

Pourerere Development Residential Beach Sites

20 October 2022



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1.0 EXECUTIVE SUMMARY

This report is prepared to accompany James Bridge's application for a resource consent to subdivide land at Pourerere Beach.

The purpose of the report is to provide an opinion on the effect that the subdivision would have on the productive capacity of the land.

Productive capacity as defined in the new national policy statement is in keeping with the fundamentals of farm production. This is the ability of the land to support land-based production over the long-term taking into consideration physical characteristics of the farms resources, legal constraints and the size and shape of existing and proposed land parcels.

GoodmanRural was established in 2009. The writer founded the business to offer qualified and experienced advice in economics, finance and resource management, to growers and pastoral farmers. Qualifications include diplomas in agriculture and farm management, together with a bachelor of commerce and management from Lincoln University, and certificates in sustainable nutrient management from Massey University.

To assess the change in productive capacity of the subdivision we inspected the property on 20 October 2022. The property has approximately 370 hectares effective farmland capable of farming up to 3,500 stock units as a long-term average.

Of the 370 ha's approximately 86 ha is land use classification three which reduces to 69 ha with the removal of the proposed lots to be subdivided.

I have independently assessed the farms existing carrying capacity farming 1,000 ewes and 600 trade cattle. The farming system is modelled on Farmax™ which indicates a production level that I would expect for this farm. The system was again modelled with the 17-hectare removed from the grazing area. As a consequence, the economic farm surplus (EFS) reduced from \$211,237 to 201,679, a marginal reduction of 4.5% carrying capacity and EFS, which is also what I would expect under average efficient management.

The reduction in farm size is small and not significant. The economic impact of the change is negligible in its effect on the farm and the wider district.

Pastoral production on the gley soil is also constrained because the soil type on the proposed residential area is currently prone to pugging and mud caused by

livestock grazing. Recent legislation outlined in section 360 of the Resource Management Act 1991, requires livestock grazing to be limited to the extent it does not cause pugging and sediment loss adversely affecting water quality. In this case the said piece of land is beside a stream in close proximity to the nearby fishery reserve, and sediment loss is harmful to aquatic life and the health of this ecosystem.

I have also considered alternative land use of the 17 hectares and because of the soil type, lack of water for irrigation, remote location and lack of a reliable labour pool, the land is not attractive for commercial horticulture. Investing in intensive production in this area would likely be unsuccessful and the reason the land isn't in this type of higher value production.

2.0 FARM DESCRIPTION

2.1 Property and Ownership

The property is owned by Jacqueline and John William Bridge and farmed by Paoanui Point Limited. The property is legally described as Lot 2 DP 564721 and Lot 22 DP 571994.

2.2 Location

The 376.6565 hectare property is located at 33605 Pourerere Road, Omakere. The farm ID number is HB-4271-2008.

Figure 2.1: Location map



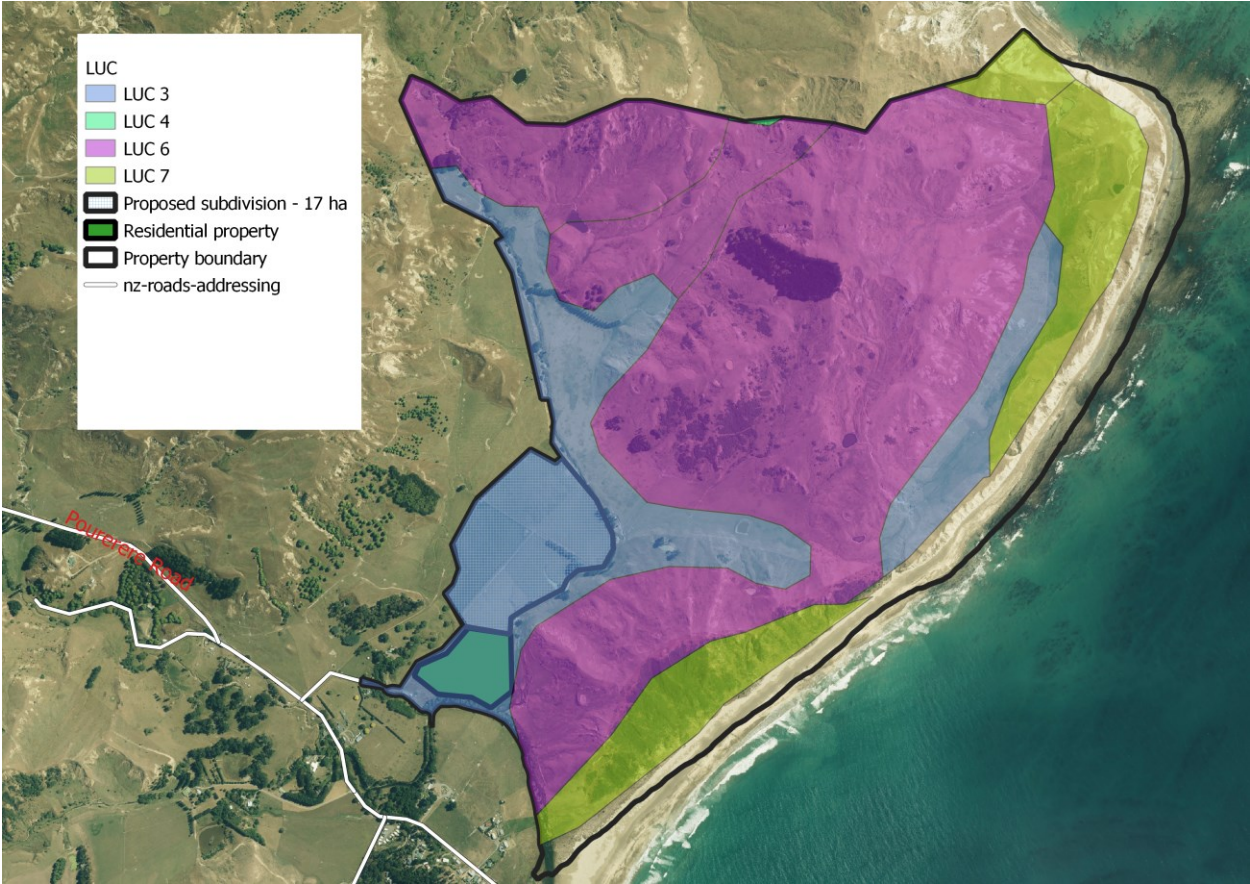
2.3 Climate

The property is summer dry with drought conditions generally experienced once every five years.



2.4 Land Use Classification (LUC)

Figure 2.2: Landcare map of the land use classification map.



The Landcare NZ maps sourced from the Hawkes Bay Regional Council, show the land use classification for the area the residential development is proposed is class 3.

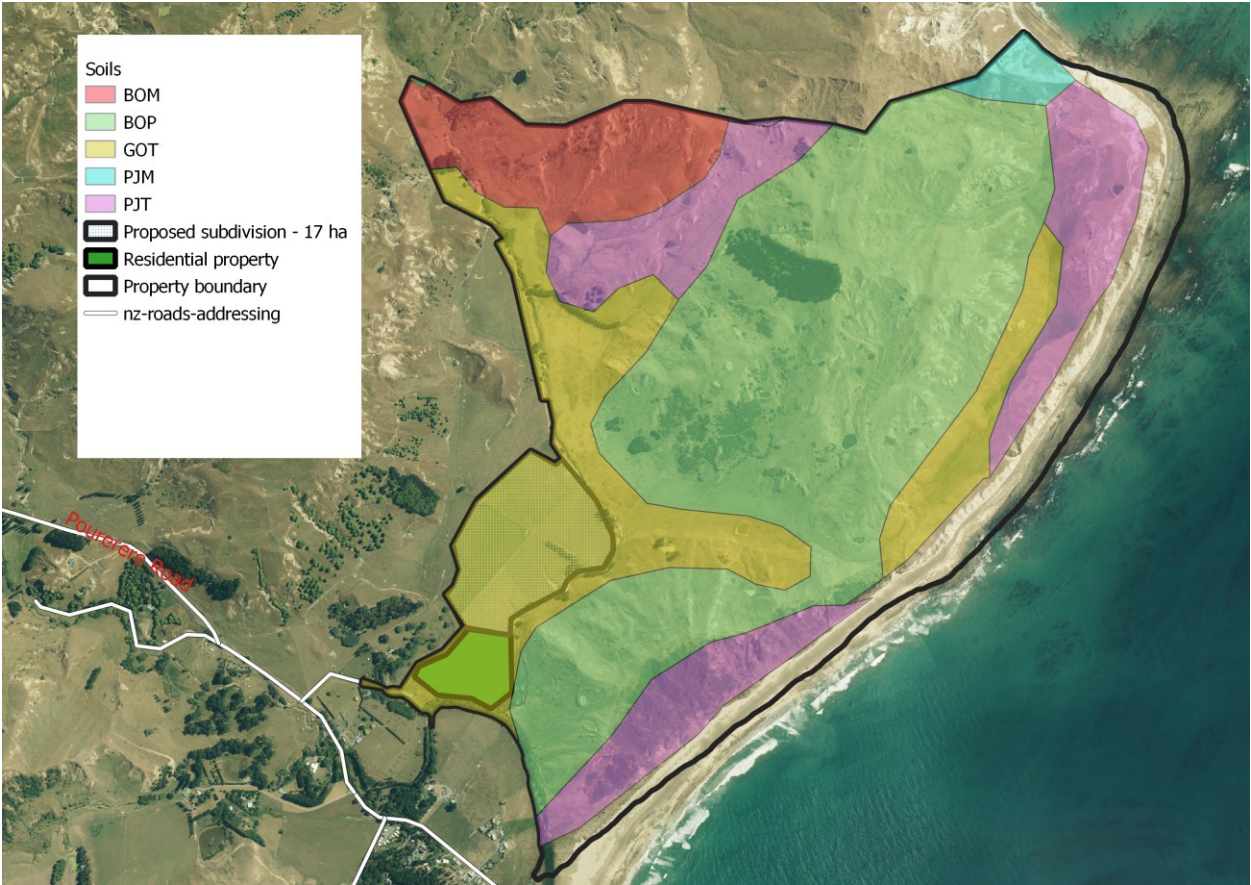
2.5 Soils and Soil Management

The soil is Typic Orthic Gley Soil (GOT). This soil belongs to the Gley soil order of the New Zealand soil classification. Gley soils are strongly affected by waterlogging, have been chemically reduced, have light grey subsoils, and usually have reddish brown or brown mottles. Waterlogging occurs in winter and spring, and some GOT soils remain wet all year. It is formed in alluvial sand silt or gravel deposited by running water, from hard sandstone parent material.

The topsoil typically has loam texture and is stoneless. The subsoil has dominantly sand textures, with gravel content of less than 3%. The plant rooting depth extends beyond 1m. Generally, the soil is poorly drained with moderate vulnerability of water logging in non-irrigated conditions, and has high soil water holding capacity. Inherently these soils have a high structural vulnerability and a

very low N leaching potential, which should be accounted for when making land management decisions.

Figure 2.5: Soil map

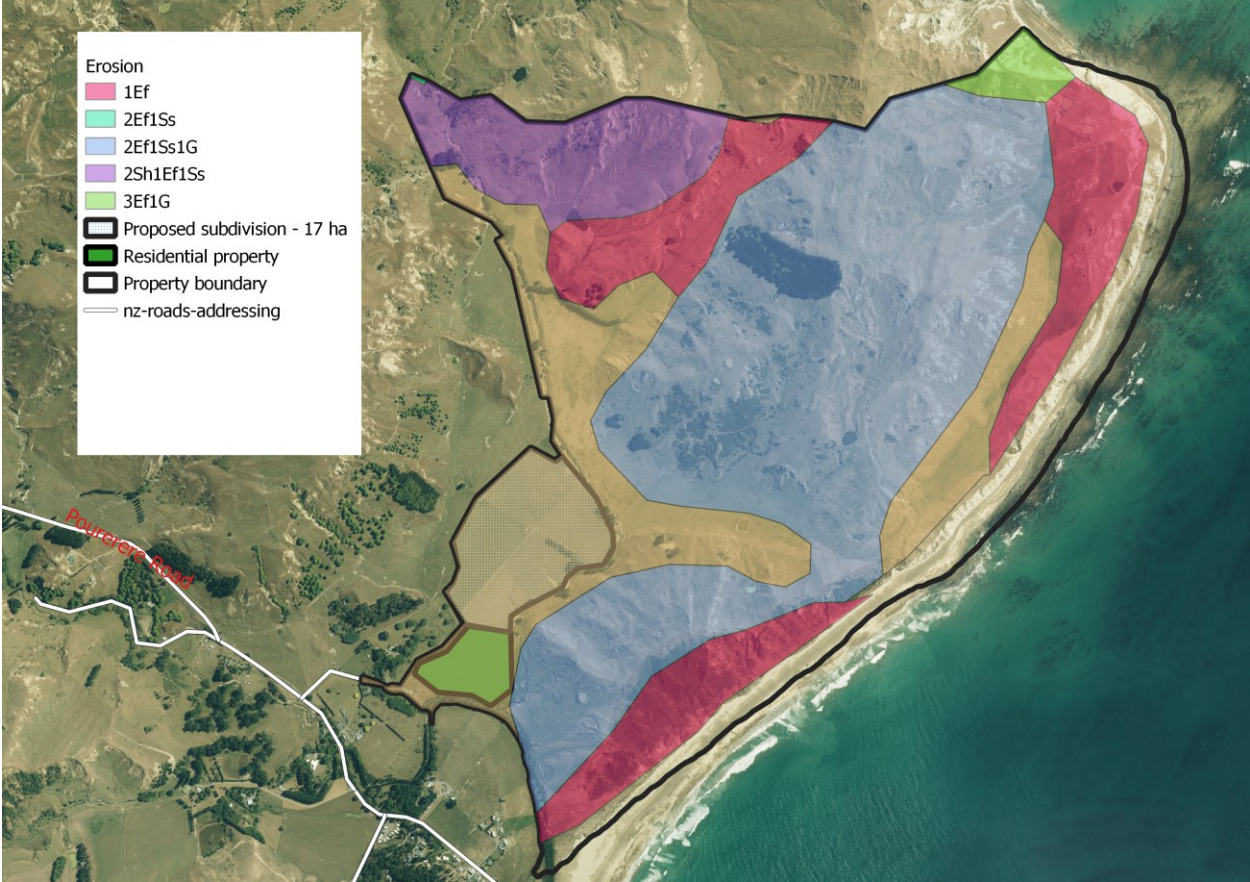


When inspecting the site at the farm visit there was clear evidence of water logging, mud and pugging. This is a consequence of general pastoral farming practices which are constrained around the shoulders of and during the winter because of the soils poor drainage capacity.

The pugging and mud caused by livestock does expose the water catchment and nearby fishery to sediment loss which is harmful to aquatic life and the health of this ecosystem. Recent legislation outlined in section 360 of the Resource Management Act 1991, requires livestock grazing to be limited to the extent it prevents pugging and sediment loss so it does not adversely affect water quality.

2.6 Erosion

Figure 2.6: Erosion map



As the land is of low slope no erosion is noted in the proposed subdivision zone.

3.0 FARMING SYSTEM

The property is a fairly typical east coast sheep and cattle property.

The property ranges from low slope land to steeper hill country.

Property constraints include hill country erosion, summer dry, and the Gley soils on the flats which limit production during wet periods but mainly the late autumn, winter and early spring period because of water logging.

Because of the nature of the Gley soils and the proximity to the stream adjoining the beach settlement there is a high risk of sediment, phosphate and E.coli loss and this does expose the water catchment and nearby fishery to these substances that are harmful to aquatic life and the health of the ecosystem.

The property does not have access to bore water for irrigation.

Alternative land use includes forestry on the steeper hill country. I don't consider the class three land suitable for forestry as the trees may struggle to establish in these soils because of water logging. Further, the large amounts of pollen that pine trees produce in the spring would likely irritate the beach community, because of the close proximity of the land proposed to be subdivided.

The flat land is not suitable for horticulture as water for irrigation is not available and is essential over the summer period, and the Gley soil is prone to water logging which is a production risk. Trees and vines will not grow well and will die if they are exposed to wet soil for extended periods.

I'm familiar with a small-scale avocado orchard in the district. The trees planted on the Gley soils on this property did not survive.

The current farming system is a sheep and cattle trading system wintering approximately 1000 breeding ewes and up to 600 cattle.

I have independently assessed farm production using the Farmax™ to model existing production before and after the development of 17 ha for residential property. The model feed budget becomes feasible by reducing livestock numbers on 17 ha's comprising the land use classification 3 soil. The carrying capacity is reduced by 4.5% to achieve feasibility. All other factors in the model remain the same.

The reduction in carrying capacity supports my view, particularly noting the resource management constraints of the 17 ha of gley soil.

Farmax is a proven model that limits carrying capacity to feed production. As the only differences in the “before and after model” is the 17 ha reduction in class three land and livestock numbers to fit, it is considered to have a low margin of error.

4.0 EXISTING PRODUCTION

Indicative financial performance

			\$ Total	\$/Farm ha	\$/SU
Revenue	Sheep	Sales - Purchases	120,772	326	35.5
		Wool	13,600	37	4.0
		Total	134,372	363	39.5
	Beef	Sales - Purchases	288,136	779	84.7
		Total	288,136	779	84.7
Total Revenue			422,508	1,142	124.1
Expenses	Wages	Wages	16,848	46	4.9
		Management Wage	2,485	7	0.7
	Stock	Animal Health	15,010	41	4.4
		Shearing	14,330	39	4.2
	Feed/Crop/Grazing	Conservation	1,480	4	0.4
		Purchased Feeds	370	1	0.1
		Regrassing	1,850	5	0.5
	Fertiliser	Fertiliser (Excl. N & Lime)	60,000	162	17.6
		Nitrogen	4,022	11	1.2
		Lime	2,109	6	0.6
	Other Farm Working	Weed & Pest Control	5,014	14	1.5
		Vehicle Expenses	8,484	23	2.5
		Fuel	8,029	22	2.4
		Repairs & Maintenance	18,822	51	5.5
		Freight & Cartage	4,459	12	1.3
		Electricity	2,417	7	0.7
	Standing Charges	Administration Expenses	8,813	24	2.6
		Insurance	4,662	13	1.4
		ACC Levies	2,313	6	0.7
		Rates	15,902	43	4.7
Total Farm Working Expense			197,418	534	58.0
Depreciation			13,853	37	4.1
Total Farm Expenses			211,271	571	62.1
Economic Farm Surplus (EFS)			211,237	571	62.1
Farm Profit before Tax			211,237	571	62.1

5.0 REVISED PRODUCTION

Indicative financial performance

			\$ Total	\$/Farm ha	\$/SU
Revenue	Sheep	Sales - Purchases	120,755	342	37.4
		Wool	13,600	39	4.2
		Total	134,355	381	41.6
	Beef	Sales - Purchases	269,468	763	83.5
		Total	269,468	763	83.5
Total Revenue			403,823	1,144	125.1
Expenses	Wages	Wages	15,982	45	5.0
		Management Wage	2,357	7	0.7
	Stock	Animal Health	14,238	40	4.4
		Shearing	13,593	39	4.2
	Feed/Crop/Grazing	Conservation	1,412	4	0.4
		Purchased Feeds	353	1	0.1
		Regrassing	1,765	5	0.5
	Fertiliser	Fertiliser (Excl. N & Lime)	57,500	163	17.8
		Nitrogen	3,837	11	1.2
		Lime	2,012	6	0.6
	Other Farm Working	Weed & Pest Control	4,783	14	1.5
		Vehicle Expenses	8,094	23	2.5
		Fuel	7,660	22	2.4
		Repairs & Maintenance	17,854	51	5.5
		Freight & Cartage	4,230	12	1.3
		Electricity	2,292	6	0.7
	Standing Charges	Administration Expenses	8,408	24	2.6
		Insurance	4,448	13	1.4
		ACC Levies	2,206	6	0.7
		Rates	15,902	45	4.9
Total Farm Working Expense			188,927	535	58.5
Depreciation			13,216	37	4.1
Total Farm Expenses			202,144	573	62.6
Economic Farm Surplus (EFS)			201,679	571	62.5
Farm Profit before Tax			201,679	571	62.5

6.0 CONCLUSION

I have modelled the farm before and after the proposed residential development to assess the economic impact on the residual farming area. The models show a 4.5% reduction in economic farm surplus after the development. This outcome is consistent with my own opinion and experience. The reduction in production is not significant to the future viability of the farm.

The reduction in farm size is small and not significant. The economic impact of the change is negligible in its effect on the farm and the wider district.

SP Goodman

Director

Disclaimer: This report has been prepared by GoodmanRural from records, information furnished to us by the property owner to the best of their knowledge and information available. Neither GoodmanRural nor any of its employees accept any responsibility for the accuracy of the material from which this has been prepared.

APPENDICES

1. Soils

Appendix 1 – Soil



SOIL REPORT

Hawkes Bay Regional Council

Hastings_29a.1

Report generated: 26-Oct-2022 from <https://smap.landcareresearch.co.nz>

Hast_29a.1 (100% of the mapunit at location (1929987, 5555314), Confidence: High)

This information sheet describes the typical average properties of the specified soil to a depth of 1 metre, and should not be the primary source of data when making land use decisions on individual farms and paddocks. S-map correlates soils across New Zealand. Both the old soil name and the new correlated (soil family) name are listed below.

Capture of the base soil information in this region was funded by Hawkes Bay Regional Council and Manaaki Whenua.

Soil Classification

Soil Classification:

Typic Orthic Gley Soils (GOT)

Family Name:

Hastings (Hast)

Sibling Name:

Hastings_29a.1 (Hast_29a.1)

Soil profile material

Stoneless soil

Profile texture

loam over sand

Parent Material

Stones/rocks
not applicable

Depth class (diggability)

Deep (> 1 m)

Soil material

hard sandstone rock

Origin
Alluvium

Soil Sibling Concept

This soil belongs to the Gley soil order of the New Zealand soil classification. Gley soils are strongly affected by waterlogging, have been chemically reduced, have light grey subsoils, and usually have reddish brown or brown mottles. Waterlogging occurs in winter and spring, and some soils remain wet all year. It is formed in alluvial sand silt or gravel deposited by running water, from hard sandstone parent material.

The topsoil typically has loam texture and is stoneless. The subsoil has dominantly sand textures, with gravel content of less than 3%. The plant rooting depth extends beyond 1m.

Generally the soil is poorly drained with moderate vulnerability of water logging in non-irrigated conditions, and has high soil water holding capacity. Inherently these soils have a high structural vulnerability and a very low N leaching potential, which should be accounted for when making land management decisions.



About this publication

- This information sheet describes the typical average properties of the specified soil.
- For further information on individual soils, contact Landcare Research New Zealand Ltd: www.landcareresearch.co.nz
- Advice should be sought from soil and land use experts before making decisions on individual farms and paddocks.
- The information has been derived from numerous sources. It may not be complete, correct or up to date.
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