

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

UNDER of 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 LIMITED
(ENV-2018-CHC-27)

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

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

WILL SAY STATEMENT OF CAIN ROSS DUNCAN
5 November 2021

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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)

STONY CREEK STATION LIMITED

(ENV-2018-CHC-42)

THE TERRACES LIMITED

(ENV-2018-CHC-43)

CAMBELL'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 NGĀI TAHU, HOKONUI RUNAKA,
WAIHOPAI RUNAKA, TE RUNANGA O AWARUA & TE
RUNANGA O ORAKA APARIMA**

(ENV-2018-CHC-47)

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

Introduction

- 1 My full name is Cain Ross Duncan
- 2 I have held my current position as Otago/Southland Sustainable Dairying Manager for Fonterra for 2 years, prior to which I was a Sustainable Dairy Advisor in Southland for Fonterra. In total I have 9 years' experience across these two roles.
- 3 The primary purpose of the Sustainable Dairy Advisor role is to provide advice and support to Fonterra shareholders to assist them in developing and adopting practices that will improve the sustainability of their farming operations. I work one on one with Fonterra suppliers, to accelerate their adoption of good management practices (through a tailored Farm Environmental Management Plan process), ensure they meet Fonterra's minimum standards and understand and comply with regional rules and resource consent conditions.

Code of Conduct

- 4 I have read and am familiar with the Code of Conduct for expert witnesses in the 2014 Environment Court Practice Note. I agree to comply with this Code of Conduct when participating in the conferencing. Except where I state that I am relying on the specified evidence of another person, my evidence in this statement is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions which I express.

Scope

- 5 I have been asked to provide my expert comments and opinion on the practical farming implications that arise from the relief sought, including in relation to:
 - 5.1 Challenges on-farm of ephemeral rivers being included in the setback/ buffer rules; and
 - 5.2 the role of Farm Environment Management Plans in achieving improved water quality outcomes.

Ephemeral Rivers

- 6 Ephemeral rivers have been excluded from the setback and stock exclusion requirements of the Proposed Southland Water and Land Plan (**pSWLP**). Based on my experience, ephemeral rivers are a feature of the topography of the land rather than an area that has specific natural features or biodiversity values.
- 7 Within a paddock, ephemeral rivers (or ephemeral flow paths as suggested in the Will Say statement of Mr Willis) can be of varying depth and size and are mostly vegetated in quality, permanent pasture. They have no defined bed or features that would identify them as a river and are not rivers by any common understanding of that term.
- 8 A requirement to fence off or adopt buffers/setbacks from ephemeral flow paths would result in large tracts of productive farmland being lost from production. The division of paddocks (where ephemeral flow paths cut across farmland) may create practical and logistic challenges on farm, due to the size and configuration of paddocks being made unsuitable. Access to existing infrastructure such as water troughs could also be impacted. The costs of undertaking stock exclusion and buffers/ setbacks from ephemeral flow paths (which cannot be distinguished from a paddock in most cases) would be significant and for some operators, in some areas, would challenge the continued viability of farming.
- 9 Under Fonterra's FEMP programme, Critical Source Areas (CSA's) are identified where land use is identified as 'high-risk', and appropriate site-specific actions are developed to reduce contaminant losses. From my experience in assisting Fonterra suppliers to identify CSA's and actions to manage nutrient loss, this directly results in water quality improvements and environmental gains. For example, I understand that some but not all ephemeral flow paths

would also qualify as CSA's. Site specific actions may include excluding stock during wet conditions, having wider riparian buffers where CSA's enter surface waterbodies, or potentially trialling the use of emerging technologies such as edge of field sediment traps, wetlands, or bio-filters.

The role of the Farm Environment Management Plan (FEMP)

- 10 A robust FEMP process with actions that are timebound, directed by clear outcome expectations, audited, and enforced by Council (where required) could be implemented in degraded catchments as an alternative to land use consents. In my opinion, this is a more practical and effective mechanism for identifying and mitigating risks on farm that impact water quality when compared to a consenting approach. It is also more likely to result in meaningful improvement as actions co-designed with a farmer will achieve greater buy-in. A FEMP process will result in resources being spent on-farm undertaking actions to improve water quality rather than on a consenting process.
- 11 The transition to certification and auditing of FEMP's (or Fresh Water Farm Plans) under the Fresh Water Farm Plan Regulations being developed by central government, will further increase the confidence of FEMP actions being implemented to achieve environmental improvements. I support the certification and auditing of FEMP's as one mechanism for ensuring co-designed actions in FEMP's are implemented and the resulting water quality benefits are realised.
- 12 Fonterra operates an on-farm sustainability programme to provide greater insights into a farm's environmental footprint and how this could be reduced. These tools include a nitrogen risk assessment or scorecard for individual farms, a purchased nitrogen surplus metric to quantify the risk of nitrogen loss and a farmer insights report that benchmarks an individual farms purchased nitrogen surplus against their regional peers. This allows farmers and our team to identify possible environmental and efficiency gains in relation to the use of nitrogen, both in fertilisers and feed.
- 13 In my experience of managing Fonterra's on-farm sustainability programme in Southland, many dairy farms are not yet at a point where they are achieving all the industry agreed good management practices. There is a wide spectrum of uptake from those farms that are achieving nearly all the practices, through to farms that are achieving very few. This means improvements in water quality can still be made through the uptake of good management practices delivered via a FEMP, and I consider it is an area where some focus should be drawn.
- 14 The adoption of good management practices and the use of FEMPs (and mitigation actions) as identified above, together with the obligations to comply with the NES-FW 2020 must result in water quality improvements in the short time between now and when Environment Southland notify the future plan change to give effect to the NPS-FM 2020. Adopting the use of FEMPs to drive improvement in degraded catchments rather than a consenting regime will also enable greater flexibility for integration with Freshwater Farm Plans as these are developed.

Setbacks and Buffers

- 15 Setbacks and buffers can be an appropriate tool for preventing direct deposition of sediment into a waterbody via winter grazing, cultivation, and the spreading of fertiliser, however the blanket introduction of buffers beyond 5m (20m for a regionally significant wetland) may not derive a significant benefit.
- 16 In my opinion, setbacks for ephemeral flow paths and CSA's are more appropriately addressed in FEMPs for the reasons outlined above. Providing a pathway for site-specific assessment of mitigation actions to address CSA's on a farm-by-farm basis through the FEMP process rather than a blanket approach across all farms will enable resources to be used in areas that will have the greatest impact on water quality.



Cain Duncan

5 November 2021