic development; and the tourism industry’s social licence to operate. At the same time tourism can negatively impact on how ~~agriculture~~

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<sup>72</sup> Infometrics online database; (February 2021)

<sup>73</sup> FPI027.012 Contact

<sup>74</sup> FPI027.038 Contact, FPI042.142 Te Rūnanga o Ngāi Tahu, FPI042.132 Ngāi Tahu ki Murihiku

<sup>75</sup> FPI030.049 Kāi Tahu ki Otago

<sup>76</sup> FPI030.049 Kāi Tahu ki Otago

<sup>77</sup> Land, Air, Water, Aotearoa: <https://www.lawa.org.nz/explore-data/otago-region/> (accessed 26 May 2021).

<sup>78</sup> FPI027.012 Contact

<sup>79</sup> FPI043.026 OWRUG

<sup>80</sup> FPI027.012 Contact

<sup>81</sup> FPI 038.023 NZSki, FPI039.025 Realnz

primary production<sup>82</sup> can operate, potentially limiting its contribution to the regional economy.

Urban development brings economic development and improved opportunities and standards of living to the Otago lakes area but can adversely impact on both the *environment* and how agriculture primary production<sup>83</sup> can operate.

### **Social**

Over-crowding impacts can adversely affect urban amenity and recreation experiences of both tourists and residents, particularly outdoor recreation such as fishing and water sports, and urban amenity.<sup>84</sup>

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<sup>82</sup> FPI043.026 OWRUG

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<sup>84</sup> FPI 038.023 NZSki, FPI039.025 Realnz