

The
Aorere
catchment
project

NZ
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TRUST

**Farmers as ‘Movers and Shakers’ in
Community-led River Management.**



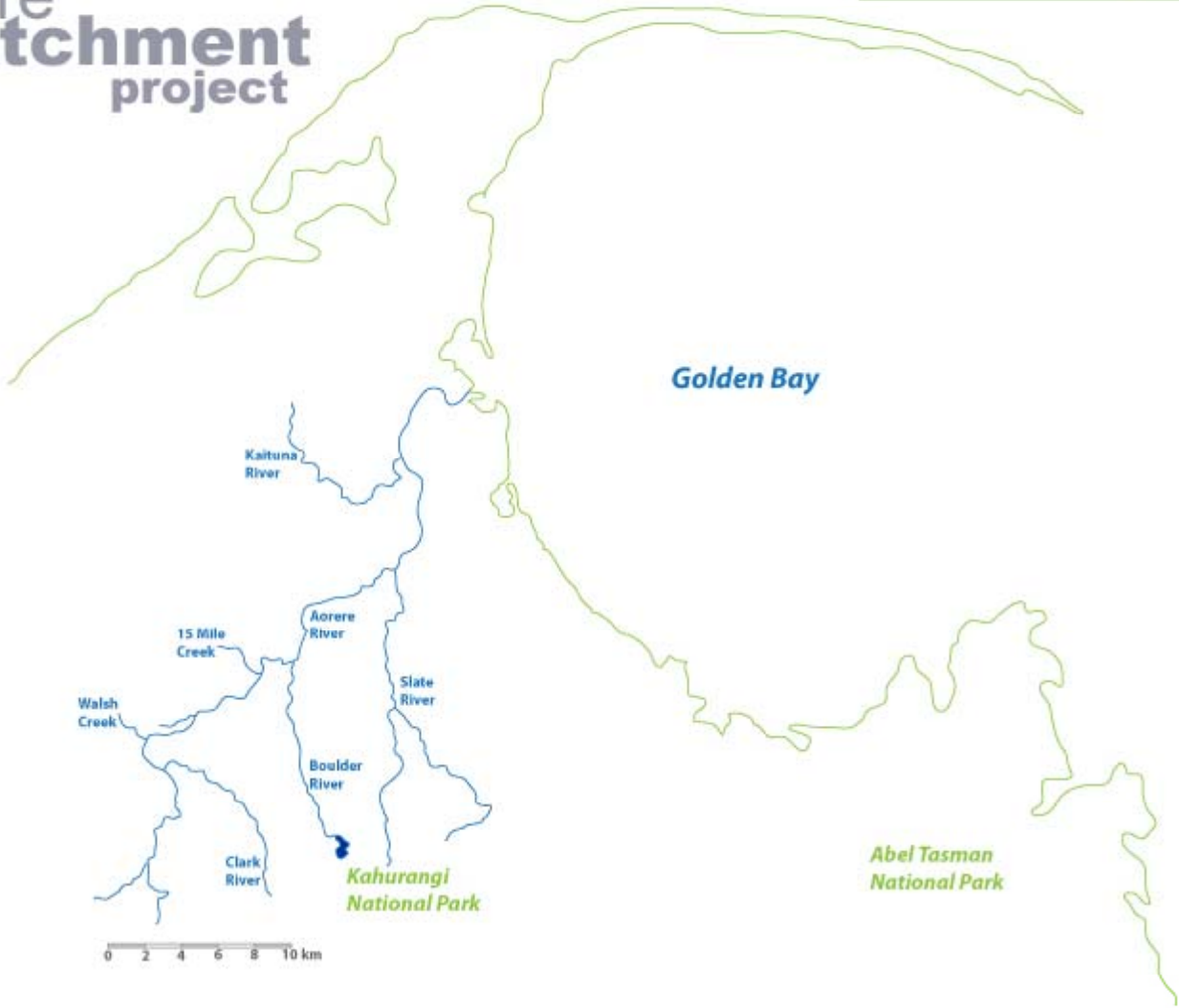
Aorere
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Location: Tasman District, Upper South Island



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Aorere issues



- \$15M shellfish industry in Golden Bay, Tasman District
- *E.Coli* contamination leading to harvesting restrictions
- Harvesting as low as 30% of the year
- Perception that high *E.coli* due to pasture runoff
- How to farm without preventing shellfish harvesting?



Aorere catchment



- Covers an area of 706 km²
- Short steep river with a length of 72km
- 80% of catchment is native forest
- 16% agriculture, 3% scrub, 1% exotic forest
- Dairy farming most common agriculture
- 11,000 - 13,500 cows on 33 farms



Aorere solution



- **Formation of Aorere Catchment Group a dairy-farmer led community group**
- **Project management, facilitation, science coordination assisted by NZ Landcare Trust**
- **Partners - Fonterra, Dairy NZ, AgResearch, Tasman District Council**



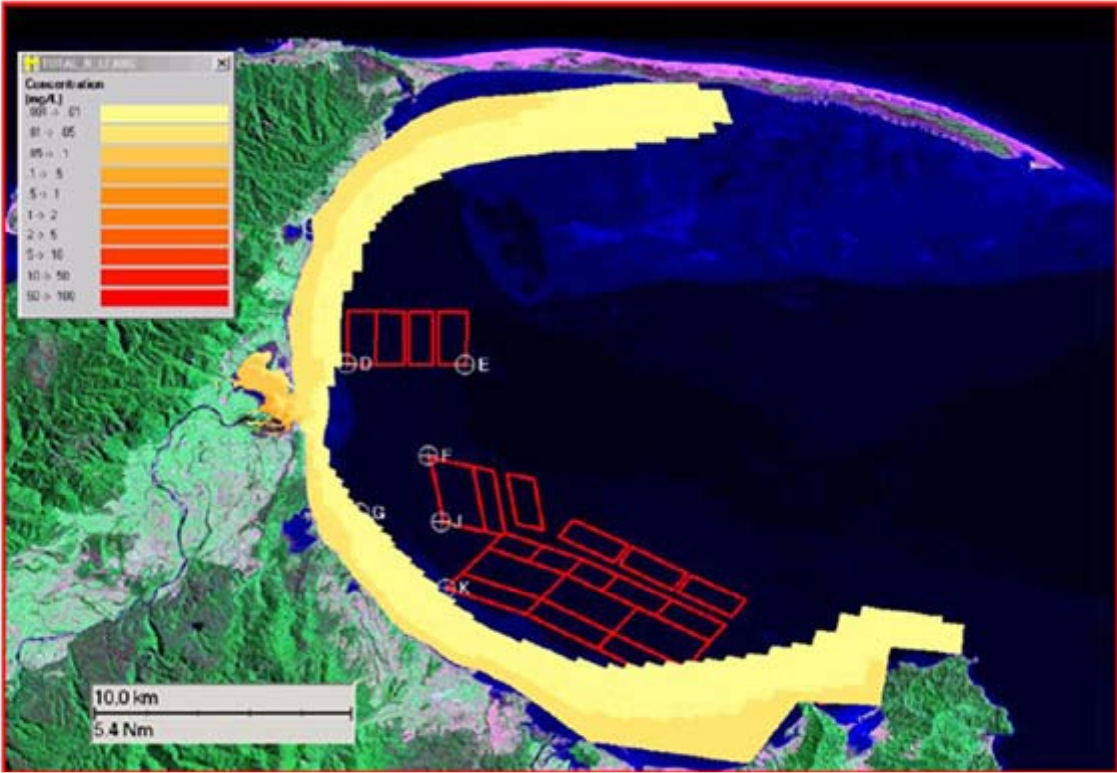
Aorere process

- Intensive modeling of nutrient and pathogen impacts from land use
- Presentation of modeling results to marine farmers, dairy farmers and Tasman District Council
- Identification of *E.coli* as the key contaminant



Aorere plume model

A tool to predict nitrogen, sediment and faecal coliforms within the estuary and bay under baseflow and stormflow conditions.



Aorere farmers

- Interviews with 31 of 33 farms within catchment
- Community based, problem solving field-day held on local farms
- Scientists and farmers identify BMPs for *E.coli* management
- Individual farm planning systems tailored to specific farms
- Independent contractor developed farm plans with each farmer



Aorere achievements



- 14 voluntary farm plans completed
- Farm plans identify \$1.4M of BMP improvements over next 5 years
- Shellfish harvesting up from 30% to 71%
- Unified community held seafood chowder celebration



Aorere farmer surveys



Main Aims:

- Assist the Aorere Catchment Management team design effective milestones for remaining 2 years
- Review the effectiveness of existing project initiatives
- Understand any changes in attitudes and current knowledge
- Quantify current investment in Best Management Practices and plans for further implementation



Aorere survey methodology

- **Survey designed with assistance from sociologist familiar with NRM issues**
- **Face-to-face on-farm interviews**
- **First survey August 2007: 30 of 32 catchment farmers surveyed**
- **Second survey February 2010: 31 of 34 catchment farmers surveyed**
- **Comparison between surveys as a way of assessing changes in farmer attitudes and behaviour**



Aorere **key** issues



Key issues facing farmers:

Significant changes from 2007 - 2010			
Issue	2007	2010	Possible reasoning
Staffing and labour	37%	17%	A general reduction in staff employed on-farm due to lower milk payouts.
Effluent management	10%	24%	Greater awareness now of the need to more responsibly manage effluent.
Economics	40%	90%	Economic impacts of previous year's low payout compared with 2007's high payout.
Compliance	37%	30%	Council have given farmers scope to self-manage environmental performance issues pro-actively.

Aorere **BMP** implementation



Farmers asked to list up to 5 Environmental BMPs implemented on-farm since the 2007 survey:

- Percentage of farmers who have improved (or plan to improve) their effluent management practices has increased from 87% to 100%
- Cases where farmers have installed (or plan to install) fences to stop stock entering waterways have increased from 83% to 100%
- The quantity of riparian planting in the catchment has grown from 33% to 57%
- Percentage of farmers who have installed crossings/culverts has increased from 67% to 83%

Aorere **BMP** confidence



Comparison between the 2007 and 2010 surveys showed that farmers confidence in promoted BMPs has grown significantly.

The percentage of farmers that reported being *'very confident'* in BMP effectiveness increased for:

- Effluent irrigation/management – 54% in 2007; 76% in 2010
- Fencing – 31% in 2007; 70% in 2010
- Bridging and culverting – 16% in 2007; 100% in 2010



Aorere influences for implementing BMPs

Farmers given list of possible motivating factors influencing their implementation of BMPs.

Two most important influencing factors were:

- A desire to have healthier local waterways (84% of farmers rated this as 'important' or 'very important')
- A pride in the beauty and qualities of local waterways (97% of farmers rated this as 'important' or 'very important')



Aorere influences for implementing BMPs

Between the surveys there were changes to key influences on BMP implementation.

- A desire to see local shellfish farmers able to maintain viable businesses (up from 41% in 2007 to 86% in 2010)
- Negative media attention (up from 31% in 2007 to 43% in 2010)
- Regulatory requirements (up from 72% in 2007 to 83% in 2010)



Aorere **conclusions**

- **Strong sense of community pride in the beauty and quality of local waterways**
- **Strong desire to have healthier waterways**
- **Significant dairy farmer investment in BMPs to improve water quality**
- **Farmers more optimistic about the positive effects and cost effectiveness of on-farm changes to improve water quality**
- **Enhanced harvesting opportunities for the local aquaculture industry**
- **Improved relationship between dairy farmers and shellfish farmers**



Aorere next steps



- **Audit of BMP implementation on farm**
- **New farms adopt farm planning process**
- **On-going field-days and events to showcase BMP implementation**
- **Project partnered to Rai Valley Catchment, Marlborough**
- **Extension of the approach to include other catchments**



Aorere acknowledgements

- **Aorere farmers and landowners**
- **Aorere Catchment Group**
- **MAF Sustainable Farming Fund**
- **Report 'Aorere Catchment Dairy Farmer Follow-up Interviews' February 2010. Prepared by NZ Landcare Trust staff – Jodie Robertson, Gretchen Robertson, Barbara Stuart and Monica Peters**

