

## MODELLING ASSESSMENTS OF N AND P LOSSES FROM PASTORAL FARMS IN THE HURUNUI CASE STUDY AREA

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### OVERALL OBJECTIVES

1. Estimate N and P losses from “typical” pastoral farming types in the catchment.
2. Define the profitability of those farm types  
- recognising the value of the farming activities.
3. *If necessary, provide an assessment of where mitigation could be achieved and a guide of indicative costs.*



## WHY ARE NUTRIENTS IN WATER A PROBLEM?

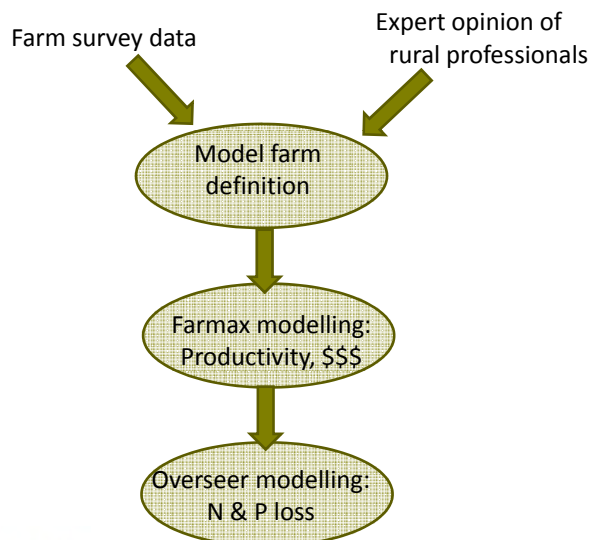
1. Nuisance weed/algal growth



2. Drinking water  
- should be less than 11.3 mg N/L



## APPROACH



### PASTORAL SCENARIOS EVALUATED

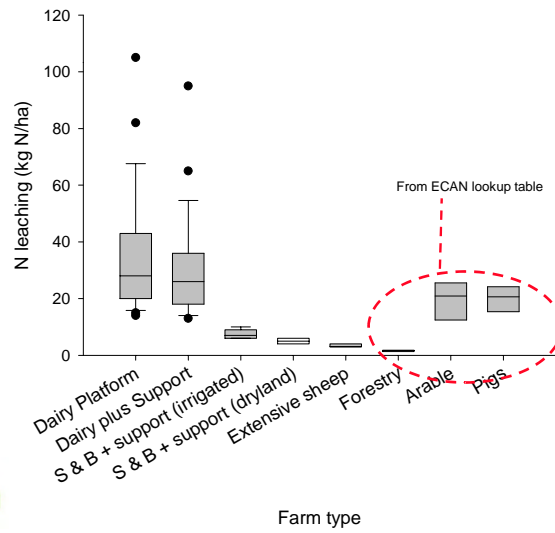
Model farms	Soil types	Irrigation	Management intensity*	# scenarios
Dairy platform	Shallow	Nil	Low	27
Dairy + support	Mod. deep	Pivot	Medium	27
S/B + support	Deep	Rotary b.	High	21
Extensive sheep and beef		Border		9
				84

\*modelled for dairy only



Total area: 458 ha  
 (average farm)

### ESTIMATES OF N LOSSES TO WATER FROM MODEL FARMS IN THE HURUNUI CASE STUDY AREA

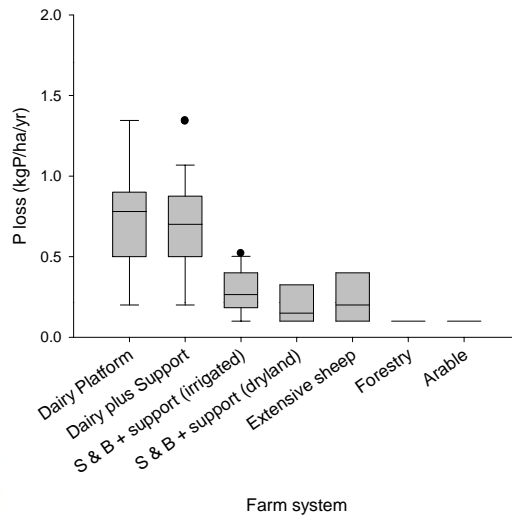


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### Tackling the nitrogen problem...



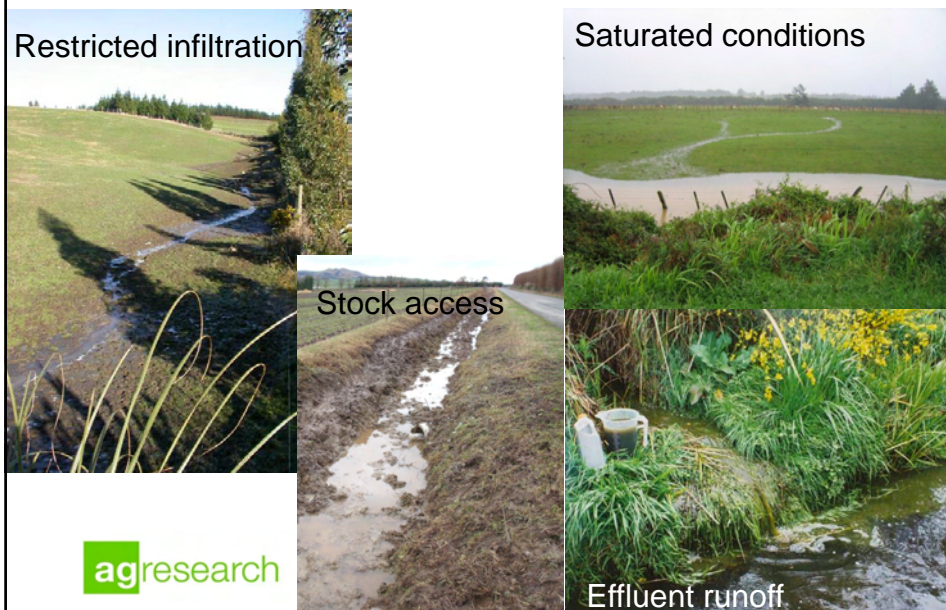
### ESTIMATES OF P LOSSES TO WATER FROM MODEL FARMS IN THE HURUNUI CASE STUDY AREA



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Farm system

### POTENTIAL P SOURCES



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P SOURCES: BORDER DYKE WASH



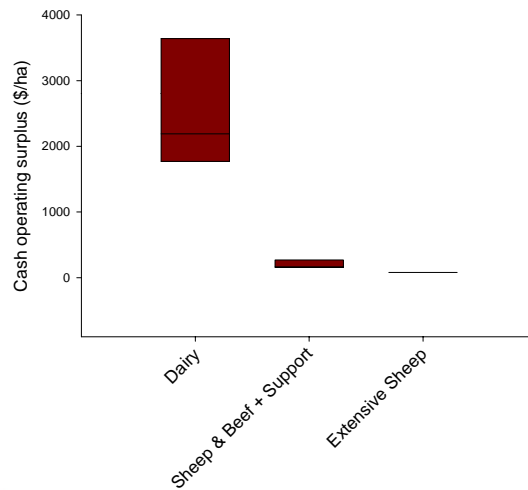
SOURCES: TRACKS/LANES – MULTIPLE CONTAMINANTS

Used each day

Concentrated source of faecal deposits



### “Typical”/approximate profitability of model farms



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### SUMMARY

1. Different farm types have different footprints
  2. But there is much variability within a farm type, due to:
    - Soil type
    - Management (irrigation, fertiliser, SR, effluent, etc)
- thus some opportunity to manage losses

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