

**BEFORE THE ENVIRONMENT COURT  
I MUA I TE KOOTI TAIAO O AOTEAROA**

**UNDER** the Resource Management Act 1991

**IN THE MATTER** of appeals under Clause 14 of the First Schedule of the Act

**BETWEEN**

**TRANSPOWER NEW ZEALAND LIMITED**  
(ENV-2018-CHC-26)

**FONTERRA CO-OPERATIVE GROUP**  
(ENV-2018-CHC-27)

**HORTICULTURE NEW ZEALAND**  
(ENV-2018-CHC-28)

**ARATIATIA LIVESTOCK LIMITED**  
(ENV-2018-CHC-29)

*(Continued next page)*

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**MEMORANDUM OF COUNSEL FOR SOUTHLAND REGIONAL COUNCIL IN  
RELATION TO THE DATA, FACTS, AND INFORMATION RELEVANT TO  
THE DEVELOPMENT OF INDICATORS OF THE ECOLOGICAL HEALTH OF  
WATERBODIES  
23 August 2019**

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Judicial Officer: Judge Borthwick

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**WYNNWILLIAMS**

**WILKINS FARMING CO**  
(ENV-2018-CHC-30)

**GORE DISTRICT COUNCIL, SOUTHLAND DISTRICT  
COUNCIL & INVERCARGILL DISTRICT COUNCIL**  
(ENV-2018-CHC-31)

**DAIRYNZ LIMITED**  
(ENV-2018-CHC-32)

**H W RICHARDSON GROUP**  
(ENV-2018-CHC-33)

**BEEF + LAMB NEW ZEALAND**  
(ENV-2018-CHC-34 & 35)

**DIRECTOR-GENERAL OF CONSERVATION**  
(ENV-2018-CHC-36)

**SOUTHLAND FISH AND GAME COUNCIL**  
(ENV-2018-CHC-37)

**MERIDIAN ENERGY LIMITED**  
(ENV-2018-CHC-38)

**ALLIANCE GROUP LIMITED**  
(ENV-2018-CHC-39)

**FEDERATED FARMERS OF NEW ZEALAND**  
(ENV-2018-CHC-40)

**HERITAGE NEW ZEALAND POUHERE TAONGA**  
(ENV-2018-CHC-41)

**STONEY CREEK STATION LIMITED**  
(ENV-2018-CHC-42)

**THE TERRACES LIMITED**  
(ENV-2018-CHC-43)

**CAMPBELL'S BLOCK LIMITED**  
(ENV-2018-CHC-44)

**ROBERT GRANT**  
(ENV-2018-CHC-45)

**SOUTHWOOD EXPORT LIMITED, KODANSHA  
TREEFARM NEW ZEALAND LIMITED, SOUTHLAND  
PLANTATION FOREST COMPANY OF NEW ZEALAND**  
(ENV-2018-CHC-46)

**TE RUNANGA O NGAI TAHU, HOKONUI RUNAKA,  
WAIHOPAI RUNAKA, TE RUNANGA O AWARUA & TE  
RUNANGA O ORAKA APARIMA**  
(ENV-2018-CHC-47)

**PETER CHARTRES**  
(ENV-2018-CHC-48)

**RAYONIER NEW ZEALAND LIMITED**  
(ENV-2018-CHC-49)

**ROYAL FOREST AND BIRD PROTECTION SOCIETY  
OF NEW ZEALAND**  
(ENV-2018-CHC-50)

**Appellants**

**AND**

**SOUTHLAND REGIONAL COUNCIL**

**Respondent**

**MAY IT PLEASE THE COURT**

- 1 This Memorandum of Counsel is filed on behalf of the Southland Regional Council (**Council**) in respect of the appeals against the Council's decision on the proposed Southland Water and Land Plan.
- 2 In accordance with the Court's Minute issued on 5 August 2019, the Council has conferred with its science experts to identify the data, facts, and information relevant to the development of indicators of the ecological health of Southland's waterbodies.
- 3 The data, facts, and information are set out in **Appendix A**.
- 4 This information includes relevant published information and any available new data obtained by the Council that has not yet been published in any scientific reports.
- 5 Counsel confirms that, if any party requests a copy of any of the data, facts, or information contained in Appendix A, that the same will be made available to them as soon as practicable via a suitable means.
- 6 Counsel notes that the science experts will be discussing the sufficiency of the data, facts, and information identified by the parties and access to this information at the facilitated meeting on 4 September 2019. Once the experts have confirmed the data, facts, and information relevant to the development of the ecological indicators of health, the experts may wish to set up a Dropbox into which the experts can upload and access all of the relevant information.

**DATED** this 23<sup>rd</sup> day of August 2019



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**P A C Maw / K J Wyss**  
Counsel for the Southland Regional Council

## Appendix A

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### **Unpublished material - Southland Regional Council Data**

- 1 The following data has been collected and/or is held by the Council. Some of this data has been used to produce the reports and papers referenced above, and some is raw data that has not been explicitly published in literature or reported on at this point in time:
  - (a) Groundwater chemistry data, which includes recent samples characterising nitrate, *E. coli*, phosphorus and a range of other contaminants since 2017 (most commonly referenced in the recent state and trend report). These samples are from across the Southland region from all State of the Environment groundwater monitoring sites and additional non-regular monitoring sites. The State of the Environment data is at a quarterly sample frequency.
  - (b) New data for rivers and streams that has been collected by the Council over the last 3 to 4 years in Southland (as referenced in the Joint Witness Statement for Water Quality and Ecology (Rivers and Wetlands)). With the exception of the state of periphyton in Southland, this data has not been reported on previously, and consists of:
    - (i) Paired monthly nutrient and annual macroinvertebrate community index, annual stream habitat data from approximately 50 sites across the region.
    - (ii) Monthly percentage of fine sediment cover from approximately 30 sites across the region.
    - (iii) Paired nutrient and monthly benthic periphyton (chlorophyll-a and percentage cover) from approximately 30 sites across the region.

- (iv) Annual suspendable inorganic sediment (**SIS**) / suspendable organic sediment (**SOS**)<sup>1</sup> measure of re-suspendable fine inorganic and organic sediment paired with macroinvertebrate community index. Data collected over approximately 4 years.
- (v) Reference condition macroinvertebrate community index and stream habitat data from approximately 50 sites across the region (single sample only).

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<sup>1</sup> SIS and SOS are measures of deposited fine sediment on river beds.