Summary

Regenerative systems lead to a diversified land-use with initially lower, but more resilient, revenues and profits for Waikato

New Zealand
Waikato

High initial investments to diversify from dairy result in a significant drop in landscape profitability before it surpasses current levels in year 9 of the transition.

Current state of agricultural landscape

Agronomic & Environmental

- Highest emissions of agricultural GHG[1] in the country with intense use of water, nutrient runoff and erosion to riparian areas and wetlands.

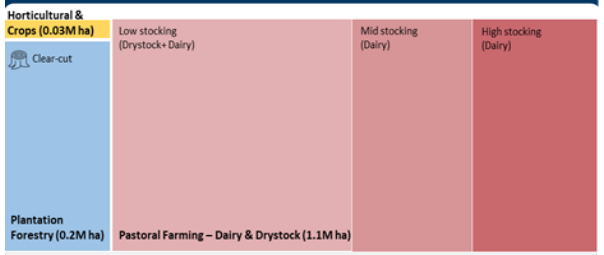
Economic

- Great dependency on a single activity and export market, upcoming regulations to measure and price agricultural emissions, and continuously growing plant-based milk alternatives market.

Social

- Skilled agriculture labor shortages and land use disputes deriving from urbanization.

Current land use at agricultural landscape level



Transition pathway hypothesis

Diversify agricultural components

- Ambitiously expand horticulture and crops on suitable arable land to reduce GHG emissions while seeking to maintain long-term landscape profitability.

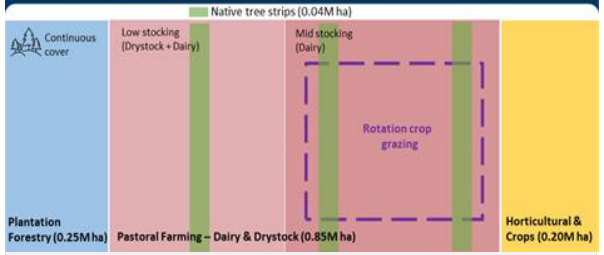
De-intensification of dairy

- Reduce high stocking rates, enhance pasture management and incorporate native trees for animal shelter and to meet environmental regulations.

Native vegetation and plantation forests

- Use native trees to protect riparian margins and waterways. Increase forestry in areas with severe physical limitations for GHG sequestration and adopt sustainable harvest techniques.

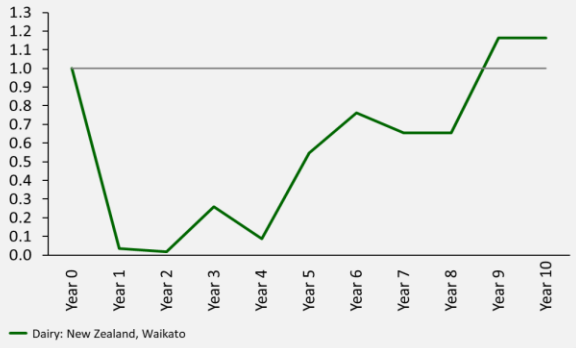
Alternative land use at agricultural landscape level



Results of economic modeling

- The first decade of the agricultural transition will lead to a drop of $5.843 USD/ha in the landscape cumulative profitability (NPV).[3]
- Profitability lowers during an interim period and reaches a point of equilibrium 15% higher after year 9.
- The drop in profitability relates mostly to borrowing costs to farmers for investments in the set-up of crops and horticulture, and lower dairy stocking rates. The higher profitability levels after transition are associated with higher gross revenues from value-added horticultural products.

Change in net profitability over a 10 years period for proposed transition pathway (alternative state/current state) Indicated in relative terms



Implications and recommendations

- Shifting land-use and reducing dairy intensity boosts the environment but burdens finances in the short term.
- Overcoming early implementation and financial challenges can lead to more diversified and stabler farmer incomes.
- More labor-intensive horticulture could offset dairy job losses, supporting employment opportunities and livelihoods.

For transition to be possible, we need to:

- Improve farmers' knowledge of diversification options and skills in alternative crops and regenerative grazing techniques.
- Provide long-term financial support for farmers, develop market access for their new products, and reduce barriers to land-use change.
- Implement public policies that address potential labor shortages by attracting and retaining quality seasonal and permanent workers.

Note: [1]Green House Gases. Net Present Value 10% rate. [2]Behavioral, organizational and informational barriers, for example [3]Net Present Value 10% discounted. Costs and returns will vary significantly based on the farm's portfolio. Model focuses on the agricultural landscape and does not contemplate eventual investments in new landscape level infrastructure and market channels. Conservatively assumes no increase in land value or green premiums. Landscape transition happens all at once. Systemiq analysis for **Regen10.org**