

# Rural land management in Te Whanganui-a-tara

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# Farming characteristics

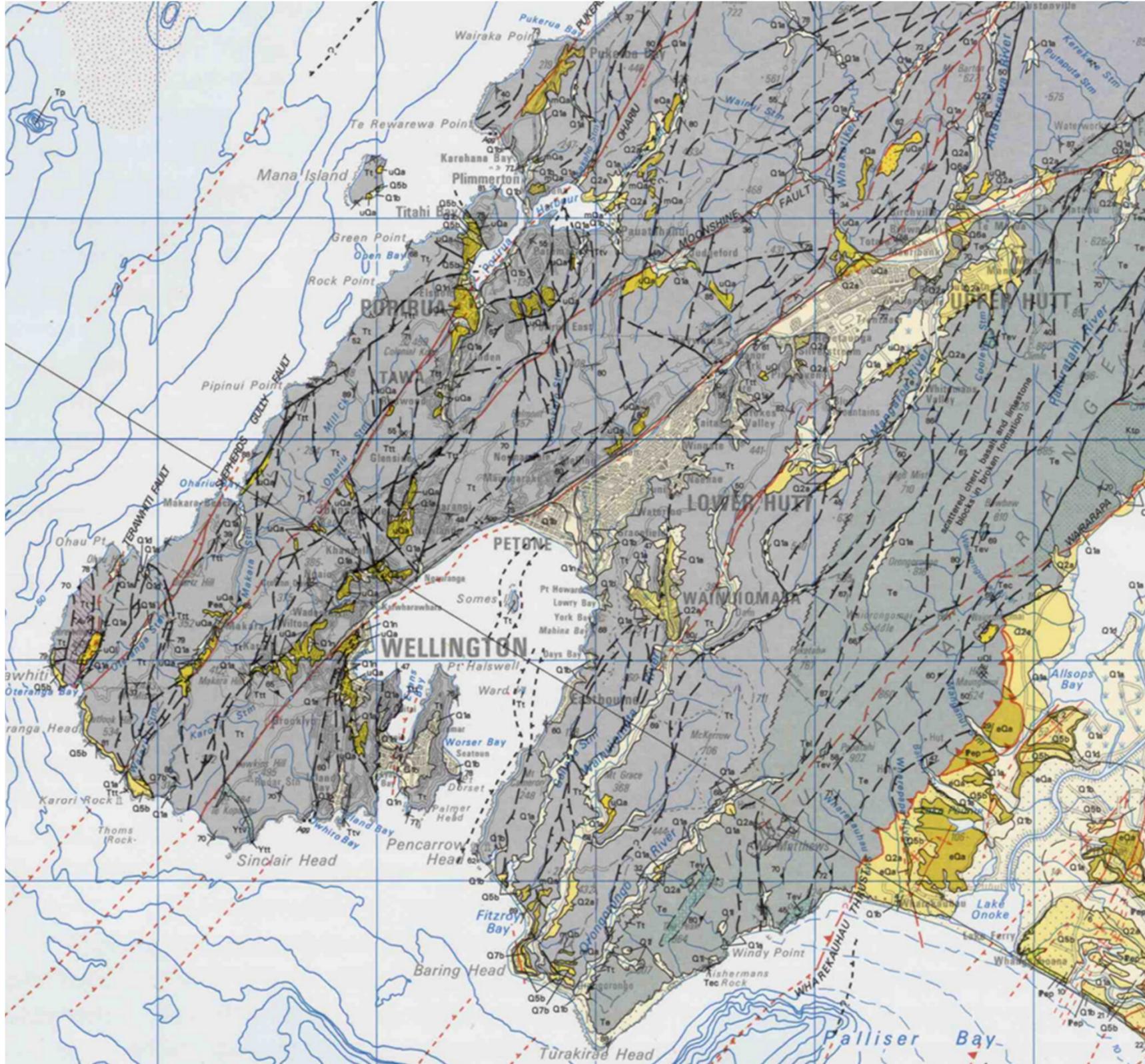
- Predominantly Sheep & Beef
- Relatively low intensity



# Geology & soil

- Hard greywacke (Sandstone) baserock
- Loess (wind blown silt) on hills
  - Shallow, limited fertility
- Alluvium (eroded silts and gravels) on flats
- Several active fault-lines





- Alluvium
- Greywacke
- Faultlines

# Climate

- Exposure to wind and salt
  - Prevailing north-westerlies
  - Southerly fronts
- Semi regular summer drought
- Flood prone areas



# Water quality risks

- Hill country + low intensity farming
  - = Generally high risk of **sediment** and **pathogen** loss
  - = Generally low risk of **nitrogen** and **phosphorus** loss



# Sediment loss pathways

- Landslide
- Hillslope
- Streambank
- Critical Source Areas



# Landslide erosion



Streambank erosion



Hillslope erosion



Critical Source Areas



# Pathogen loss pathways

- Stock having direct access to water
- Hillslope runoff e.g. Autumn flush
- Critical Source Areas (CSA)



# Managing risks

## Mitigations

Poplar and willow poles

Retirement/reversion/ afforestation of land

Riparian fencing and planting

Wetland restoration

Sediment traps

Innovations – Dung Beetles

## Good Management Practices

Pasture management

Stock access

CSA management



# Poplar/Willow pole planting



# Poplar/Willow pole planting

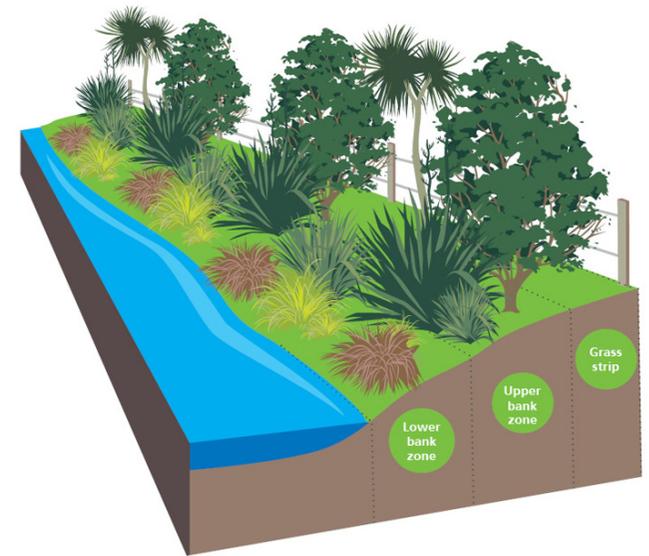
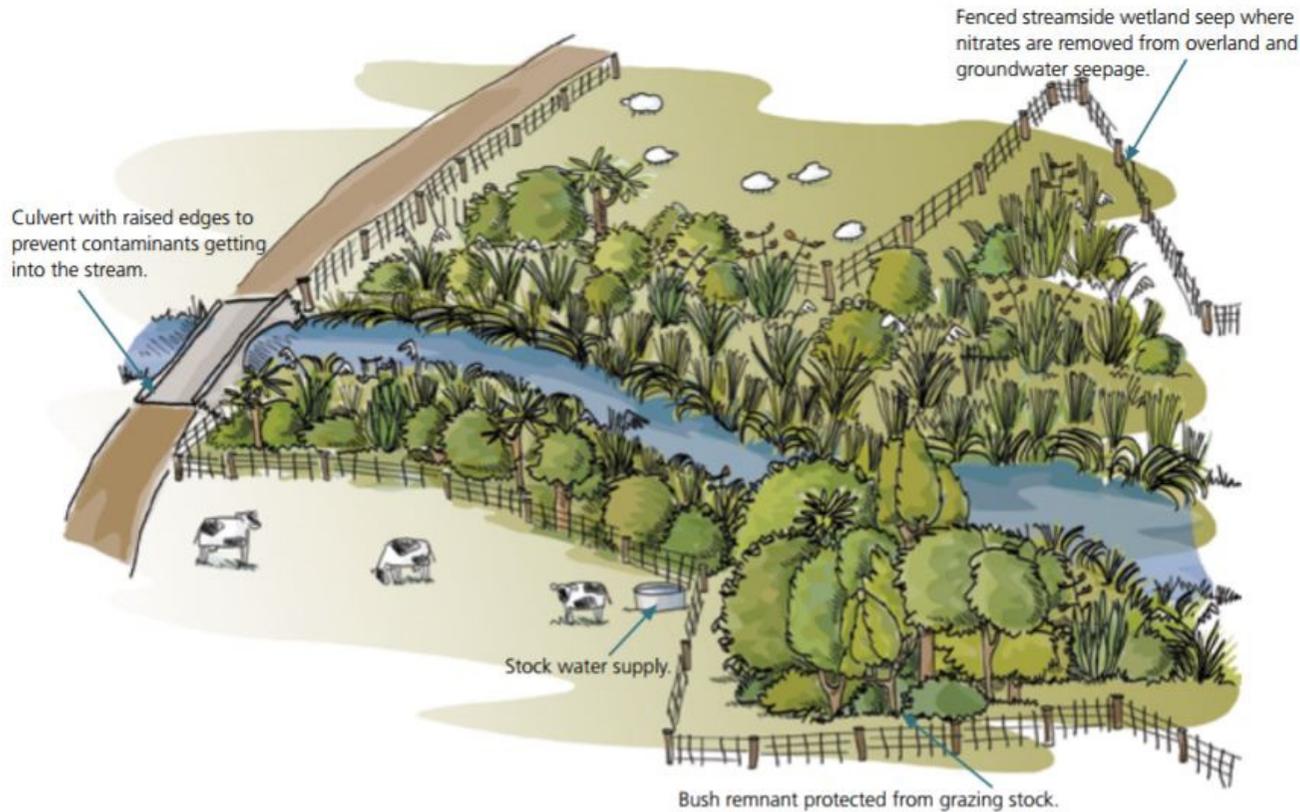
- Can be planted without needing to fence off
- Fast growing
- Can reduce slip occurrence by 78%\*
- Provide stock shade and shelter
- Can be alternative stock fodder source
- Carbon sequestration

\*Mcivor et al. 2015

# Retirement/Reversion/Afforestation



# Riparian Management



# Pasture Management (GMP)

- Important that good pasture levels are retained to limited wash off of soil particles
- Avoid over grazing
- Maintain soil fertility
- Match stock type to land type e.g. remove heavy stock from wet areas to prevent pugging



# Managing CSA's (GMP)

- Critical source areas are 'hotspots' for contaminant loss e.g. pugged stock crossings, collapsed banks, swales
- Can large source of sediment loss
- Need to be addressed on a case by case basis



# Farm Environment Plans

## 1. Farm assessment

Farm system  
Land resources (Land Use Capability)  
Biodiversity e.g. bush remnants  
Waterways and wetlands  
Critical source areas

## 2. Identify risks and opportunities

What risks to water quality and biodiversity does the farm present?  
What opportunities are there to address these risks

## 3. Farm action plan

Outline actions (mitigations and GMP's)  
Actions tailored to farm system and farmer values  
Set actions over achievable timeframe  
Outline opportunities for funding



# Farm Environment Plans

## 3. Farm action plan

Outline actions over multiple years

**Actions tailored to farm system and farmer values**

Outline opportunities for funding

‘Horses for courses’

Allows for innovation

Better buy in from farmers

2019 Proposed Works					
	<i>Proposed Work</i>	<i>Grant Rate and Fund</i>	<i>Estimated Total Cost</i>	<i>GW Share</i>	<i>Farmer Share</i>
Retirement Top Whangaehu (Soldiers River Paddock)	Fencing 338m conventional flat	Riparian 50%	\$5,433.50	\$2,716.75	\$2,716.75
Top Corner Paddock Erosion control	35 poles (D/C)	WRECI 50%	\$931.35	\$465.68	\$465.68
Omahu Gully Paddock Erosion Control	35 poles (D/C)	WRECI 50%	\$931.35	\$465.68	\$465.68
<b>Total Cost for 2019</b>			<b>\$5,433.50</b>	<b>\$2,716.75</b>	<b>\$2,716.75</b>



greater WELLINGTON

REGIONAL COUNCIL

Te Pane Matua Taiao

# Funding opportunities

## 3. Farm action plan

Outline actions over multiple years  
Actions tailored to farm system and farmer values

**Outline opportunities for funding**

- **WRECI** -Wellington Region Erosion Control Initiative— co funded by MPI
- **Riparian Programme**
- **Wetland Programme**
- **Contestable Fund**
- **1 Billion Trees** (direct with MPI)

Mitigations	WRECI	Riparian Programme	Wetland Programme	Contestable Fund	1BT
Poplar and willow poles	50% (only erosion prone land)	50% (riparian zones)			*
Retirement/reversion/afforestation	50% (only erosion prone land)				\$/ha basis
Riparian fencing & restoration		50%			*
Wetland restoration			50% (for fencing)		
Sediment traps	*			34%	
Critical source area management				34%	
Dung beetles				34%	

\*Potentially available for support if it meets programme criteria



# Benefits of Farm planning

- Landowner – GWRC advisor  
positive relationship
- Identify and understand issues  
together, find appropriate measures  
that suit *that* farm and it's goals
- Provide an interface with GWRC for  
other issues e.g. pest control
- Drives more action on the ground

