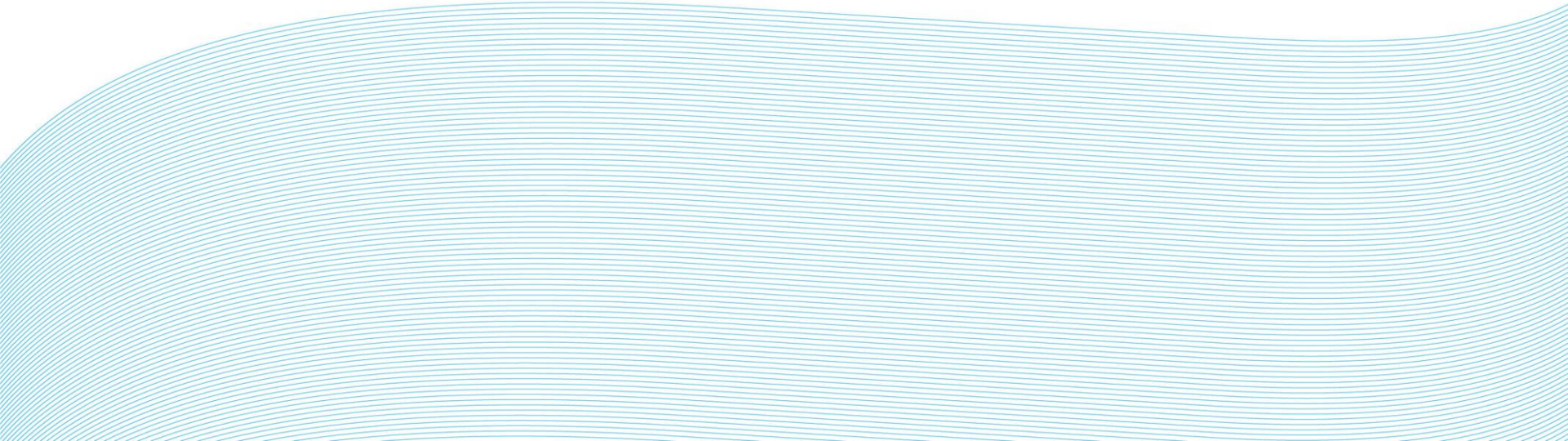




# SYNLAIT MILK LIMITED & SYNLAIT FARMS

Proposed Land & Water Plan Evidence



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DR JOHN PENNO

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# INTRODUCTION

- Overview of Synlait
- Synlait Milk and Synlait Farms are party to Primary Sector Policy Group led by Federated Farmers.
- Key issues of Synlait evidence
  - Setting science based targets that achieve outcomes
  - Adoption of best practicable option
  - Prohibitive nature of water allocation rules and policies
  - Appropriate limits for drinking water provisions

# MAKING MORE FROM MILK

To become the trusted supplier of choice for the world's best milk-based health and nutrition companies

## World's Best Milk Powder Solutions

World's best infant and adult nutritional powders

World's best added value milk powders

Supplier of choice for target customers

Processor of choice for NZ dairy farmers

Partner of choice for new dairy innovation

High performance culture

Operational Excellence

World's most trusted and innovative milk powder brand

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## NPS FRESHWATER MANAGEMENT

- Water management requires local government “to manage water in an integrated and sustainable way, **while providing for economic growth** within set water quantity and quality limits”
- “The process for setting limits should be informed by the best available information and scientific and socio-economic knowledge”.

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# THE KEY - BEST SCIENTIFIC KNOWLEDGE

- Targets and limits have to be “informed” by the best scientific knowledge.
- Targets only “in the context of over-allocation” as “a limit which must be met at a defined time in the future”.
- Limit means “the maximum amount of resource use available”.

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# LIMITS ON ECONOMIC DEVELOPMENT

- Farming and dairy processing, can only be precluded on the basis of a clear scientifically established nexus between cause and effect. This applies to both water quality and quantity.
- Limited environmental gains and significant economic loss result from short-term duration of consent.

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# FLAWED ASSUMPTIONS

- Nitrogen is the key nutrient of concern
- Water quantity limits have not factored in the “maximum amount” of water available as required by the NPS



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# GOOD, BEST PRACTICABLE AND LEADING PRACTICE

- Good Practice – a minimum for supplying Synlait
- Suppliers financially rewarded for achieving:
- Best Practicable option – Gold Plus.
- Leading Practice – state of the art environmental compliance

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# ANDREW BARTON

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# OVERVIEW

- Use of groundwater
- Groundwater allocation
- Annual volume limits on surface water permits
- Water permit transfers

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# USE OF GROUNDWATER

- Groundwater is a cost effective irrigation water source
- 6000+ irrigation wells
- Considerable existing investment in groundwater infrastructure
- Groundwater has allowed significant irrigation development
- Objective 3.15 should recognise strategic importance of groundwater to Canterbury
- Policy 4.48 should recognise existing investment in groundwater

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# GROUNDWATER ALLOCATION

- Existing limits are conservative and unrefined
- Best available information should be used to make decisions
- Research and mitigation has allowed further allocation above current limits
- Objective 3.4 should not preclude further allocation
- Policies 4.4 & 4.6 should recognise the uncertainty in existing interim allocation limits
- Rule 5.104 should be a non-complying activity
- Policy 4.7 should only apply to collaboratively agreed, well researched allocation limits in a zone plan

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# ANNUAL VOLUMES

- Mixed messages in Policies 4.50, 4.60, 4.63 and 4.66
- Reasonable use is defined as the volume required to provide 90% reliability of supply
- River water is allocated on the basis of average rate
- Assigning annual volume limits does not allow for water to be taken to meet demand in dry years where minimum flows are being met
- Efficient use of water (Objective 3.4) can be achieved through FEP
- Change Policies 4.50, 4.60, 4.63 and 4.66 so that efficient use of surface water is decoupled from the reasonable use test and annual volumes

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# TRANSFERS

- Requiring surrender incentivises use of water at existing site
- Any transfer to replace groundwater with surface water should be encouraged
- Selling water permits to raise capital for investment in surface water irrigation supply is sensible
- Policies 4.71 & 4.73 should recognise interim nature of allocation limits
- Policy 4.73 should encourage all transfers and leave the matter of partial surrender to decision makers
- Rule 5.107 should not require surrender of water

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DR BRUCE M<sup>C</sup>CABE



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# OVERVIEW

- Identify the key assumptions underling policies and rules relating to farming.
- Review the assumptions in relation to: achieving Table 1 water quality objectives, best available scientific data and the requirements of the NPS for Freshwater Management.
- Comment on the recommendations contained in the S42A Report Group 2.

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# ASSUMPTIONS

- Nitrogen is limiting freshwater quality and use in Canterbury
- Freshwater Quality Objectives in Table 1 are achievable through controlling Nitrogen leaching from farming
- Policies and rules rely on the above two assumptions

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## TABLE 1C AQUIFER OUTCOMES

### SHALLOW GROUNDWATER

- MAV for drinking-water of 11.3 ppm used to set the maximum nitrate-N concentration.
- Compliance monitoring depth is required.
- Shallow groundwater less than 50 m deep is not a secure source of potable water as defined by the NZDWS because of the presence of pathogens.
- Recommend that the following footnote be included in Table 1c: “***For determining compliance with the Health Indicator Outcomes in Table 1c, a measuring depth of between 50 and 60 metres below ground level shall be used***”.

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## TABLE 1C AQUIFER OUTCOMES SHALLOW GROUNDWATER (cont.)

- Mean Nitrate-N  $\leq 5.6$  ( $\frac{1}{2}$  MAV for drinking water)
- At the recommended compliance depth of 50 to 60 metres, fluctuations in nitrate concentration will be no more than minor.
- The imposition of an average nitrate-N objective of  $\leq 5.6$  ( $\frac{1}{2}$  MAV) will result in a default maximum concentration of less than the MAV.
- **Recommend that the average nitrate-N objective be removed from Table 1c.**

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## TABLE 1C AQUIFER OUTCOMES

### COASTAL CONFINED AQUIFER

- Nitrate-N concentration  $\leq$  average concentration in the three years prior to 2010.
- Groundwater nitrate concentration is increasing
- s42A Group 2 report recommends that the outcomes be met by 2023 rather than the maximum time allowed by NPS FM of 2030.
- It is unreasonable to expect that the stated objective can be achieved within 10 years.
- **Recommend that the maximum time allowed by NPS FM of 2030 is adopted for this objective.**

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## TABLE 1B LAKE OUTCOMES

- N:P ratio used to determine whether N or P is limiting algal production.
- Minimise the concentration of the limiting nutrient to reduce algal production.
- Policies are based on algal production being N limited. This is not always the case.
- For example, algal production in Te Waihora and the streams flowing to this lake are typically not nitrogen limited.
- Water quality is determined by re-suspension of lake sediment.
- The proposed controls on nitrogen leaching from farming are not expected to achieve the Table 1c objectives for this lake.

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## LAKE OUTCOMES (cont.)

- Very low level of confidence that the lake can be flipped from the current poor water quality state to a macrophyte-dominated lake with high water quality.
- TLI outcome is unachievable.
- **Recommend that the TLI target for this lake in Table 1c be amended to a realistic value.**

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# TABLE 1A RIVER OUTCOMES

- N and P enter streams via different routes:
  - N in groundwater (from soil drainage)
  - P in overland flow or direct discharges
- N-limitation often attributable to phosphorus inputs from overland flow.
- Farming phosphorus losses can be more effectively and efficiently controlled than nitrogen leaching.
- Limiting P losses a more effective and efficient way to achieve water quality outcomes.
- **Recommend that the policies and rules shift from being focused on reducing nitrogen leaching to achieve set values to the adoption of industry best practices that minimise both nitrogen and phosphorus losses, with the primary emphasis being on minimising phosphorus losses to surface water.**



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## R2.10.21 (DEFINITION OF CHANGED)

- Support the recommended move away from a focus on nitrogen leaching.
- Variations in arable yield of >20% can occur from year to year as a result of climatic variability, pests and disease. These factors need to be given greater consideration when defining change.
- **Recommend more dialogue with the farming community.**

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## POLICIES 4.27A AND 4.27B

- Support subject to the following revisions:
- Revise 2. “Identifying ~~relevant~~ **good practice** limits for nutrient discharges based on good farming practice”.
- Revise 4. “.....,use Schedule 8 as the ~~starting point~~-*basis* for catchment specific limit setting **for any over-allocated nutrient**”.

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## POLICY 4.31

- Revise “.....a changed or new farming activity will be required to show that there is no net **more than a 15% increase in any over-allocated** nutrients discharged from the property or that ~~advanced mitigation~~ *the* farming practices are applied such that ~~the property operates in the top quartile of nutrient discharge minimisation practices when measured against practices in the relevant farming industry, and in any event the regional water quality outcomes are still being met~~ **will result in any losses of an over-allocated nutrient being at least 10% less than that defined in Schedule 8 for good practice.**”

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## POLICY 4.32

- Revise – “.. a changed or new farming activity will be required to show that there is no net **more than a 15%** increase in **any over-allocated** nutrients discharged from the property or that ~~advanced mitigation~~ *the* farming practices are applied such that the property operates in the top quartile of nutrient discharge minimisation practices when measured against practices in the relevant farming industry **will result in any losses of an over-allocated nutrient being not less than 10% less than that for the relevant farming activity defined in Schedule 8 for good practice.**”

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## POLICY 4.33

- Revise – “....., or ~~other methods beyond good practice~~ or an approved industry environmental programme.

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## POLICY 4.345

- Revise – To minimise the loss of **an over-allocated nutrients** to water

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# LUCY JOHNSON FOR JULIET MACLEAN

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# OVERVIEW

- Farming to Limits
- Synlait 's 'Lead with Pride'
- Synlait Farm's InSynC culture



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# ACCEPTABILITY TO LIMITS

- are do-able or effective,
- lead to improvements in water quality and/or quantity and/or where water over-allocation or where water quality improvements can be made as determined by best available science, and
- they achieve the necessary results at best cost. In other words, they are efficient.

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# WHY LEAD WITH PRIDE

- It is the right thing to do.
- Helps meet community concerns around dairying and land use change.
- Enables our customers to differentiate their products - absolute integrity, superior quality, sustainably produced.
- Best practice can mean better farm profitability (AERU analysis).

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# LEVELS OF CERTIFICATION

## GOOD PRACTICE (NON-CERTIFIED)

The standard currently being met by all Synlait Milk suppliers.

GOLD

## BEST PRACTICE

Additional standards above 'Gold'. Requirements cover the four pillars. ISO 65 certified suppliers. Premiums are paid for milk.

GOLD | PLUS

## LEADING PRACTICE

Gold Plus for a minimum of 12 months before Gold Elite certification can be obtained with additional requirements in the four pillars. ISO 65 certified suppliers. Higher premiums are paid for milk.

GOLD | ELITE