Water New Zealand

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September 2017

- Its About Communities
- Good Solid Science
- Direction and rate of travel
- Is it too hard (or too expensive?)

I'm here to tell you what we, the farmers, have done and are continuing to do on the our farms.

Where does farming sit?

- There are 58,000 farms in NZ, of these there are 10,500 which have consents to irrigate.
- In 2016 NZ exports were $48 billion, with 58% ($28 billion) coming from agriculture – NZ Largest industry. In 2011 irrigation accounted for $5 billion.
- Our farmers are the least subsidized in the OECD at around **1%**. The OECD average is **18%**
- There is 800,000ha of irrigated land, of which 47% dairy, 23% sheep/beef, 16% arable, 5% vegetables, 4% grapes and 4% fruit.

Where do I Sit ?

- Mid Canterbury Farmer
- Sheep and Beef farmer, cropping on Flat land
- Irrigated
- Farm beside a beautiful river
- Involved in many local and national water initiatives .

Points to Note:

- Yesterday 41mm of rain fell all over my farm.
- In an irrigation season I use 410 mm (Sept-May, 120 days max)
- In the season I use about 1,500,000 m3 of water
- So yesterday 10% of my total irrigated use fell in ONE day over my farm.
- I also store 10% of my use in my 6.5Ha pond (150,000 m3)

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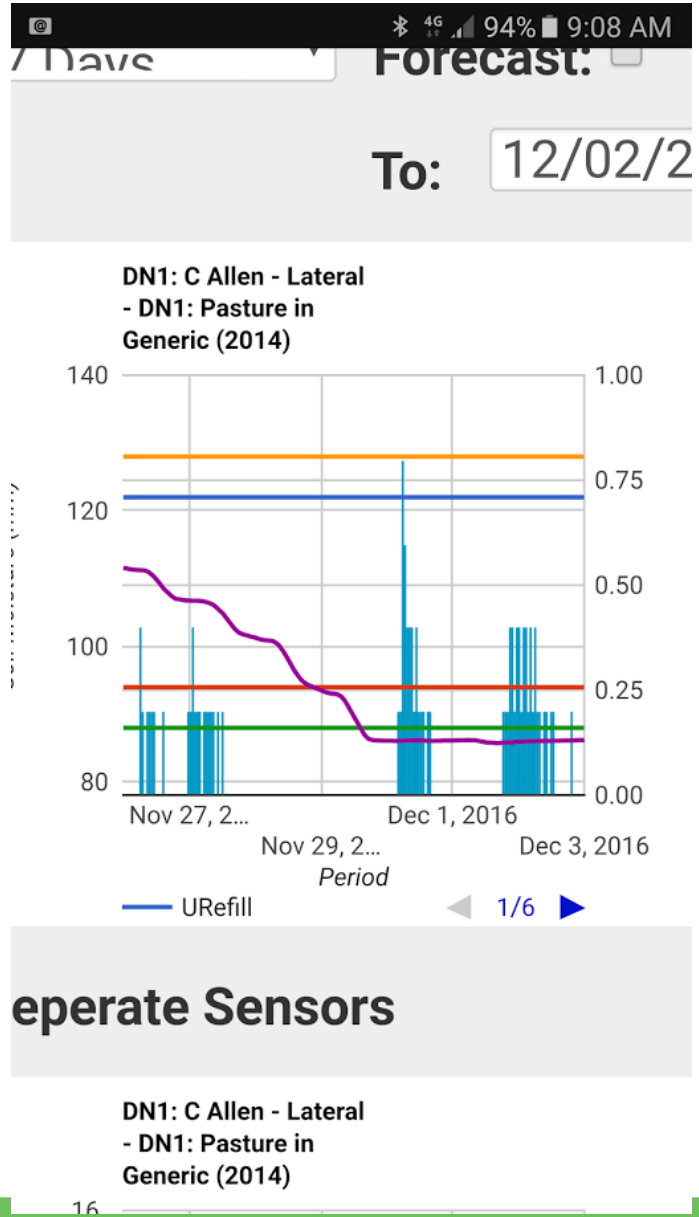
What have Farmers done?

- **Sustainable Dairy Water Accord**:
  - Waterways on the milking platform, which are greater than 1m wide and 30cm deep, to be fenced. Currently we're at 97.7% of these waterways fenced.
  - Dairy farmers have spent over 1 billion dollars on riparian mgmt.
- **Upgrading infrastructure** – Precision Agriculture
  - My farm – when we took over, it was a 'run of river' border dyke irrigated sheep and beef farm. To increase our irrigation reliability we installed an irrigation pond. We also upgraded from border dyke to roto rainer irrigators. Recently upgraded again to center pivots, installed water meters, soil moisture probes.

Precision Agriculture

Graphic Provided by Raj Khosla

Precision Agriculture on My Farm



Precision Agriculture

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Precision Agriculture

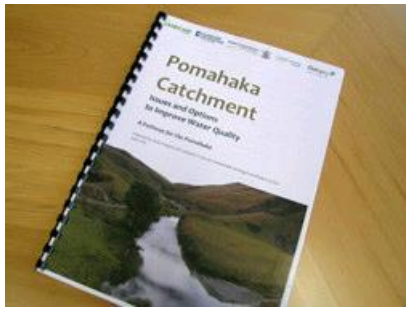
What are Farmers doing?

Precision Agriculture = RIGHT RATE RIGHT PLACE RIGHT TIME

- This is often promoted as ‘technology’ but actually requires a mixture of both technology and farm management practices
  - Technology:
    - can include variable rate irrigation where irrigation water is applied according to the soil type and soil moisture.
    - The use of GPS to track the application of fertilizer, in arable/horticulture tractors following the same wheel placements etc.
    - Science advances – E.g., new crop varieties that have environmental benefits
  - Farm management practices:
    - implementation of Good Farming Practices such as matching fertilizer needs to plant uptake/soil deficiencies,
    - the identification of critical source areas
    - and managing the risk of runoff from those areas into waterways, the way a winter crop is grazed etc.

What are Farmers doing?

- Local solutions for local problems – one example
  - Pathway for the Pomahaka 2015 winners of
  - *New Zealand Rivers Story Award*
    - Water quality within the Pomahaka River was declining – various studies undertaken to determine why. No conclusive answer.



    - Diverse catchment of Conservation Estate, Farming (intensive and extensive), urban (Tapanui), Forestry, spread over a large area.
    - 2013 Landcare Trust started a project in the catchment to bring farmers, NGO's, Councils etc. together. Some 5 years on it is still going.
    - It provides a suite of on farm actions, supported by both industry, Councils and NGO's around River Mgmt. (erosion), Riparian Mgmt. (stock/planting), Wetland Mgmt., Biodiversity, Effluent Mgmt., Nutrient Mgmt., Hill Country Mgmt., Wintering Mgmt., Forestry Mgmt.

What are Farmers doing ?

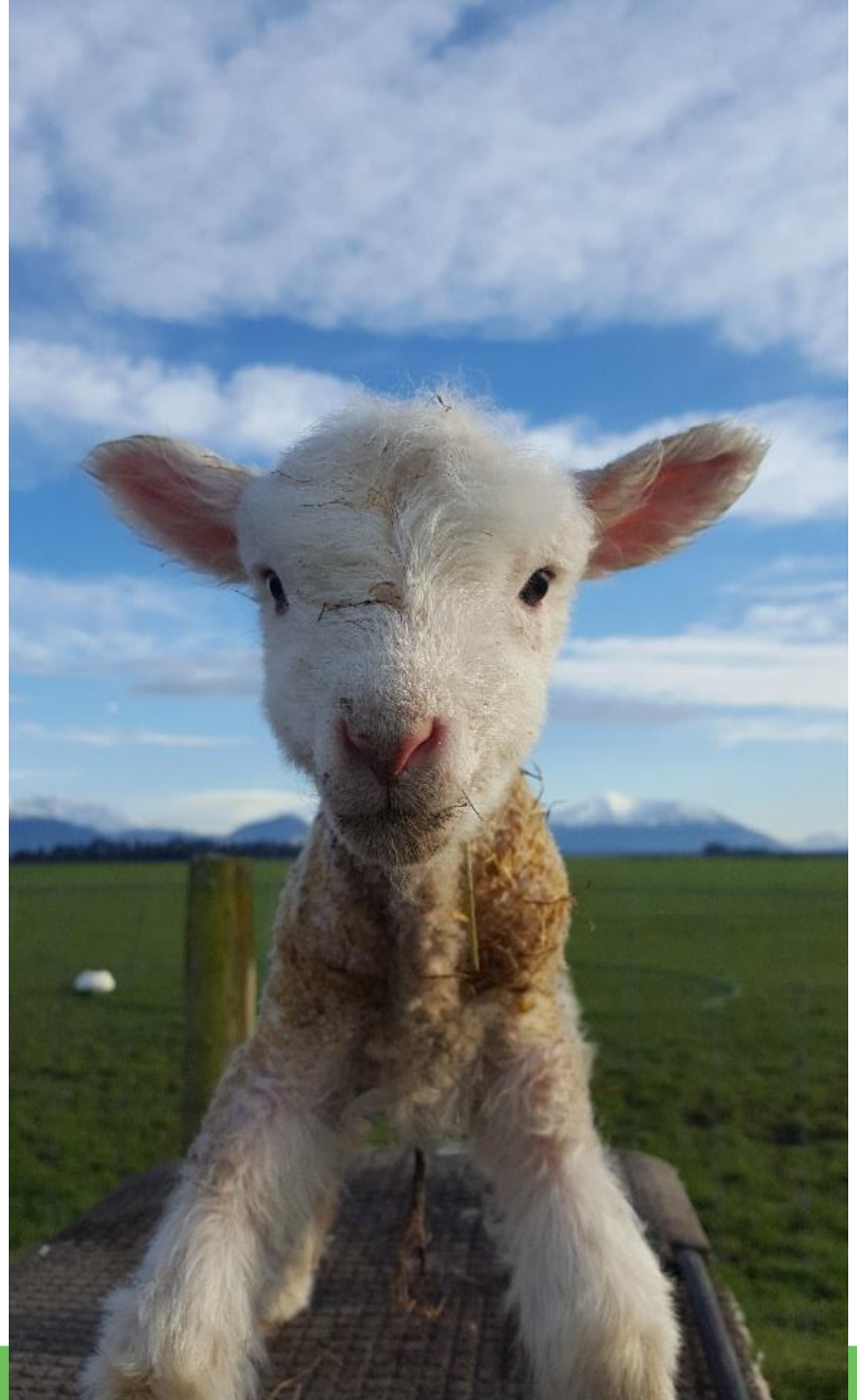
Showcase environmental leaders

- eg Ballance Farm Environment awards
- Landcare Trust Catchment initiatives
- Local catchment groups

In my backyard an example is:

- MAR trial is happening – Catchment scale mitigation
- Farmers are driving the trial
- Farmers are doing the work on farm
- Farmers are engaged
- Farmers are reducing their footprint to meet the targets

All Underpinned by Robust Science



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