



**For now &
our future**

A case study: linking catchment land use management to lake water quality

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Acknowledgements

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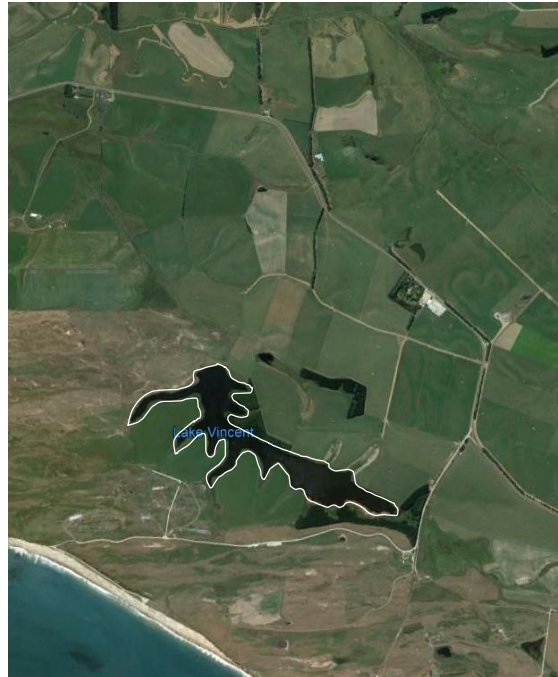
- **James Dare** (Previous Lake Scientist now at BoP RC)
- **Simon Mapp** (Compliance Manager)
- **Nathan Cruickshank** (Team Leader - Land and Water Services)
- **Landowners in the Lake Vincent Catchment**

Coastal Lakes Programme

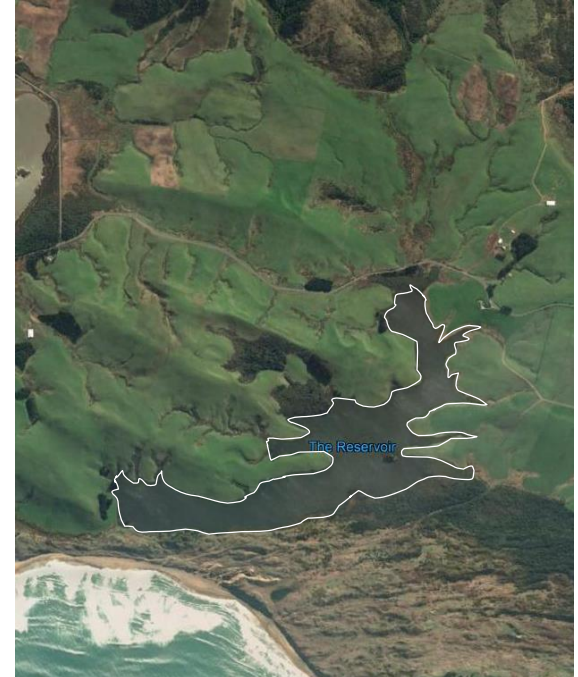
LAKE GEORGE



LAKE VINCENT



THE RESERVOIR



What's the problem?

- Catchments are intensively used for agriculture
- Declining water quality in coastal lakes
- Increased incidences of algal and cyanobacterial blooms

Case Study: Lake Vincent

James Dare, Simon Mapp, Nathan Cruickshank, Lake Vincent Land Owners

- Between 2004 to 2016 water quality declined
- Lake Vincent Catchment Management Proposal

Compliance

Regulation - Water and Land Plan

Land Sustainability

On-ground work with farmers

Science

Characterisation & investigation

Landowners

On-ground changes
toward sustainable
land use

Improve
Lake Vincent
water quality

Identifying problem areas

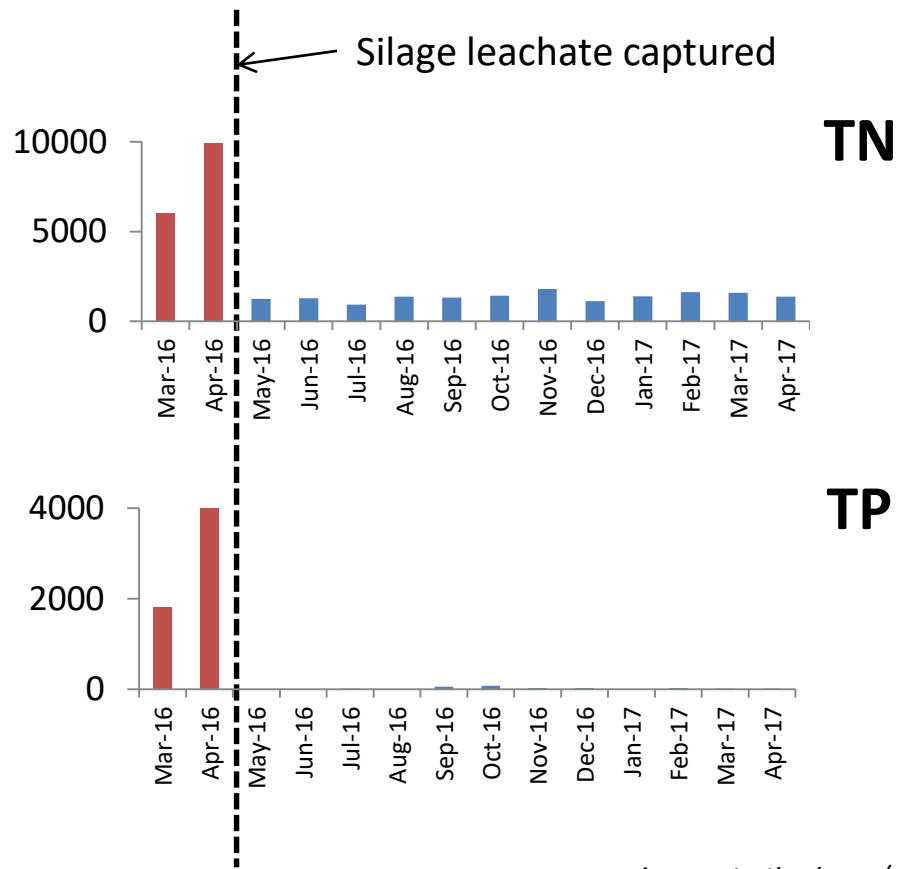
Wintering to lake edge



Self feed pads

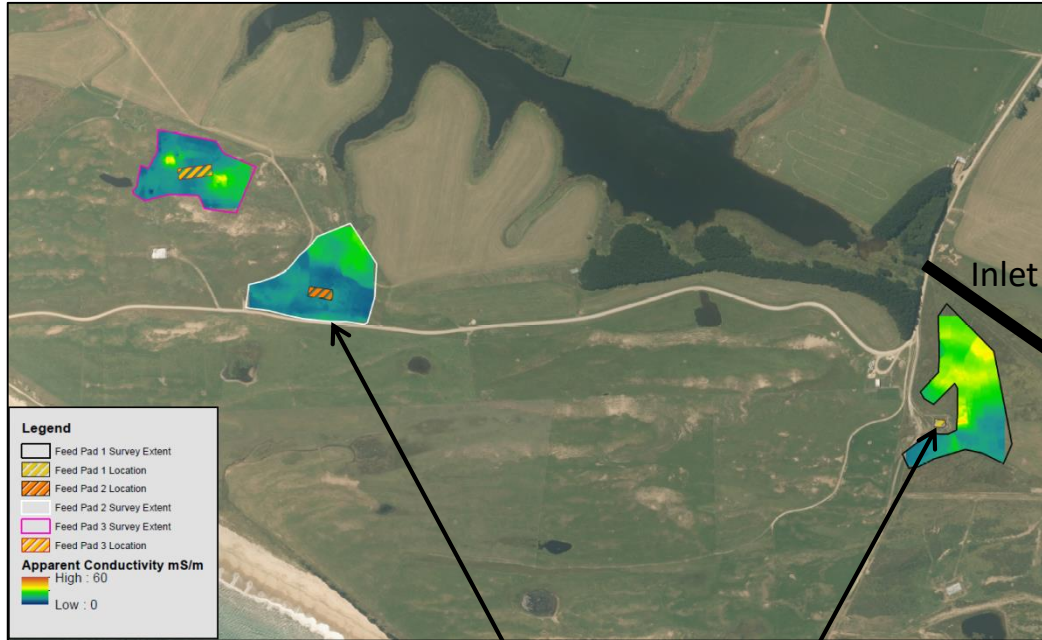


Silage storage near inlet



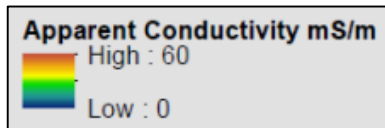
[^]concentration in mg/m³.

Self feed pads



EMI mapping of effluent

Retired 'problem' self feed pad near inlet



Self feed pads

Wintering



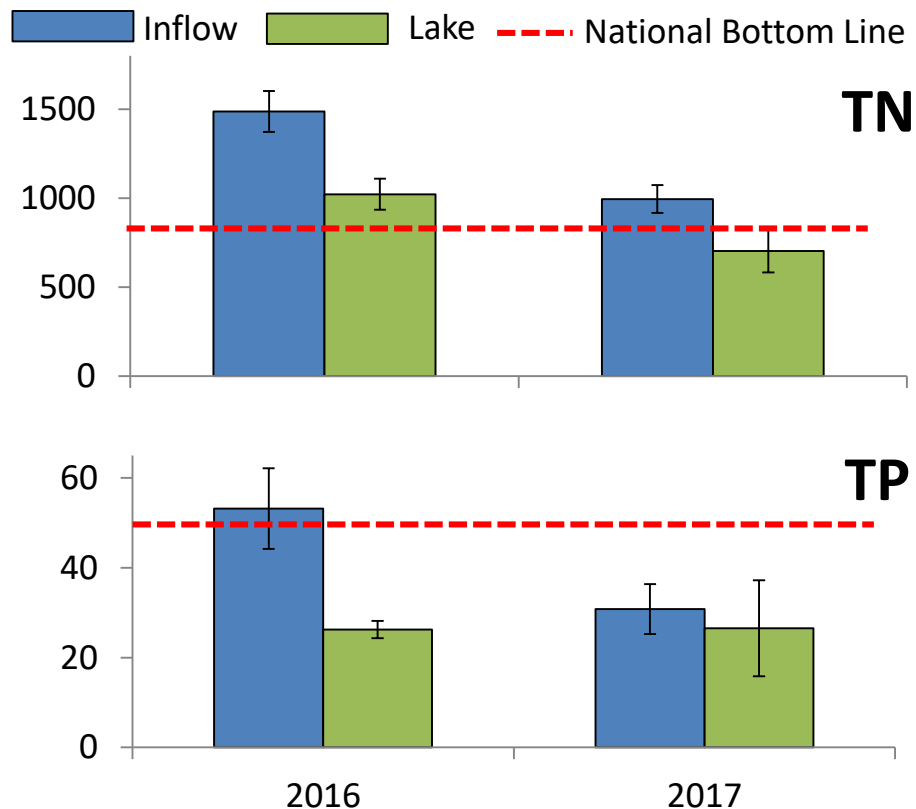
Fencing and exclusion of stock from lake margins



Riparian planting

Outcomes

- Improved land use management
- Lower TN and TP for 2017 compared to 2016*



*too soon for trend analysis

^concentration in mg/m³. Data is mean ± SE

Integration

Water quality is linked to **catchment land use** therefore holistic management approaches are needed.

To support **on the ground changes** that improve the water quality of our coastal lakes we need to take a cross divisional approach within council to support landowners.