THRIVING SOUTHLAND

Tōnui ana te whenua. Tōnui ana te takata.
A thriving, prosperous land. A thriving, prosperous people.

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Thriving Southland Board

Jeff Grant

Independent Chair

Kate Scott

Vice Chair

Ewen Mathieson

Farmer - Dairy, Beef, Sheep
Board Member

Lynden Prebble

Farmer - Beef, Sheep
Between the Domes Catchment Group, Board Member

Jon Pemberton

Farmer - Dairy, AgProud
Three Rivers Catchment Group Board Member

Neil Gardyne

Farmer - Beef, Sheep, Cropping
Board Member

John White

Farmer - Dairy
Lower Aparima Catchment Group Board Member

Bernadine Balle

Independent Board Member

Paul Marshall

Farmer - Dairy
Waiau Rivercare Group Board Member

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Essential Freshwater package

National Policy Statement for Freshwater Management 2020 (NPS-FM 2020)

NPS-FM 2020: Te Mana o te Wai

National Environmental Standards for Freshwater

Stock exclusion regulations

Mandatory and enforceable freshwater farm plans

Regulations for reporting nitrogen fertiliser sales

Winter grazing practices – sowing date, slope rule (delayed)

Restrictions on intensive winter grazing

Restrictions on changes of land use

Limit on synthetic nitrogen fertiliser

Management of Critical Source Areas

Other regulations

Biodiversity Strategy 2020
Biosecurity – NAIT, M. bovis, OSPRI

Greenhouse gases – Zero Carbon Act, He Waka Eke Noa, Climate Change Commission

Animal welfare

New staff regulations

Farm Environmental Management Plans for Southland, including OVERSEER nutrient budget

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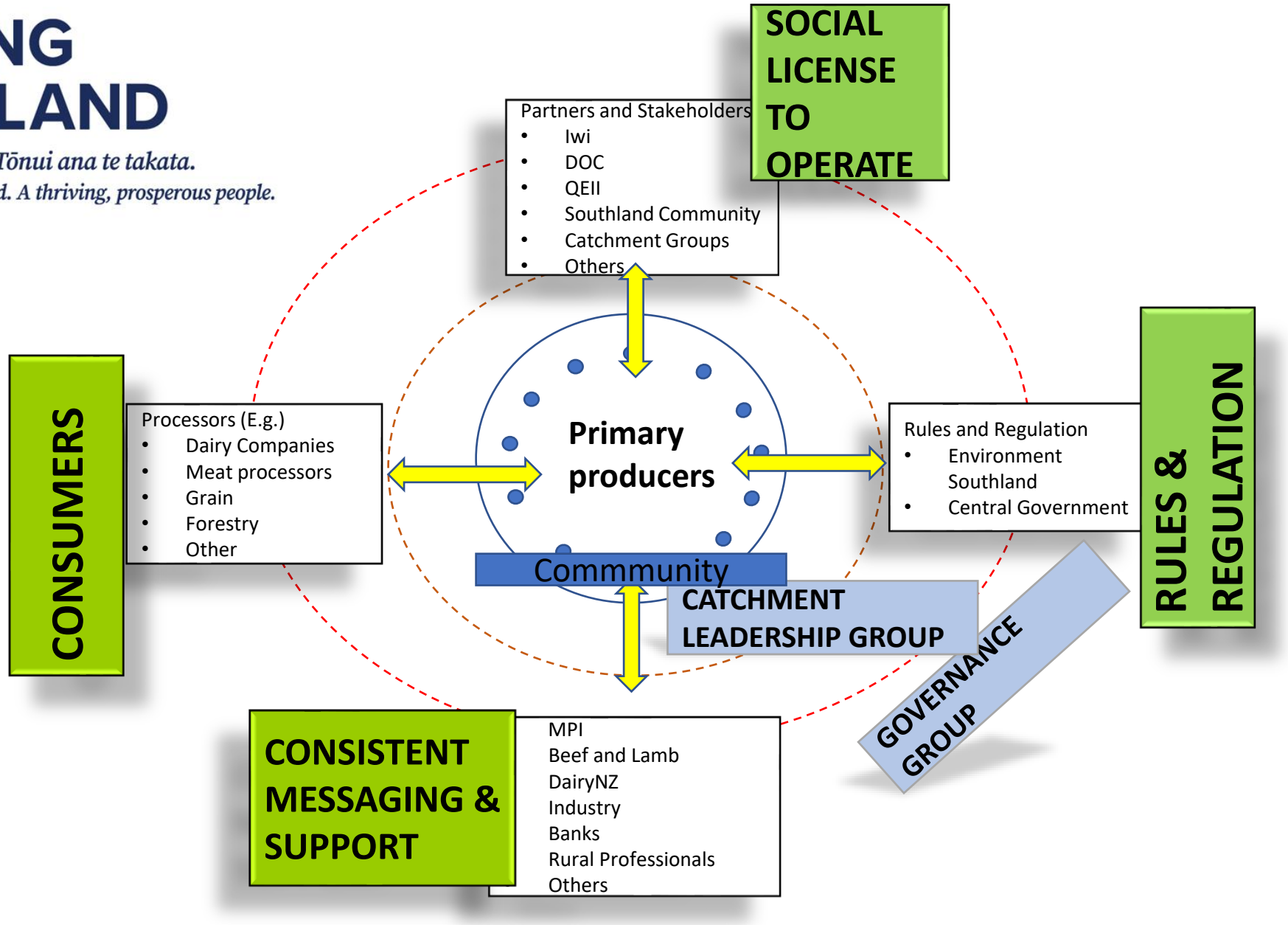
POSITIVE CHANGE APPROACH



The farmers dilemma

Linking with Our Customers and Consumers

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36 Catchment Groups
4 FMUs catchments
4 Catchment Coordinators

Solutions focused Community; farmer led change

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Key Community Catchment Group Feedback

- Support
- Engagement
- Science
- Cooperation/Clarity and reduced Duplication
- Local knowledge
- Funding

Thriving Southland from the start

THRIVING SOUTHLAND
Tōnui ana te whenua. Tōnui ana te takata.

2020 | 2021 | 2022 | 2023

Establish

Thriving Southland **core team built** and **organisational processes established – *de-risking investment***

Bottom up – farmers leading change

"a problem shared is a problem halved, and seeing farmers put their heads together and talk things out and collaborate…. is fantastic!"

Change and Innovation Projects

- Womens Enviro Evening
- Building our groups "Why" with guest speaker Roger Dalrymple
- Te Anau Catchment Group Information Evening
- Surfing for Farmers
- Runoff Detainment Bund & Nursery Field Day
- Wyndham Show Engagement and Telling Our Story Event
- Mid Calving and Lambing Get Together
- Dipton Community Consultation

** includes support for the following projects:

- Lifting farmer and community awareness and engagement through a journey of stream walks and water testing.
- Delivery of Farm Environment Management Plans and implementing good farming practice
- Sediment trap construction
- Exploring future solutions

- Building our future together with our community - Aparima Community Environment (ACE)**
- Aquavan Action
- Understanding the land to drive change
- Alternative crop establishment methods for better wintering outcomes
- Investigation using LUCI-Ag
- Next generation farm system – Milk oats evaluation
- Understanding land and water to make change
- Koura sediment traps and catchment development plans
- MCI sampling for the Mimihau River
- Understanding and improving catchment with wetland development
- On-grass winter 2022 demonstration – stage 1
- Understanding the soil, geology and water of the Balfour Catchment
- Community Social and Wellbeing Event with guest speaker Wayne Langford
- Wintering Tour

- On-grass winter 2023 trials and systems modelling – stage 2
- Targeted solutions to Balfour's environmental challenges
- Mobile cattle shelter development
- Understanding the geology
- Biodiversity on Farm
- Recycling – what can you do on your farm, your household and in your community

Additional funding secured:

- $500,000 from Agmardts Food and Fibre Challenge – Beyond regulation tacking carbon and water quality challenges
- $100,000 Just Transitions Land Use Workstream lead

Creating networks

Operational and wellness grants

18 Catchment groups

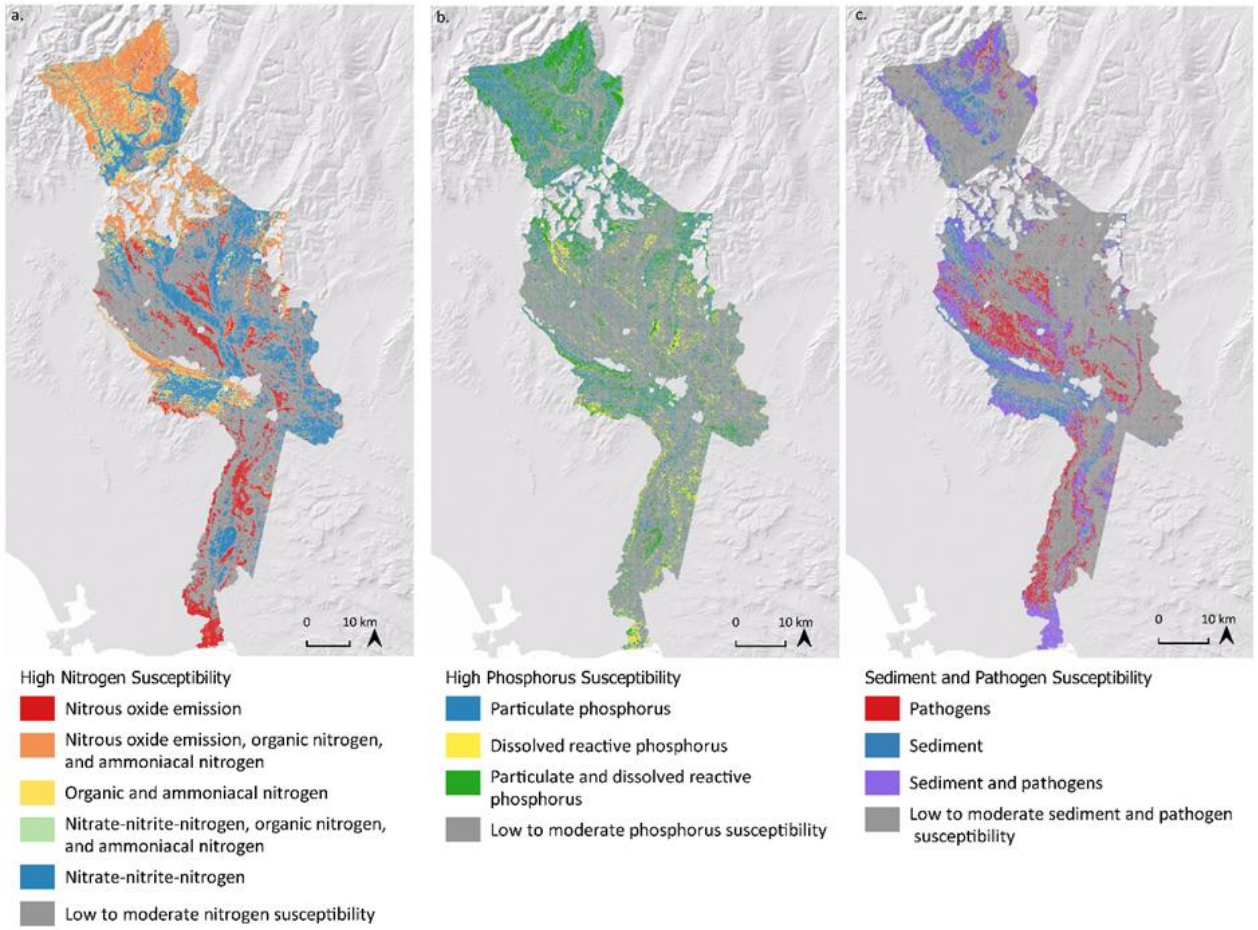
Strong networks created with: Great South, Dairy NZ, Beef and Lamb, Land and Water Science, Rural Professionals, local businesses

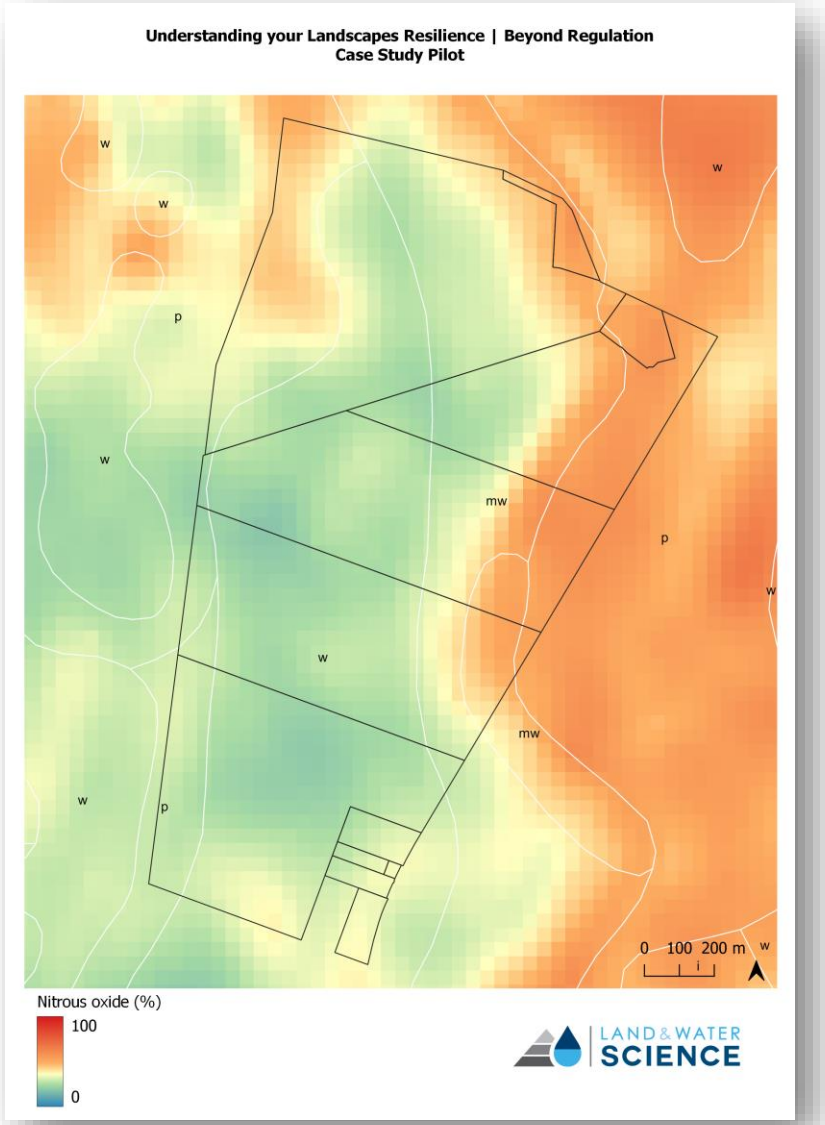
32 Catchment groups
1,300 of 3,500 farmers in the network
Sharing learning with other catchment groups

Beyond Regulation

Finding the right pathway
forward for you and your business.

Catchment Scale Susceptibility Mapping



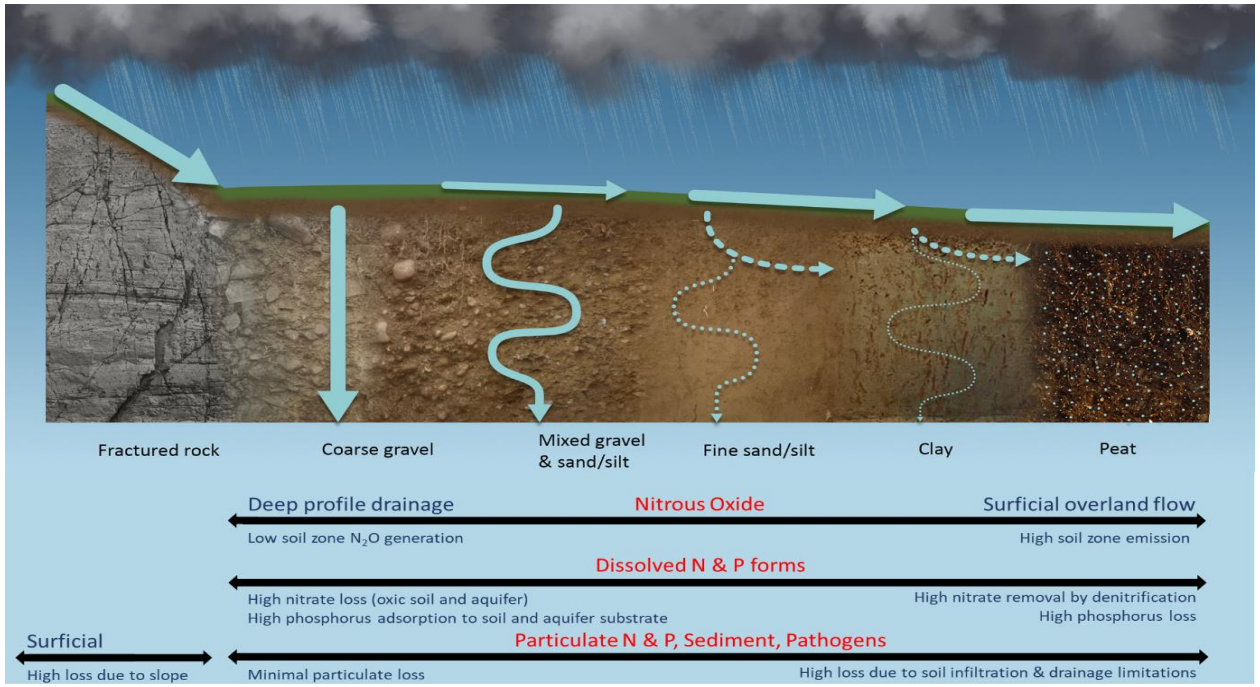


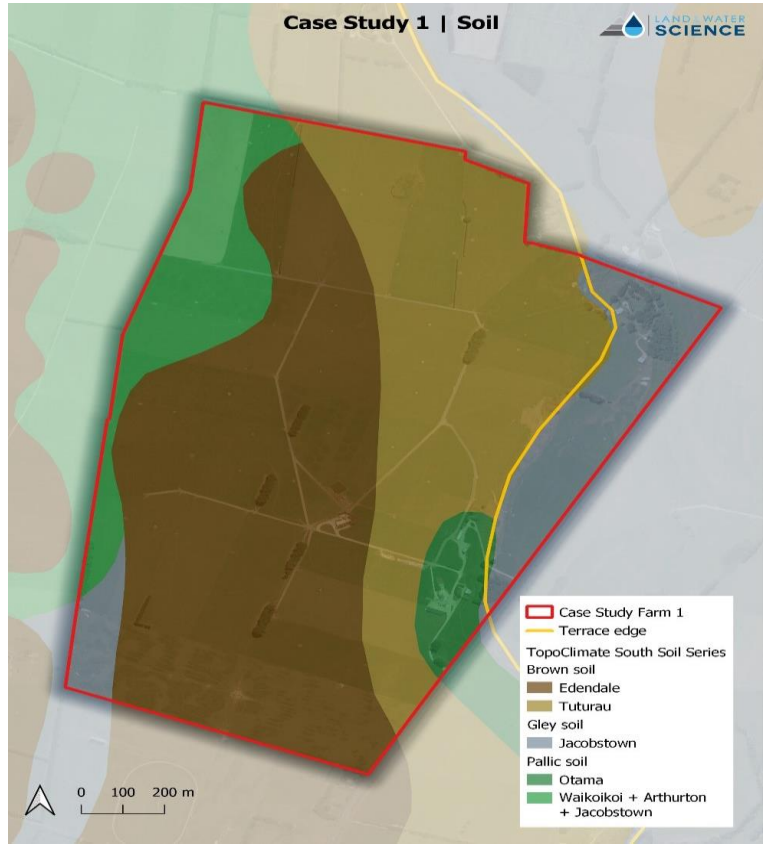
Property scale insights and mitigations

Modern science and data sets to produce Susceptibility / Climate Resilience map layers.

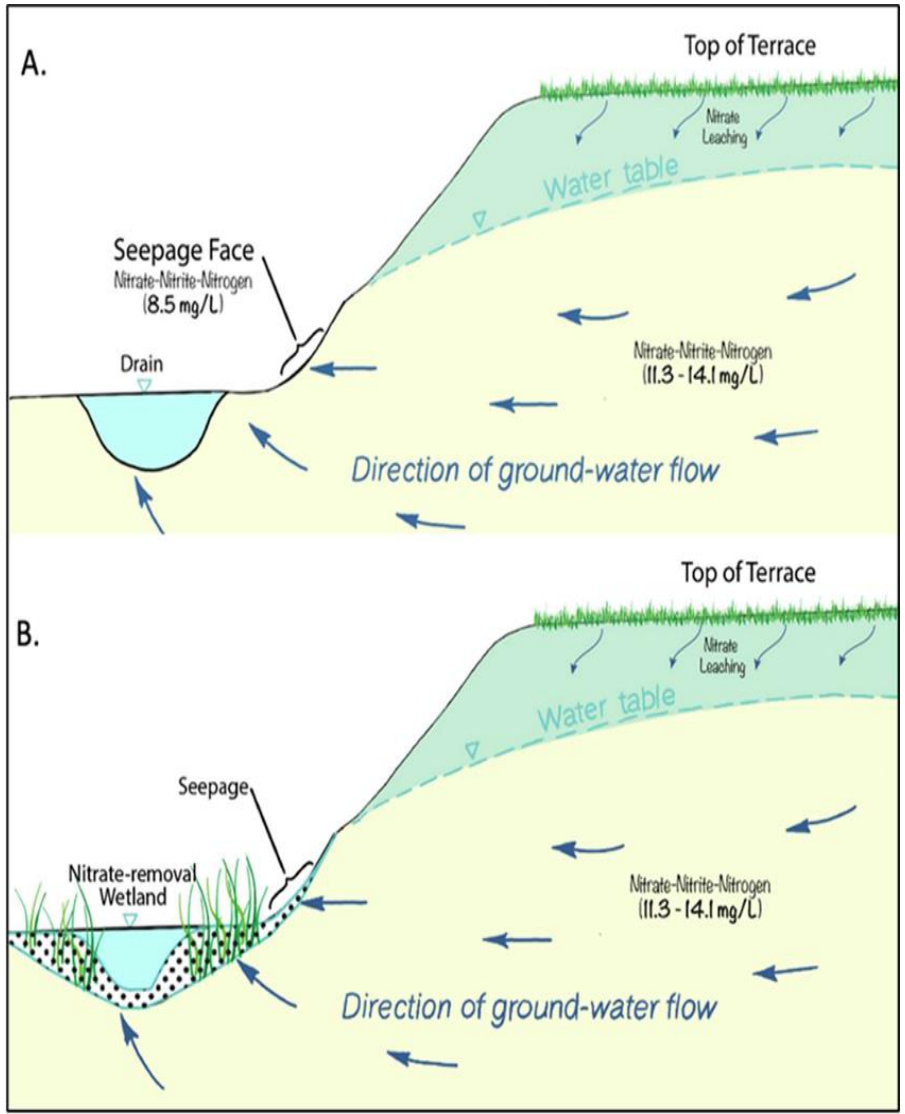
The example diagram reflects a property's susceptibility to soil GHG emissions.

Soil Mapping





Mitigation Opportunities Farm and Catchment



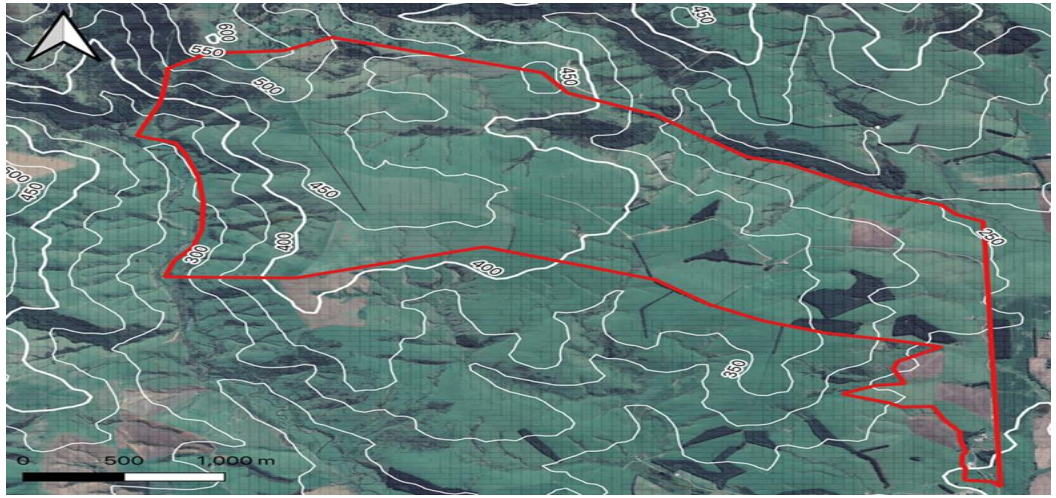
Mitigation combinations

	Brief description	GHG	Nitrous oxide	N loss	N surplus	P loss	Farm system / financial impact
Scenario A	Mitigations combined: Repurpose sidling to capture water emerging in springs to treat water flowing from the top terrace Target critical source area on north-western boundary adjacent to Ota Drain Farm systems bundle of low-cost mitigations to reduce contaminant loadings 20% plantain in pasture sward	4% decrease	9% decrease	31% decrease	8% decrease	13% decrease	cost of $18,770 per annum plus rough estimate of $20,000 for wetland

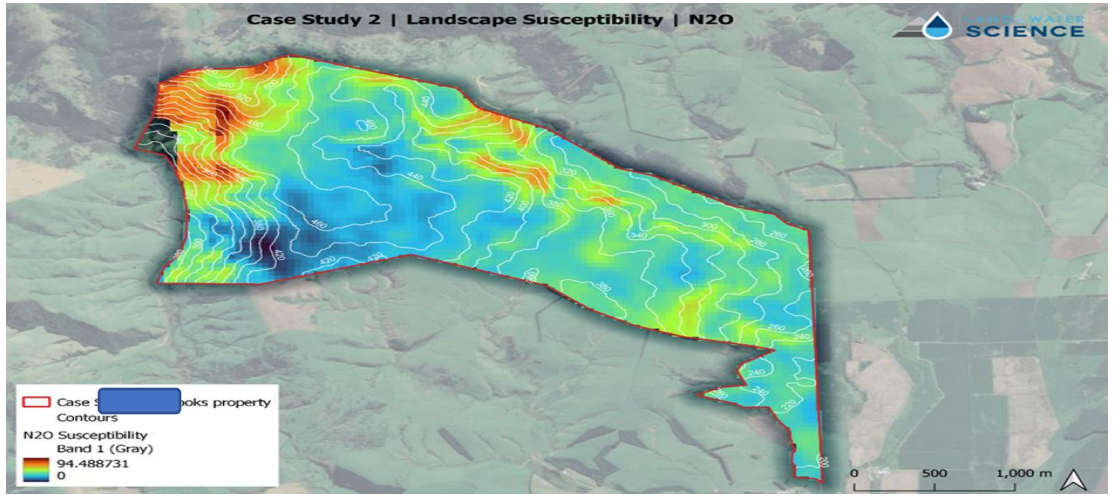
Mitigation Combinations

	Brief description	GHG	Nitrous oxide	N loss	N surplus	P loss	Farm system / financial impact
Scenario B	Mitigations combined: Install loafing barn for wintering 400 cows Export effluent and manure from loafing barn to lease block Repurpose sidling to capture water emerging in springs to treat water flowing from the top terrace Target critical source area on north-western boundary adjacent to Ota Drain Farm systems bundle of low-cost mitigations to reduce contaminant loadings 20% plantain in pasture sward	5% decrease	2% decrease	31% decrease	<1% increase	8% decrease	Cost of $69,841 per annum plus rough estimate of $20,000 for wetland

Understanding your Landscapes Resilience | Beyond Regulation
Case Study Property 2 Sheep and Beef

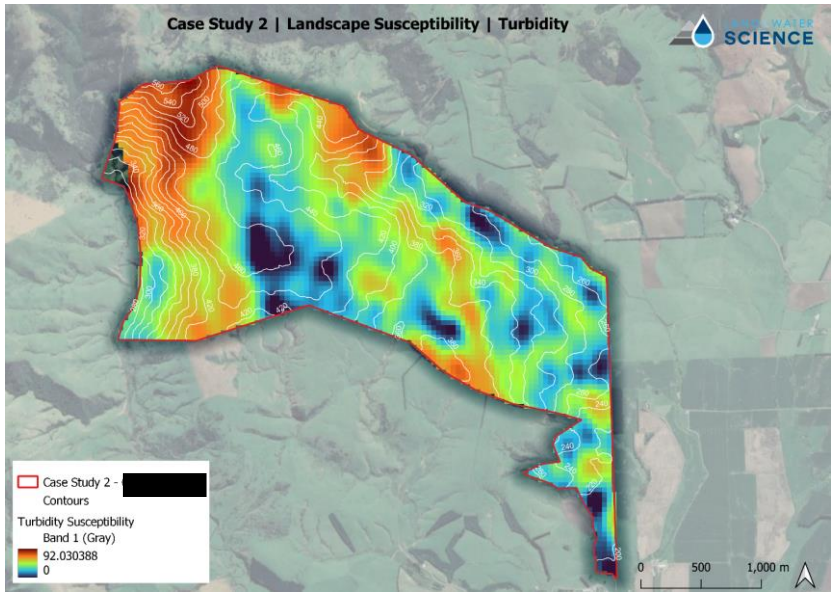


Elevation contours and property outline (red) in Meters relative to sea level. Note the gentle fall in elevation from west to east, and the broad area of relatively low relief land through the middle of the property. The steepest parts of the property are associated with valley incision and side slopes.

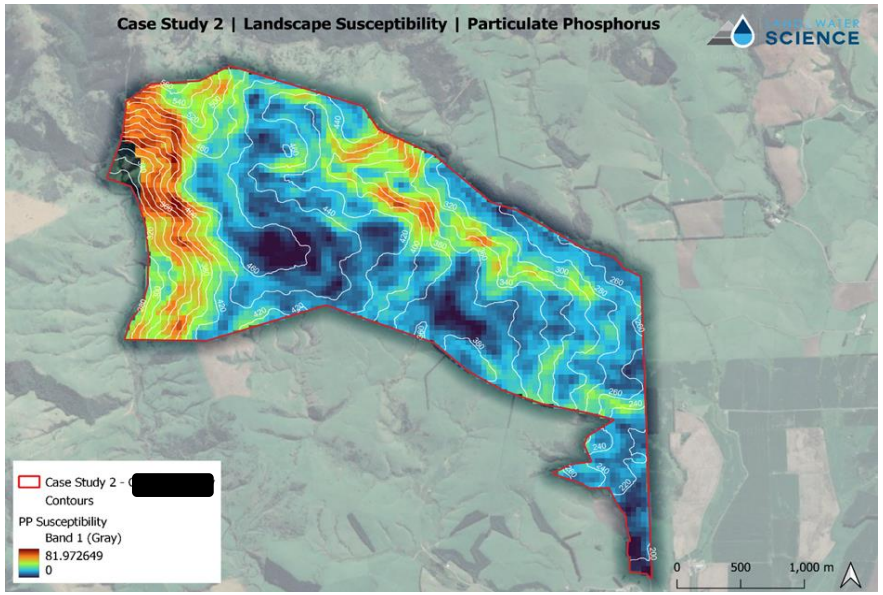


Landscape susceptibility to soil N2O (Nitrous Oxide) emission

Understanding your Landscapes Resilience | Beyond Regulation
Case Study Property 2 Sheep and Beef Sediment and

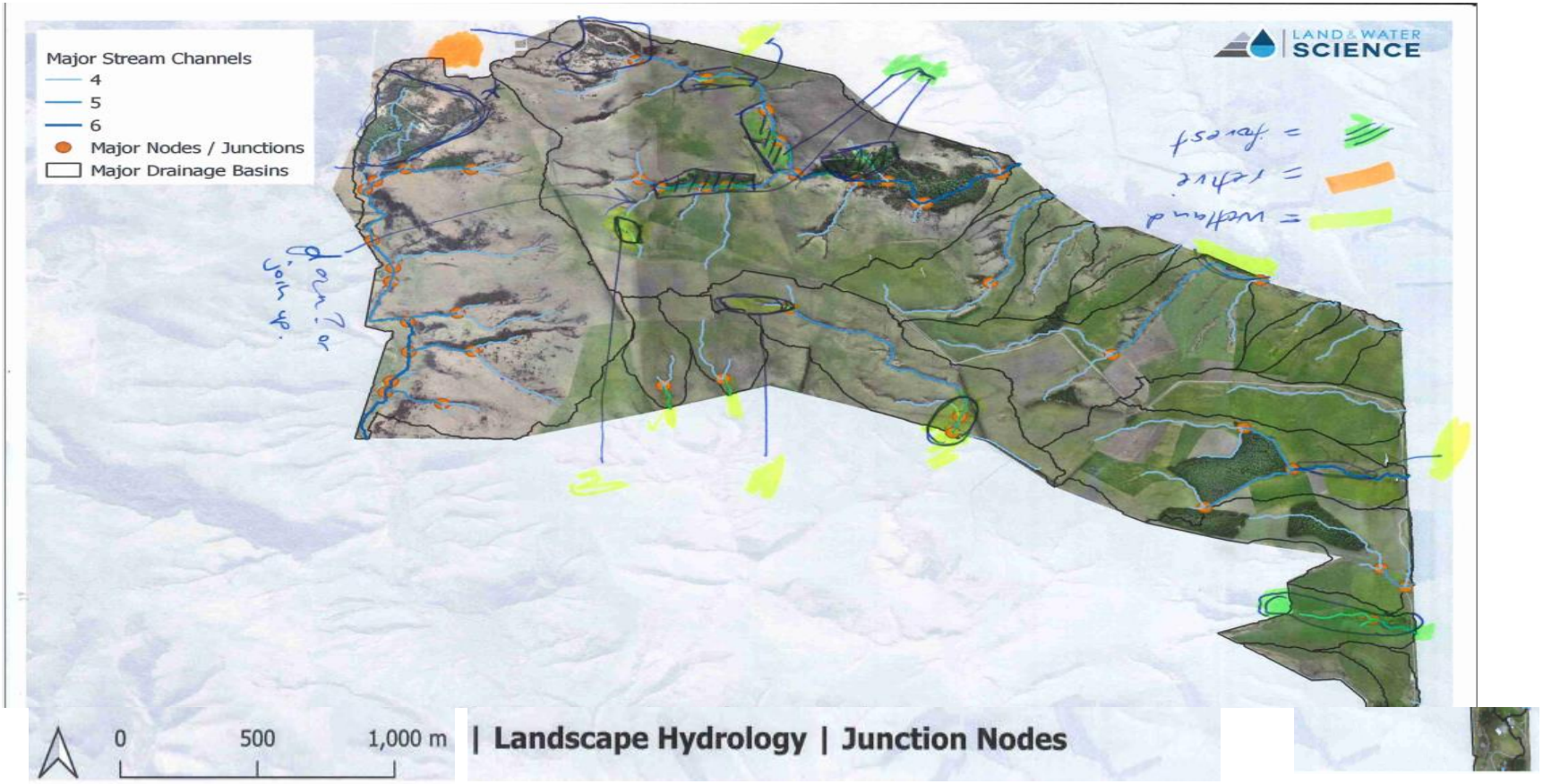


Case Study property 2 - landscape susceptibility to sediment loss.



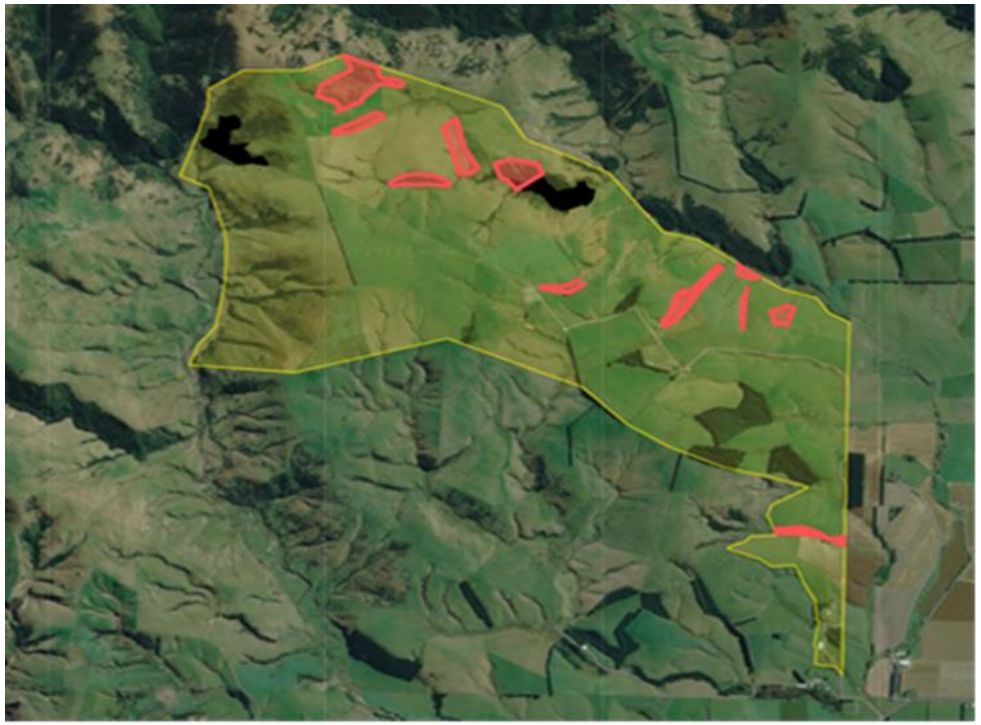
Case Study property 2 - landscape susceptibility to PP (Particulate Phosphorus) contaminants.

Working through farm opportunities

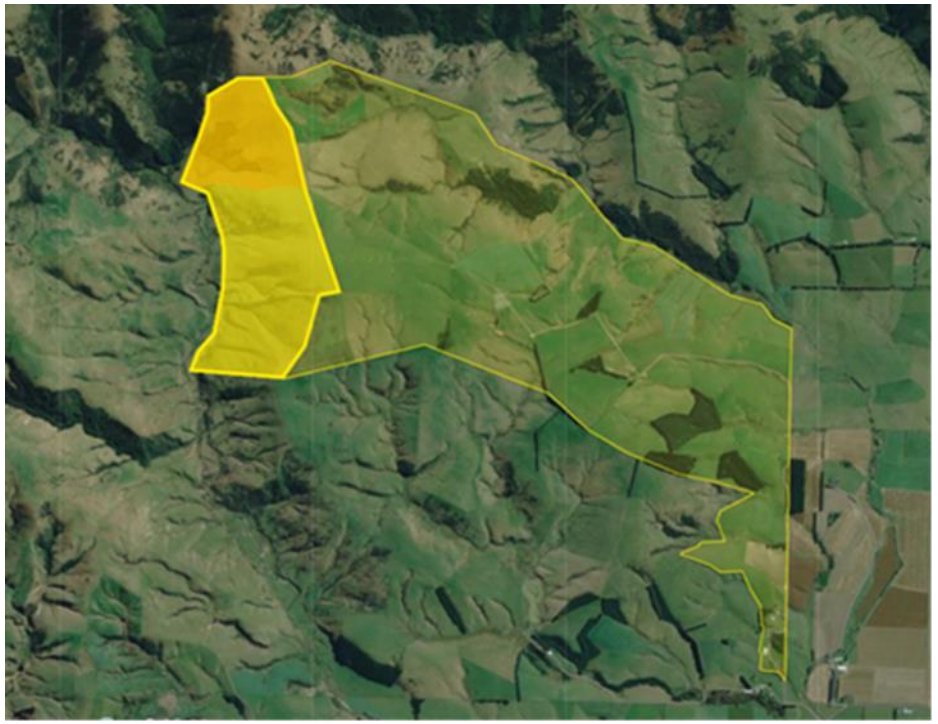


Forestry Mitigations

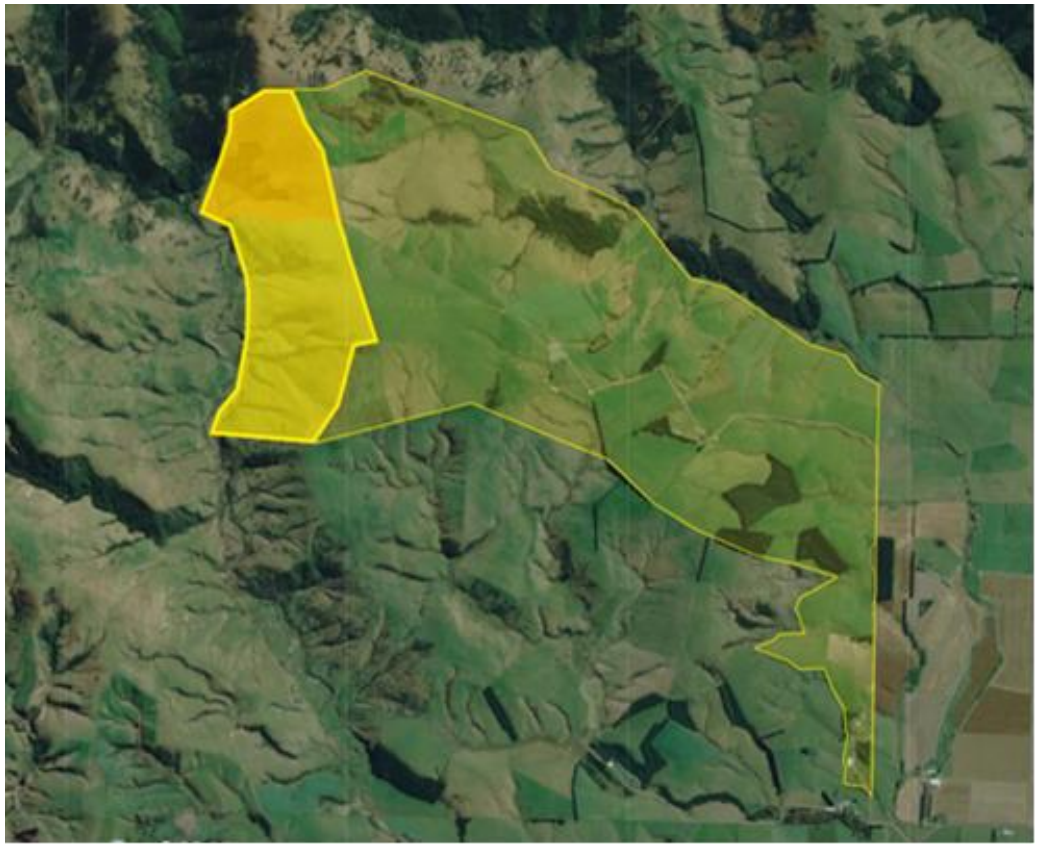
Farmer Forestry Mitigation



System Mitigation Opportunities



Forestry Mitigations



Inputs

Global Assumptions

Assumption	Input	Comment
Planted h.a	134	Area planted in pinus radiata
Tax Rate	0%	Currently 28%
Carbon Price ($)	80	Currently $52
Inflation	0%	Long term average = 2%
Location	Southland	Location = Southland
Land/Opp Cost	52,000	Beef FCF

Financial Assumptions

Asumption	Input ($)	Year(s) Relevant	Comment
Rates, Insurance & Admin Cost	(2,500)	All	
Stock Sold	170,000	FY23	
Harvest 1	3,829,184	FY52	
Carbon Costs	(8,040)	FY29, 34, 39, 44 & 49	
Forest Costs	(48,300)	FY23	$500 cost for 96.6ha - land prep costs?
Forest Costs	(207,700)	FY24	1,550/h.a - planting + register in the ETS
Forest Costs	(174,200)	FY34	1,300/h.a - thinning
Forest Costs	(201,000)	FY51	1,500/h.a - roads/skids
Forest Costs	(201,000)	FY53	1,500/ha - planting

Outputs

Key Return Metric

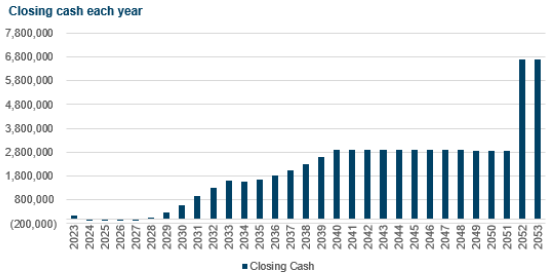
IRR (forestry)	20%
Forestry Required Return	12%
NPV ($)	332,212

Alternative - beef grazing

FCF ($)	52,000
Return	8%
Implied land + beef value	650,000

Cash Metrics

Min Cash	(91,356)
No. of neg cash yrs	4



Don't delete - Checks Below

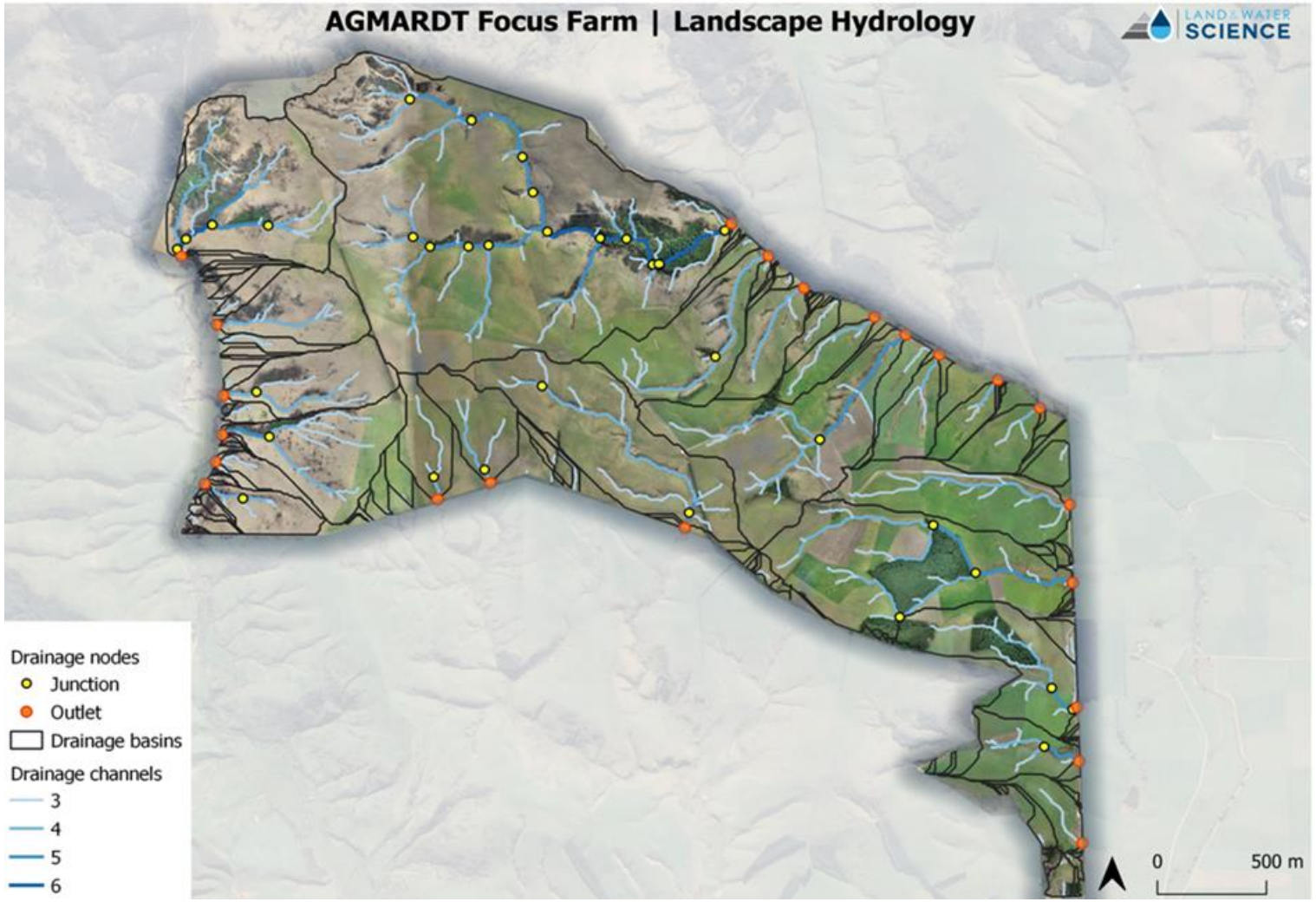
Southland
Otago
0

Equal to their model? NO

End

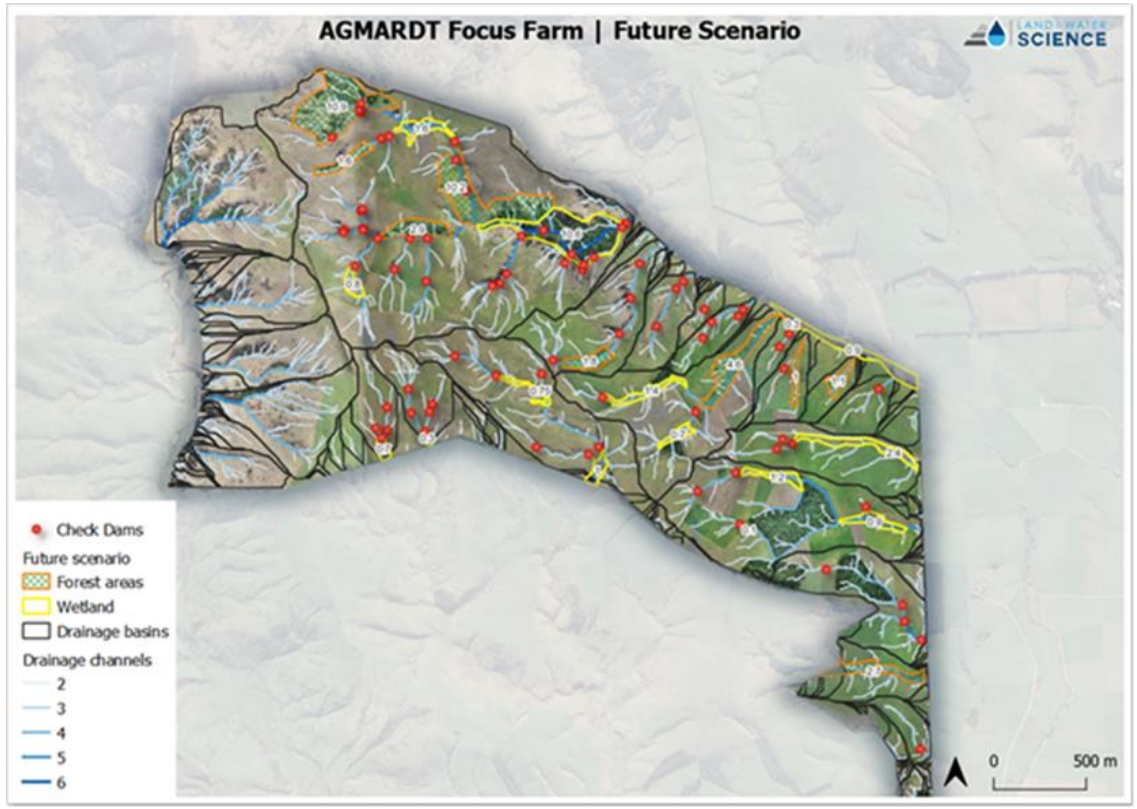
Mitigation and Investment

Water Transport Pathways

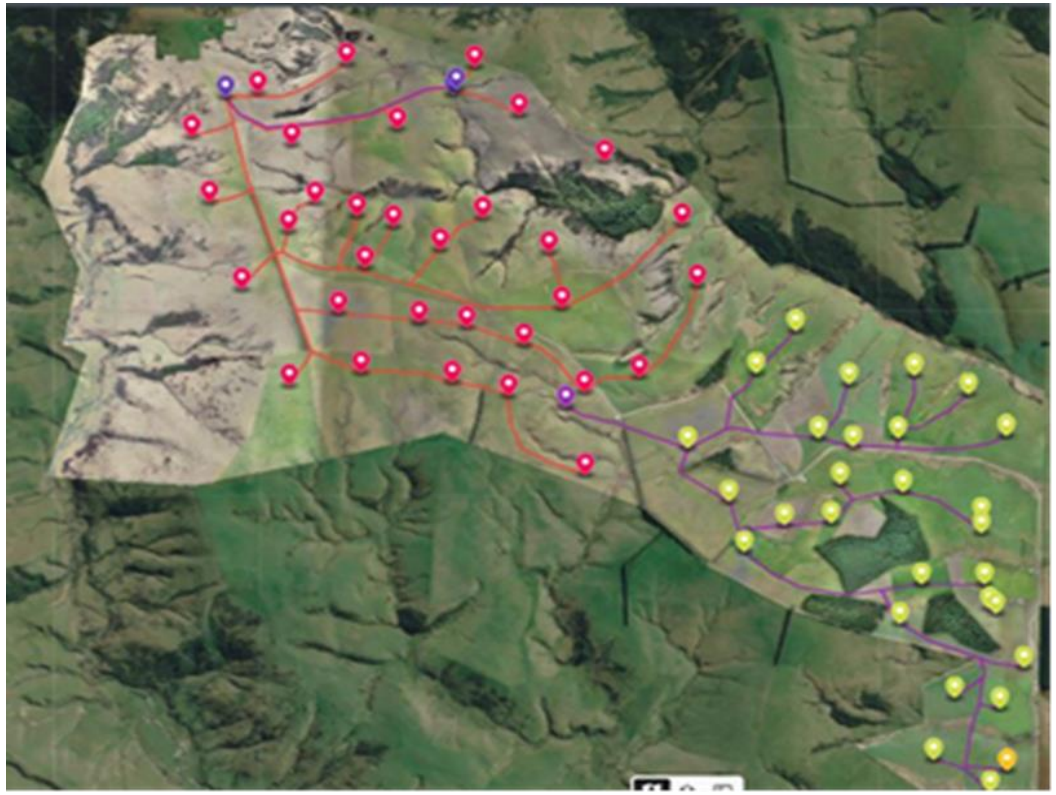


Mitigation and Investment

Check Dams Priority



Stock Water Reticulation Plan



Water Reticulation Investment Priority Table

Wetland area	Catchment Area	Wetland as % of catchment	Potential N mitigation	Potential particulate P mitigation	New fencing required (m)	Number of check dams required	TOTAL COST ($)	Cost / unit N mitigated ($/kg N)	Cost / unit PP / mitigated $/kg PP	Within current Reticulated Water System Area?
1.6	48	3%	184	7	905	6	3910	21	552	N
0.8	12	7%	58	2	470	1	1290	22	597	N
10.6	132	8%	634	24	1956	26	13012	21	548	N
0.7	9.9	7%	48	2	297	4	1994	42	1119	N
0.3	13.2	2%	43	2	212	4	1824	43	1129	N
0.75	21.4	4%	95	4	920	3	2890	30	815	N
1	24	4%	107	4	442	3	1934	18	487	N
1.4	14.5	10%	70	3	582	1	1514	22	580	Y
0.7	12.6	6%	60	2	306	0	612	10	270	Y
0.9	27.1	3%	104	4	970	5	2720	26	680	Y
2.4	26.2	9%	126	5	1015	3	3080	24	653	Y
1.2	20	6%	96	4	412	2	1524	16	423	Y
0.1	6.6	2%	21	1	127	1	604	28	748	Y
0.9	29.6	3%	114	4	608	1	1566	14	358	Y
23.35 ha	**397.1 ha**		**1758 kg N / yr**	**66 kg PP / yr**	**9222m**	**60**	**$39444**			

THANK YOU

Contact us by emailing
office@thrivingsouthland.co.nz

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Agriculture & Investment Services
Ministry for Primary Industries
Manatū Ahu Matua