



Nature Positive Farming

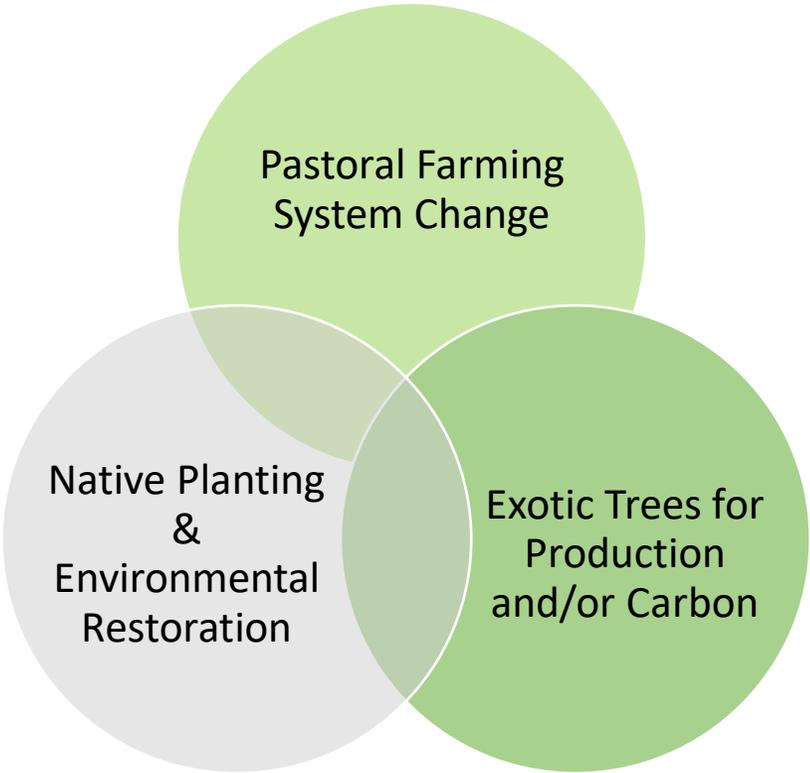
Pukekauri Farm's 20+ Year Journey

Relandscaping the Aotearoa farm



Pastoral Farming (EGA)

Redesign >>



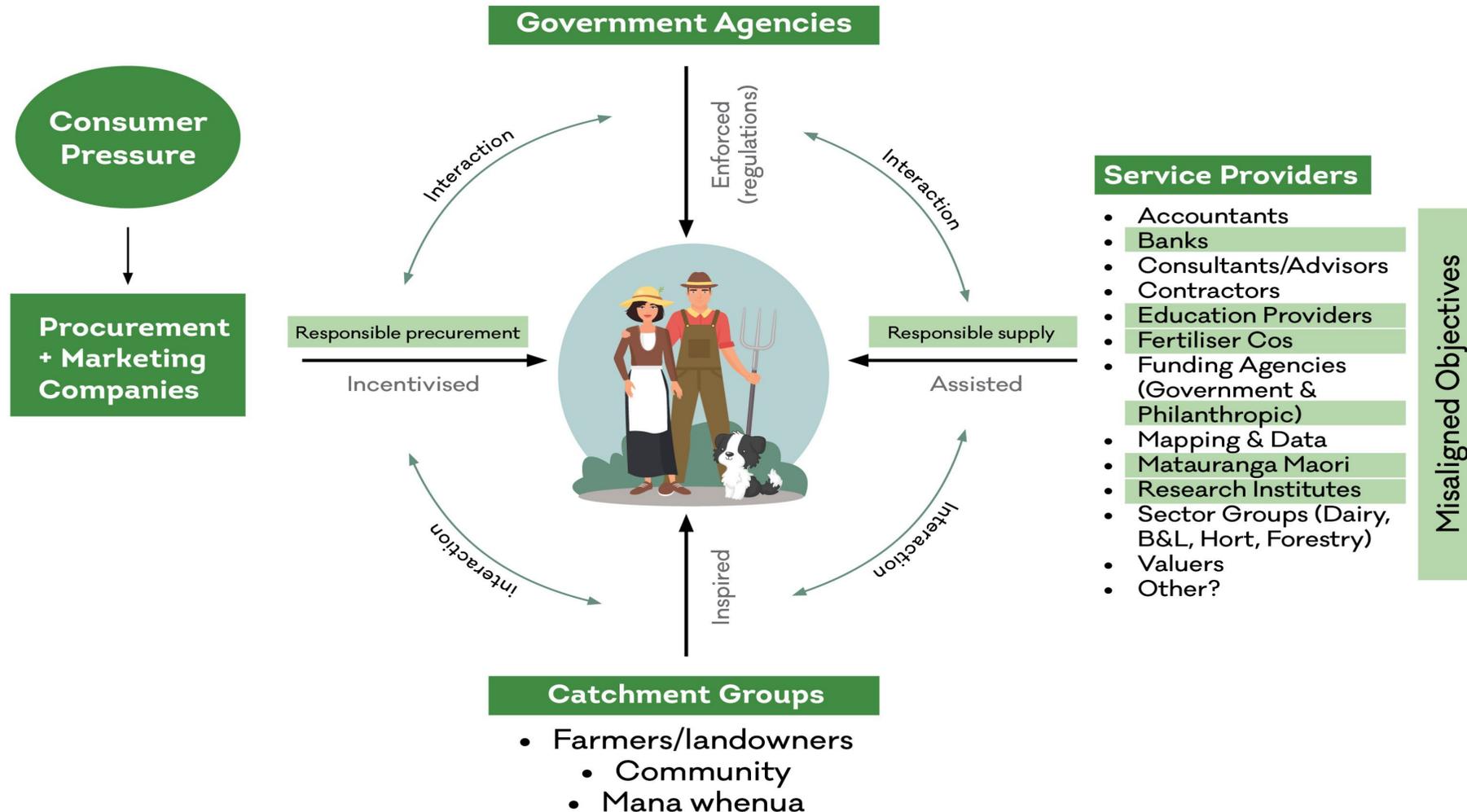
Integrated Land Use (FWFP&GHG)

>>>>>>>

BAU is not an option

Don't blame the farmer

ECOSYSTEM OF LAND USE CHANGE



Good things take time

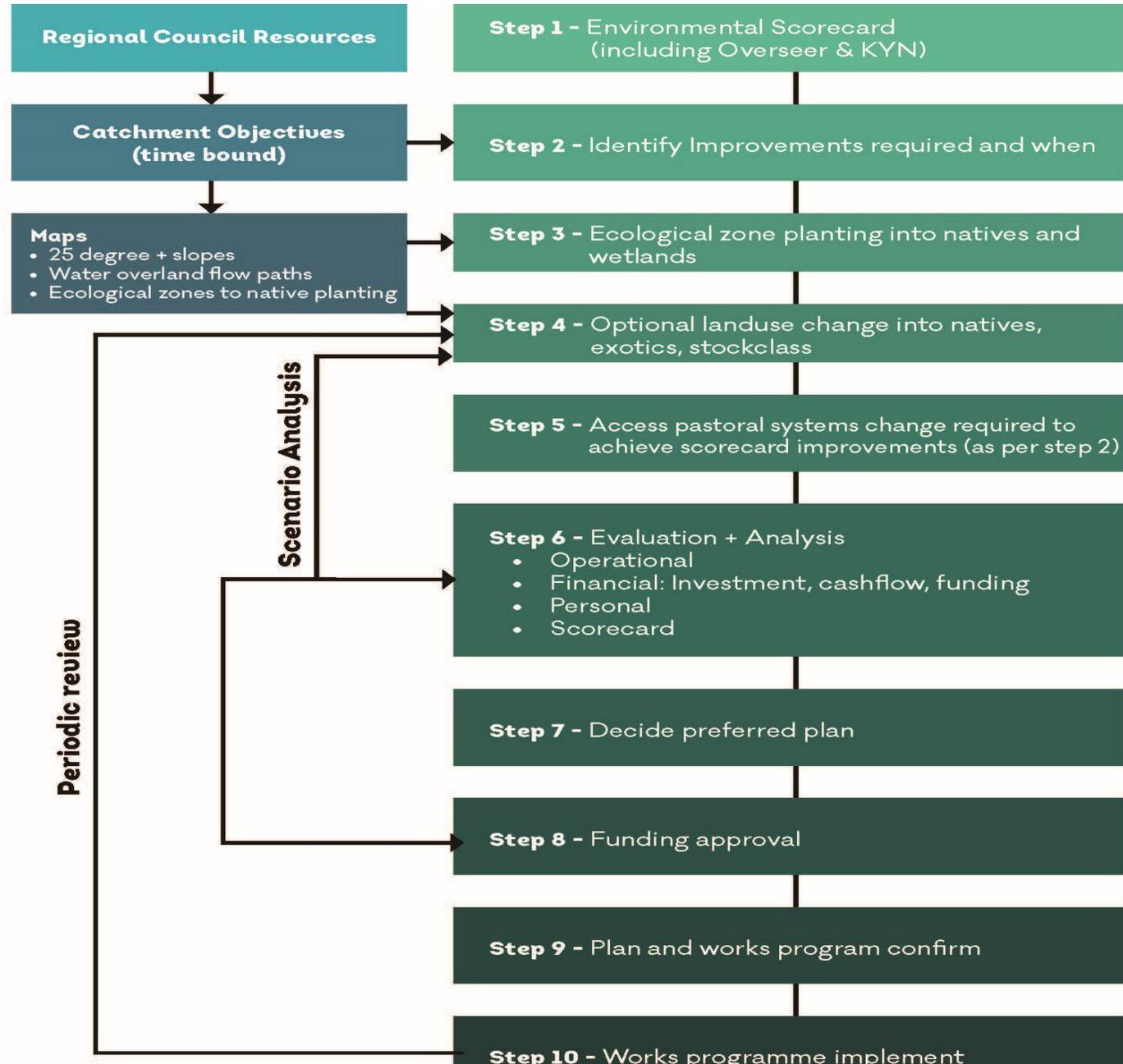
1998



2018

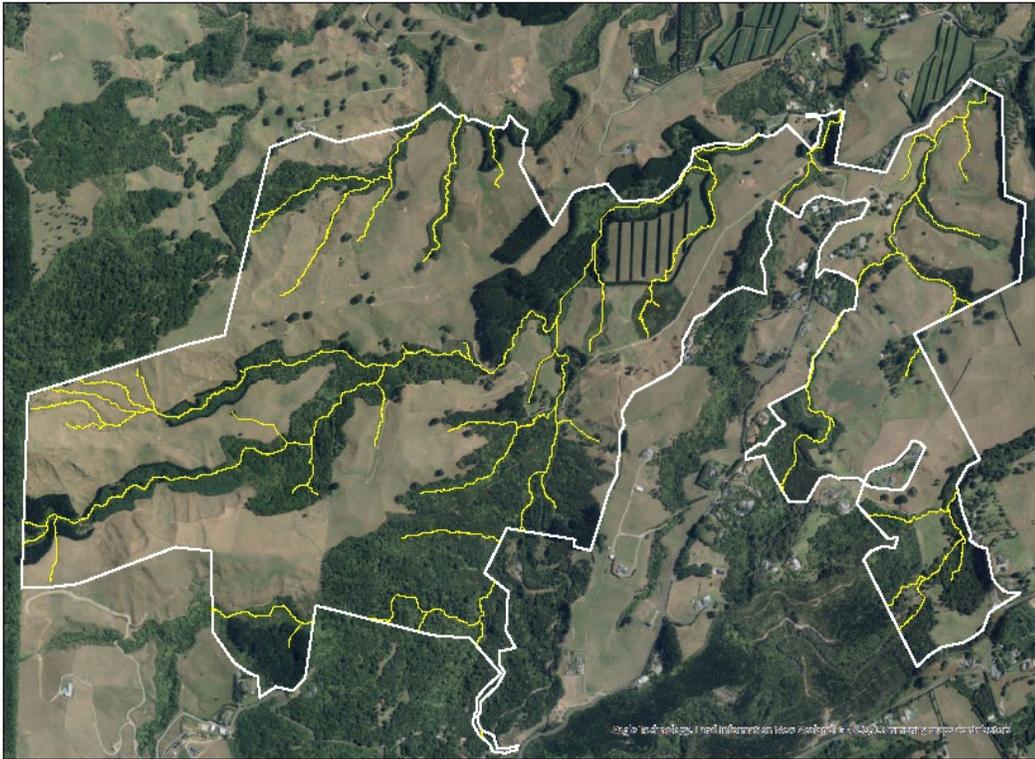


Pastoral Farmer 10-Step FWFP Process

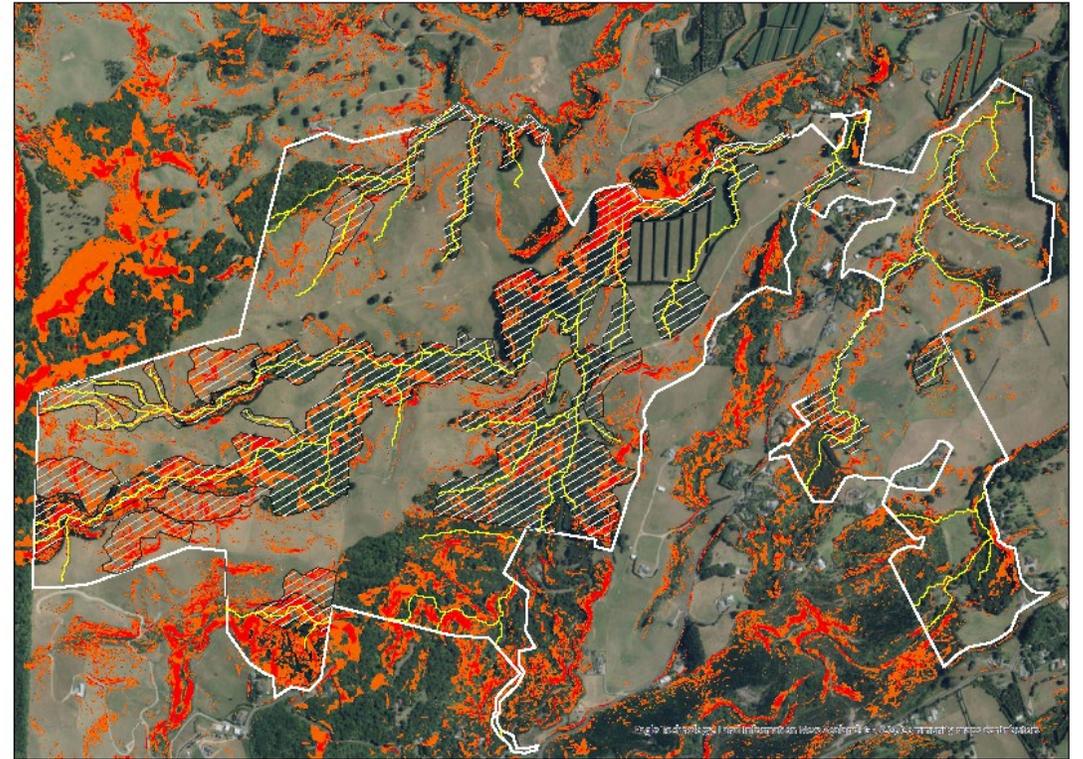


The planning process

Map Water Overland Flow-paths & CSA



Map Steep Erosion Prone Slopes



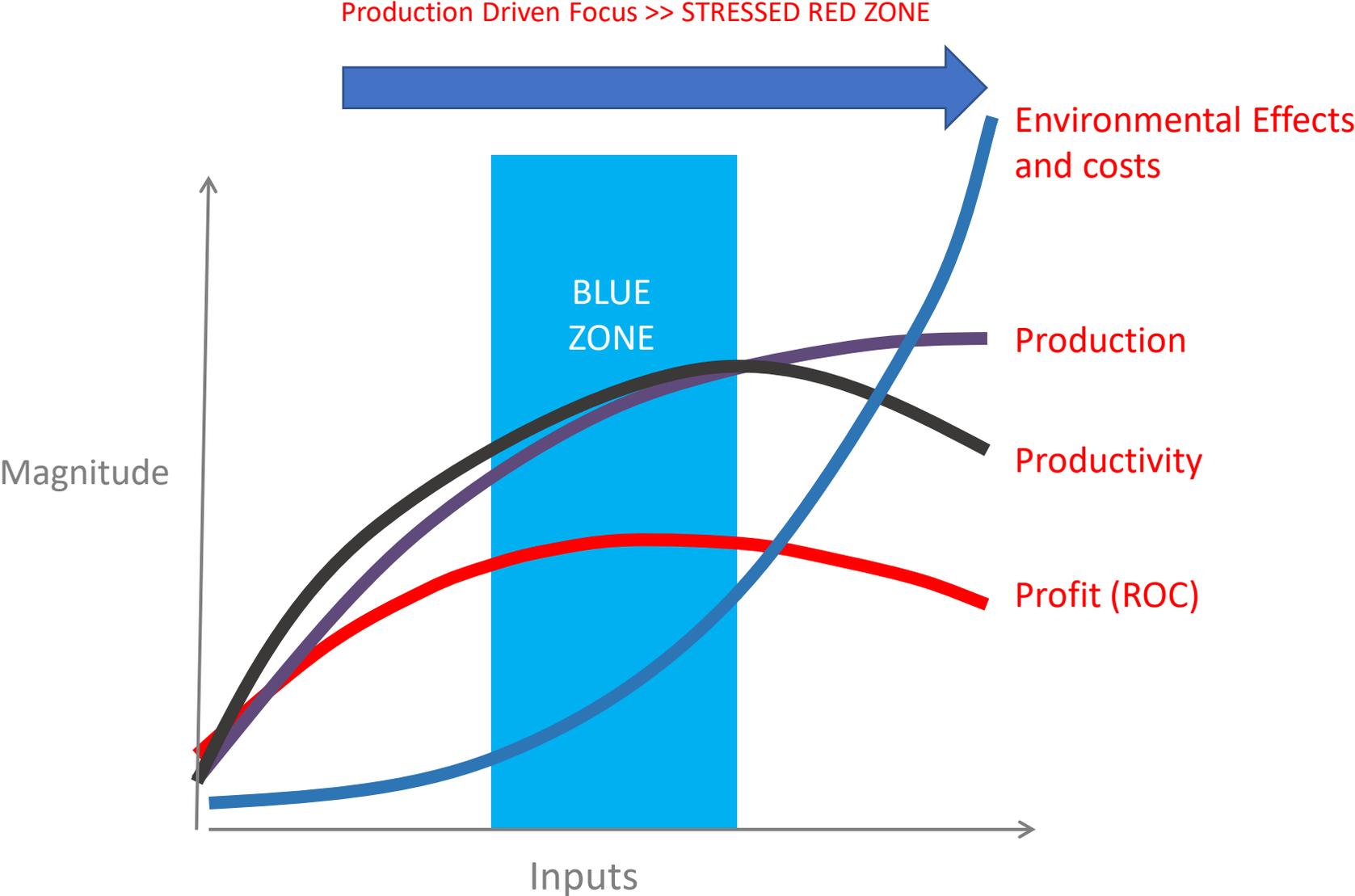
Identify the **HIGH RISK** Pastoral Land

LANDUSE BY LAND CLASS		LAND CLASS					
SLOPE DEGREES >>>		0 to 7.99	8 to 15.99	16 to 25.99	26 +	RIPARIAN	WETLAND & CSA
LANDUSE	TOTAL HA	FLAT	EASY	ROLLING	STEEP		
DAIRY	165.00	35.00	30.00	30.00	64.00	3.00	3.00
DRYSTOCK	95.00	-	-	10.00	80.00	3.00	2.00
EFFECTIVE PASTORAL AREA	260.00	35.00	30.00	40.00	144.00	6.00	5.00
HORTICULTURE-KIWIFRUIT	6.00	6.00	-	-	-	-	-
HORTICULTURE-AVOCADO	4.00	4.00	-	-	-	-	-
EXOTIC FOREST	25.00	-	-	-	25.00	-	-
NATIVE FOREST	10.00	-	-	-	10.00	-	-
MANUKA PLANTATION	-	-	-	-	-	-	-
RIPARIAN	1.00	-	-	-	1.00	-	-
WETLAND	-	-	-	-	-	-	-
BUILDINGS, TRACKS OTHER	3.00	-	-	-	-	-	-
TOTAL AREA Check>>>>>	309.00	45.00	30.00	40.00	180.00	6.00	5.00
LAND CLASSES WHERE LAND USE CHANGE COULD BE CONSIDERED							

Marginal Steep land profitability

DRYSTOCK CONTRIBUTION BY LAND CLASS			LAND CLASS			
			BALANCE	26 +		WETLAND &
		TOTAL HA	FLAT/EASY/ROLL	STEEP	RIPARIAN	CSA
AREA		90.00	10.00	80.00	-	-
GROSS DRYMATTER PER HA			14,000	5,000	5,000	5,000
FEED UTILISATION RATIO			100%	80%	80%	80%
UTILISED DRYMATTER PER HA			14,000	4,000	4,000	4,000
ME VALUE RATIO			100%	80%	80%	80%
EQUIVALENT DRYMATTER ME QUALITY/HA		4,400	14,000	3,200	3,200	3,200
DRYMATTER PRODUCTION		396,000	140,000	256,000	-	-
DRYMATTER REQUIREMENT/STOCK UNIT		782	750	800	800	800
STOCK UNITS		507	187	320	-	-
STOCK UNITS PER HA		5.63	18.67	4.00	#DIV/0!	#DIV/0!
FINANCIAL PERFORMANCE						
REVENUE STOCK UNIT		\$ 116	\$ 116	\$ 116	\$ 116	\$ 116
EXPENDITURE						
FIXED PER STOCK UNIT		\$ 36	\$ 36	\$ 36	\$ 36	\$ 36
FIXED PER HA		\$ 299	\$ 299	\$ 299	\$ 299	\$ 299
REVENUE						
DRYSTOCK REVENUE		\$ 58,773	\$ 21,653	\$ 37,120	\$ -	\$ -
OTHER		\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL REVENUE		\$ 58,773	\$ 21,653	\$ 37,120	\$ -	\$ -
EXPENSES						
FIXED PER STOCK UNIT		\$ 18,240	\$ 6,720	\$ 11,520	\$ -	\$ -
FIXED PER HA		\$ 26,910	\$ 2,990	\$ 23,920	\$ -	\$ -
		\$ 45,150	\$ 9,710	\$ 35,440	\$ -	\$ -
DRYSTOCK GROSS MARGIN PER HA		\$ 13,623	\$ 1,943	\$ 21	\$ -	\$ -

Opportunity for Farm System & Land Use Change to Move into the Blue Zone



Is it Realistic to move your Farm business into the **blue Zone**?

For Pukekauri Farm (AND OTHERS) the Answer is YES:

- 24-year journey First LEP in 2000 – since then 20%+ of farm retired into native, exotics & wetland > more retirement planned
- No reduction in total pastoral farm profit despite < EGA
- Additional earnings from timber and carbon
- Reduced GHG emissions - close to carbon neutrality
- Property aesthetic and commercial value enhanced
- **Farming to the grass production curve – no imported feed**
- Reduced synthetic fertiliser (N) >> improved soil & stock health
- Native Flora & Fauna Restoration & Enhancement
- Stream health has improved from 2/10 to 9/10

Check out [Rick Burke and Jan Loney, Bay of Plenty | Ag Matters](#)

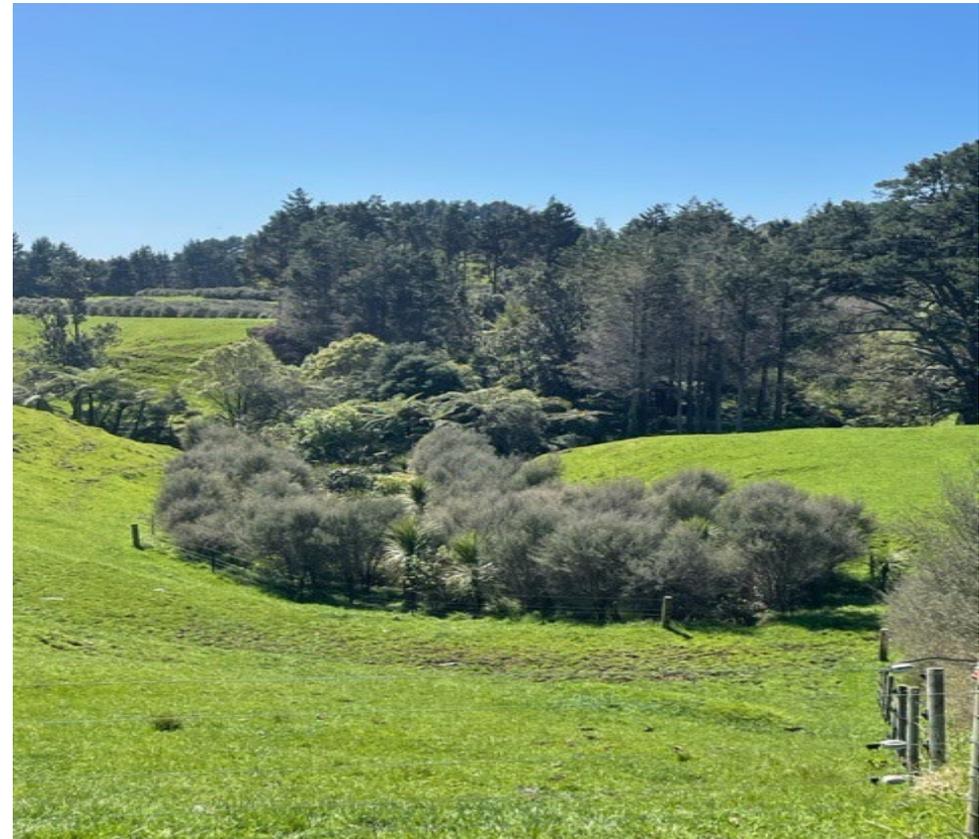
8 Wetlands Restored

Example Micro-Wetland (CSA) Restoration

July 2017



May 2022



Wetland (CSA) Restoration

July 2017



October 2023



Erosion prone Gully areas

July 2018



November 2022



3yr Ephemeral Stream Planting



Erosion Prone LUC6e Retirement

Pre-planting 2020



September 2023



Wrong Tree - Wrong Place

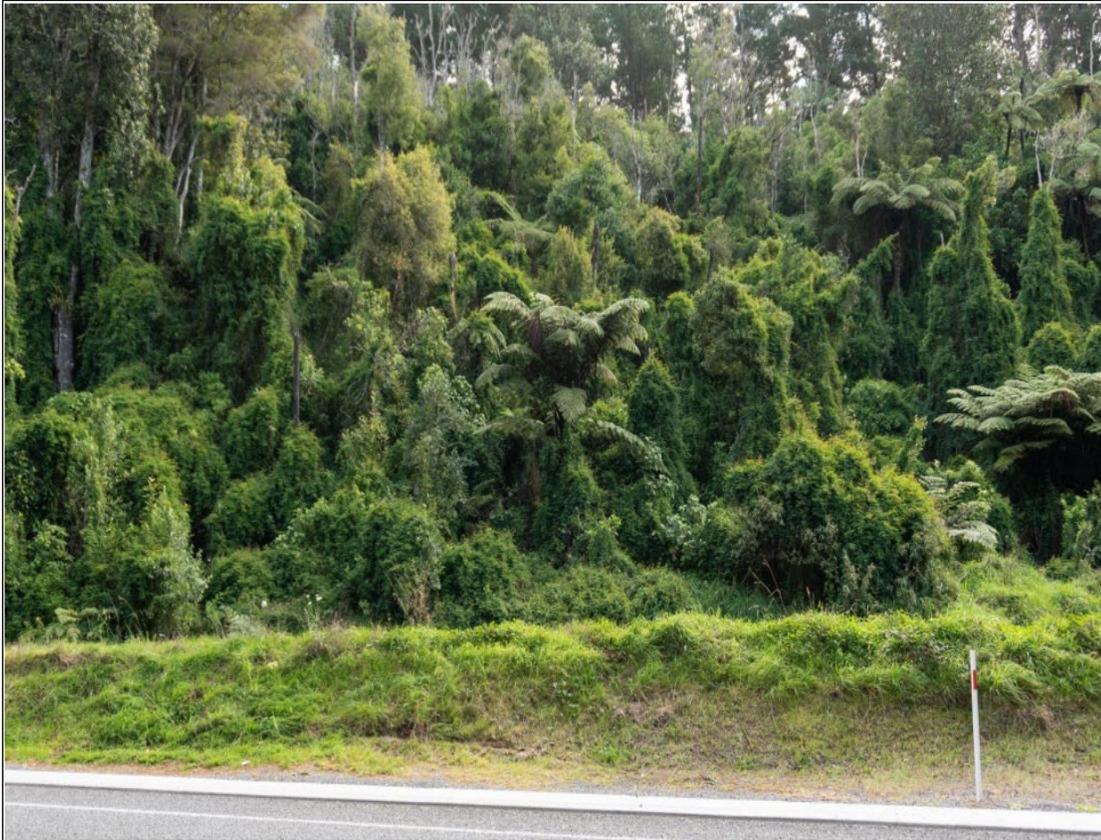


Need to Map No-go Exotic Planting Zones:

- Geological risk
- Ecology – seed source, bird corridors
- Riparian setbacks
- Wetland setbacks
- Slash run-off protection
- Fire breaks
- Productive pastoral land
- Iwi/Community considerations

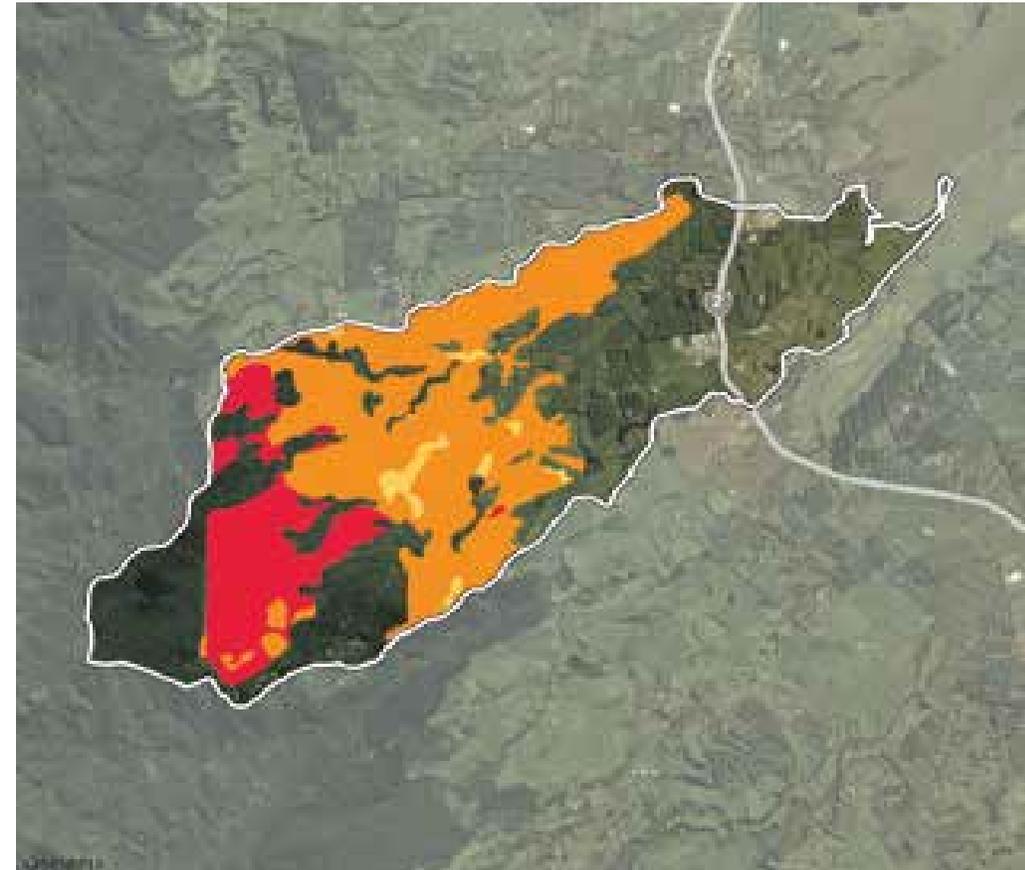
Importance of ALL LANDOWNERS Being Responsible For Weed & Pest control (including Exotic Forestry & Dispersal Corridors)

[space-invaders-report-pdf-68mb.pdf \(pce.parliament.nz\)](#)



Project Parore – Te Mania Catchment

A Great Example of Cause & Effect



Proven Benefits of Strategic Land Retirement of Steep Erodible Slopes, Riparian Zones and Wetlands

75mm Rain Kaikokopu 15/5/2021



75mm Rain Te Mania 15/5/2021



Tīmata Method – Comparative Growth Stages – just planted, 1 year, 4 year & 6 year (3m spacing with canopy closure)



Lake Tutira – Mānuka Trial Site (should have been Kānuka)

[Retiring Farmland into Ngahere - Our Land & Water - Toitū te Whenua, Toiora te Wai \(ourlandandwater.nz\)](https://ourlandandwater.nz)



Tutira Site after Gabrielle



There's never been a better time for this

Cyclone Gabrielle has amplified the challenges, but also created a huge opportunity to create forward momentum.



Total damages estimated to be at least

NZ\$13.5 billion*

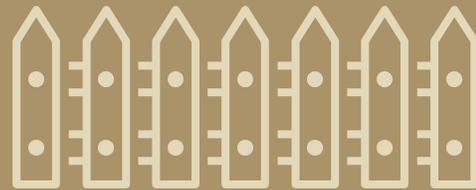
Economic losses

expected to exceed the

NZ\$2-4 billion

of losses of the 2016 Kaikoura earthquake

(MFAT)



Combined estimated impact on sheep and beef farms across the East Coast and Hawke's Bay in the range of

NZ\$336–385 million

(B+LNZ)

As farms recover from the unprecedented effects of the cyclone, there will be a need for future-focussed planning, investment and implementation on farm to build back better. Farmers need help, right now, and together we can give it to them.

*[Source: Rapid assessment of land damage - Cyclone Gabrielle, Manaaki Whenua Landcare Research, July 2023]

Scaling up to Catchment scale >>> the Waikokopu 34,256 ha farm

Vision > Objectives > Mapping > Planning

Catchment Scale Landscape Plan – provides the blueprint for farm-scale land use change metrics for project planning & budgeting

- >60% N, P, sediment and E.coli load reductions through farm system & land use change
- Retirement of approx. 3,000ha of erosion prone land
- Reinstatement of 900ha+ wetlands and estuarine areas
- Detainment bunds to manage overland water flow
- 70km of riparian retirement
- Integrated Animal & Weed Pest Control
- Native Bird corridors, Fish passageways etc.
- ***The estimated cost for this work is \$80m+ (\$2k+/ha)***



Scaling Up >> Recloaking Papatūānuku

- How can we achieve this across Aotearoa?
- What is our Vision – Ngakau or Puku?

A Vision without Action is a dream

Action without a Vision (and a Plan) is a nightmare!!



Are We Up for the Challenge?

“Whatu ngarongaro he tangata toitu he whenua”

“Man disappears but the Land Remains”

