



**For now &  
our future**

# **Nutrient Losses, Loads and Loadings**

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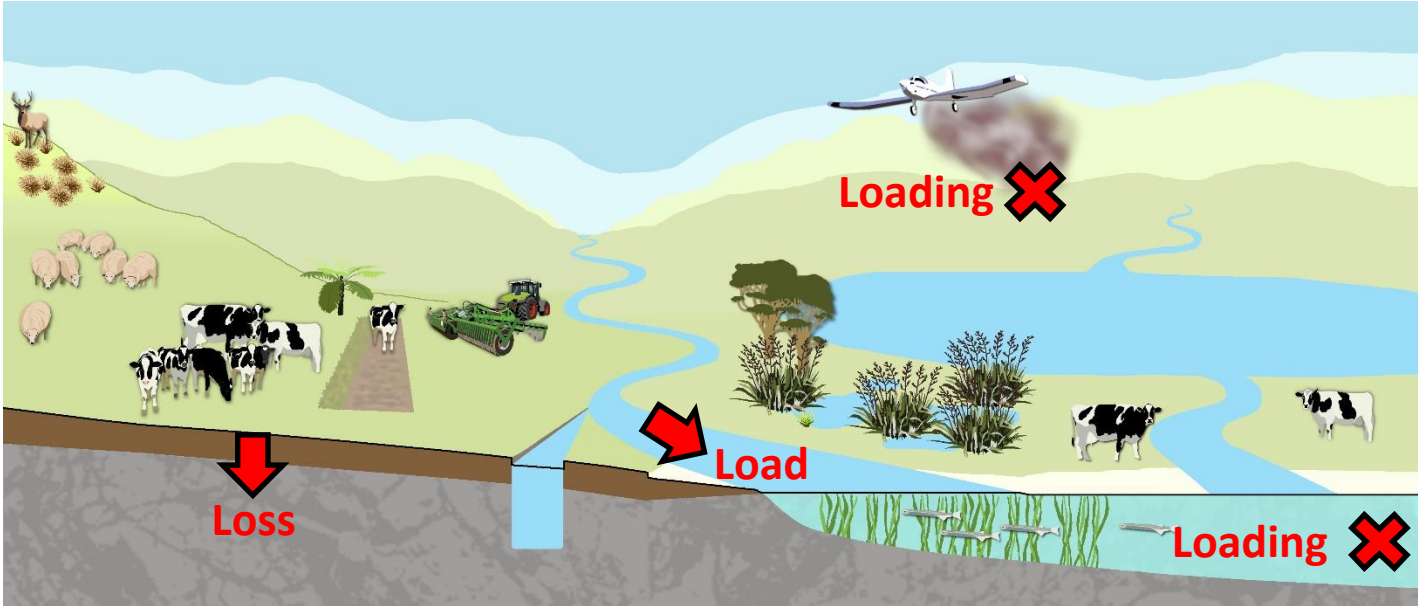
# Acknowledgements

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- Richard Measures (NIWA)
- DairyNZ (David Burger and Justin Kitto)

# Key points

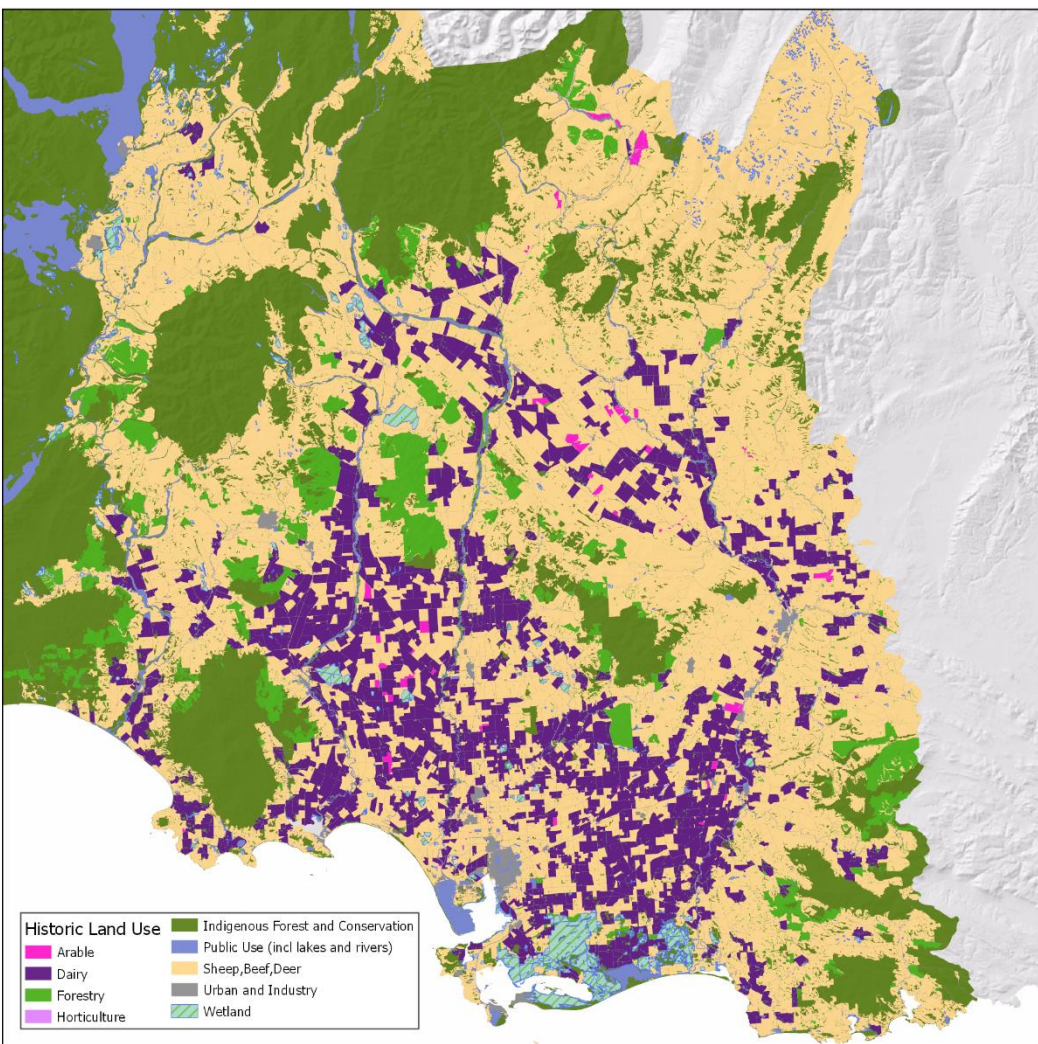
- Language matters
- Losses, loads and loadings are all important
- Understanding of sources can vary

# Defining terms

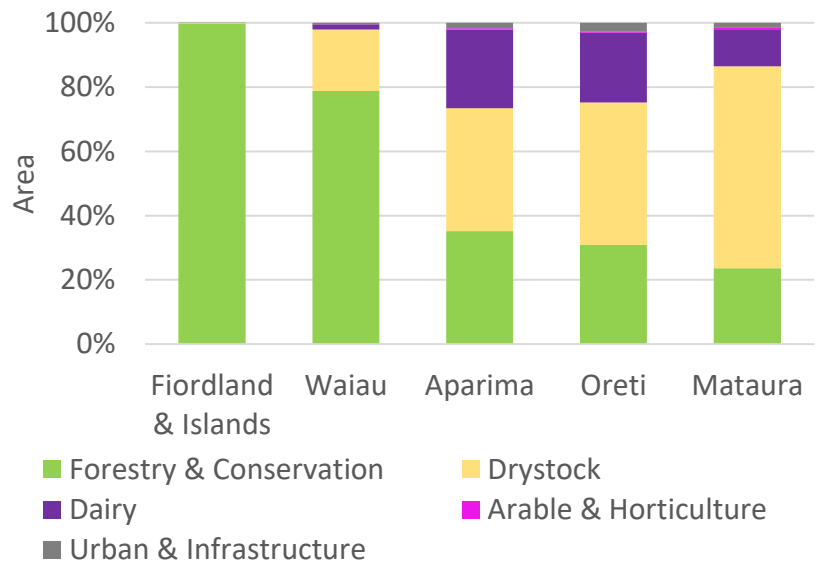


# Nutrient Losses





## 2018



# Nitrogen loss

## Matrix of.....

Land use

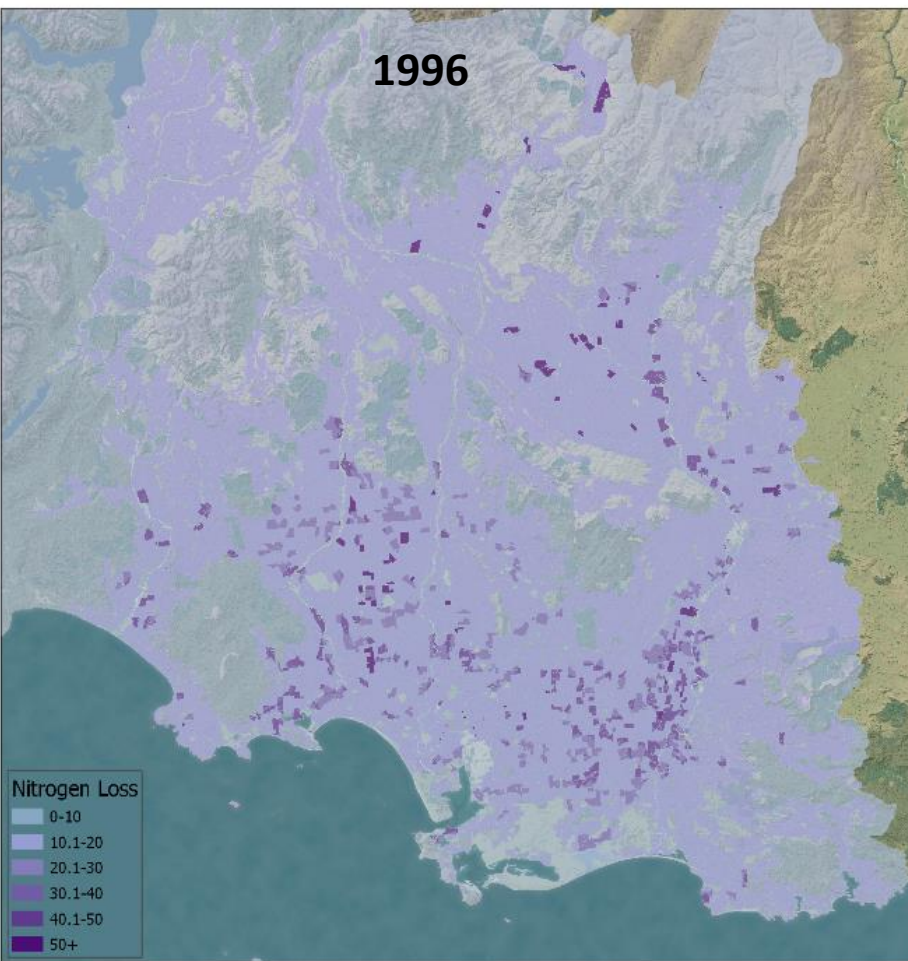
Rainfall

Slope

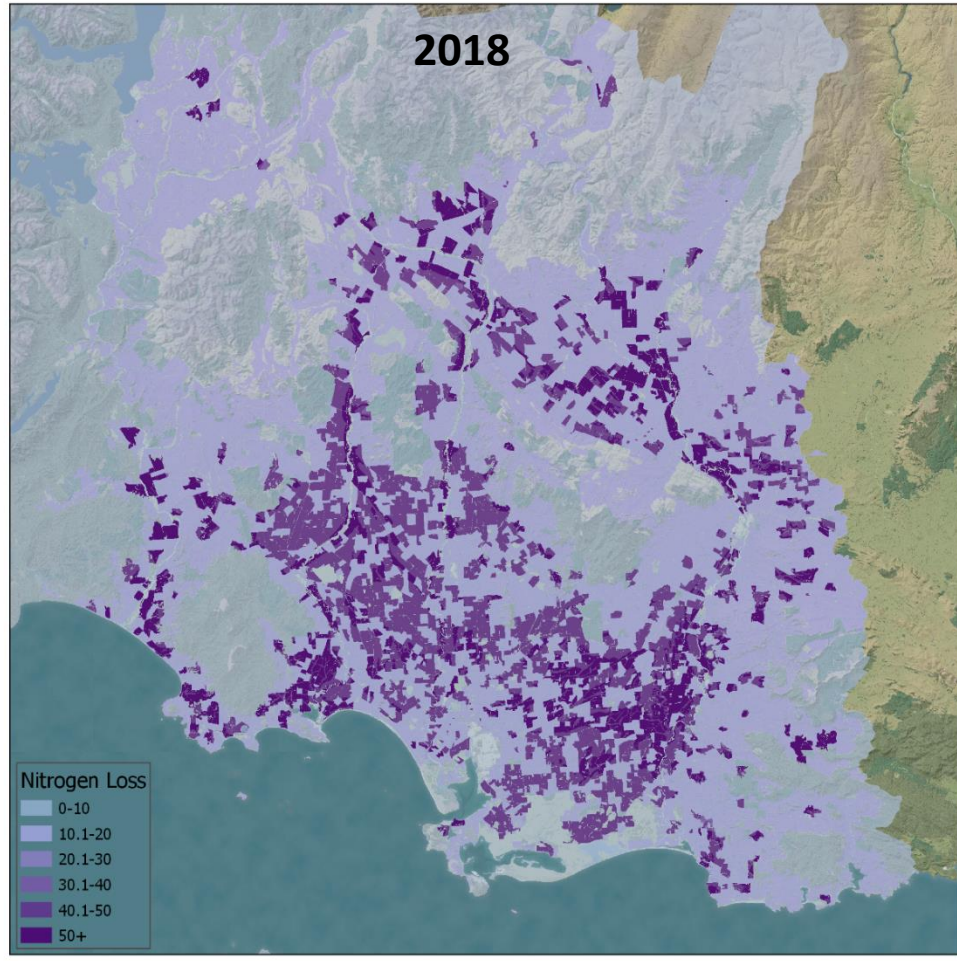
Soil drainage

Elevation

1996

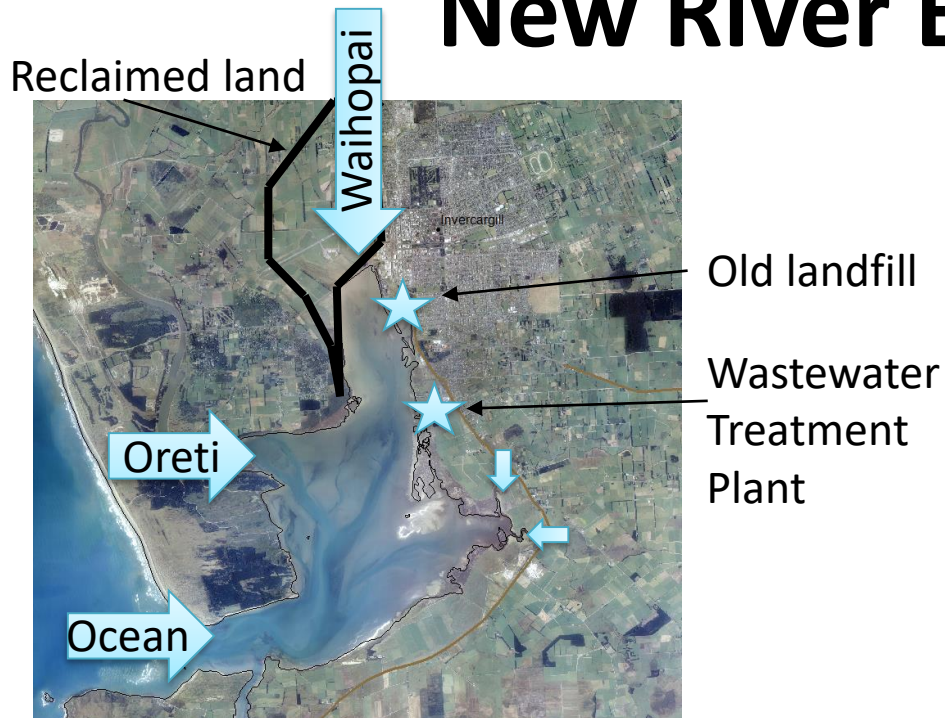


2018





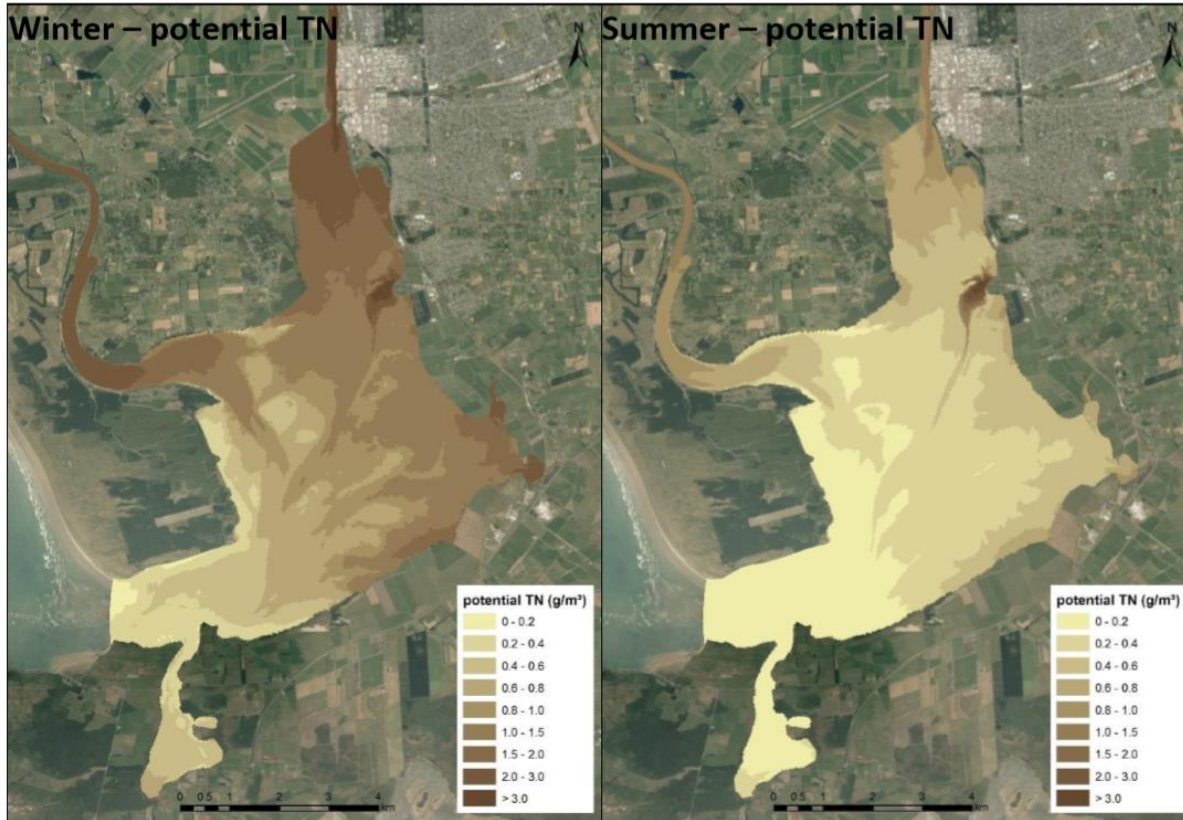
# New River Estuary



Waihopai Arm

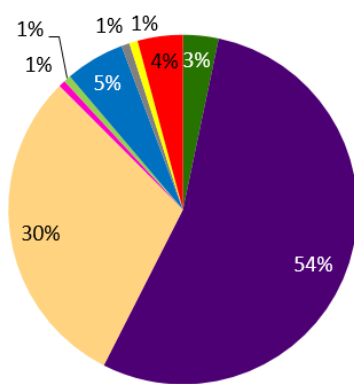


# Hydrodynamic modelling

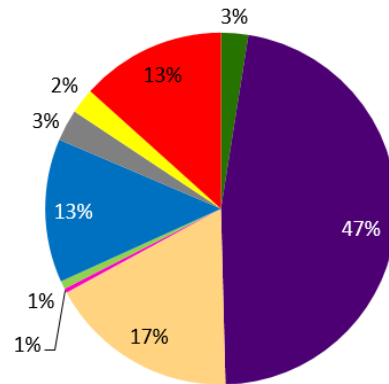


# Comparison

## New River Estuary



Total Nitrogen



Total Phosphorus

# Integration

- Losses, loads and loadings required for limit setting
- Integrated picture on contaminant sources
- Temporal considerations

