Cause & Effects – Farming practices & water quality in New Zealand

Pasture Summit 2021

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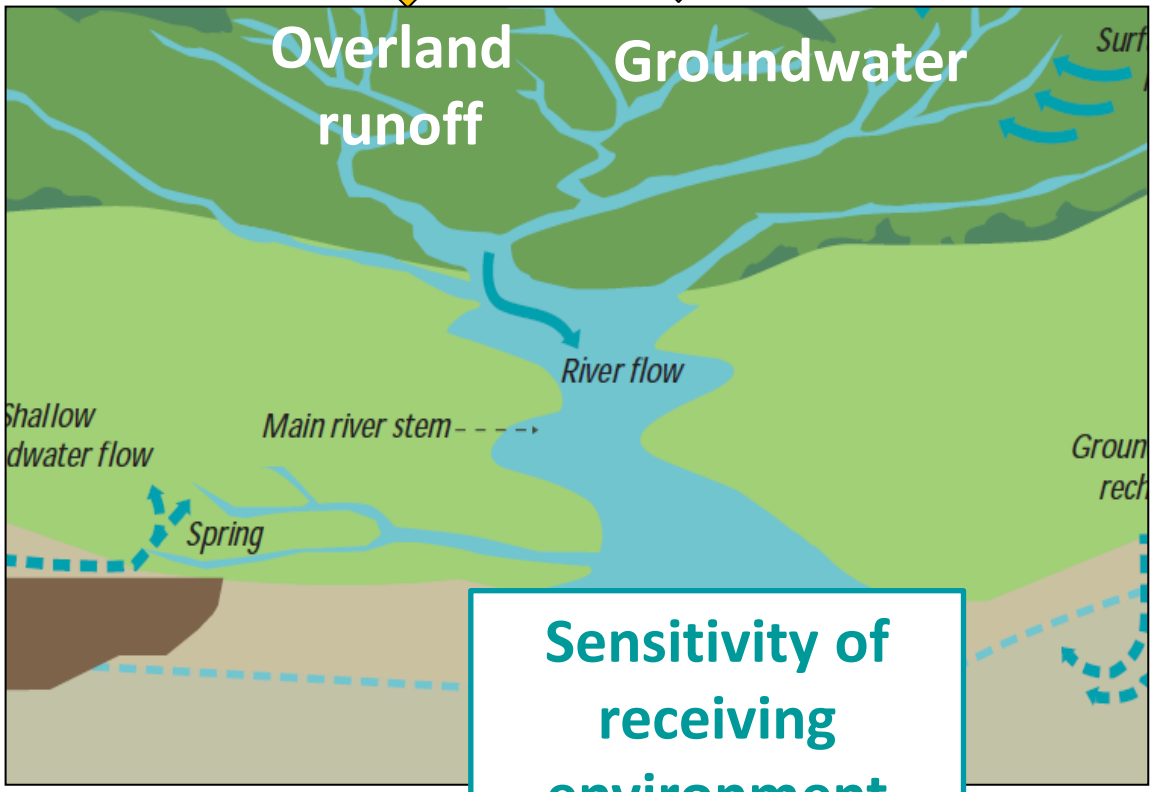
Practices

Environment

Intensity

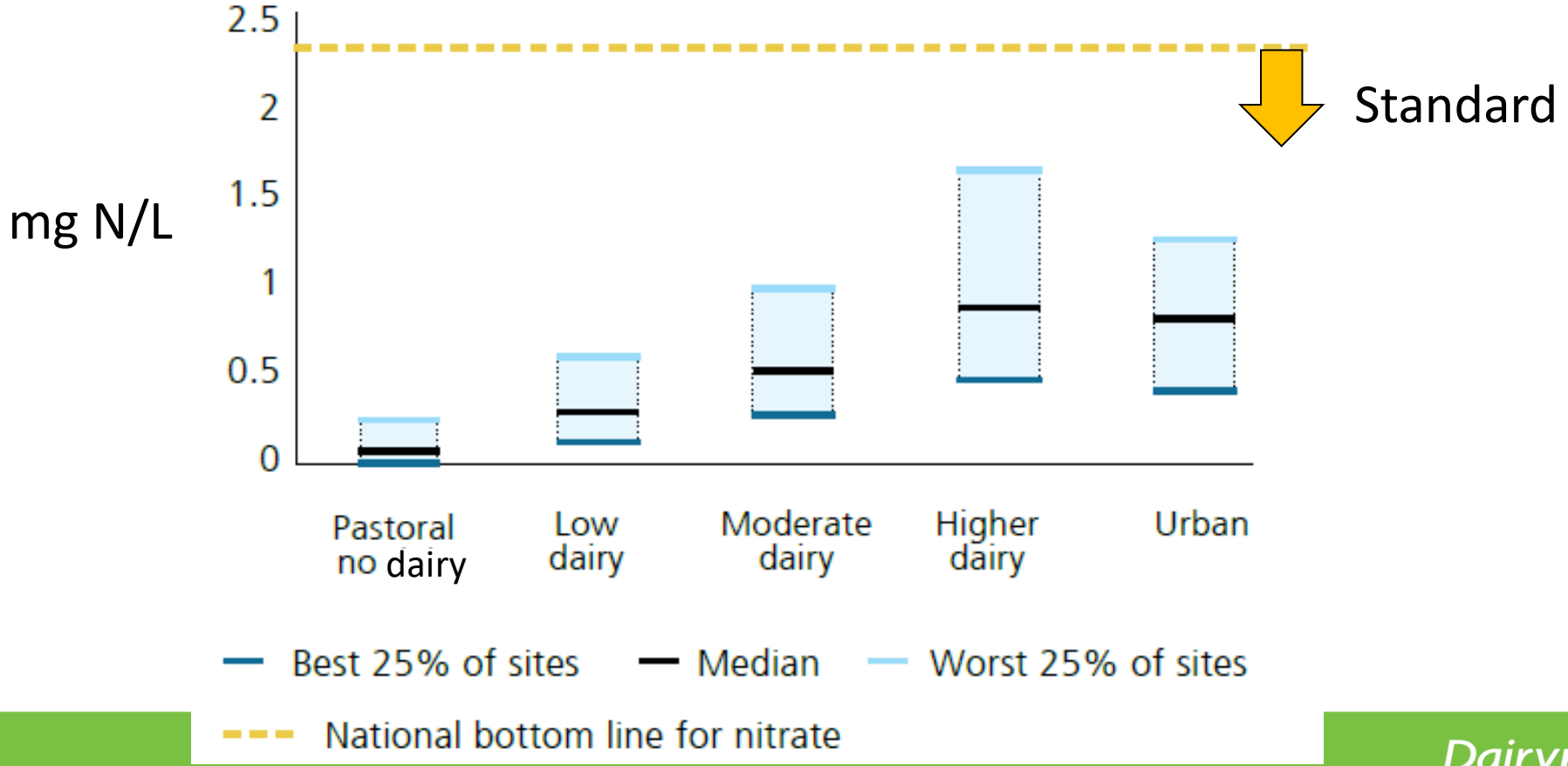
Nutrients
Sediment
Bacteria

Attenuation
Lag

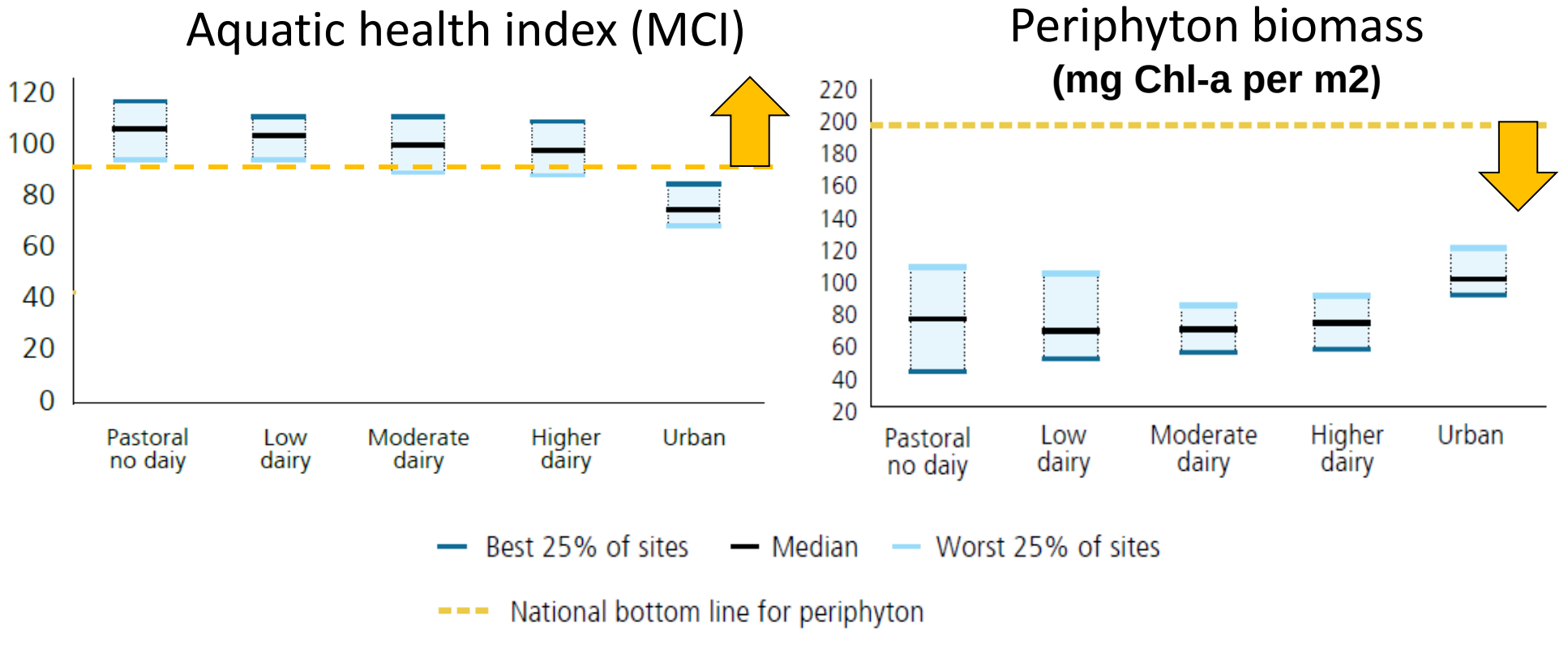


Sensitivity of receiving environment

River nitrate state NZ dairy catchments



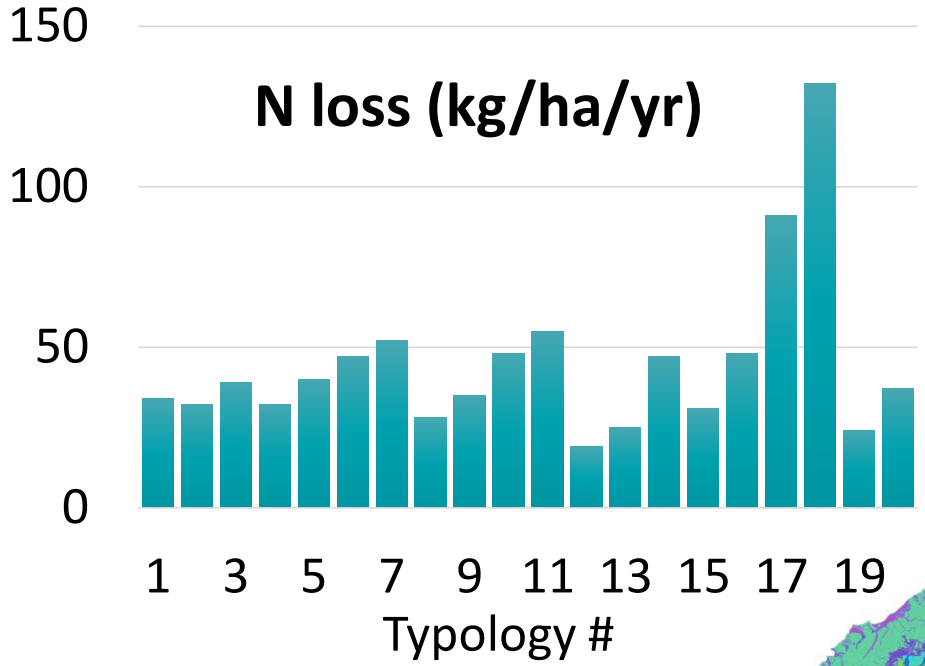
Ecosystem health NZ dairy catchments

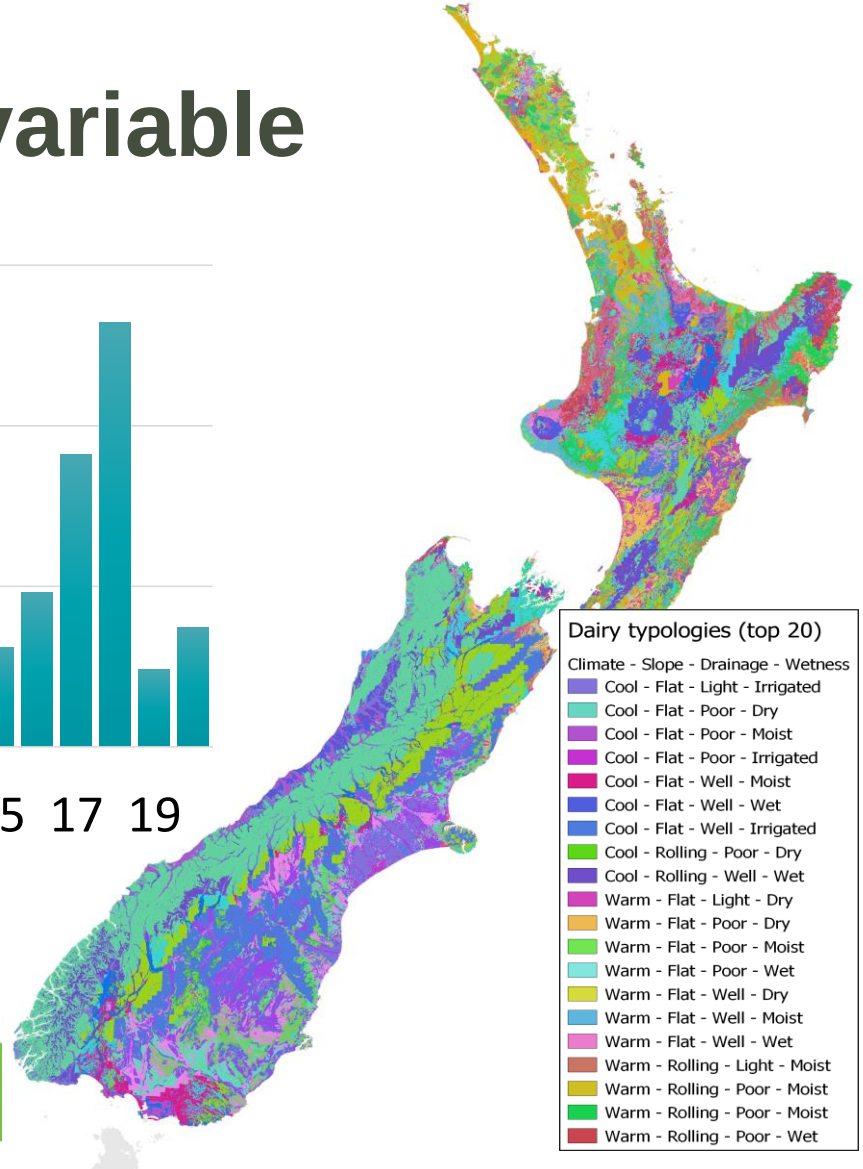


Contaminant loss highly variable

Drivers:
Temperature
Wetness
Soil/Drainage
Slope

20 typologies

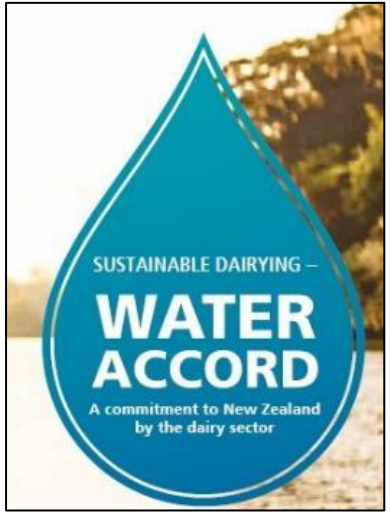




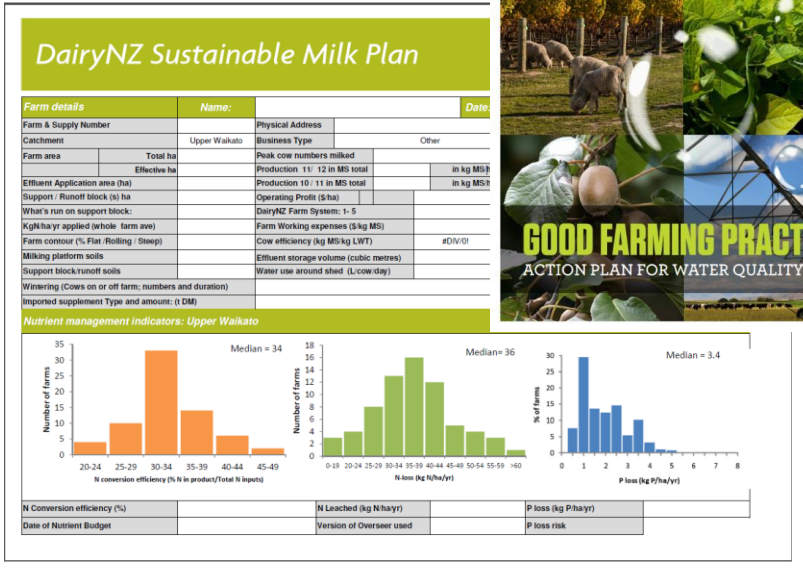
Monaghan et al. NZJAR, 2021

Significant action already undertaken

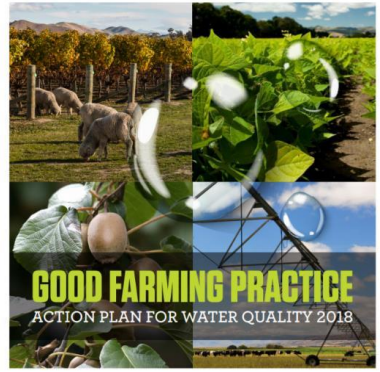
Effluent



Dairy Accord



Farm plans

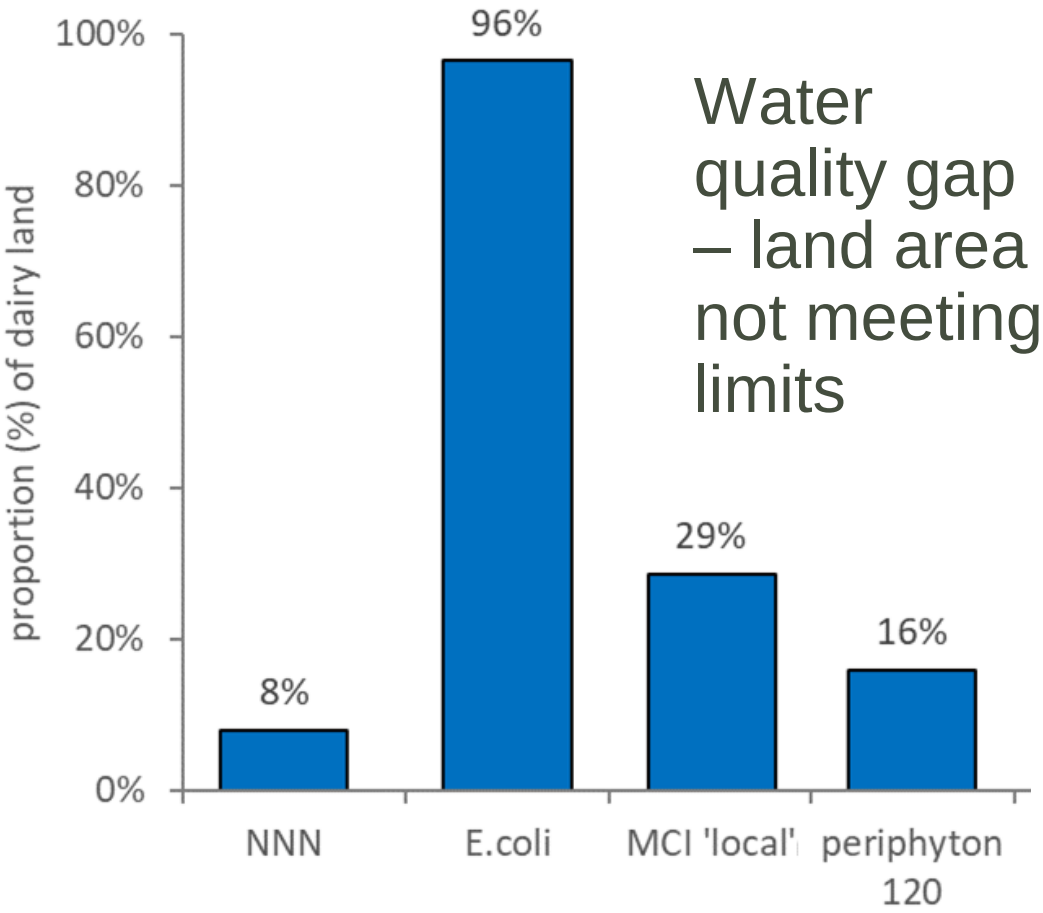


Good Farming Practices

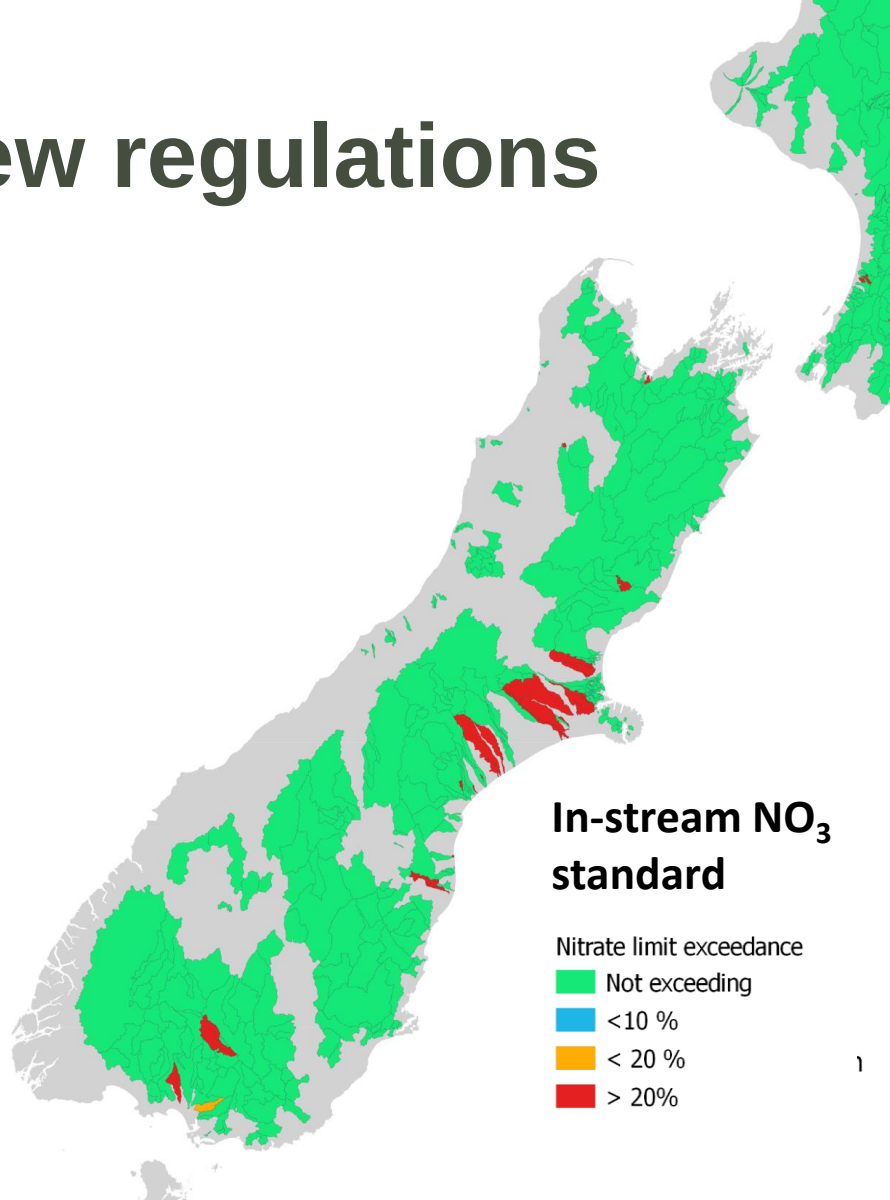
Significantly more nitrogen (+45%) and phosphorus (+98%) would have entered rivers from dairy-farmed land between 1995 and 2015 if farmers had not adopted better practises

-Monaghan et al. NZJAR, 2020

More required to meet new regulations



Water quality gap – land area not meeting limits

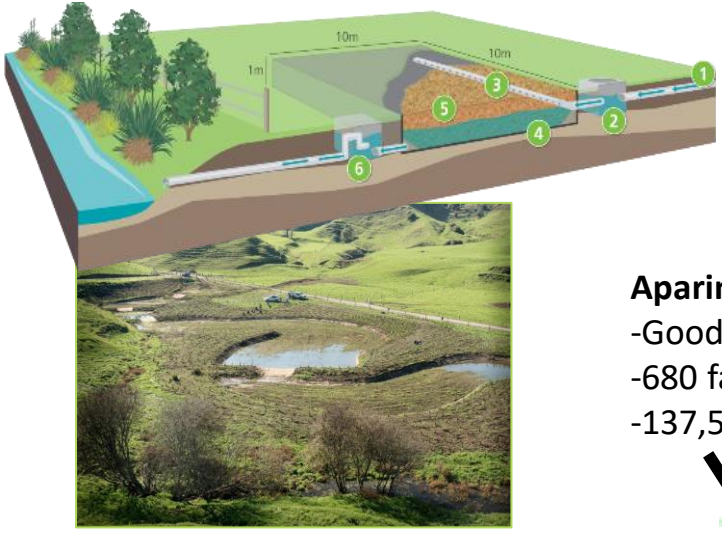


We continue to invest in solutions

1. Farm systems

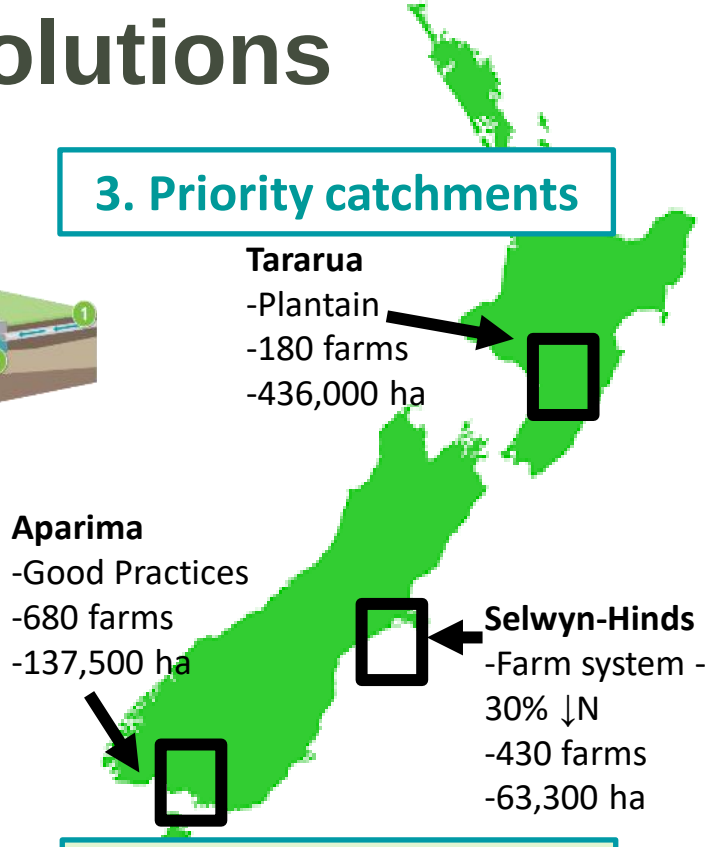
- Plantain/forages
- Wintering
- Low N cows

2. Edge of Field



- Riparian buffers
- Wetlands
- Bioreactors
- Detainment bunds

3. Priority catchments



4. Sector change

Farm plans

Good farming practice

Questions