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REGIONAL GROWTH OPPORTUNITIES

In Employment in the Taranaki Food & Beverage Industry

FINAL REPORT; v1.00; July 2019

REGIONAL GROWTH OPPORTUNITIES

In Employment in Taranaki's Food & Beverage Industry

Part of the New Zealand Food and Beverage Information Project

FINAL REPORT

July 2019

V1.00

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INTRODUCTION

CONTEXT

New Zealand has a clear comparative advantage in food and beverages (and the wider agricultural supply chains). Food and beverage exports are $34b (2017) and account for 46% of New Zealand's total exports of goods and services.

New Zealand has a long history in producing and exporting food & beverages. New Zealand has a limited number of large export categories, namely dairy, beef, lamb, seafood, apples and more recently kiwifruit. Wine has also emerged in the last 20 years to become a billion dollar export. Growth has come from more volume, but more importantly, more value.

Going forward, New Zealand's food and beverage industries must focus on increasing the value of products and services. Nearly all industry representatives agree that New Zealand's future is in producing non-commodity products across all food and beverage groups.

OBJECTIVE

Government and industry acknowledge that increasing value and employment opportunities needs new capital and new capabilities to grow and develop. Development is not evenly distributed around New Zealand. Where should New Zealand put it's efforts? Which sectors? Which regions? Past research, as part of the Food and Beverage Information Project – Emerging Growth Opportunities, identified a range of growing and emerging export sectors. This current research, *Regional Growth Opportunities in Employment in Taranaki's Food and Beverage Industry,* identifies and measures the job creation performance of industries across the regions of New Zealand.

The objective of this research is to provide a foundation of food and beverage data and knowledge and to identify opportunities for employment and growth in Taranaki. It is designed to deliver to Taranaki's key stakeholders the facts and insight needed to support planning.

SCOPE

The focus of this research is on increasing employment and identifying potential employment growth opportunities in the food and beverage manufacturing and processing sectors in Taranaki. Processing jobs (in particular high value jobs) are a key driver of economic development in the food and beverage sector. To achieve this requires investment across the supply chain.

OUT OF SCOPE

This report is not a traditional government strategy. It does not include detailed lists of tasks and responsibilities. Instead, it provides a starting point for national and regional government decision-making.

AUDIENCE

The report is designed to be used by four audiences: (1) Government (across all roles and responsibilities), (2) Industry participants (firms & individuals), (3) Investors (domestic or international) and (4) Scientific researchers (academic, government & corporate).

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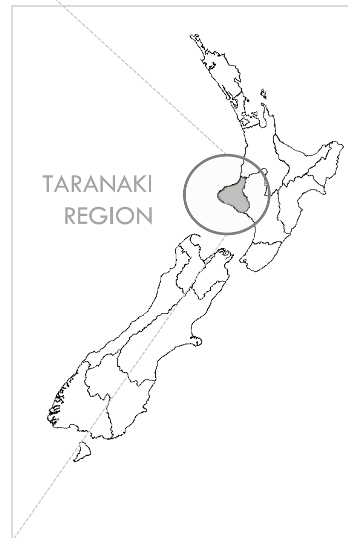
Taranaki is a major agricultural region; a coastal and mountainous region dominated by the iconic Mount Taranaki



Source: Google Maps

What problem are you trying to solve for Taranaki?

Taranaki has a large food and beverage industry…

- *One in four jobs in the wider chain*
- *Two thirds of all land in farming*
- *Two billion kilograms of total farmgate output**

… that is not creating net new jobs for the region…

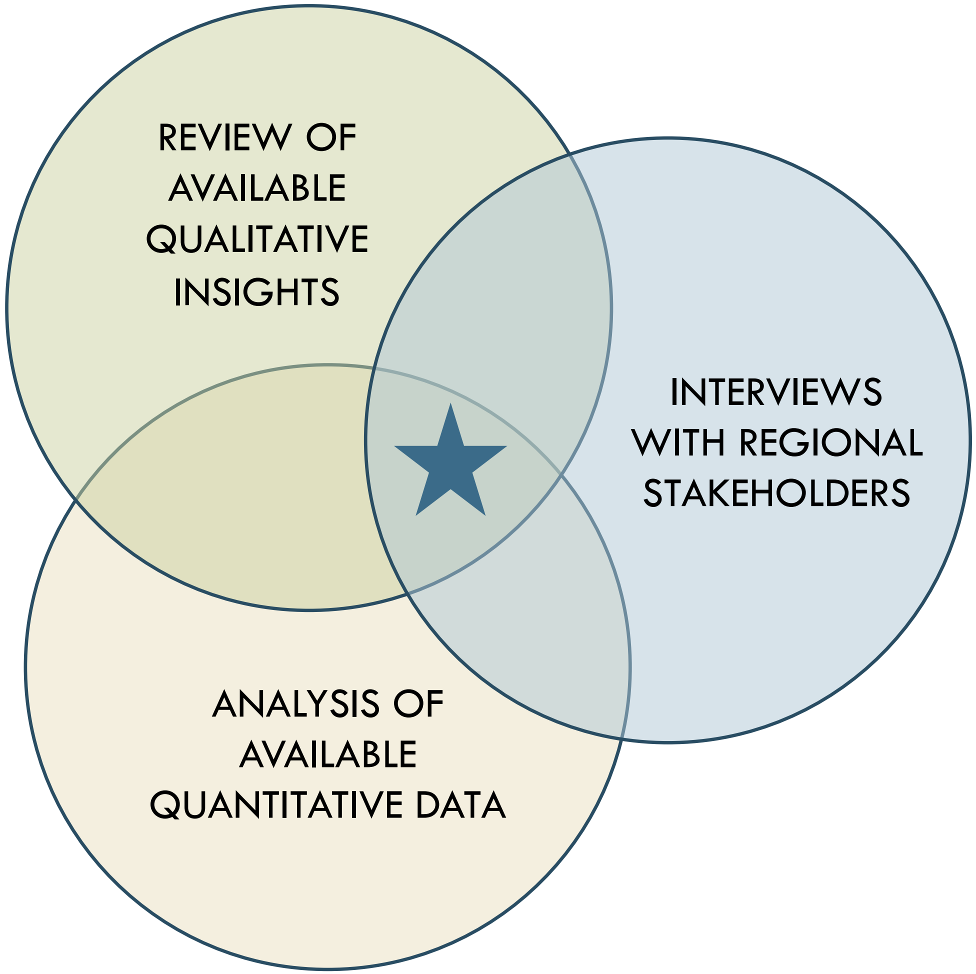
- *On-farm jobs are under pressure from (1) falling land area (less area in grassland) and (2) consolidation into fewer, larger farms*
- *Post farmgate processing is low complexity and failing to create local jobs from abundant regional raw materials*

… and is overexposed to dairy

- *95% of regional farmgate volume is from the dairy/cattle chain*
- *Clear global comparative advantage*
- *Likely global low cost producer (excluding cost of land)*
- *Low overall environmental footprint relative to competitors and regions***

**Volume of foodstuffs produced on the farm/land, see details further in document; ** For example, relative to Middle Eastern producers*

Where did you look for the answer?



Source: Coriolis analysis

What is your answer in a nutshell?

	CORE	ADJACENCIES	REDEFINED FUTURE
WHAT?	EFFICIENT ANIMAL PROTEIN*	SHEEP & GOAT DAIRY INFANT FORMULA FEED CROPS SPECIALTY CROPS DUCK OR TURKEY SPECIALTY BUTTER & CHEESE PET FOOD	BEVERAGES BEYOND MILK UNDER COVER CROPS PACKAGED, PROCESSED FOODS FOR CONSUMERS REGIONALLY SUITED AQUACULTURE

WHO?

- *REINVESTMENT BY EXISTING LARGE AT SCALE* (Core)
- *ATTRACTING NEW INVESTORS WITH SCALE AND SKILLS* (Core and Adjacencies)
- *NURTURING NEW AND EMERGING FIRMS* (Adjacencies and Redefined Future)

*Currently Taranaki has highly efficient dairy, meat and poultry industries; Source: Coriolis analysis

In summary, how can the Taranaki food and beverage industry grow employment?

DAIRY – Taranaki is ideally suited to dairy production and the sector is highly efficient. However dairy is not creating new jobs. Four broad opportunities exist to grow employment: (1) supporting investment by existing large firms, (2) attracting new large value added processors, (3) targeting niche specialty and (4) developing non-cow dairy.

MEAT – Taranaki's large meat processing industry has low employment growth. Three broad opportunities exist to grow employment: (1) support existing firms, (2) attract new firms with a value added focus and (3) target value added meat products.

POULTRY – Poultry is an employment growth success story in Taranaki and (1) the industry needs to continue to invest in this growth. Additional employment can also be achieved through (2) attracting new investors and (3) targeting emerging segments.

SEAFOOD – Seafood is currently a minor employer. Opportunities exist to increase employment by (1) supporting existing players and (2) identifying regionally suited aquaculture.

FRUIT AND VEGETABLES – Taranaki has a handful of existing small F&V companies and no processing employment in the region. Employment growth opportunities exist in (1) specialty fruit and vegetables, (2) protected under cover crops and (3) value added products.

ARABLE CROPS, SEEDS AND GRAINS – Regional production of arable crops are driven almost exclusively by the dairy industry. Three opportunities exist to create jobs: (1) value added bread/baked products, (2) specialty grains & crops and (3) animal feed.

PROCESSED FOODS – Taranaki has a minimal number of processed firms and jobs. The region needs to attract new investment into the sector, in particular in (1) pet food and (2) niche high growth sectors.

BEVERAGES – Taranaki has a handful of existing beverage firms, with none at scale. Taranaki has the opportunity to grow employment across three beverage categories: (1) beer, (2) alcoholic spirits and (3) water.

Taranaki is over-exposed to dairy and underperforming it's potential; however Taranaki is well positioned for future growth

Interviewees identified five key challenges to creating growth in the region:

1. Taranaki is over-exposed to dairy and cattle
   - While Taranaki produces a wide range of food and beverages, production is skewed to dairy and meat
   - Two thirds of Taranaki is farmland and seventy five percent of regional farmland is grassland
   - The amount of farmland in Taranaki – particularly grassland – has been declining, though losses may have stabilised
   - Declining farmland has primarily come from sheep, beef and other livestock farms more than dairy
   - The food and beverage sector directly creates one in four jobs in Taranaki; jobs are skewed to dairy and the wider cattle value chain
2. Taranaki is not creating growth
   - Taranaki is not creating new food and beverage firms, in particular new post-farm, value adding start-ups
   - Taranaki is also not creating new food and beverage jobs
3. Taranaki is not reaching its potential
   - Taranaki is underperforming many other regions in creating post farmgate jobs from its abundant raw materials
4. Taranaki is lacking key infrastructure, particularly at the port… The road north is also a limitation
5. Taranaki is held back by attitudes and mindsets

Despite these challenges, Taranaki is well positioned for growth if key issues can be addressed or side-stepped

Interviewees identified FIVE key challenges to creating growth in the region

Source: interviews, Coriolis analysis

CHALLENGE 1. Taranaki is over-exposed to dairy and cattle

"The dairy industry needs to diversify, farmers are too reliant on the volatile milk price alone. They need options, but it needs to be de-risked" *Advisor, Taranaki*

"It's white and black gold in Taranaki. There is a huge focus on dairy and most of the land is dairy country. The dairy pushes up the price of land for competing land uses." *Owner, Processed Foods Co, Taranaki*

"From a dairy perspective, in Taranaki there is no competitive tension. Farmers are price-takers." *Business leader, Taranaki*

"Fonterra is the only game in town. There is no competition and no choices for the farmers if they wanted to go organic or have A2 milk." *Business owner, Taranaki*

"The dairy plants in Taranaki are some of the most efficient in the world. The stainless steel is very efficient. Why would they slide off a bit of the processing for niche. It wouldn't be worth it." *Business leader, Taranaki*

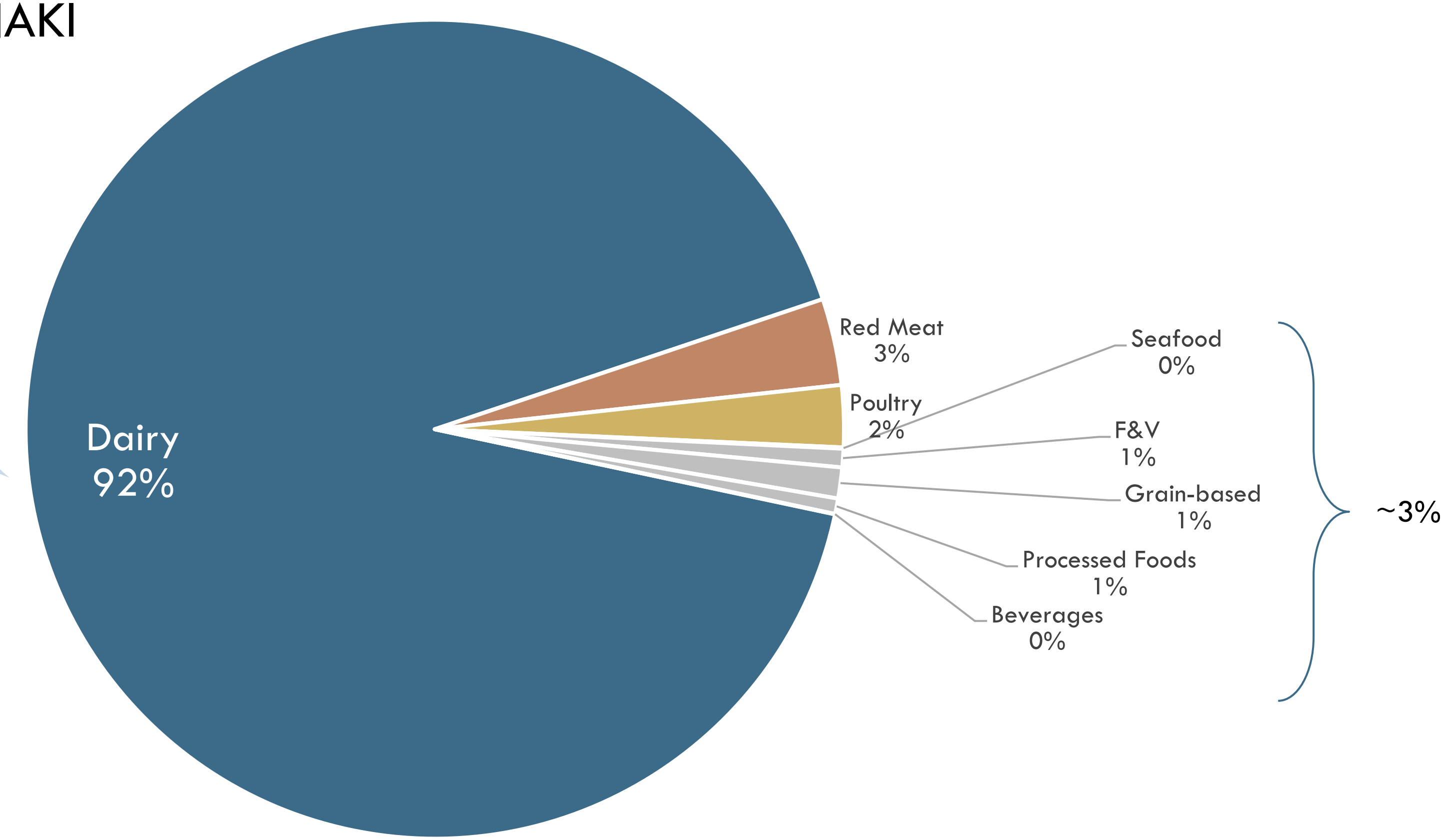
Source: interviews; Coriolis analysis

While Taranaki produces a wide range of food and beverages, production is skewed to dairy and meat

ESTIMATED TOTAL PHYSICAL VOLUME OF RAW FOOD & BEVERAGE PRODUCED AT FARMGATE IN TARANAKI

Kg; b; 2018

How To Read: "Taranaki produced an estimated two billion kilograms of raw farm and ocean derived foodstuffs as measured at farmgate or dockside, 92% of which was milk."



TOTAL = 2 billion kilograms produced in Taranaki

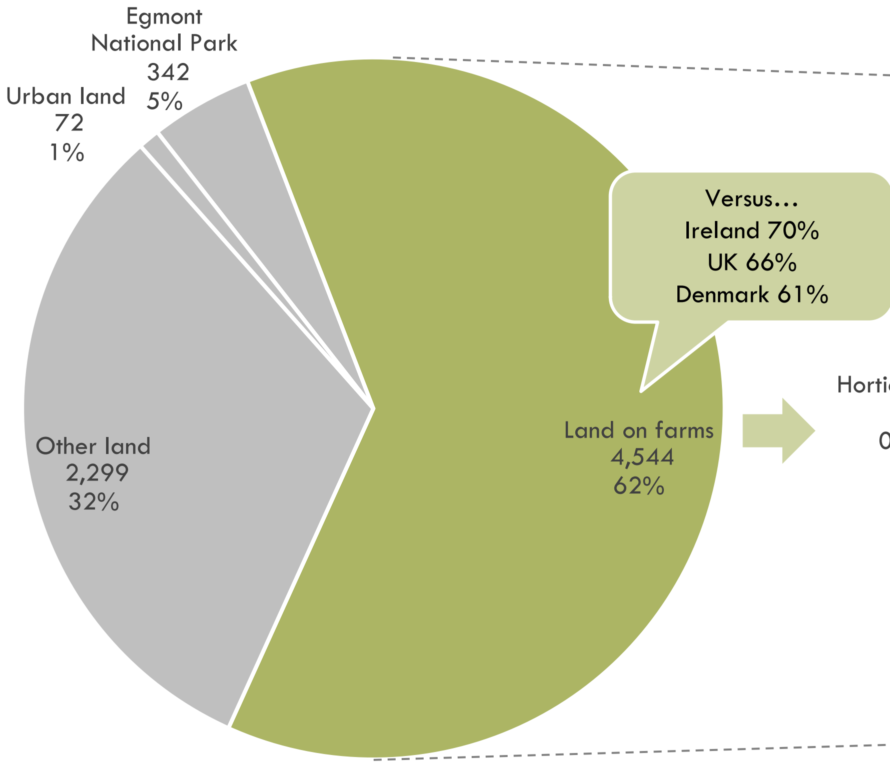
PRELIMINARY; CONTAINS SIGNIFICANT MODELLING & ESTIMATES OF NATIONAL TOTALS TO REGIONS PRO-RATA FOR SOME SECTORS

Source: Statistics NZ; MPI; UN FAO; DairyNZ; Coriolis analysis, modelling and estimates

Two thirds of Taranaki is farmland and seventy five percent of regional farmland is grassland

LAND USE IN TARANAKI

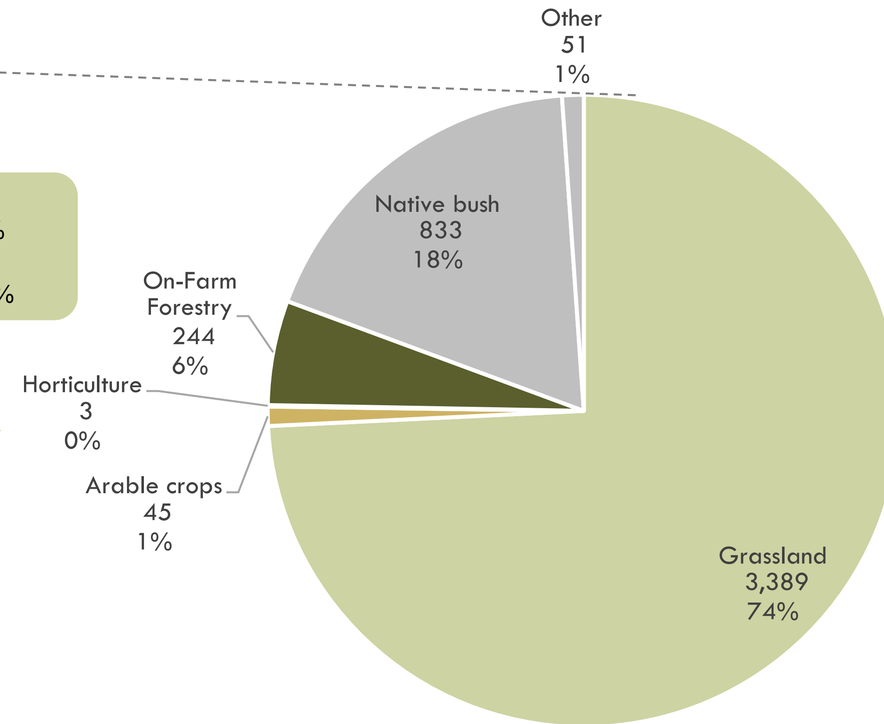
Sq km; 2018



TOTAL = 7,257 km^2

FARMLAND IN TARANAKI BY TYPE

Sq km; 2018

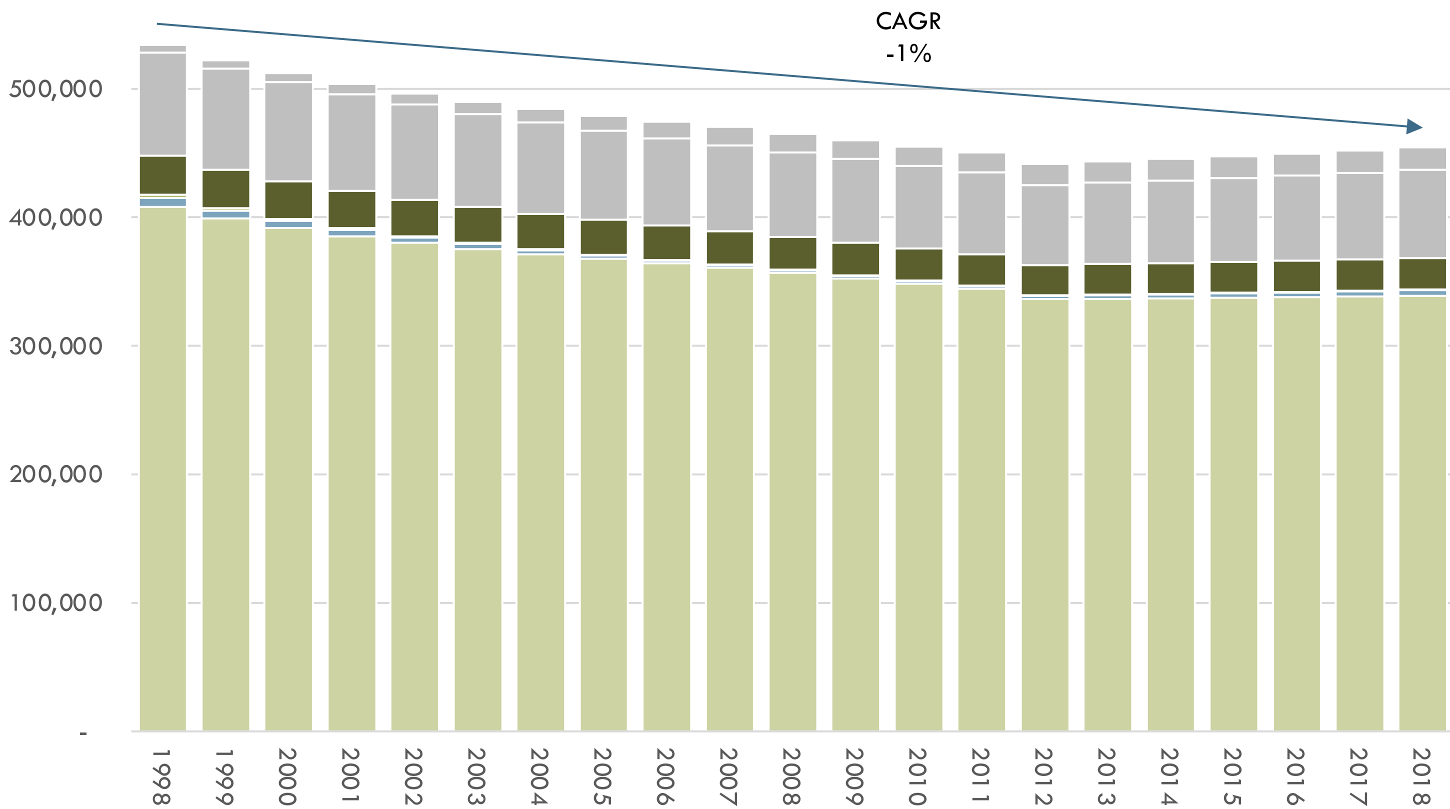


TOTAL = 4,544 km^2

The amount of farmland in Taranaki – particularly grassland – has been declining, though losses may have stabilised

FARMLAND IN TARANAKI BY TYPE

Ha; 1998-2018



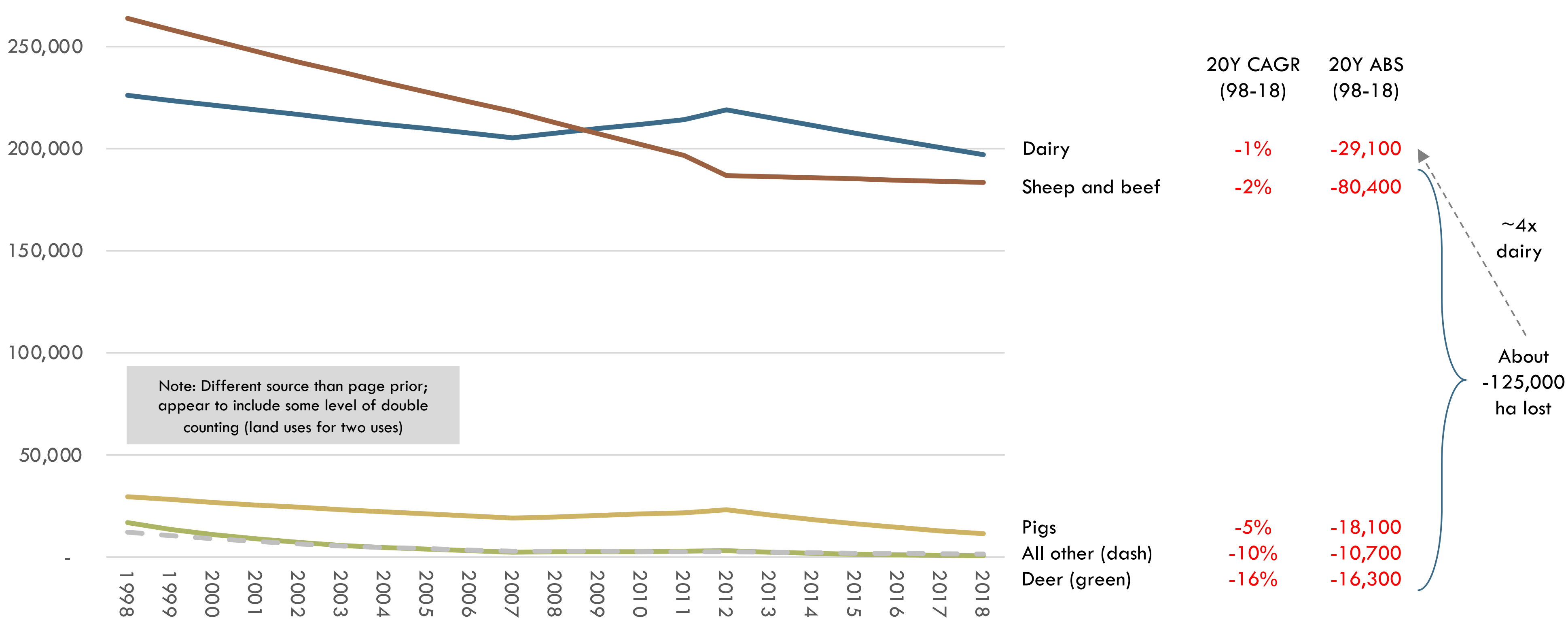
	20Y CAGR (98-18)	20Y ABS (98-18)
Other On-Farm Land	5%	+11,400
On-Farm Native Bush	-1%	-11,300
On-Farm Forestry	-1%	-6,200
Horticulture	-9%	-1,900
Arable Crops	-2%	-2,700
Grassland	-1%	-69,200

Source: Statistics NZ; MPI; MftE; Coriolis analysis and modelling

Declining farmland has primarily come from sheep, beef and other livestock farms more than dairy

FARMLAND USAGE IN TARANAKI FOR LIVESTOCK BY TYPE

Ha; 1998-2018



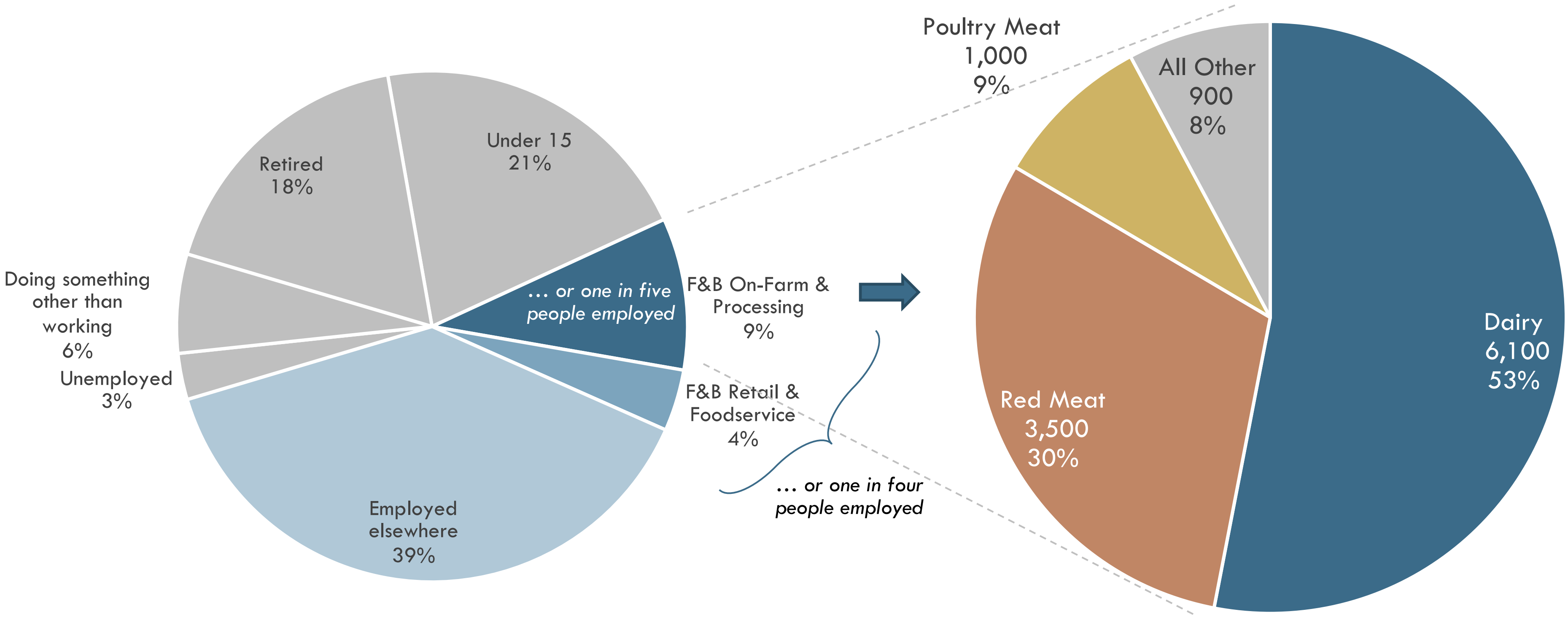
Source: Statistics NZ; MPI; MftE; Coriolis analysis and modelling

The F&B sector directly creates one in four jobs in Taranaki; jobs are skewed to dairy and the wider cattle value chain

ESTIMATED TOTAL TARANAKI FOOD & BEVERAGE EMPLOYMENT*

Headcount; 2018

EXCLUDES FLORICULTURE, NURSERY, AGRICULTURAL EQUIPMENT & SERVICE PROVIDERS; ACTUAL IMPACT LIKELY ONE IN THREE



Total = 119,600 estimated population in Taranaki

Total = ~11,500 people *employed in F&B in Taranaki on-farm and in processing*

**Figures are rounded; Note: processing defined to include wholesaling for seafood and fruit & veg for industry definition reasons; Source: Statistics NZ; Coriolis analysis, modelling and estimates*

CHALLENGE 2. Taranaki is not creating growth

"Not many new food and beverage firms have set up in Taranaki. We need to encourage people back to the region and new firms to the region." *Advisor, Taranaki*

"We need to develop more tourist attractions in the region and develop food and beverage tours. Tourists can bring a lot of money to a region." *Owner, beverage company*

"Our dairy industry is stable. We have the best lands, soil structure, slope and rainfall, but it is mature." *Business leader, Taranaki*

"Whareroa is a huge commodity plant; that's a challenge for farmers. The opportunity for higher value A2, organic and smaller plant runs is in other regions. We need some nimble operators in the region." *Business leader, Taranaki*

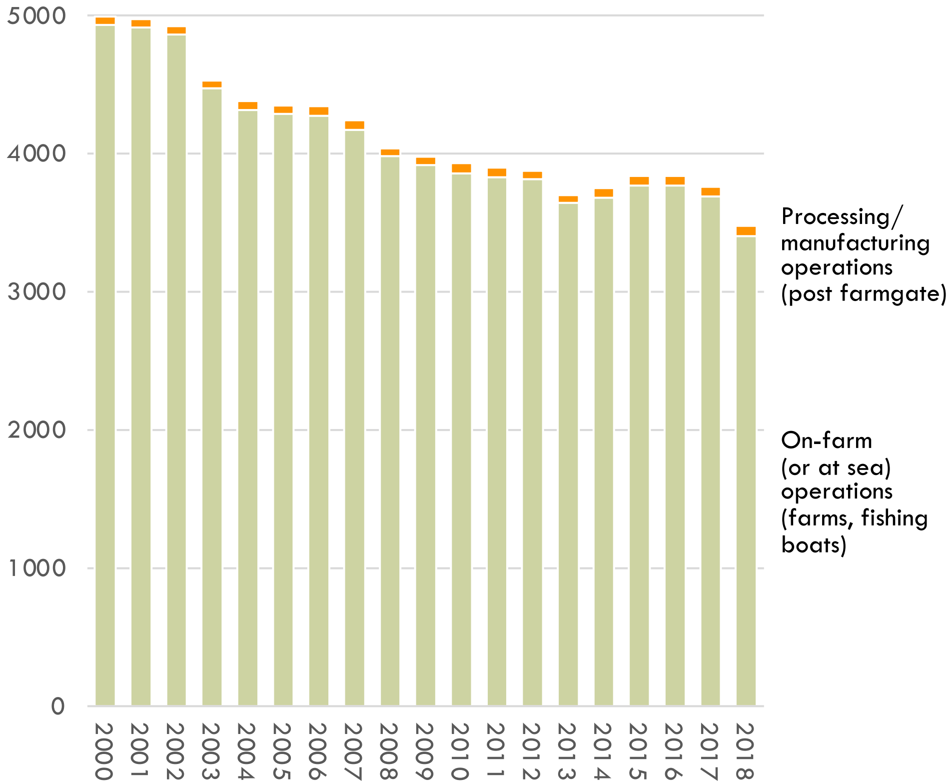
"Large bulk meat products are not the way of the future. We need the right sort of value add and to differentiate ourselves from our competition in Australia and South America." *Director, Meat company, Taranaki*

Source: interviews; Coriolis analysis

Taranaki is not creating new F&B firms, in particular new post-farm, value adding start-ups, nor is it creating jobs

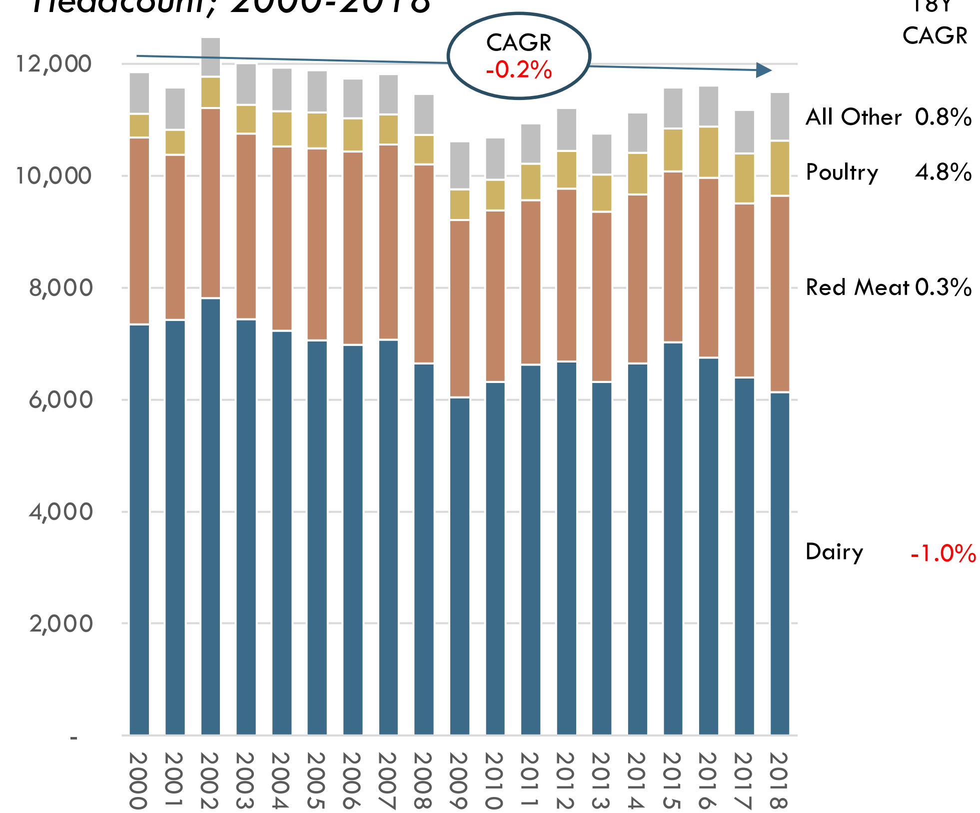
OF OPERATIONAL UNITS IN THE TARANAKI F&B INDUSTRY

Geographic units; 2000-2018



TOTAL F&B JOBS ON-FARM & PROCESSING BY SECTOR

Headcount; 2000-2018



Note: processing defined to include wholesaling for seafood and fruit & veg for industry definition reasons; Note: Red Meat does not include dairy farmers to prevent double counting; on-farm includes assumed 'owner operators' (i.e. non-PAYE employees); Source: Statistics NZ; DairyNZ; other sources; Coriolis estimates and analysis (detail later in document)

CHALLENGE 3. Taranaki is not reaching its potential

"Fonterra is the only cheese factory in Taranaki, there are no other small, boutique or artisan suppliers. All other regions have small local firms." *Advisor, Taranaki*

"We need to add value to our commodities. We can't keep on supplying and selling bulk commodities." *Farmer, Taranaki*

"All we have are commodities in the meat and dairy space. There are no niche high value operations." *Business leader, Taranaki*

"There is always the opportunity for firms to find a gap in the market. The large firms have no flexibility, so there are opportunities." *Director, Meat company*

"We have huge opportunity to grow, there are lots of fish stock in the sea off Taranaki. The industry is difficult for smaller firms and fishermen. The systems and rules are optimised for the big quota holders." *CEO, Seafood company*

"It is difficult to attract fisherman into the industry with the current rules and structure; no fishermen, no fish." *CEO, Seafood company*

"We could really be marketing our products around our grass-fed operations, 5 star farming systems, environmental practices, employment reputation. But we don't." *Business leader, Taranaki*

"The economy in Taranaki is screaming out for value added industries. We have so few." *Business leader, Taranaki*

"We struggle to sell the New Zealand story in-market. We need to sell the farming systems, sustainability, quality systems, safe food, HACCAP*, etc." *Director, Meat company*

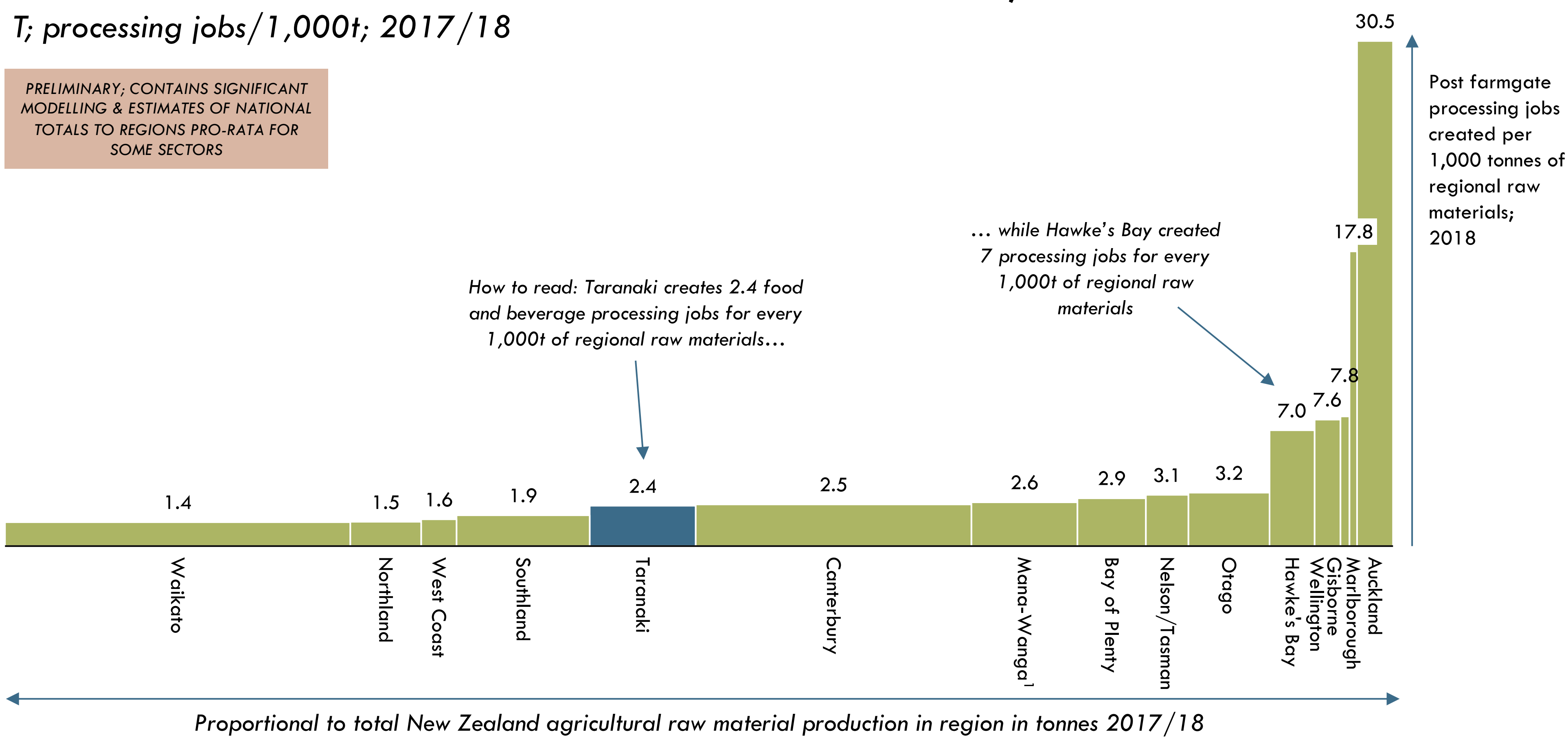
**HACCAP = Hazard Analysis and Critical Control Points (food safety system); Source: interviews; Coriolis analysis*

Taranaki is underperforming many other regions in creating post farmgate jobs from its abundant raw materials

REGIONAL RAW MATERIAL VS PROCESSING JOBS PER 1,000 TONNE

T; processing jobs/1,000t; 2017/18

PRELIMINARY; CONTAINS SIGNIFICANT MODELLING & ESTIMATES OF NATIONAL TOTALS TO REGIONS PRO-RATA FOR SOME SECTORS



1. Manawatu/Wanganui; Source: Coriolis analysis, modelling and estimates

CHALLENGE 4. Taranaki is lacking key infrastructure, particularly at the port…

"All of Fonterra's products used to go through the port at Taranaki. Once that changed, the business was gone overnight." *Business leader, Taranaki*

"We used to ship all our product out of the port. Now it has to be railed or road freighted north. It costs us an extra $2,500/container." *GM, Meat company*

"Our products have to travel to Palmerston North then get on the rail north from there. That extra stretch costs us." *Director, Meat company*

"Our seafood used to be at markets in Australia in 4 days via the port, now it's 10 days." *CEO, Seafood company, Taranaki*

"Seafood quotas are processed and based out of the major ports. With no major port there is no major seafood activity." *CEO, Seafood company, Taranaki*

"Taranaki is geographically isolated. We could develop a 'blue highway' – a hub and spoke system, with a smaller shipping company. It is cheaper and more environmentally friendly to ship than truck or rail." *Business leader, Taranaki*

RECENT TIMELINE: PORT TARANAKI CONTAINER SHIPPING	
2009	Fonterra's supply chain 'shakeup' redirects product away from Port Taranaki – overall freight reduces from 65,000 to 40,000 containers from the port
2011	Fonterra and SFF founds Kotahi (supply chain and logistics collaboration)
2011	Maersk withdraws from Port
2013	MSC withdraws from Port
2014	Fonterra focuses export trade from Port of Tauranga
2014	Containers reduce to less than 11,000
2014	Container trade at Port ends with exit of Pacifica
2017	Container trade services cease at Port
2018	Fonterra sells cool stores at Port

Source: interviews; articles; Coriolis analysis

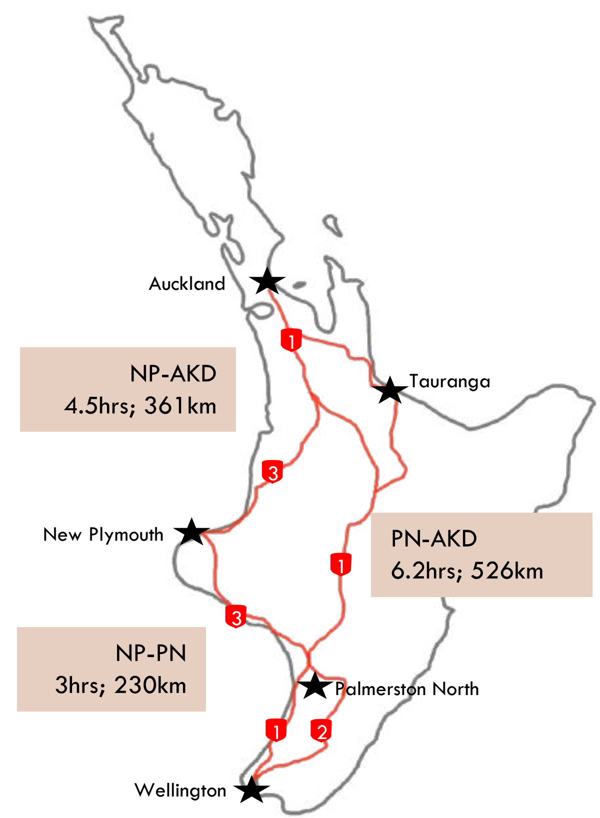
…The road north is also a limitation

"The road north is terrible. It's easier to go to Palmerston North then to Auckland, than go direct on State Highway 3." *CEO, Processed Foods Co, Taranaki*

"The cost of freight is high out of Taranaki, trying to truck out of the region is expensive. It costs more to get to Auckland direct than it does to get from Palmerston North to Auckland." *CEO, Seafood Co, Taranaki*

"We are isolated. We aren't on any main roads, this makes our transport costs higher." *CEO, Processed Foods Co, Taranaki*

MAJOR ROAD ROUTES FROM TARANAKI



Source: interviews; Coriolis analysis

CHALLENGE 5. Taranaki's future growth needs new mindsets

"People need courage, skills and vision to start a new venture either on the side of dairy, or to replace their dairy operation." *Advisor, Taranaki*

"Many of the industries would succeed more if there was less in-fighting and more cooperation." *Business leader, Taranaki*

"Many farmers are conservative. They don't like change. They need to have any new ventures de-risked." *Industry leader, Taranaki*

"There needs to be a willingness to take a risk, to move beyond your comfort zone." *Advisor, Taranaki*

"Many farmers have a lot of debt, and with the volatility in the milk price, change is risky." *Leader, Farming industry*

"There is a lot of risk with change, but with the low payout years and the volatility in the dairy industry, the industry is looking for some alternatives." Business *leader, Taranaki*

"We need to encourage the younger ones back to the region, they have the right mindset." *GM Processed Foods Company, Taranaki*

"There is a lack of awareness of what is going on in the value add and new food enterprises space." *Advisor, Taranaki*

Source: interviews; Coriolis analysis

Despite these challenges, Taranaki is well positioned for growth if key issues can be addressed or side-stepped

SWOT ANALYSIS: TARANAKI FOOD & BEVERAGE INDUSTRY

Early 2019

STRENGTH	WEAKNESS
- Temperate climate, high annual rainfall (1,500-2,000mm) and warm temperatures (average afternoon 20-22 degrees in summer) - Large zones of deep volcanic soils, highly fertile and free draining - Expansive flat planes suitable for intensive farming around Mt Taranaki - Long history of farming; knowledge and experience in farming - Comparative advantage in grass-fed dairy and cattle production - Committed and passionate farming community (in particular dairy farmers) - Lower rents for commercial space - Large, very efficient dairy manufacturing plants	- Extreme climates with high winds (one of the windiest regions in NZ), storms - Land use highly concentrated in dairy - Limited competition for milk supply (one milk processor in region) - Dairy very mature in region, low growth, with limited opportunities under existing model - Very low number of small and medium sized firms - Area geographically isolated (not on main route north/south) - No shipping container port - High cost of freight vs most other regions - Low population growth - High cost of farm land (in particular, premium dairy land) - Lack of value chains and elements to support and enable growth and diversification in the region
OPPORTUNITY	**THREAT**
- Add value to existing commodity products - Diversify land use to spread risk and increase revenue - Market Taranaki as a destination for tourists - Market Taranaki as a destination for new businesses and new capital - Niche opportunities where large companies unable to provide solutions (e.g. low volume runs on production line) - Market demand for healthy grass-fed products - Additional support for diversification and new ventures in the region	- Volatility of dairy price threatens industry - Rising cost of doing business out of line with revenue growth - Alternative non-animal proteins reduce overall demand for dairy and meat products

Source: *interviews; Coriolis analysis*

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Taranaki can create significant new food and beverage processing jobs, but further net growth in on-farm employment is unlikely

ON-FARM EMPLOYMENT
6,600

- In long-term decline, both in Taranaki and elsewhere
- Driven by trend to fewer, larger farm units
- Taranaki is trailing not leading national and global indicators, indicating 'no let up' ahead*
- Any potential growth in non-cattle sectors likely to just replace lost meat and dairy jobs at best

Further net employment growth unlikely

PROCESSING EMPLOYMENT
4,900

- Taranaki currently produces primarily low complexity raw material ingredients
- Most jobs created from Taranaki's raw materials are created outside the region
- Taranaki underperforms other regions of New Zealand and global peers in generating jobs from raw material volumes

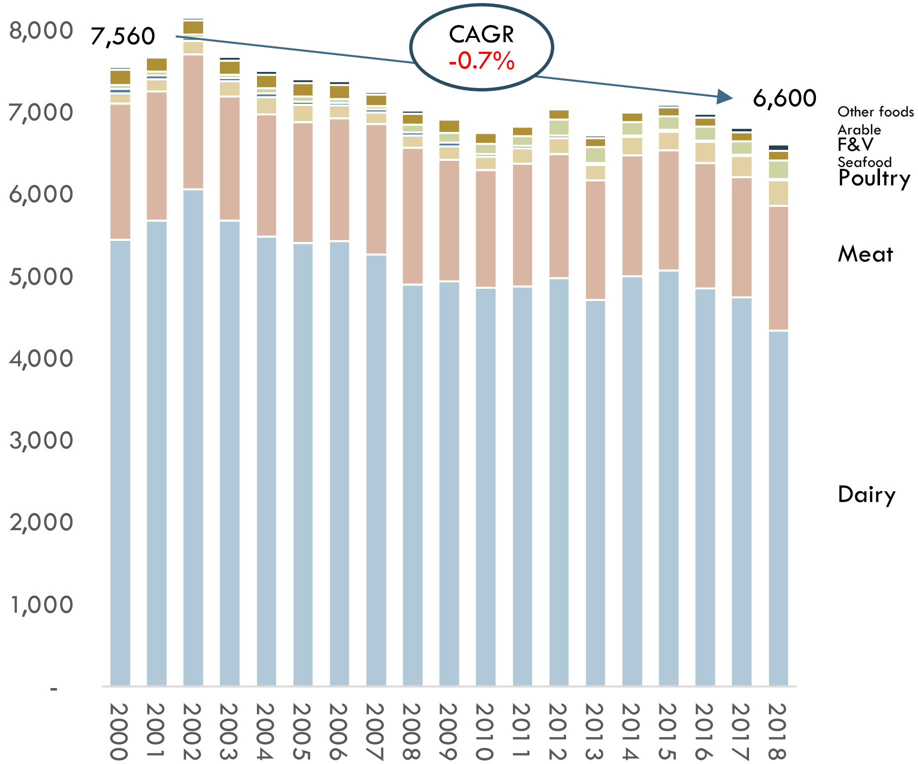
Significant further growth potential

**As an example, a single, well known farmer in Idaho produces more milk than all of Taranaki; Source: Coriolis analysis*

On-farm employment in F&B production of raw materials is trending down; processing employment is showing some growth

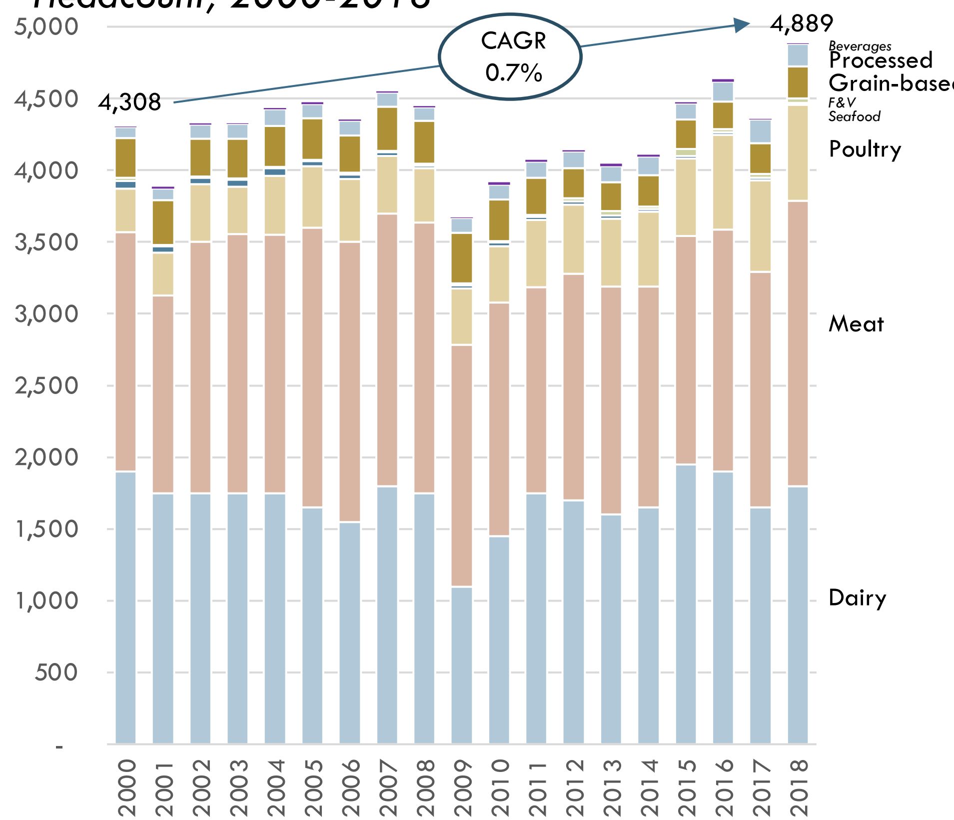
ESTIMATED TARANAKI ON-FARM EMPLOYMENT IN F&B PRODUCTION

Headcount; 2000-2018



ESTIMATED TARANAKI EMPLOYMENT IN F&B PROCESSING PRODUCTION

Headcount; 2000-2018



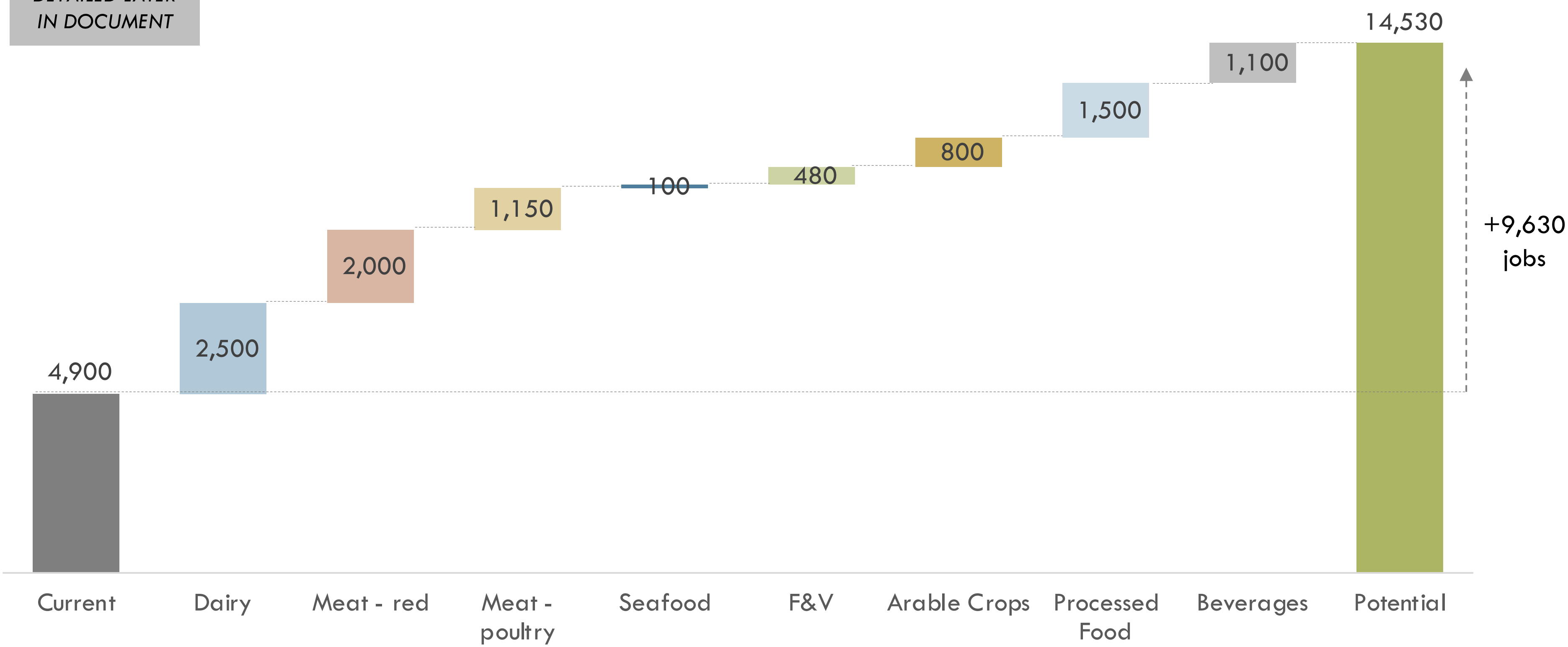
Note: assumes every farm unit has an owner-operator (i.e. a non-PAYE employee); Source: Statistics NZ; Coriolis classifications and analysis

Taranaki has the potential to create significant new food and beverage processing jobs in the long term

POTENTIAL ADDITIONAL F&B MANUFACTURING EMPLOYMENT IN TARANAKI

Model; 2018

DETAILED LATER IN DOCUMENT

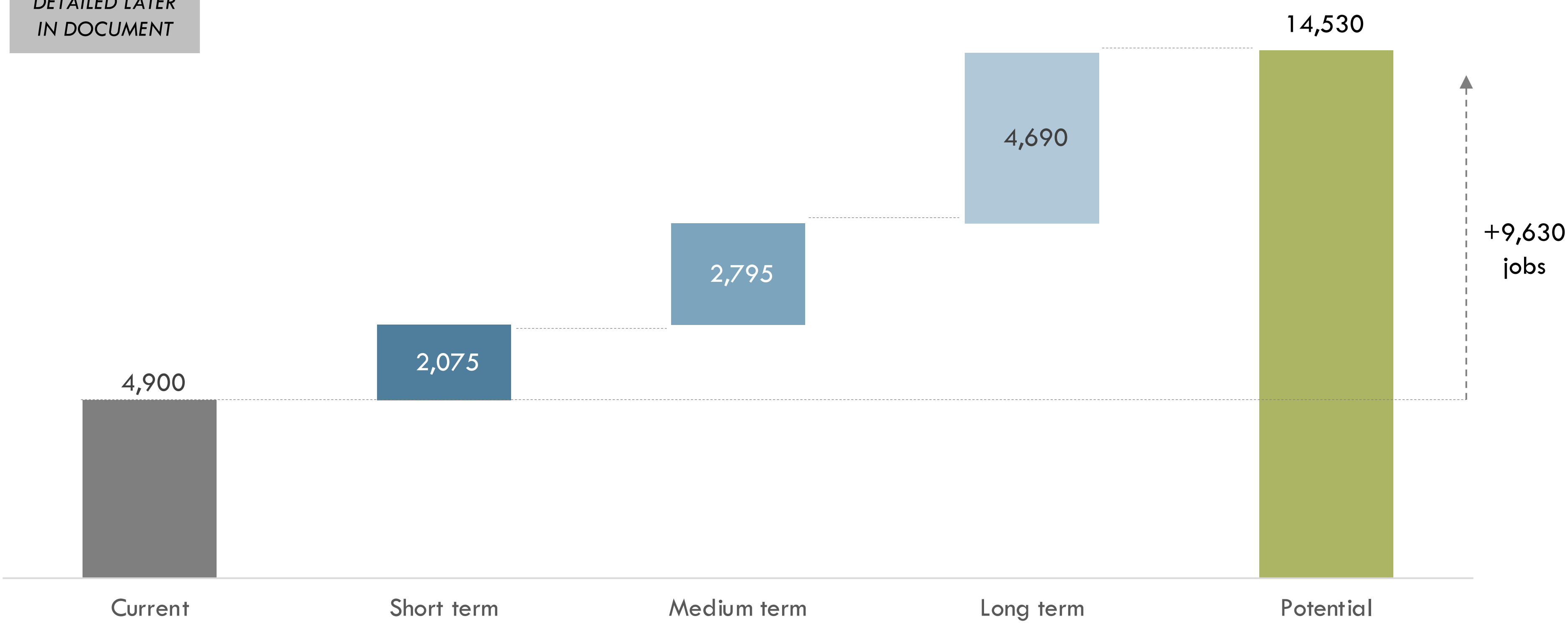


Source: Coriolis estimates and analysis

However, achieving this employment growth will require effort over short, medium and long term horizons

POTENTIAL ADDITIONAL F&B PROCESSING EMPLOYMENT IN TARANAKI
Model; 2018

DETAILED LATER IN DOCUMENT



Source: Coriolis estimates and analysis

Growth will come from three specific sets of potential investors

EXISTING LARGE FIRMS AT SCALE	*NEW LARGE INVESTORS WITH SCALE AND SKILLS*	*NEW AND EMERGING FIRMS*
REINVESTMENT	ATTRACTION	NURTURING
- *Remove barriers to investment* - *Ensure Taranaki gets its share of new capital* - *Sell the region; make the case for Taranaki*	- *Identify the right investors (rather than 'waiting for the phone to ring')* - *Focus on firms able to add value to volume in Taranaki* - *Sell the regions potential; make the case for Taranaki*	- *Understand why Taranaki is underperforming currently* - *Encourage both existing locals and new arrivals* - *Encourage more showcasing of local products by local retail and foodservice operators*

Source: Coriolis analysis

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Taranaki's dairy sector is ideally suited and efficient; however four broad opportunities exist to stimulate employment growth

Early settlers found Taranaki ideally suited to dairy and the industry remains hugely important to the region today. Taranaki is a major dairy region for New Zealand with 10% of New Zealand's dairy land, 10% of dairy cows and 9% of the country's milk production.

Dairy is a major employer in Taranaki, directly accounting for about one in nine jobs in the region. However, the Taranaki dairy industry is not creating net new jobs.

Dairy employment in Taranaki is the result of a handful of drivers: the number of farms, volumes/animal, and processing units.

The number of dairy farms in Taranaki has been in decline and we expect this will continue. The size of the average Taranaki dairy farm continues to grow and we expect this will also continue. The number of dairy cows in Taranaki has stabilised at 2.8 per hectare of dairy farmland. Taranaki is increasing milk per cow at 1.1%/annum (CAGR 99-18). However, new milk is not creating on farm jobs; on-farm employment per litre of milk is falling in Taranaki.

Taranaki is not creating or attracting lasting new milk processing operations to the region (Fonterra is the sole processor). Milk throughput per dairy processing unit is growing, however, existing plants are absorbing all new regional milk. New regional milk production in Taranaki is not creating new regional dairy processing employment. As a result, Taranaki has falling dairy processing employment while the rest of the country is creating new jobs.

Four broad opportunities exist to increase employment in the Taranaki dairy industry.

1. Taranaki needs to continue to attract investment by the existing large dairy firms in the region
2. Taranaki needs to attract new dairy investors into the region, particularly those with a focus on high value added products
3. Taranaki needs to create new small dairy firms
4. Taranaki needs to develop non-bovine dairy platforms; the Kawerau Dairy Group is a potential model for alternative dairy or value added niche dairy in Taranaki

Early settlers found Taranaki ideally suited to dairy and the industry remains hugely important today

"Refrigeration made possible a thriving dairy industry which spread in the wetter parts of the North Island, especially… Taranaki. Dairy factories sprang up to process the milk into butter and cheese."

Te Ara - The Encyclopedia of New Zealand

"Since the 1880s dairy farming has been the basis of Taranaki's economy, and has made a major contribution to the region's social structure."

Te Ara - The Encyclopedia of New Zealand

"The first cow in Taranaki was owned by Mr W. Henwood in 1842, but it was not until the 80's that dairying really became established…The first dairy factory in Taranaki was established in 1882."

An Introduction to Taranaki, 1965

"The predominant economic driver of South Taranaki is dairy farming. This sector, based on the natural advantages for dairying, makes South Taranaki one of the leading dairy producing areas in New Zealand."

South Taranaki District Council

"Gained from Tourist Publicity, the common impression of Taranaki Agriculture would be Mt Egmont and dairy cows…This would only be true if Taranaki is considered to be confined solely to the ring plain area around Mt Egmont."

Agriculture in Taranaki, 1980

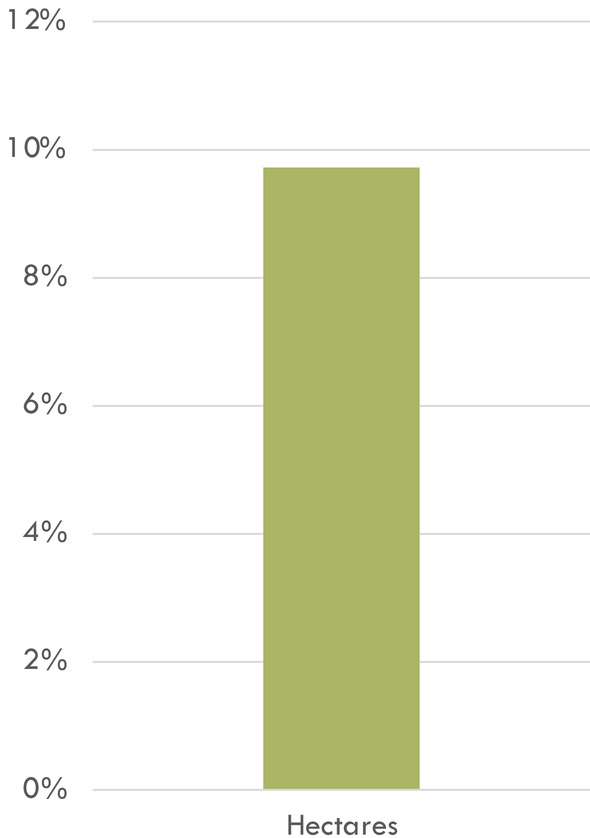
"In the 1899–1900 season Taranaki was the leading butter province with 41.8% of production, but only third in cheese production; in the 1914–15 season it was first in cheese with 48%, but only third in butter."

Settler Kaponga 1881-1914, Rollo Arnold

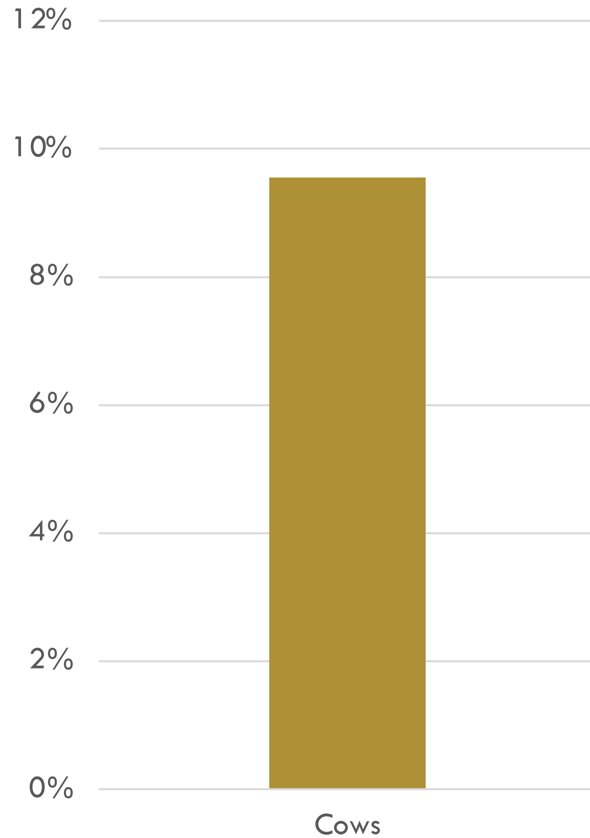
Source: articles; interviews; Coriolis analysis

Taranaki has 10% of New Zealand's dairy land, 10% of dairy cows and produces 9% of the country's milk

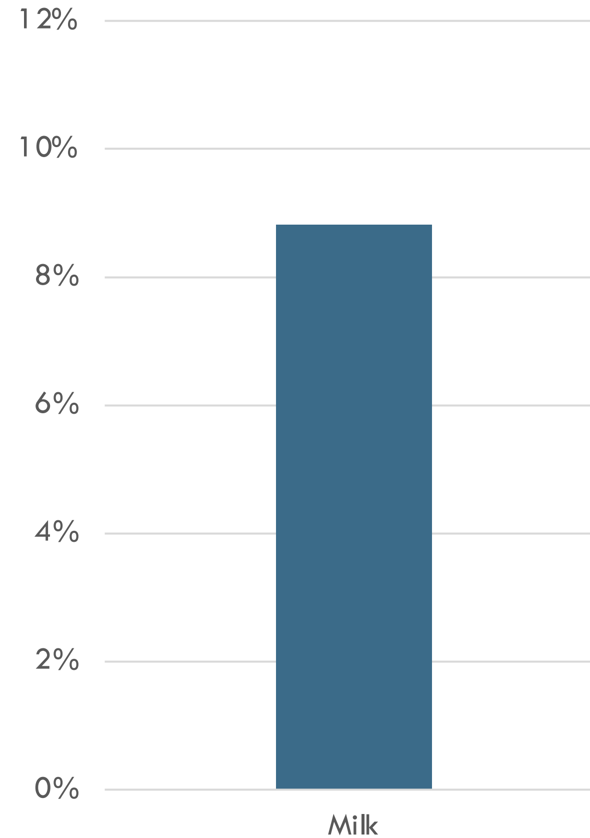
SHARE OF NZ DAIRY LAND
% of NZ dairy ha; 2018



SHARE OF NZ DAIRY COWS
% of NZ dairy cows; 2018



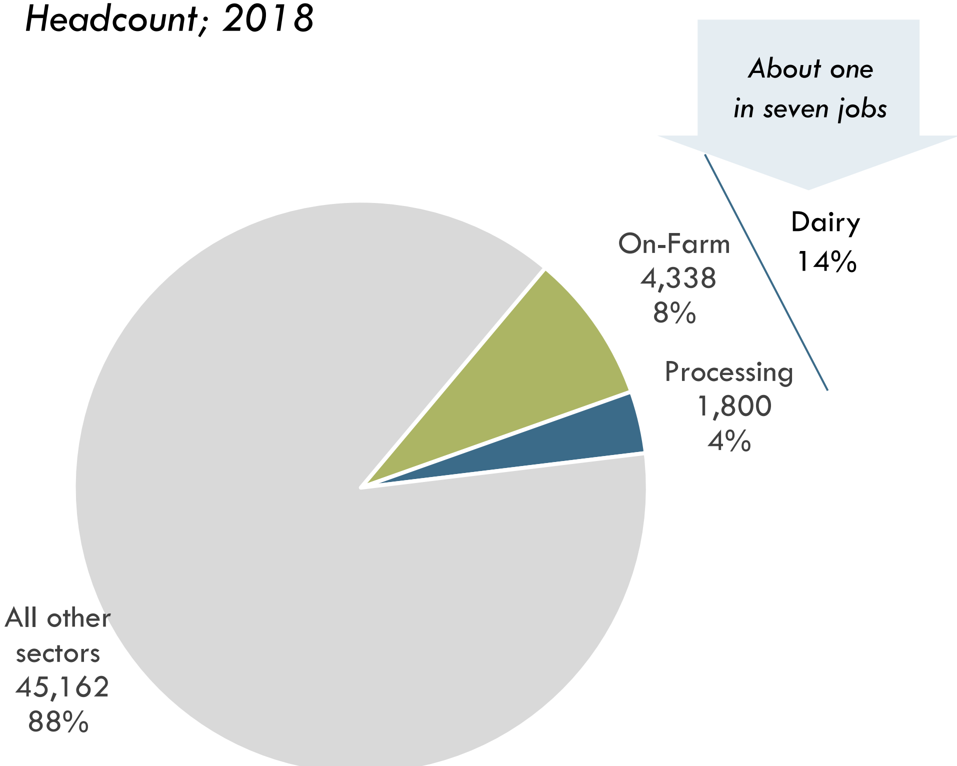
SHARE OF NZ MILK
% of NZ milk l; 2018



Source: Statistics NZ; DairyNZ; Coriolis analysis

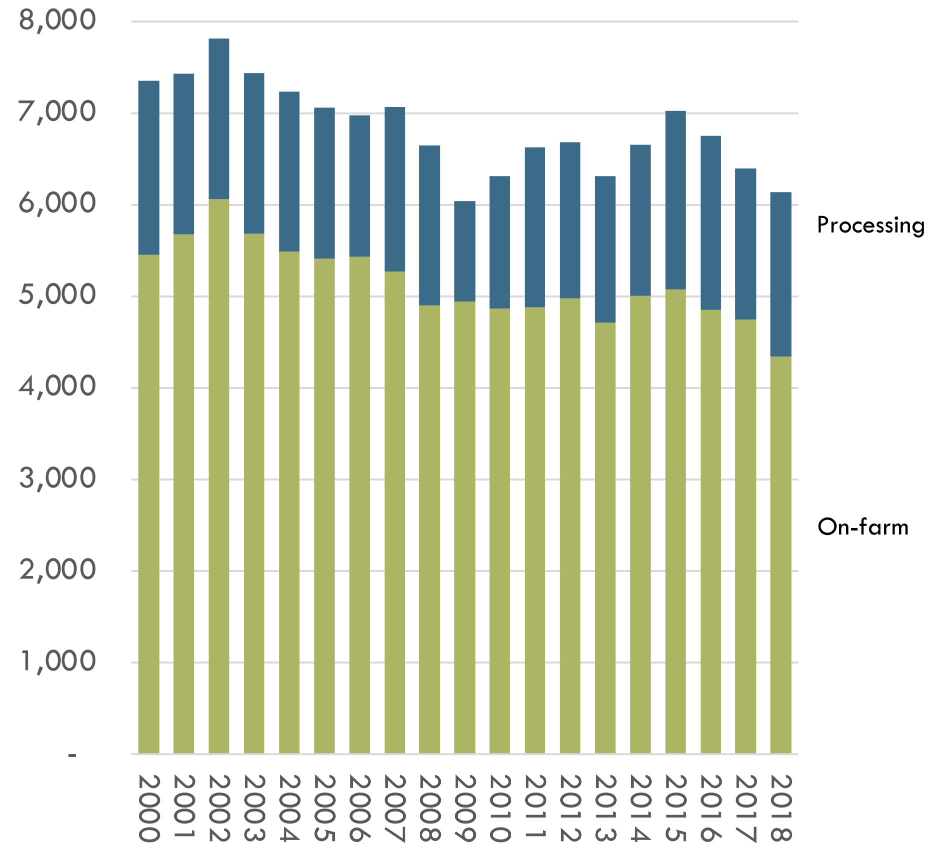
Dairy is a major employer in Taranaki, however the industry is not creating new jobs

EMPLOYMENT IN TARANAKI
Headcount; 2018



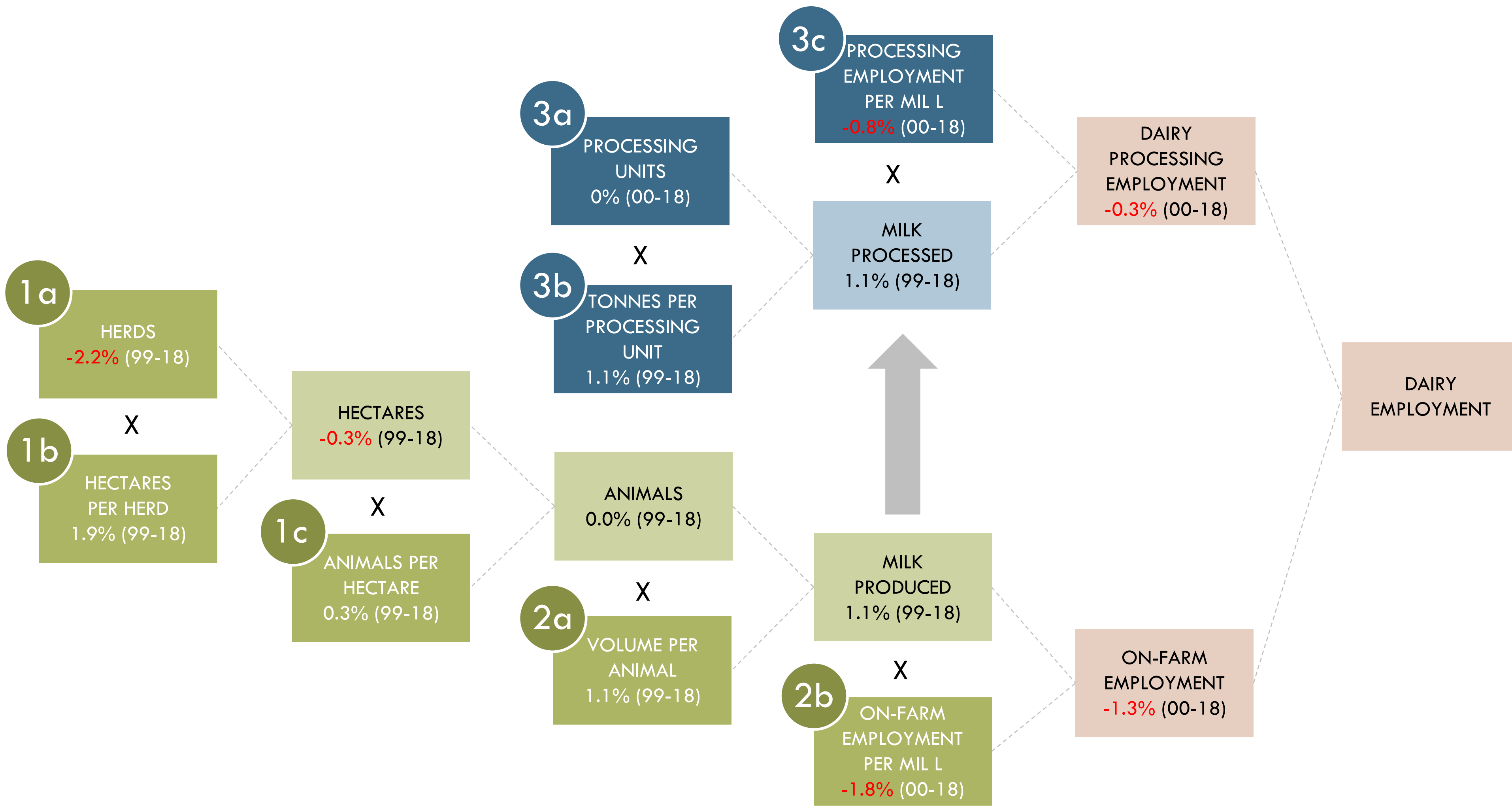
TOTAL = 51,300 employed headcount

DAIRY EMPLOYMENT IN TARANAKI
Headcount; 2000-2018



Note: assumes every dairy farm unit ('herd') has at least one owner-operator (i.e. a non-PAYE employee); Source: Statistics NZ; DairyNZ; Coriolis analysis and estimates

Dairy employment in Taranaki is the result of a handful of drivers

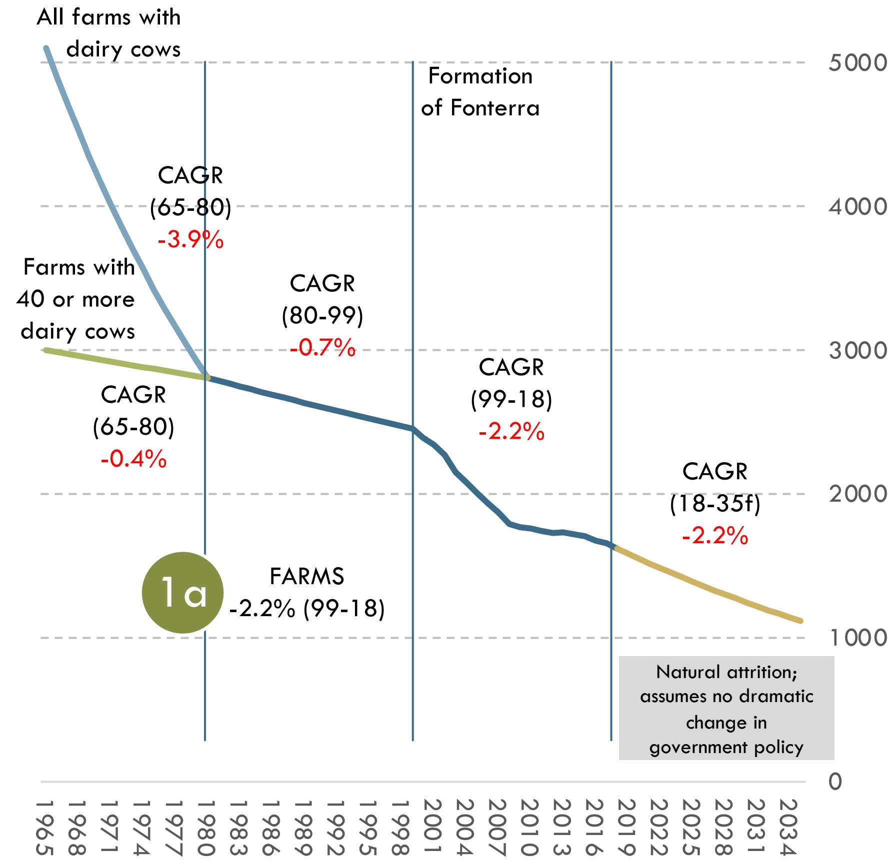


Note: Growth rates = CAGR (Compound Annual Growth Rate); Source: various sources as given elsewhere; Coriolis analysis

We expect the decline in the number of dairy herds and the increase in the average dairy herd area to continue

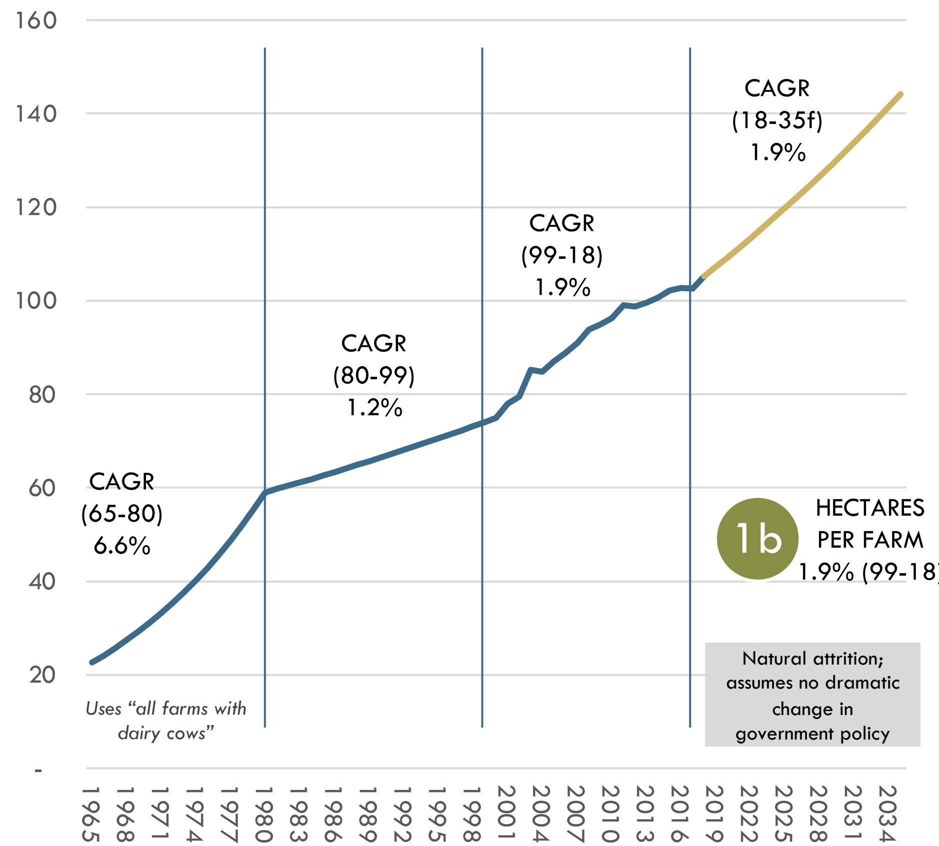
NUMBER OF DAIRY HERDS IN TARANAKI

Farm units; 1965-2035f



AVERAGE DAIRY HERD AREA IN HECTARES

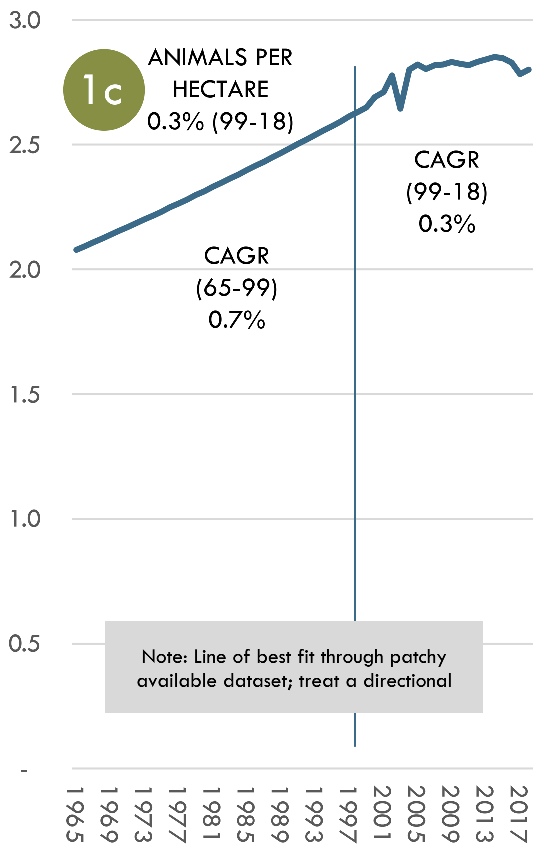
Ha/herd; 1965-2035f



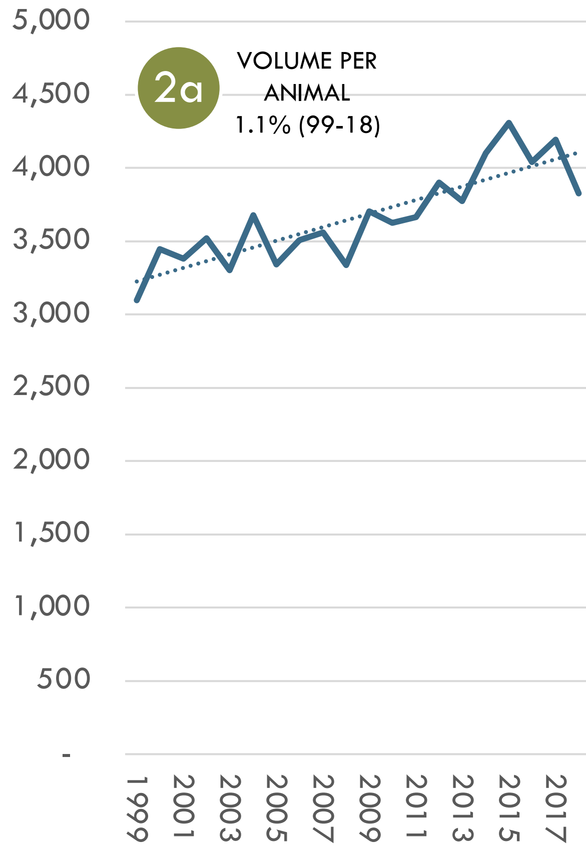
Note: includes extrapolation of missing data; treat as directional; remember dairy herds are not exactly the same thing as dairy farm operations; Source: Statistics NZ; DairyNZ; Coriolis analysis and estimates

Dairy cows are stable at 2.8 per hectare of dairy farmland; producing more milk and employing less staff per litre of milk

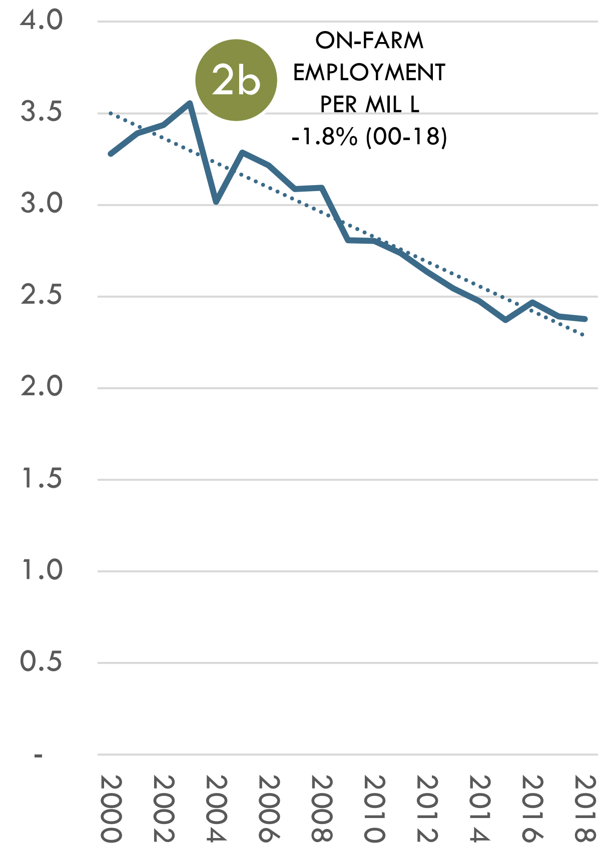
OF DAIRY COWS STOCKED/HA
Average dairy cows/ha; 1965-2018



AVERAGE MILK/DAIRY COW/YR
L/cow; 1999-2018



ON-FARM DAIRY EMPL./M L OF MILK
Headcount/mil l; 2000-2018

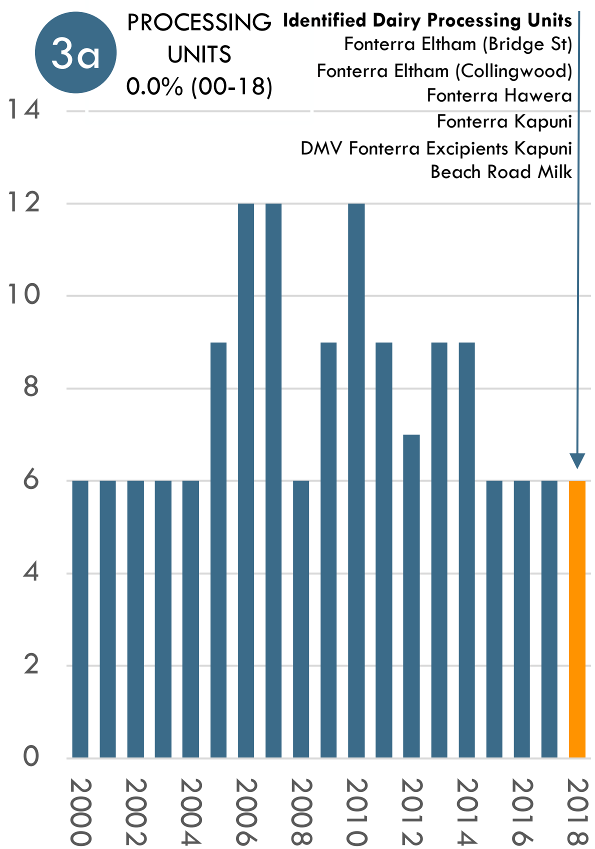


Note: includes extrapolation of missing data; treat as directional; Note: assumes every dairy farm unit ('herd') has at least one owner-operator (i.e. a non-PAYE employee); Source: Statistics NZ; DairyNZ; Coriolis analysis and estimates

Taranaki is not growing milk processing operations in the region; however throughput is growing

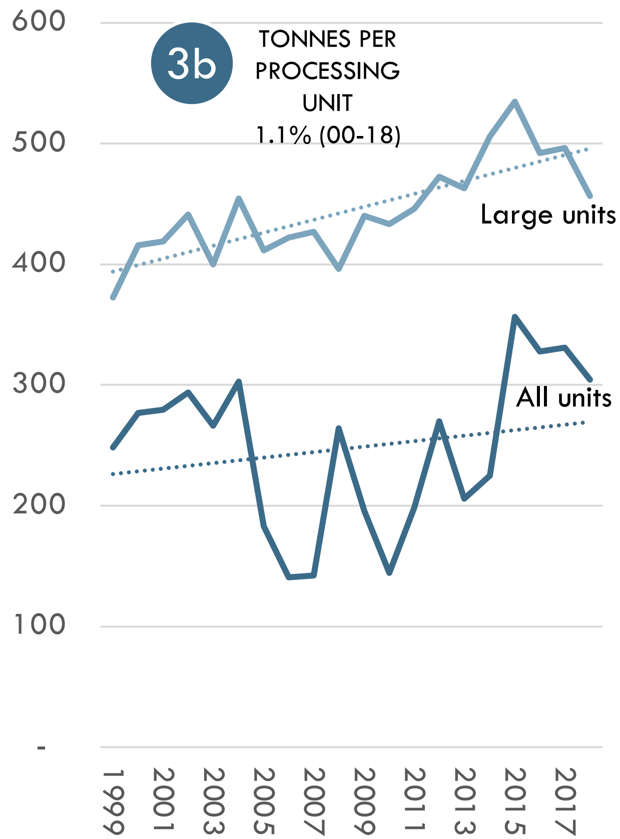
DAIRY PROC. OPER. UNITS

Geographic units; 2000-2018



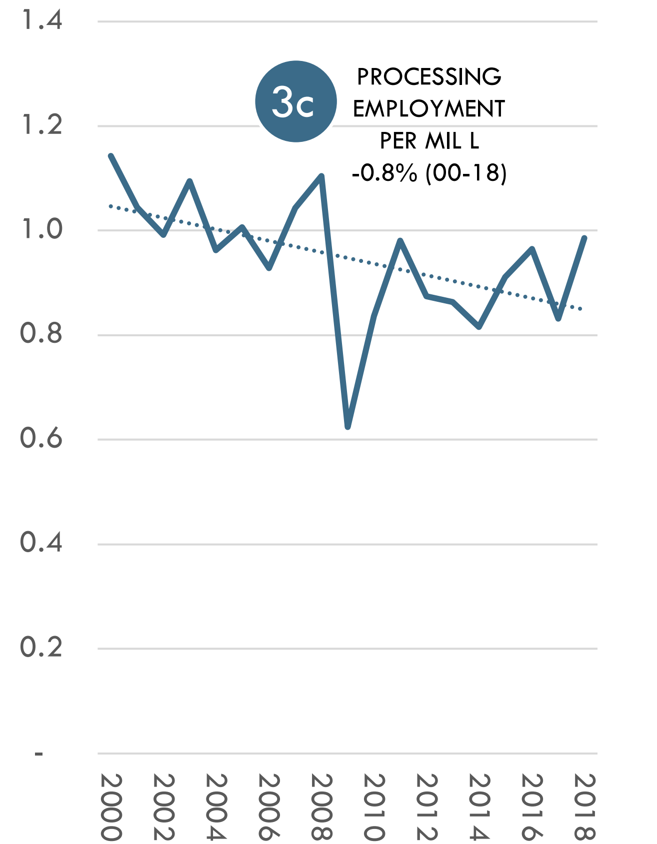
MILK/PROC. OPER.

Mil L/geographic unit; 2000-2018



PROCESSING JOBS/M L MILK

Headcount/mil l proc.; 2000-2018

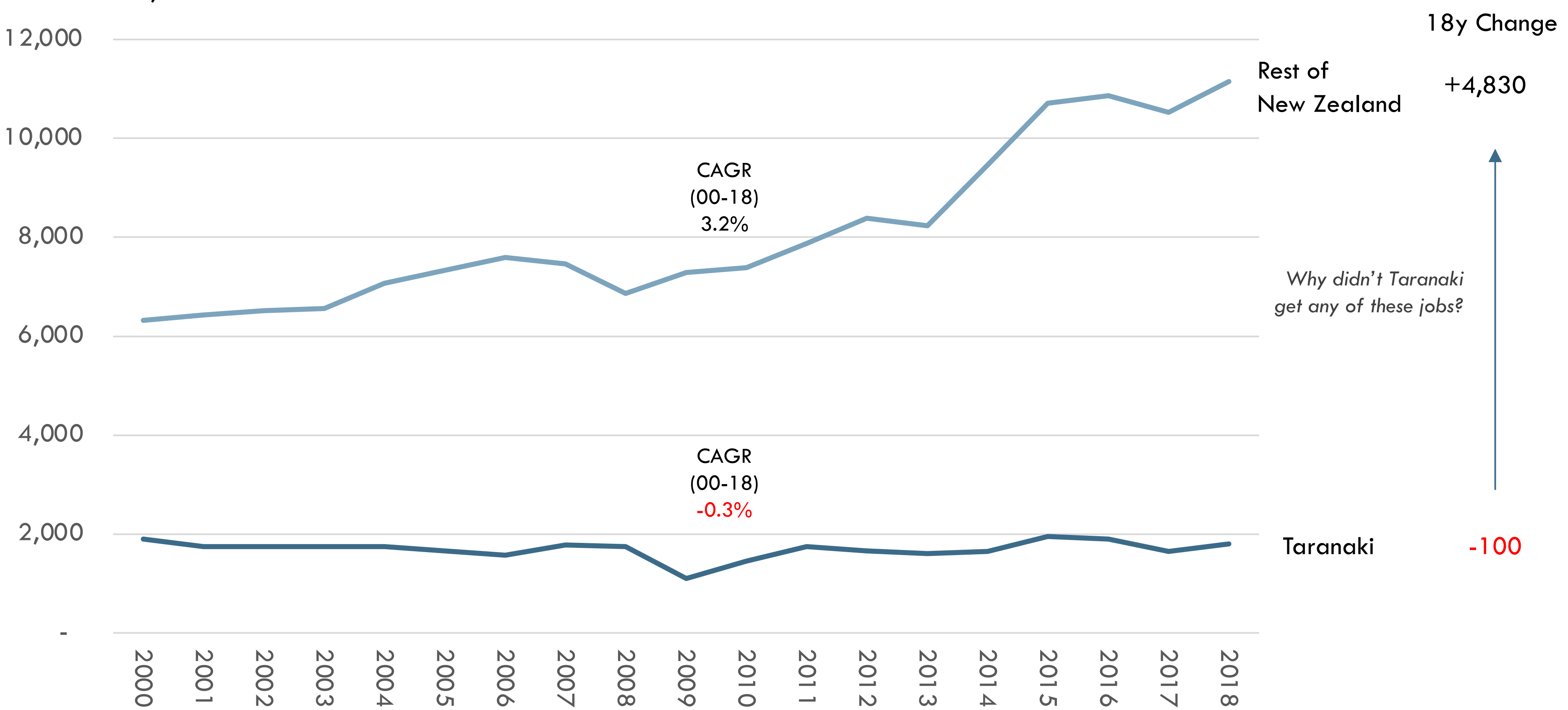


Note: assumes all milk produced in Taranaki is processed in Taranaki; treat as directional; Source: Statistics NZ; Coriolis analysis and estimates

As a result, Taranaki has falling dairy processing employment while the rest of the country is creating new jobs

NUMBER OF DAIRY PROCESSING JOBS: TARANAKI VS REST OF NEW ZEALAND

Headcount; 2000-2018



Source: Statistics NZ; DairyNZ; Coriolis analysis and estimates

Four broad opportunities exist to increase employment in the Taranaki dairy industry

1 Support Investment by Existing Large Firms at Scale

PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	400
LONG TERM	600

2 Attract New Large Firms at Scale (Ideally with a Value Added Focus)

PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	400
LONG TERM	600

3 Target Niche Specialty Cheese and Butter

PROPOSED NEW JOB TARGET	
SHORT TERM	100
MEDIUM TERM	200
LONG TERM	300

4 Develop Non-Cow Dairy

PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	500
LONG TERM	1,000

Photo credit: fair use/fair dealing; low resolution; complete product/brand for illustrative purposes for research/study/commentary/criticism/review; Source: Coriolis analysis and estimates

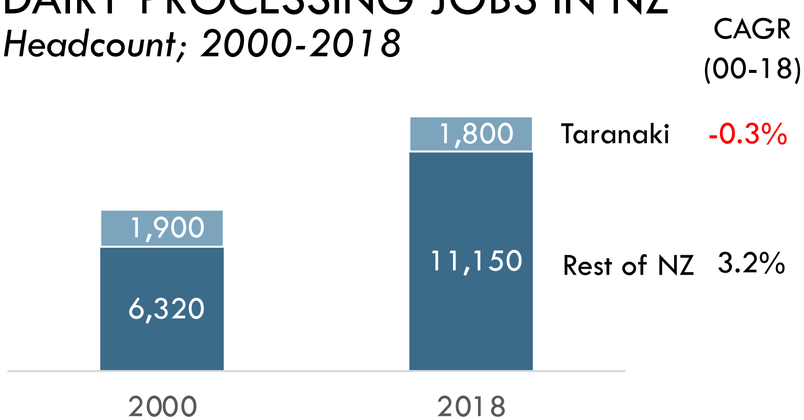
1. Taranaki needs to continue to attract investment by the existing large dairy firms in the region (Fonterra, DMV Fonterra)

EXISTING LARGE TARANAKI DAIRY FIRMS
2019

Fonterra: 1,650 jobs in Taranaki

DFE pharma: 106 jobs in Taranaki

DAIRY PROCESSING JOBS IN NZ
Headcount; 2000-2018



EXAMPLES OF RECENT FONTERRA INVESTMENT NOT IN TARANAKI

$240m	Invested $240m in new mozzarella plant in Clandeboye, SI (employ 100 at plant); 2017
$125m	Invested in Stanhope, AU cheese plant adding 35,000t of cheese to plant; 2018
N/A	Five year staged milk processing facility proposed for South Canterbury; 2018
N/A	Invested in new milk powder dryer, distribution and wastewater treatment at Lichfield
$11m	Invested in advanced water processing technology in Darfield; 2018
N/A	Minority stake in MOTIF Ingredients a US based biotech, alternative nutrition company; 2019

Source: annual reports; Coriolis analysis and estimates

2. Taranaki needs to attract new dairy investors into the region, particularly those with a focus on high value added products

SELECT GLOBAL DAIRY FIRM NOT IN NZ
2019

COMPANY	REVENUE	DESCRIPTION
Valio	€1.64b	Finland; Vertically integrated milk company; recent investment in liquid IF
morinaga	US$5.28b	Japan; Global investor in dairy industry
glanbia	€3.7b*	Ireland; operate across 32 countries, significant high value operations
Arla	€9.6b	Denmark; facilities across 17 countries, significant high value operations
Saputo	US$7.1b	Canada; 50 plants, significant investment in high value dairy

EXAMPLES OF NZ DAIRY PROCESSING INVESTMENTS NOT IN TARANAKI

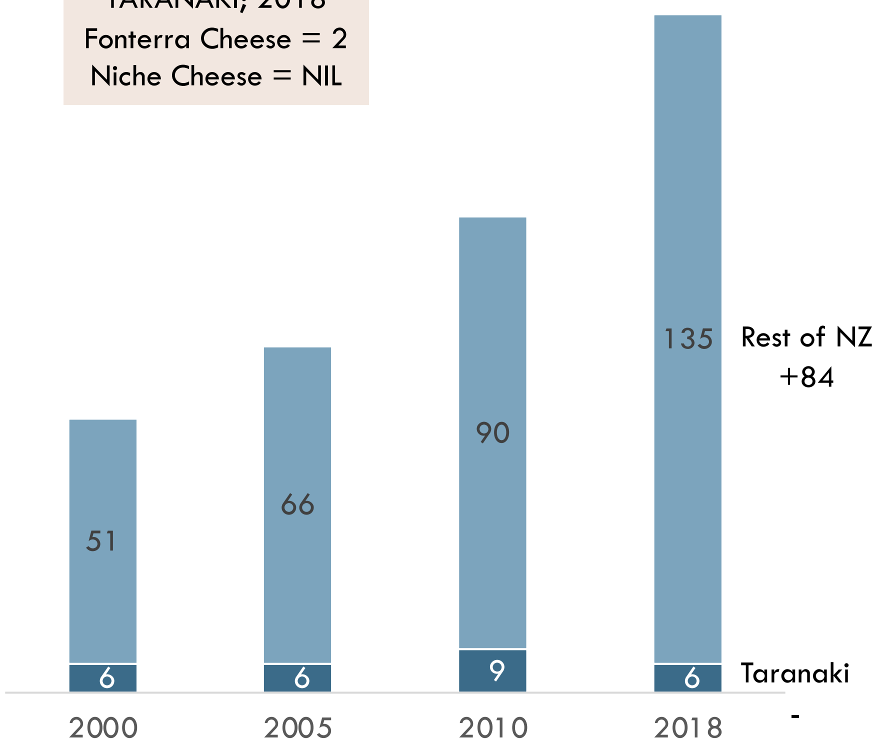
VALUE	DESCRIPTION
$210m	Yashili (Danone and Mengniu) invests in new greenfields nutritionals plant near Auckland
$600m	Oceania Dairy (Inner Mongolia Yili), significant investment to increase production and add UHT milk, IF canning and lactoferrin
$240m	China Animal Husbandry Group plant opens in Gore; 2018
$260m	Synlait to invest in new milk powder plant in Waikato

Source: annual reports; company websites; interviews; Coriolis analysis

3. *Taranaki needs to create new small dairy firms*

OF NZ CHEESE[1] MANUF. GEO UNITS
2000-2018

TARANAKI; 2018
Fonterra Cheese = 2
Niche Cheese = NIL



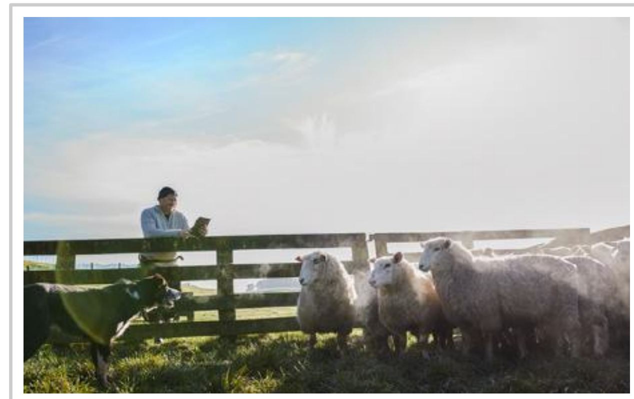
OF NZ ICE CREAM MANUF. GEO UNITS
2000-2018

TARANAKI
NIL

1. Cheese and other dairy products; Source: Statistics NZ; Coriolis analysis and estimates

4. Taranaki needs to develop non-bovine dairy platforms

- ~10 farmers supplying dairy goat milk in Taranaki
- Milk is transported to Dairy Goat Cooperative in the Waikato
- Investment required in region to kickstart processing in region



- Very early stage sheep flock development in region
- No existing sheep dairy processing in region
- Collaboration required to grow industry

Photo credit: stock photo and NZ Story; Source: company websites; interviews; Coriolis estimates and analysis

The Kawerau Dairy Group is a potential model for alternative dairy or value added niche dairy in Taranaki

NAME:	Kawerau Dairy Group	PHASES:	*Phase 1:* Cow Milk Protein Concentrate (MPC 85) (used in nutraceuticals, sports drinks, health bars); Organic Milk Powders; Milk Protein Isolates (MPI) Discussions around cream processing, butter production, lactose, drinking yoghurt) *Phase 2: (within three years)* Non-dairy milk (oat, hemp); Driers processing sheep & goat
OWNERSHIP:	11 Maori Entities (66%); Imanaka (Japan), via Cedenco Dairy Ltd (33%)		
LOCATION:	Kawerau, Bay of Plenty		
PLANT:	Dairy processing plant (800kg/hr drier) with 8,000mT dry powder/season capacity; 30mL milk in year 1 from 12 farms		
INVESTMENT:	$33m	STRATEGY/ LESSONS:	- Supply high value grass-fed dairy products (including organic) into premium categories and markets - Utilising existing Maori dairy farms - Using renewable geothermal energy - Collaborate with neighbouring suppliers - sourcing organic milk from "Organic Dairy Hub" (aim to convert conventional dairy to organic dairy) - Domestic supply, plus exporting into Asia (Japan) and Americas (USA)
EMPLOYMENT:	25-30		
COMMISSION:	Early 2019 (planned)		
INPUTS:	Cow dairy; conventional and organic Sheep milk Goat milk Oat milk Hemp milk		

Source: various articles; Poutama Trust website; Cedenco website; Coriolis analysis

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Taranaki's large meat processing industry has low employment growth; three broad employment opportunities exist

Taranaki has 9.6% of NZ dairy cows, 3.3% of beef cattle, 1.8% of sheep, 5.9% of pigs, 2% of goats and 0.5% of deer.

Red meat & pork is a major employer in Taranaki producing one in seven jobs, however the industry is not creating new jobs. Meat processing employment in Taranaki is the result of a handful of drivers combining farm, animal and manufacturing metrics.

The number of meat producing farms in Taranaki has been in decline (-1.6% year on year over the last 18 years). The size of the average Taranaki livestock farm continues to grow at about one hectare per year. The number of animals stocked per total hectare of farmland in Taranaki is declining for species other than cattle. Taranaki is increasing meat per animal, strongly for sheep (0.9% CAGR), less so for cattle (0.2% CAGR). However, meat is not creating on-farm jobs; on-farm employment per kilogram of meat is falling.

Taranaki is creating and attracting new meat processing operations to the region; the two largest operators are Silver Fern Farms and ANZCO. Meat throughput per meat processing plant is falling, indicating a trend to more, smaller operations.

Meat processing employment per million kg of meat processed (annually) is growing at 1.1% per annum. Taranaki is growing meat processing employment at a higher rate than the rest of the country. However, employment in meat processing is highly variable and seasonal.

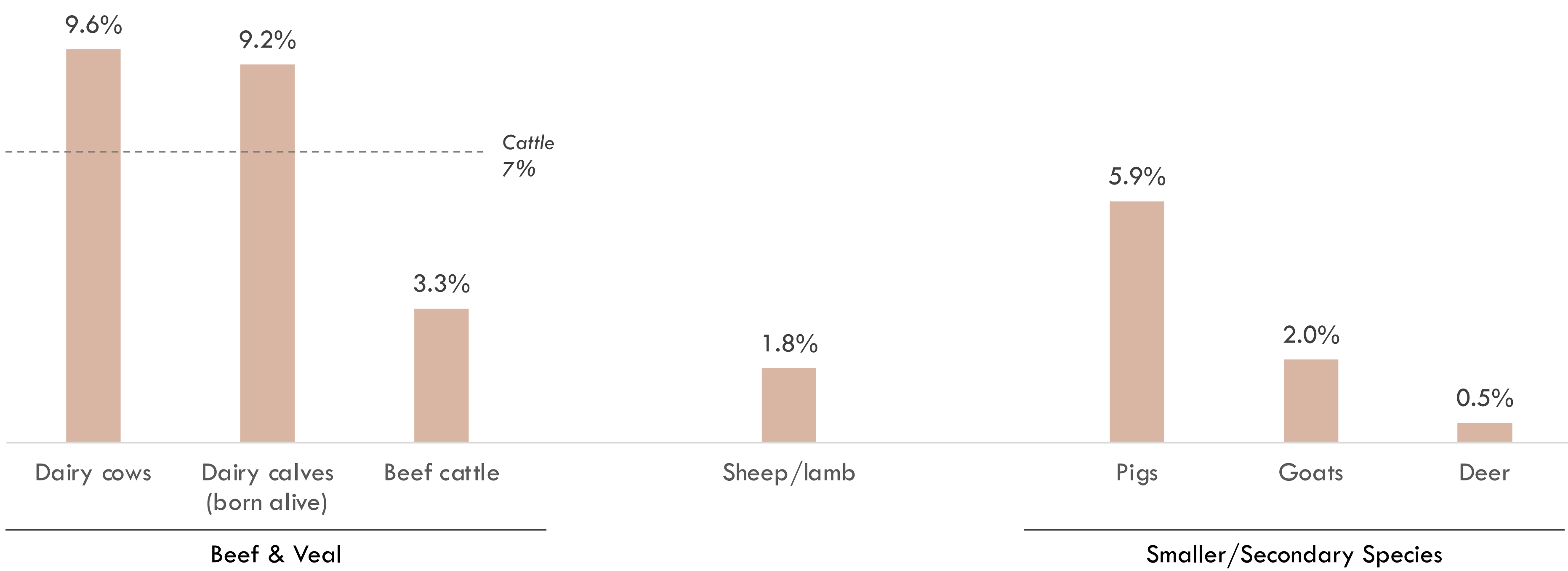
Three broad opportunities exist to increase employment in the Taranaki meat industry

1. Taranaki needs to continue to attract investment by the existing large meat firms in the region
2. Taranaki needs to attract new meat investors into the region, particularly those with a focus on high value added products
3. Taranaki needs to add more value to meat and pork in the region

Taranaki has 9.6% of NZ dairy cows, 3.3% of beef cattle, 1.8% of sheep, 5.9% of pigs, 2% of goats and 0.5% of deer

SHARE OF NEW ZEALAND NON-POULTRY MEAT ANIMALS IN TARANAKI

% of head; 2017 or 2018

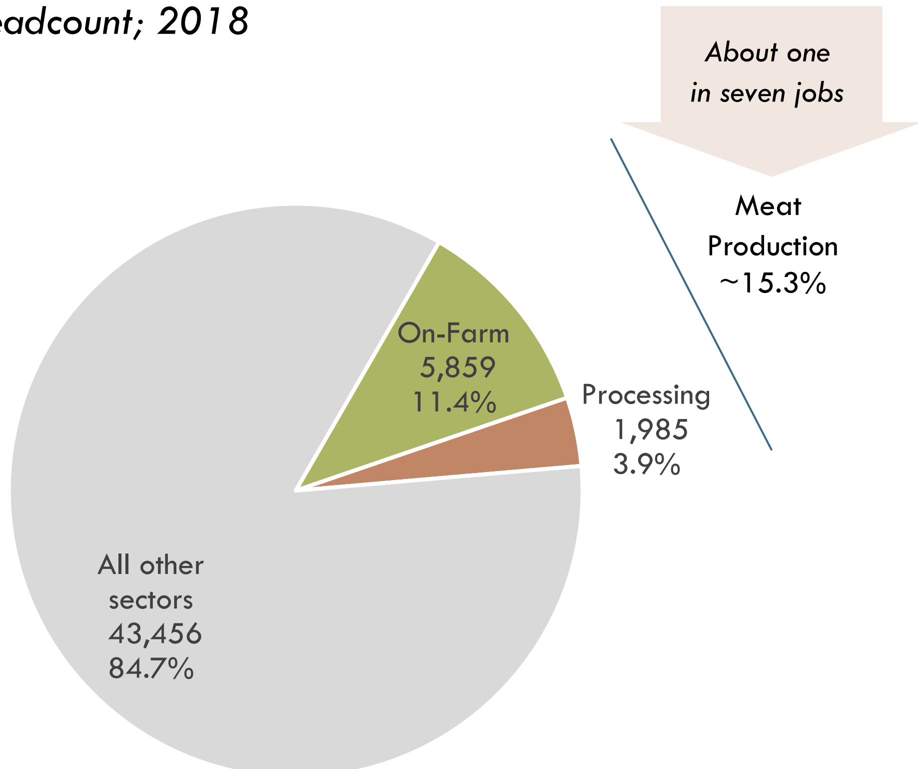


Source: Statistics NZ; Coriolis analysis

Red meat & pork is a major employer in Taranaki, however the industry is not creating more jobs

EMPLOYMENT IN TARANAKI

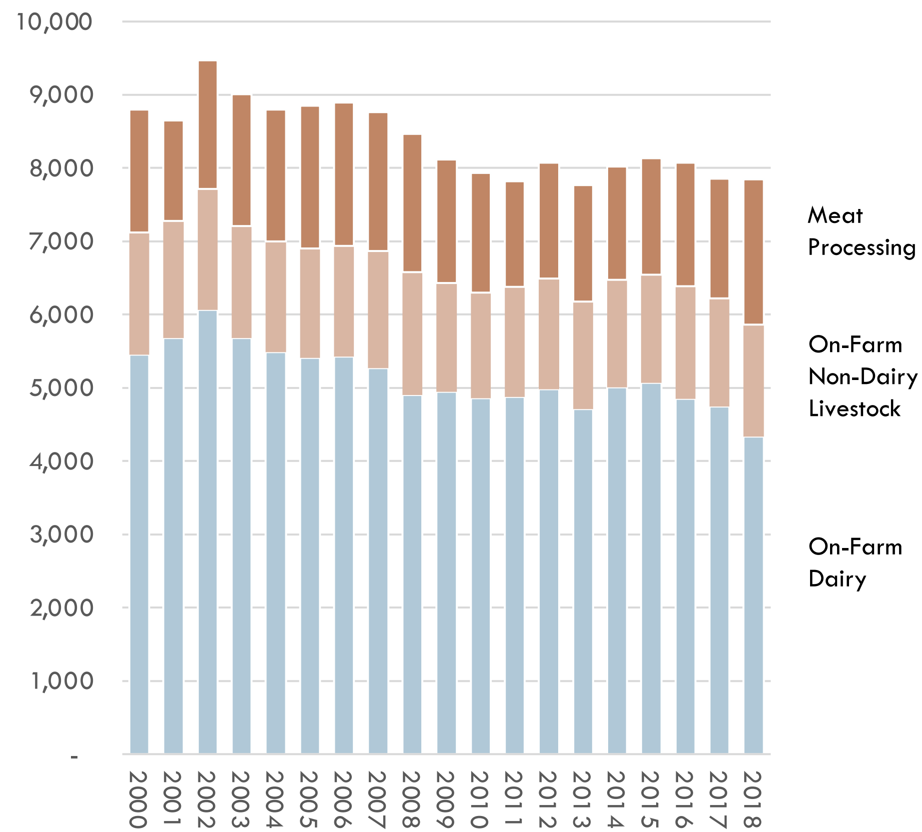
Headcount; 2018



TOTAL = 51,300 employed headcount

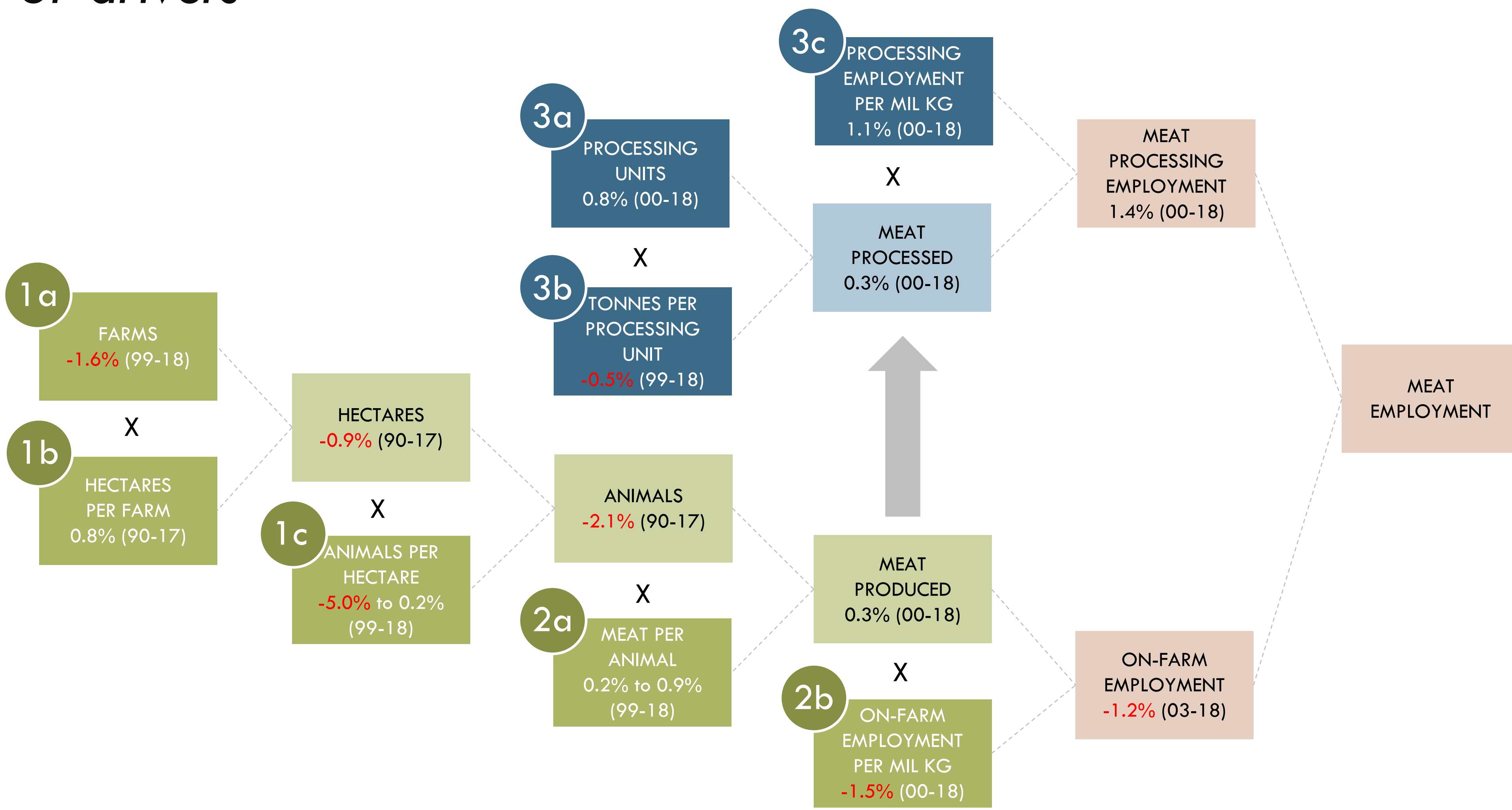
MEAT EMPLOYMENT IN TARANAKI

Headcount; 2000-2018



Note: caution against double counting; total includes all farms with meat livestock, not just meat farms; Source: Statistics NZ; Coriolis assumptions, analysis and estimates

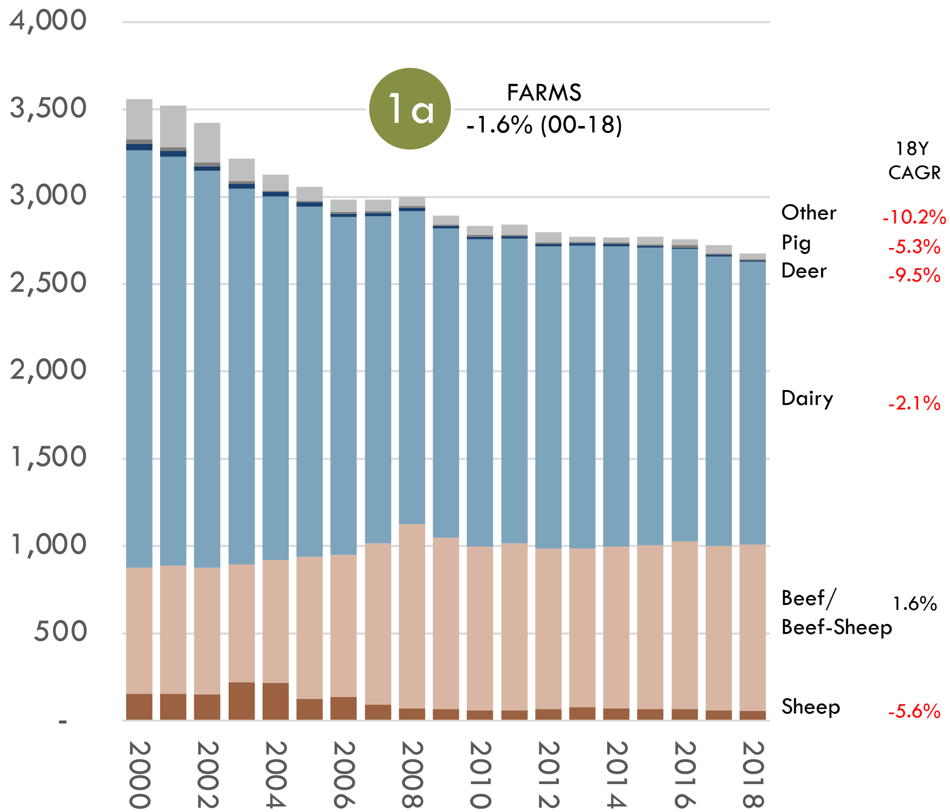
Meat processing employment in Taranaki is the result of a handful of drivers



The number of meat producing farms in Taranaki has been in decline but the farm size continues to grow by ~1 hectare/year

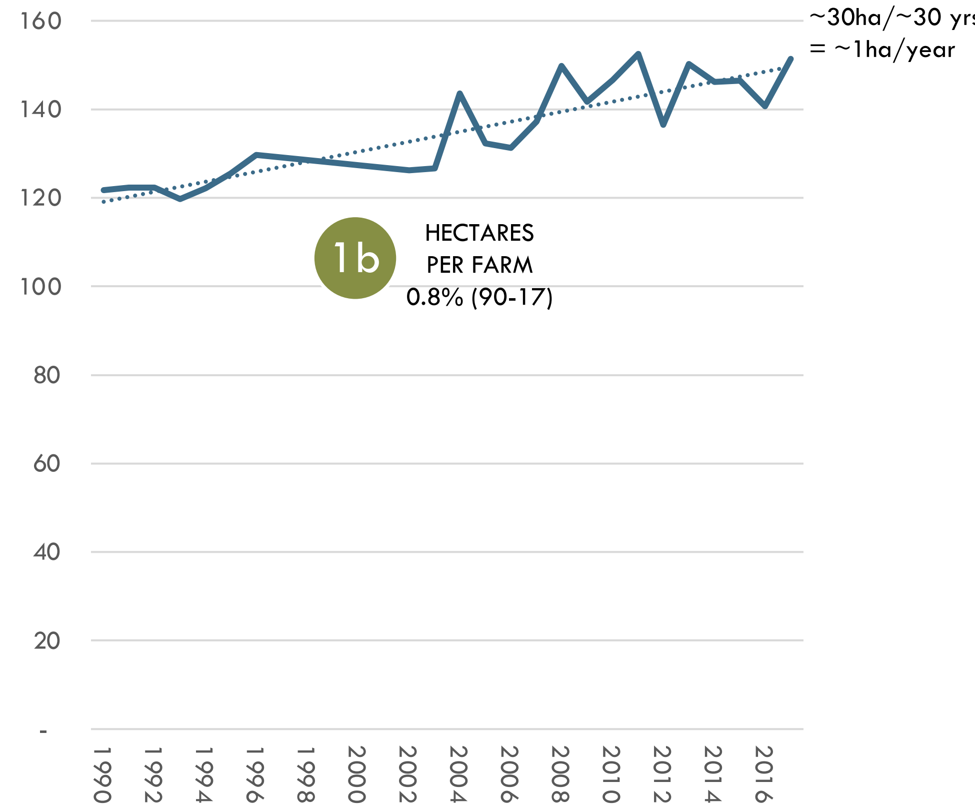
OF NON-POULTRY MEAT PRODUCING FARMS IN TARANAKI

Farm units; 2000-2018



AVERAGE LIVESTOCK FARM SIZE IN TARANAKI

Ha/unit; 1990-2017



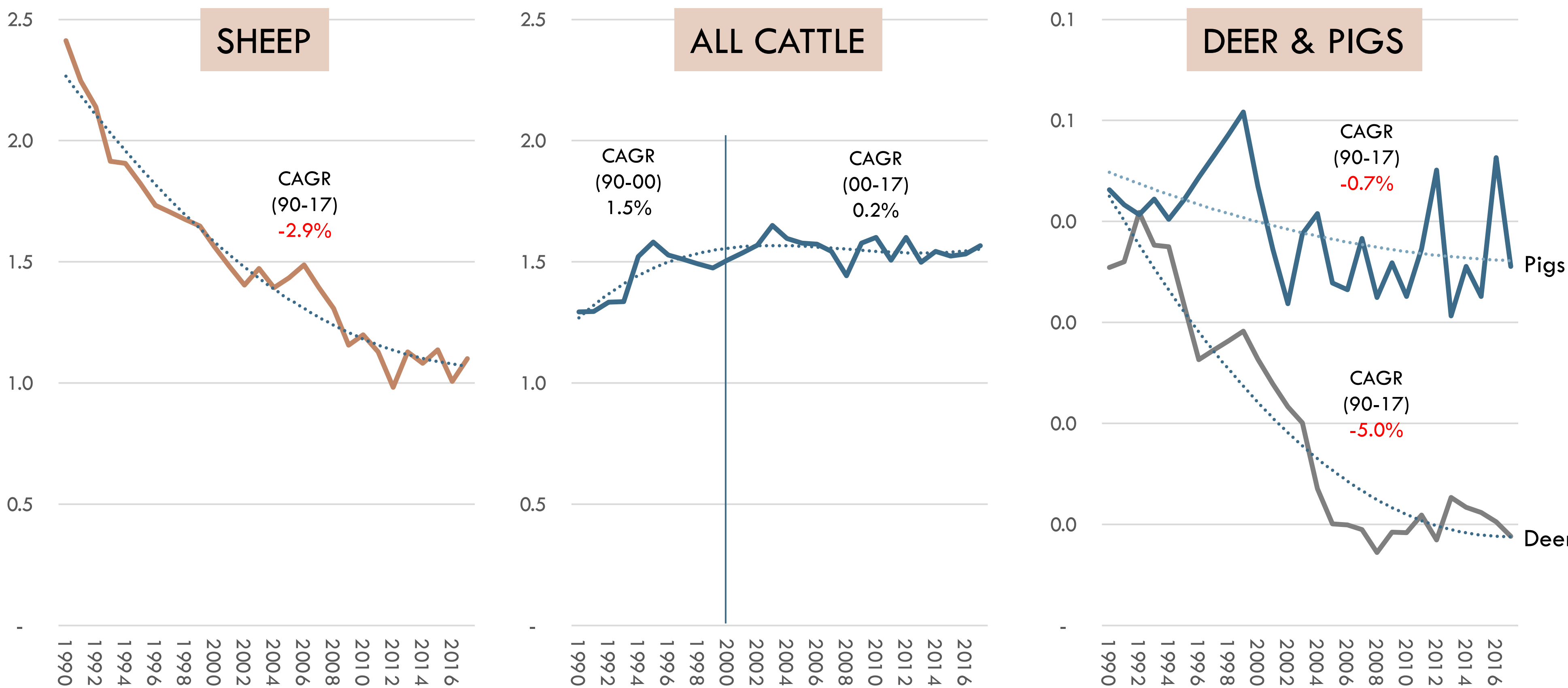
Note: dairy farms here uses DairyNZ 'herds' rather than Statistics NZ 'farm units'; caution in comparing with other charts; these differ for known and understood reasons; Source: Statistics NZ; Coriolis assumptions, analysis and estimates

The number of animals stocked per total hectare of farmland in Taranaki is declining for species other than cattle

1c ANIMALS PER HECTARE -0.5 to 0.2% (90-17)

NUMBER OF ANIMALS PER TOTAL HECTARE OF FARMLAND

Head/ha; 1990-2017



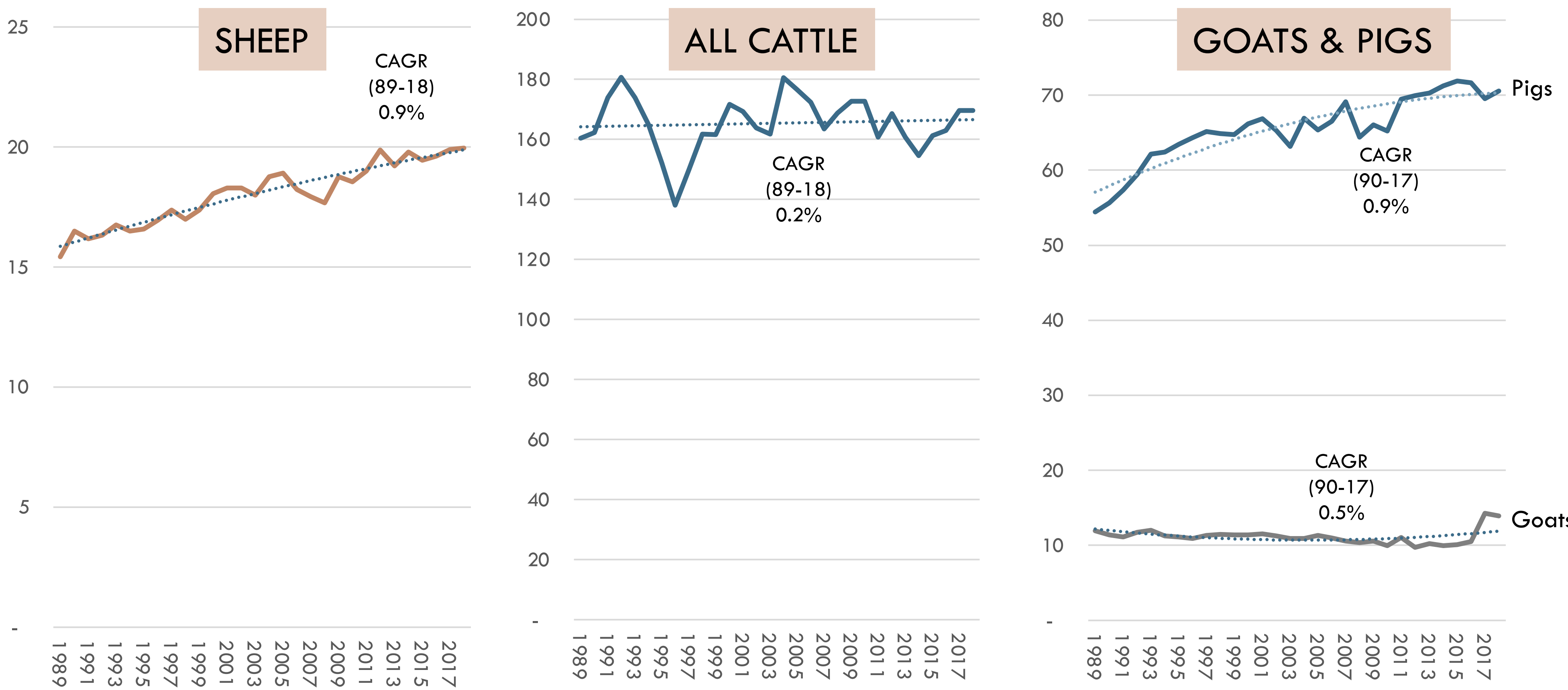
Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Taranaki is increasing meat per animal, strongly for sheep (0.9% CAGR), less so for cattle (0.2% CAGR)

2a MEAT PER ANIMAL 0.2% to 0.9% (99-18)

AVERAGE MEAT YIELD PER CARCASS*

Kg/head; 1989-2018

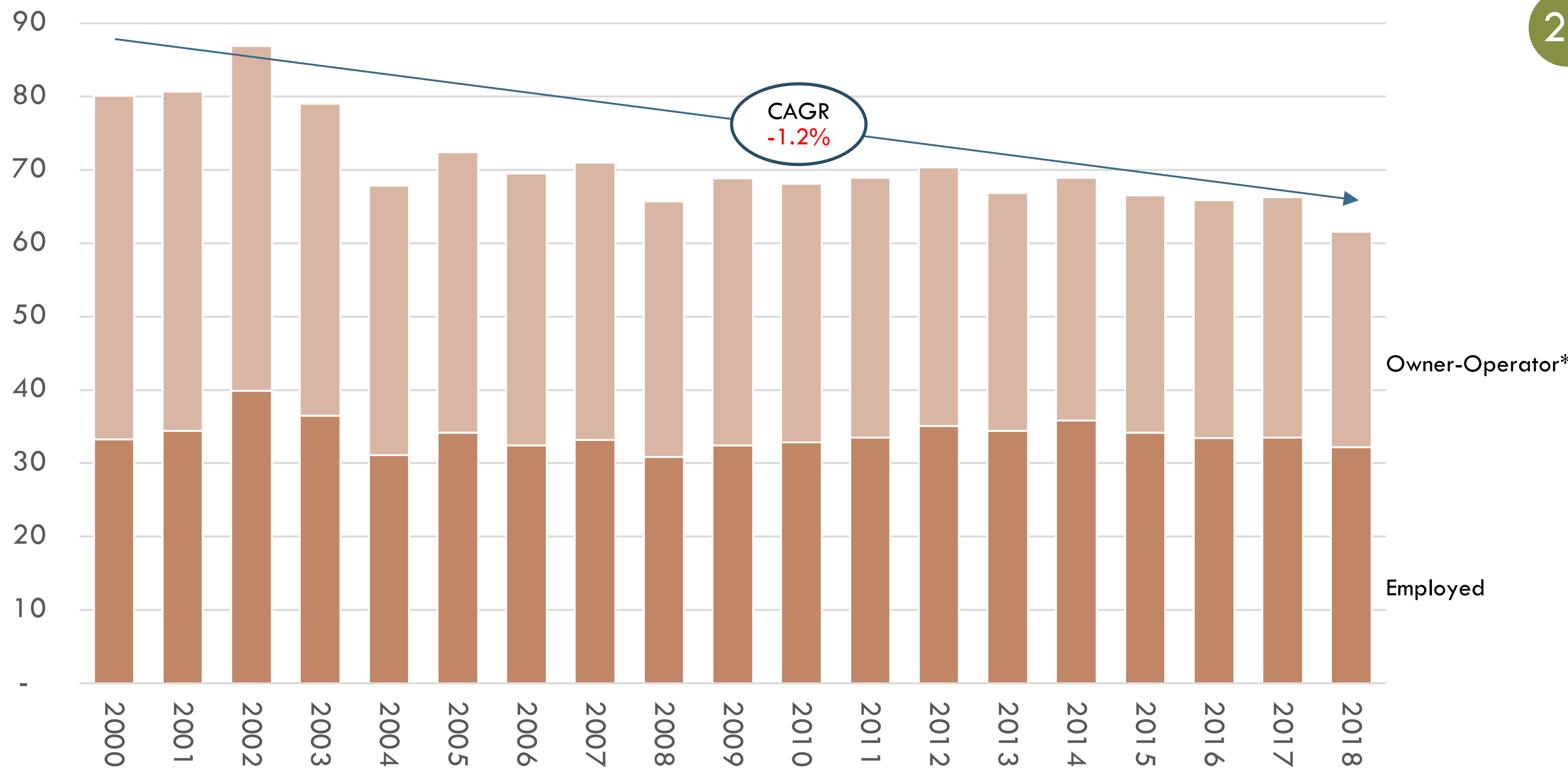


*Available data is aggregated (Taranaki, Wanganui - Manawatu, Wellington) for confidentiality reasons; Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Meat is not creating on farm jobs; on-farm employment per kilogram of meat is falling

ALL LIVESTOCK FARMS ON-FARM EMPLOYMENT PER MILLION KG OF MEAT*

Headcount/mil kg; 2000-2018



2b ON-FARM EMPLOYMENT PER MIL KG -1.4% (03-18)

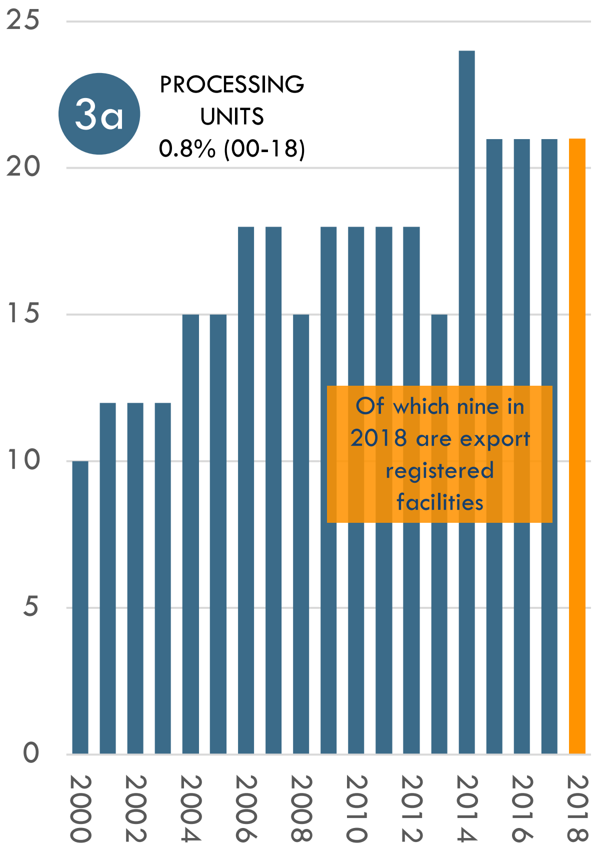
18Y CAGR	
Owner-Operator*	-2.6%
Employed	-0.2%

*Available data is average of three regions (Taranaki, Wanganui - Manawatu, Wellington) for confidentiality reasons; **assumes every farm unit has at least one owner-operator (non-PAYE), though some may be part time (therefore not summable to regional totals); Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Taranaki is: attracting meat processing to the region; declining throughput per unit and employment/unit processed is growing

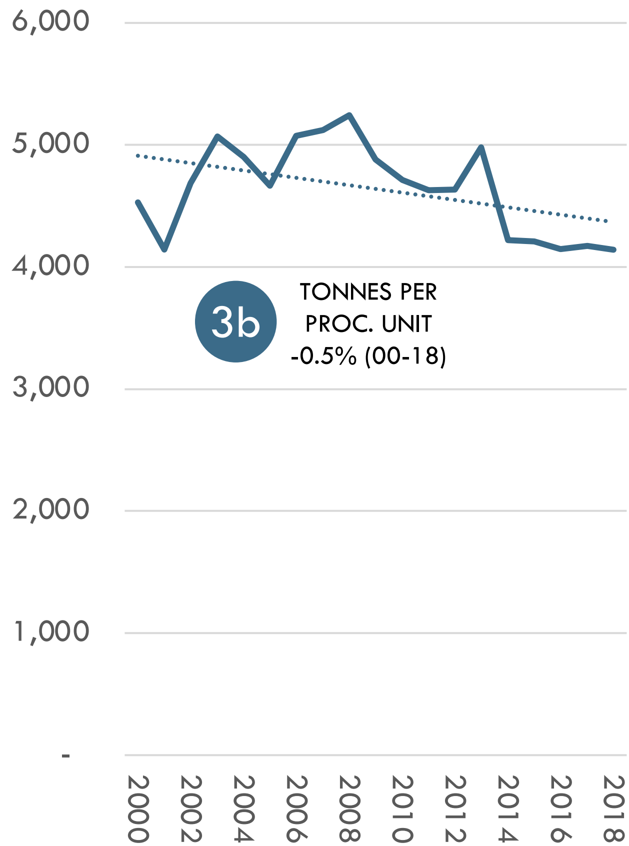
MEAT PROC. UNITS

Geographic units; 2000-2018



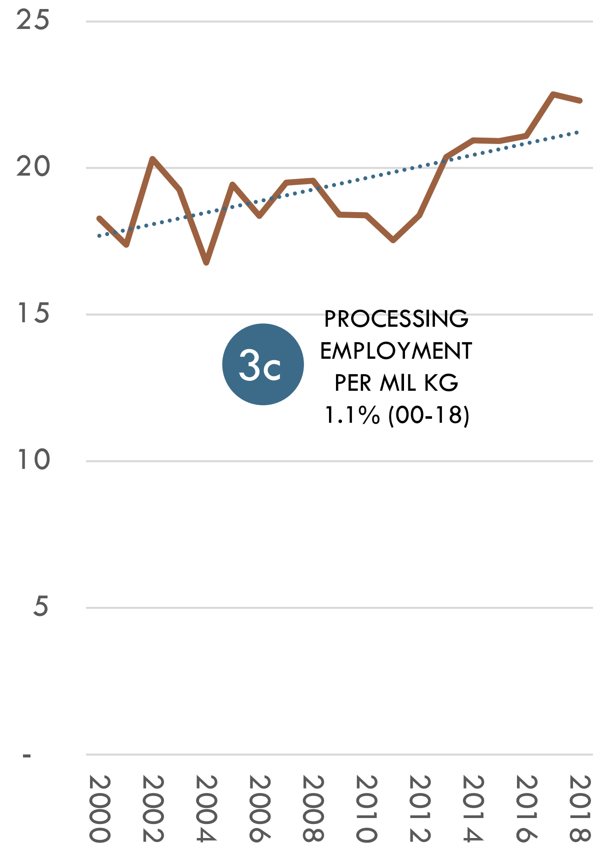
MEAT/ MEAT PROC. UNIT*

T/geographic unit; 2000-2018



PROC. JOBS/MEAT PROC.

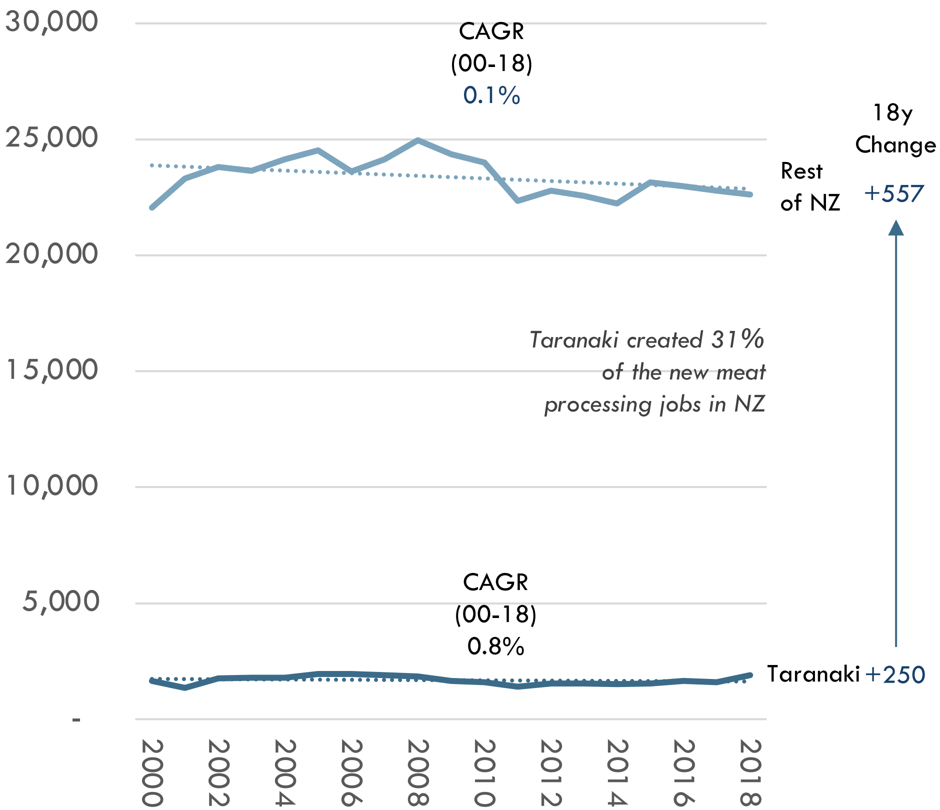
Headcount/mil kg proc.; 2000-2018



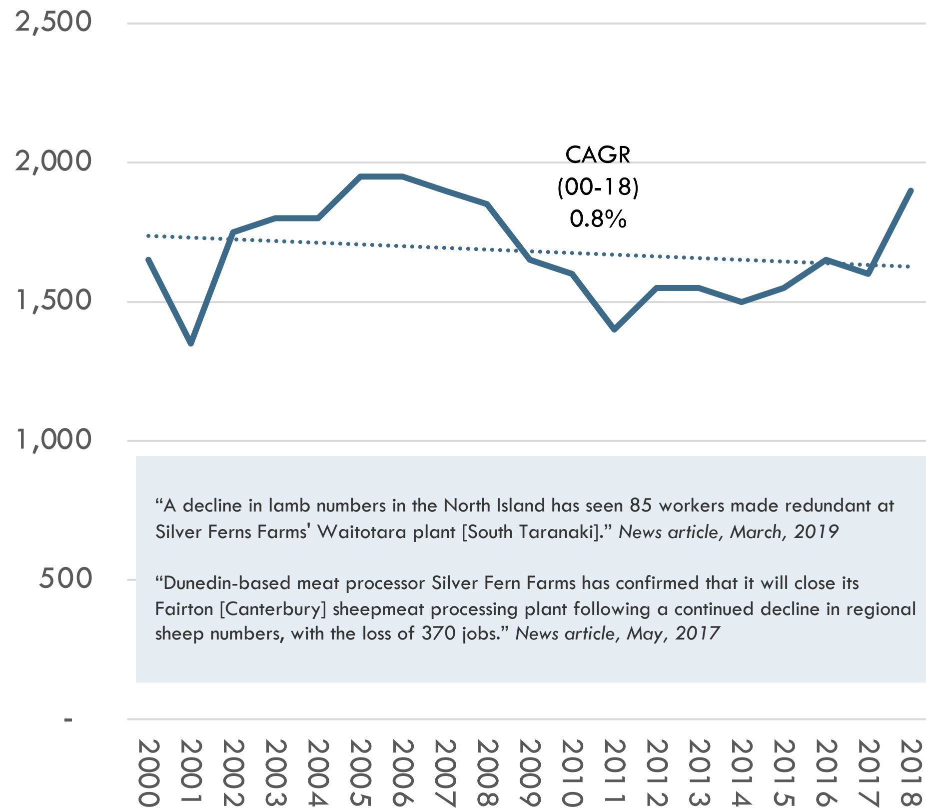
**Available data is averaged between three regions (Taranaki, Wanganui - Manawatu, Wellington) for confidentiality reasons; Note: Indicating trend to more, smaller operations; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Taranaki is growing meat processing employment at a higher rate than New Zealand; employment is highly variable and seasonal

MEAT PROC. JOBS: TARANAKI VS NZ
Headcount; 2000-2018



OF MEAT PROCESSING JOBS: TARANAKI
Headcount; 2000-2018



"A decline in lamb numbers in the North Island has seen 85 workers made redundant at Silver Ferns Farms' Waitotara plant [South Taranaki]." *News article, March, 2019*

"Dunedin-based meat processor Silver Fern Farms has confirmed that it will close its Fairton [Canterbury] sheepmeat processing plant following a continued decline in regional sheep numbers, with the loss of 370 jobs." *News article, May, 2017*

Source: Statistics NZ; Coriolis analysis

Three broad opportunities exist to increase employment in the Taranaki meat industry

JBS

1 Support Investment by Existing Large Firms at Scale

PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	500
LONG TERM	1,000

2 Attract New Large Firms at Scale (ideally with a value added focus)

PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	400
LONG TERM	800

3 Target Value Added Meat Products

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	200
LONG TERM	200

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Google Earth; Source: Coriolis estimates

1. Taranaki needs to continue to attract investment by the existing large meat firms in the region

REGIONAL EMPLOYMENT: EXISTING FIRMS

Headcount; 2019 or as available

Silver Fern Farms	900
ANZCO Foods	~700*
SBT Group[1]	60*
Ample Meat	25
Green Meadows Beef	18

Examples of investments by these firms outside of Taranaki

INVESTMENT	DETAILS
$7m	SFF Invested in new Venison plant at Pareora (South Island); 2017
$23m	ANZCO invests in processing capability at Rangitikei and Canterbury; 2016
N/A	ANZCO to expand 5-Star beef lot in Mid Canterbury; focus on premium beef

**Estimate; SBL and ANZCO 50% ownership of Taranaki By Products and Taranaki Bio Extracts (discussed elsewhere); Source: annual reports, interviews, Statistics NZ; Coriolis analysis*

2. Taranaki needs to attract new meat investors into the region, particularly those with a focus on high value added products

SELECT NZ MEAT FIRMS NOT IN TARANAKI

Headcount; 2018 or as available

AFFCO New Zealand	2,760-4,600 staff	Nine meat plants (total of 18 processing facilities across F&B)
Alliance Group	4,700	Eight meat processing sites; producing lamb, beef, venison across South Island
Taylor Preston Limited	850	Meat processor based in Wellington; exporting to 60 countries
Hellers NZ's Butcher	600+	Bacon, ham and smallgoods company based out of Canterbury
Wilson Hellaby New Zealand	500	Processing and value added meat company in Auckland and Waikato
Greenlea	450 staff	Currently two plants in Waikato; exports 90% of meat to 40 countries
JBS	300 (in NZ)	Vertically integrated bacon, ham and smallgoods company; Premier Beehive

STRATEGIC DIRECTION*

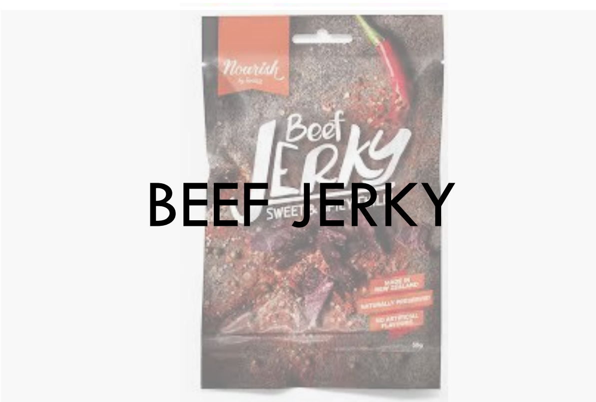
Model; 2019

NZ$15.99/kg

NZ$87.27/kg

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Source: annual reports; company websites; interviews; Coriolis analysis

3. Taranaki needs to add more value to regional meat



BEEF JERKY

- ANZCO currently producing beef jerky in Taranaki under the Nourish brand
- Growing global demand
- High retail price ($10/100g)

READY TO EAT MEALS

- Growth in quality convenience ready to eat categories
- Need more of these ideas in the region
- Example: Texas BBQ recent startup in the region – high value ($5/100g)
- ANZCO currently producing cooked meals, patties, burgers etc.

MEAT EXTRACTS AND DERIVATIVES

- High growth category following keto, paleo trend
- Able to add value to low value ingredients
- Example: ANZCO and SBL joint ownership in Taranaki Bio Extracts – opportunity for branded products within the region (e.g. Mitchell's broth powder ($34.50/100g)

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Source: Coriolis analysis

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Poultry is an employment growth success story in Taranaki; the industry needs to continue to invest in this growth

Taranaki accounts for approximately ~20% of New Zealand's total poultry meat production.

Overall, poultry meat is a secondary employer in Taranaki, accounting for about one in fifty jobs. However the industry is growing and creating new jobs.

Poultry sector employment in Taranaki is the result of a handful of drivers across key farm, bird and processing efficiency metrics.

Taranaki has growing poultry farm numbers, with more birds per farm, leading to growing regional bird production. This growing bird production, combined with growing meat per bird, is leading to more poultry meat being produced in the region. Tegel recognises Taranaki's strength and is investing in new facilities. This industry growth is, in turn, triggering growing poultry on-farm employment.

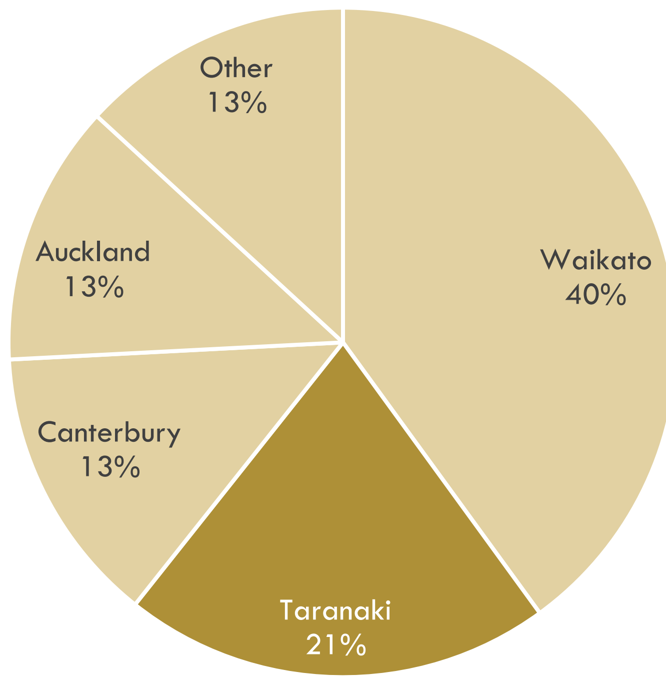
Taranaki's poultry processing sector is effectively a single firm and a single facility (Tegel). This site has high growth throughput. Growing volumes are counteracting falling employment per tonne leading to growing regional poultry processing employment (4.6% annually). As a result, Taranaki is growing poultry processing employment faster than the rest of the country in the last two decades.

Three broad opportunities exist to increase employment in the Taranaki poultry industry

1. Taranaki needs to continue to attract investment by existing large poultry firms in the region
2. Taranaki needs to build on the existing success in poultry and attract new poultry processing firms to the region
3. Taranaki needs to diversify from everyday chicken into a wider range or emerging poultry markets utilising soft attributes

Taranaki accounts for approximately ~20% of New Zealand's poultry meat production

ESTIMATED SHARE OF NEW ZEALAND POULTRY MEAT ANIMALS
% of head; 2018



ESTIMATED
Regional production data is confidential

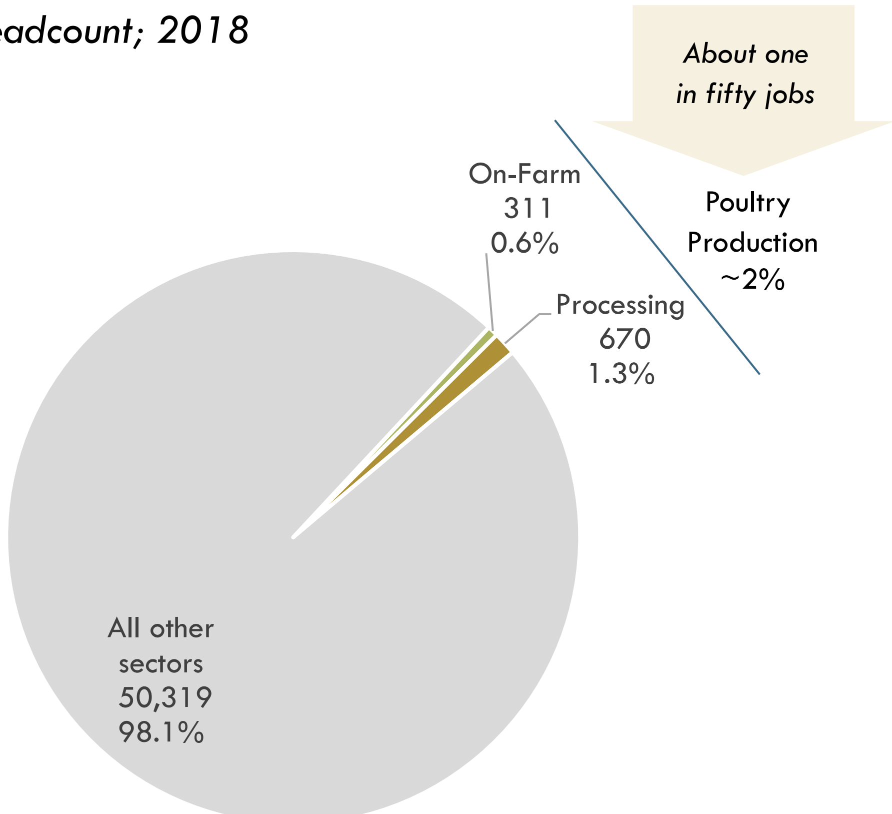
TOTAL = 126,145,000 head killed

Source: Statistics NZ; Coriolis analysis

Poultry meat is a secondary employer in Taranaki, however the industry is creating new jobs

POULTRY EMPLOYMENT IN TARANAKI

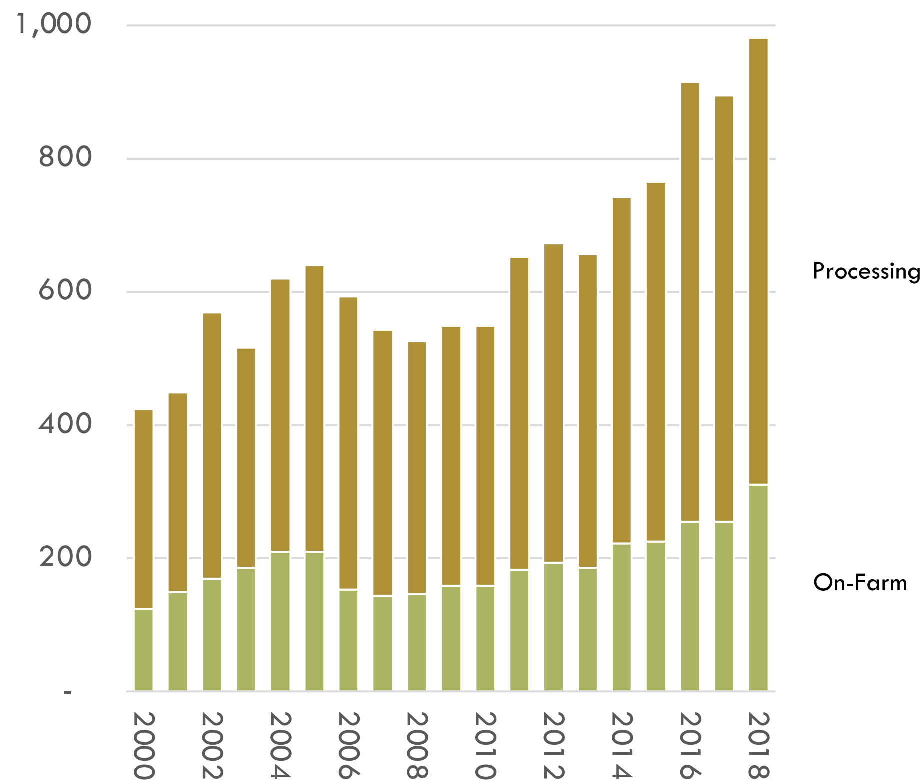
Headcount; 2018



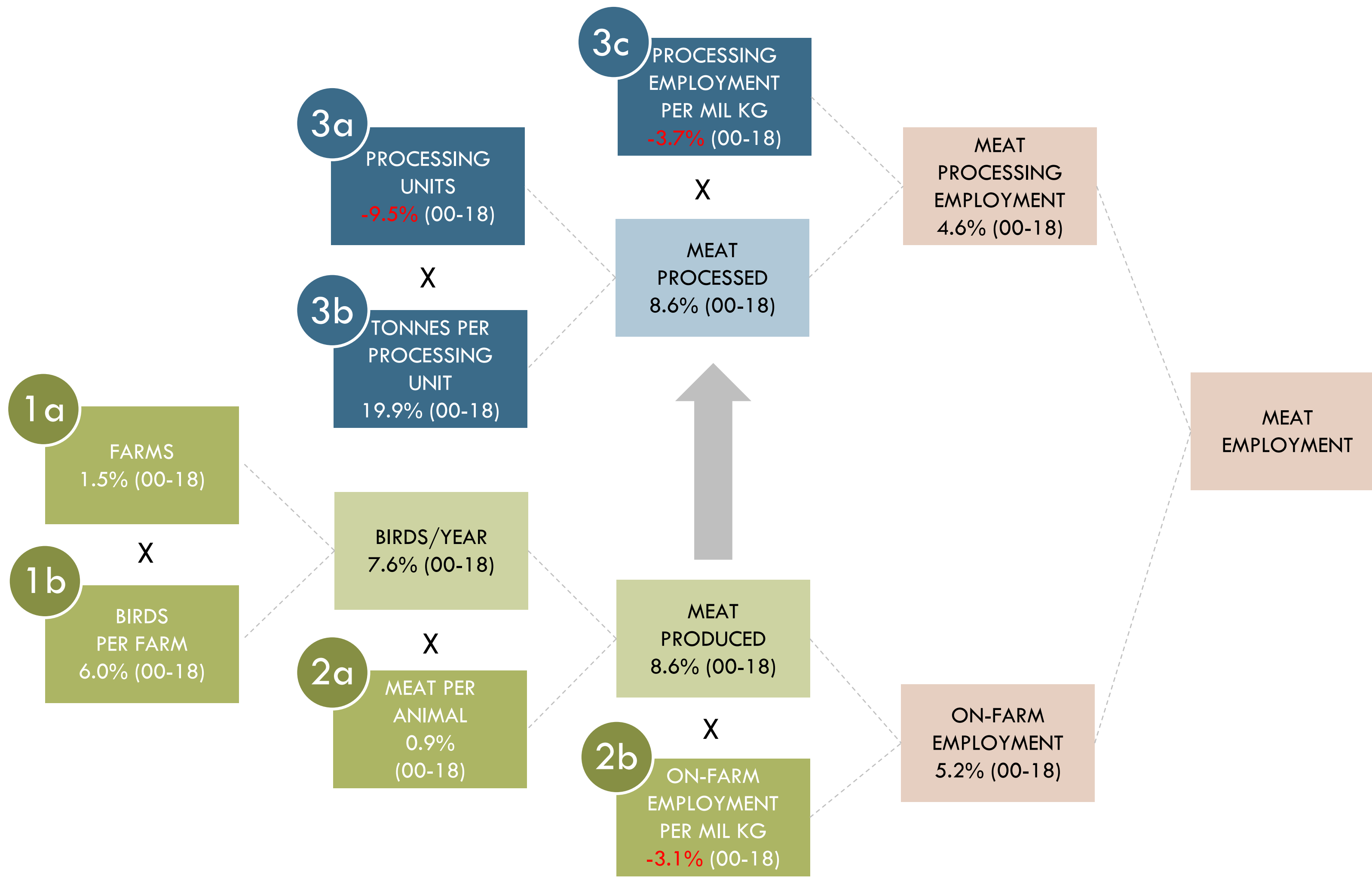
TOTAL = 51,300 employed headcount

POULTRY EMPLOYMENT IN TARANAKI

Headcount; 2000-2018



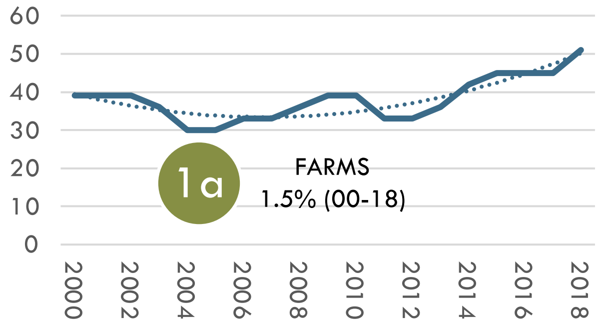
Poultry sector employment in Taranaki is the result of a handful of drivers



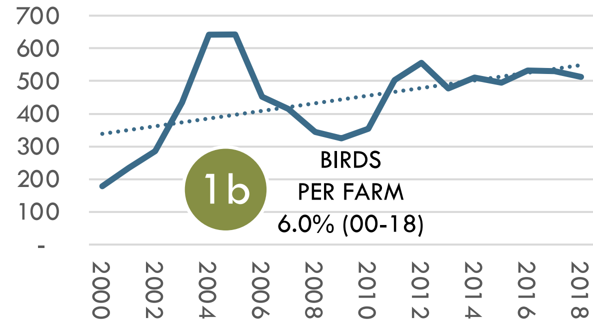
Note: Growth rates = CAGR (Compound Annual Growth Rate); Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Taranaki has more poultry farms, with more birds/farm producing more birds annually and poultry meat production is increasing

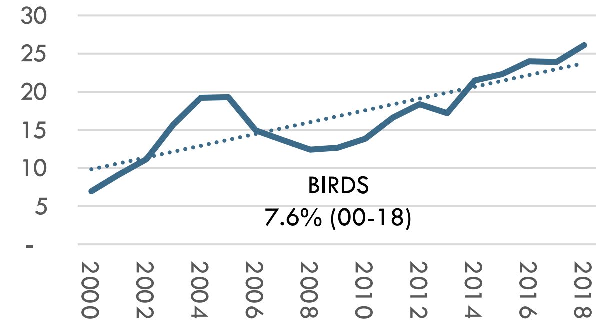
TARANAKI POULTRY FARMS
Geographic units; 2000-2018



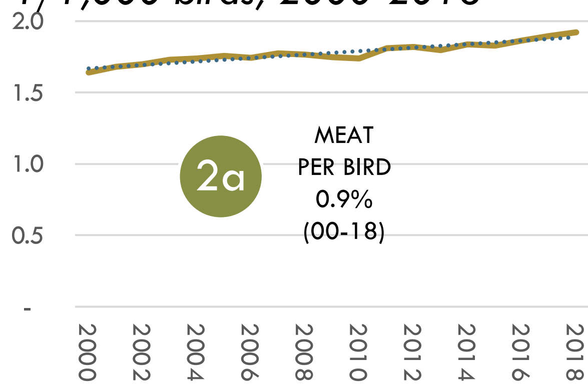
EST. BIRDS PER FARM*
1,000 head/unit; 2000-2018



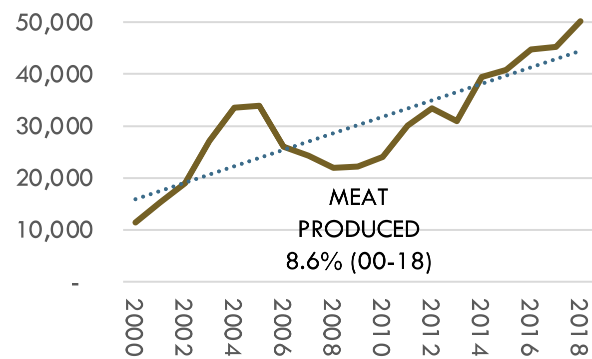
EST. BIRD KILL IN TARANAKI*
Head; m; 2000-2018



TONNES PER 1,000 BIRDS^
T/1,000 birds; 2000-2018



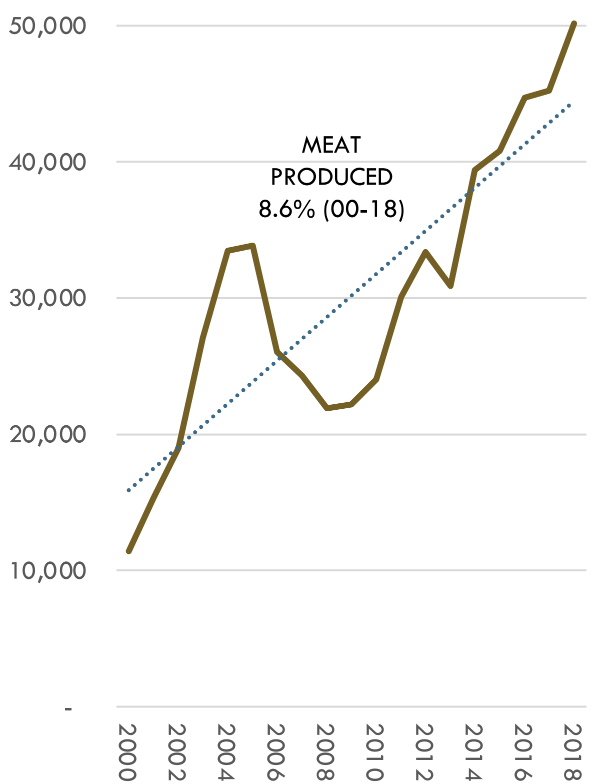
POULTRY MEAT: TARANAKI*
T; 2000-2018



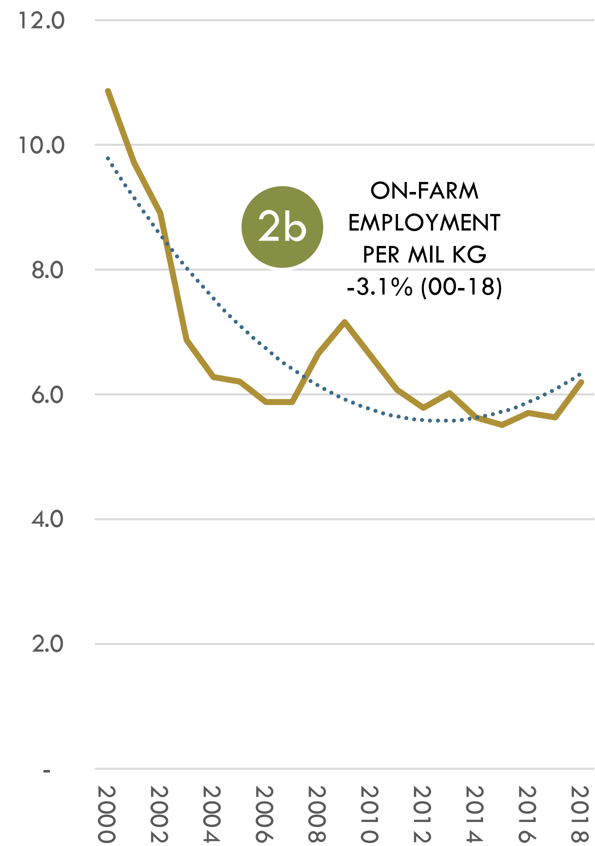
** No official regional data; Coriolis estimates; ^National data; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Taranaki is growing poultry farm employment driven by growing volumes

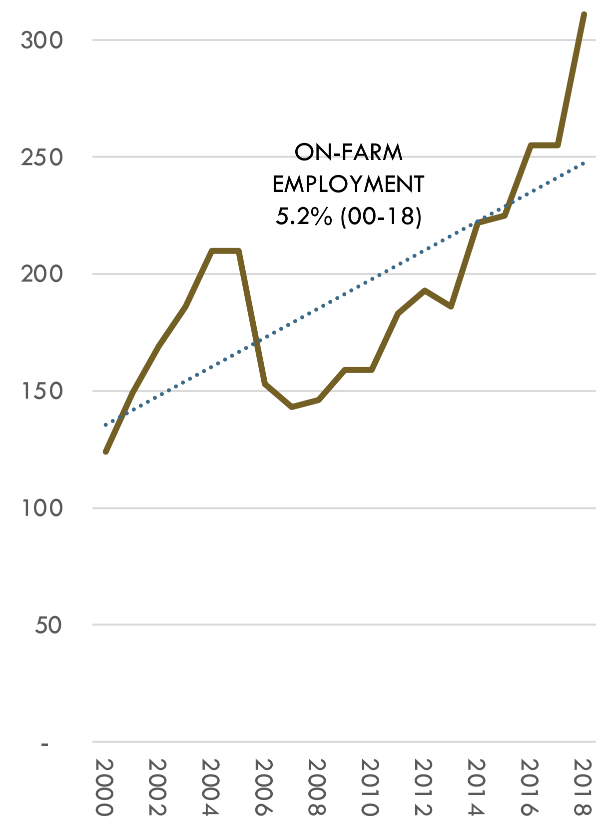
POULTRY MEAT: TARANAKI*
T; 2000-2018



ON-FARM EMPL/1,000T*
Jobs/1,000t; 2000-2018



ON-FARM EMPLOY.
Headcount; 2000-2018

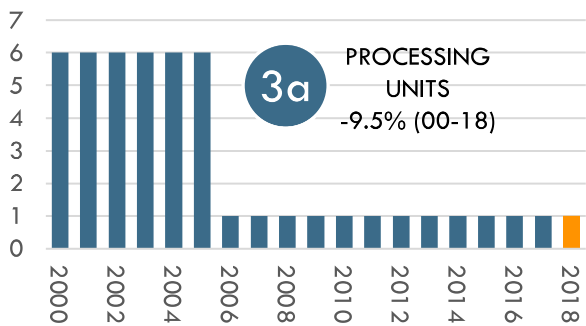


** No official regional data; Coriolis estimates; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Taranaki's poultry processing sector is one facility with high growing throughput and growing employment,

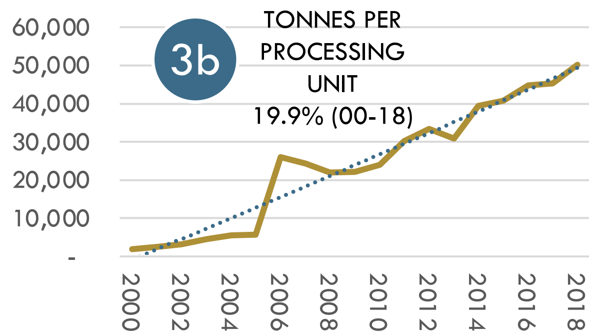
POULTRY PROC. UNITS

Geographic units; 2000-2018



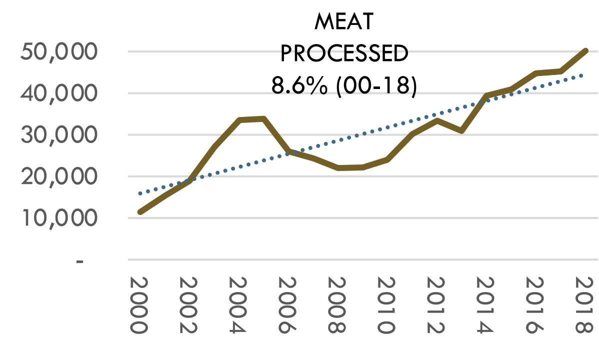
TONNES/PROC. UNIT*

T/unit; 2000-2018



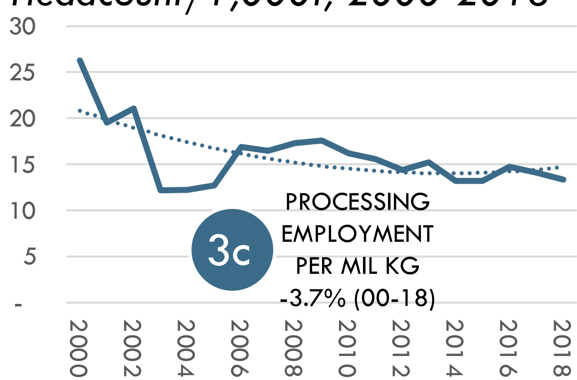
POULTRY MEAT: TARANAKI*

T; 2000-2018



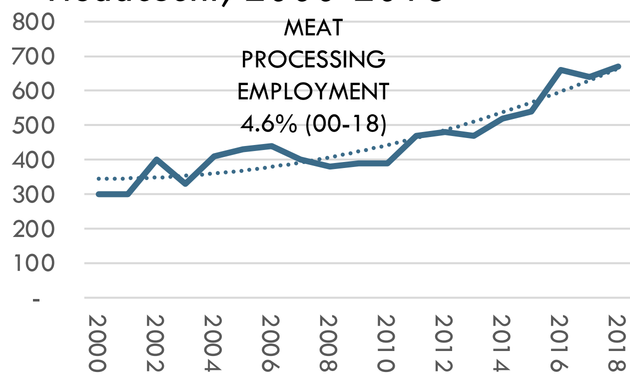
PROC EMPL. PER 1,000T

Headcount/1,000t; 2000-2018



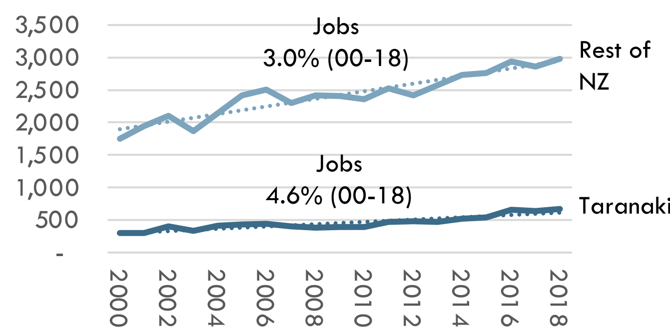
POULTRY PROC EMPL.

Headcount; 2000-2018



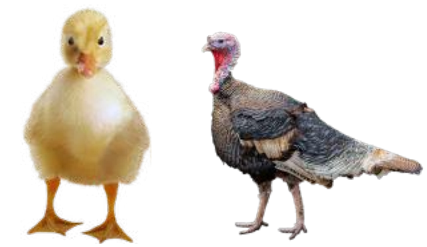
PROC. JOBS: TARANAKI VS NZ

Headcount; 2000-2018



** No official regional data; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Three broad opportunities exist to increase employment in the Taranaki poultry industry



1 Continue Investment by Existing Large Firms at Scale

PROPOSED NEW JOB TARGET	
SHORT TERM	100
MEDIUM TERM	200
LONG TERM	500

2 Attract New Large Firms at Scale (ideally with a value added focus)

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	300
LONG TERM	500

3 Target Emerging Segments

PROPOSED NEW JOB TARGET	
SHORT TERM	10
MEDIUM TERM	50
LONG TERM	150

Photo credit: stock photo; Source: Coriolis estimates

1. Taranaki needs to continue to attract investment by the existing large poultry firms in the region

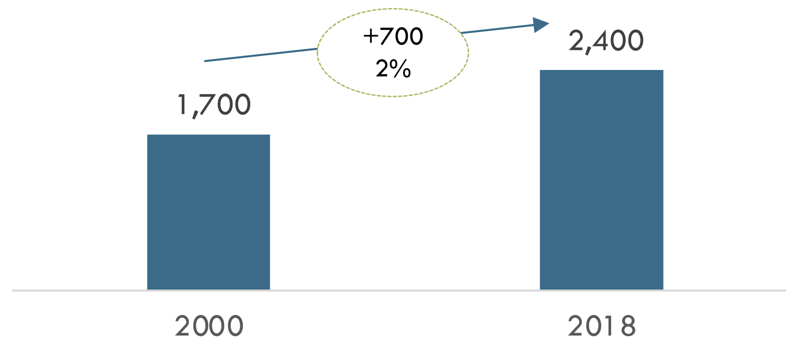
EXISTING FIRMS IN THE REGION

Regional headcount; 2018 or as available

Meat production	Tegel	*960 jobs*
Breeding	Aviagen	*~90 jobs*

TEGEL NZ EMPLOYMENT GROWTH

Headcount; 2000 vs 2018



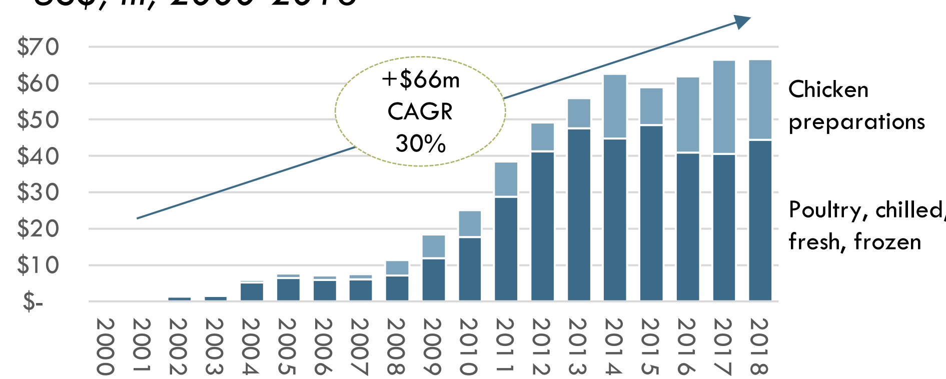
POULTRY INVESTMENT IN TARANAKI

2018

Tegel	*2018 Invested in new eight shed free range facility, expanded the hatchery, new incubators, and acquired land adjacent to feedmill for future expansions – key hub for chicken sausages*
Aviagen	*5 new farms on the plans (add to existing 14), plus new hatchery*

NZ POULTRY EXPORTS*

US$; m; 2000-2018



**Poultry fresh, chilled, frozen, (HS0207) and chicken preparations (HS160232); excludes sausages, very minimal; Source: annual reports, interviews, Statistics NZ; Coriolis analysis*

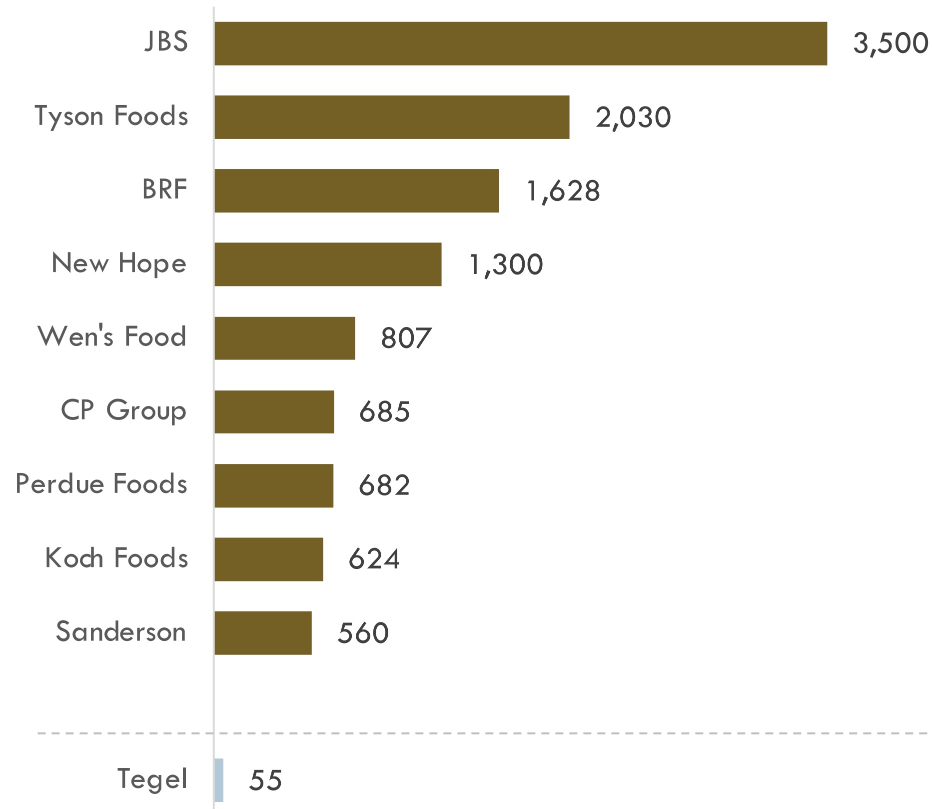
2. Taranaki needs to build on the existing success in poultry and attract new poultry processing firms to the region

NZ POULTRY FIRMS NOT IN TARANAKI

Turnover in NZ; 2018 or as available

TOP 9 GLOBAL POULTRY PROCESSORS

Annual head; m; 2018



Source: annual reports; Coriolis analysis and estimates

3. Taranaki needs to diversify from everyday chicken into a wider range of emerging poultry markets utilising soft attributes

1. DUCK

- Growing consumption in New Zealand
- Important and favoured species in parts of Asia

2. TURKEY

- Low per capita consumption in NZ currently (0.2kg/person in NZ)
- Major poultry meat in some peer group countries
- The average American consumes 7.5kg/person (or 30x more)

Organic
Free Range
No added hormones

3. SOFT ATTRIBUTES

Animal welfare
Heritage breeds
Cage free

- Growing demand by some consumer segments for soft attributes
- Taranaki well positioned to deliver on key requirements

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Source: Coriolis analysis

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Seafood is a minor employer in Taranaki; opportunities exist to increase employment

Taranaki is a secondary seafood producing region for New Zealand, accounting for 1.5% of New Zealand's coastline and 0.4% of seafood production.

Seafood is a very minor employer in Taranaki and the industry is not creating jobs.

Seafood sector employment in Taranaki is the result of a handful of drivers. Taranaki has a limited amount of coastline relative to other regions of New Zealand. Taranaki is taking less and less seafood from its waters every year. Anecdotally the inland fisheries are 'under-fished' and very healthy.

Falling seafood production is leading to fewer and fewer operating units (boats, plants, etc.) in the region. Falling seafood volumes and falling unit numbers are leading to falling seafood employment in Taranaki.

As a result, Taranaki is losing seafood industry employment faster than the rest of the country (total 36 employees down from 104 in 2000).

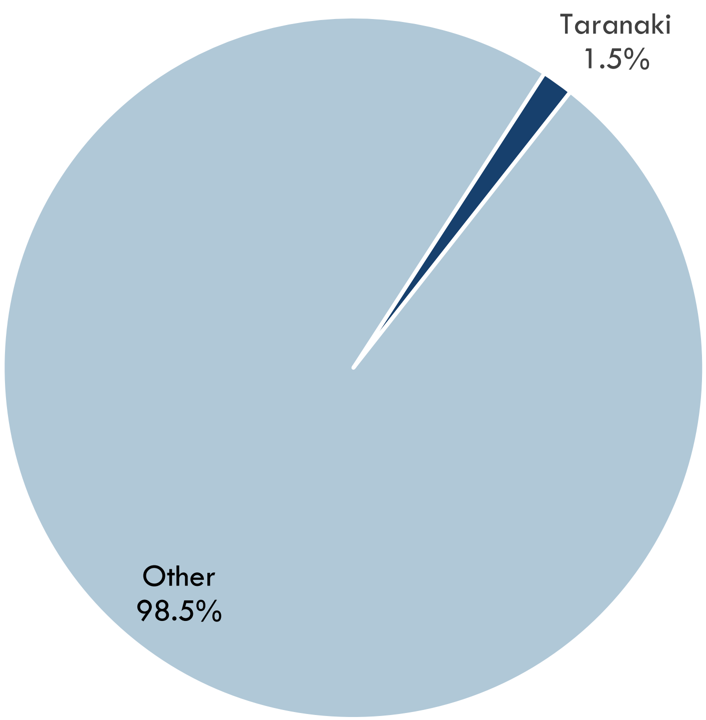
Two broad opportunities exist to increase employment in Taranaki's seafood industry

1. Taranaki needs to support the existing major firm (Egmont Seafoods) in the region
2. Taranaki needs to identify climatically suitable aquaculture options

Taranaki accounts for 1.5% of New Zealand's coastline and 0.4% of seafood production

TARANAKI SHARE OF NZ COASTLINE

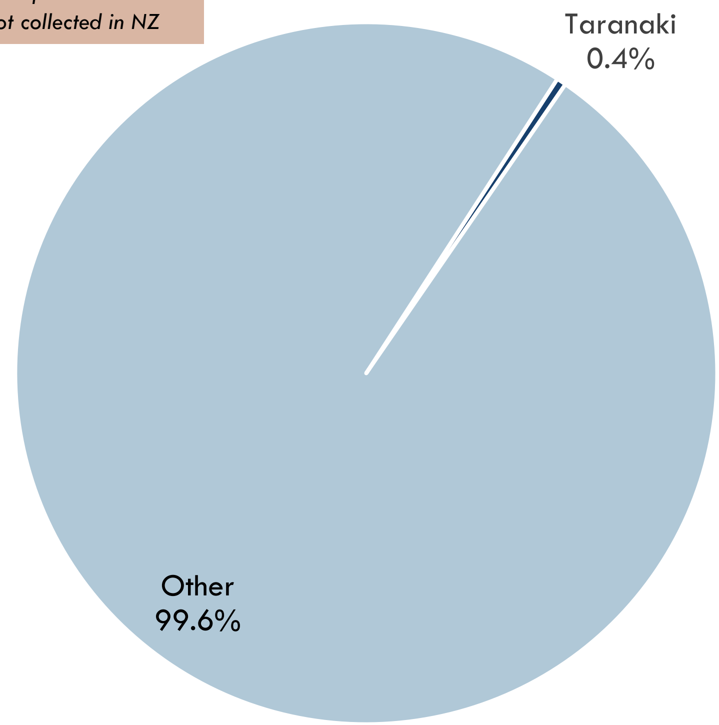
% of head; 2018



TARANAKI SHARE OF NZ SEAFOOD

% of tonnes; 2018

ESTIMATED
Regional production data is not collected in NZ

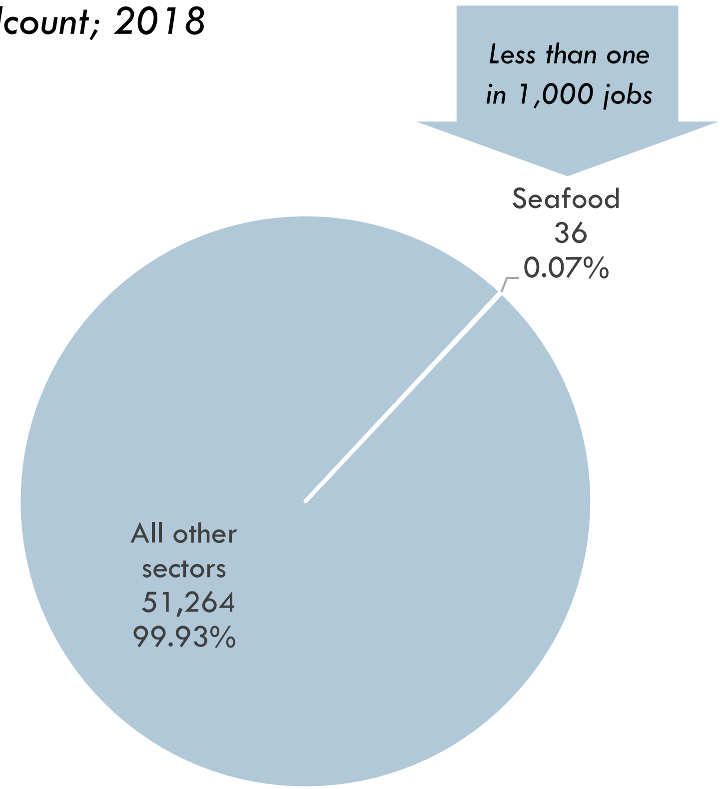


Source: LINZ; Statistics NZ; Coriolis analysis

Seafood is a very minor employer in Taranaki and the industry is not creating jobs

SEAFOOD EMPLOYMENT IN TARANAKI

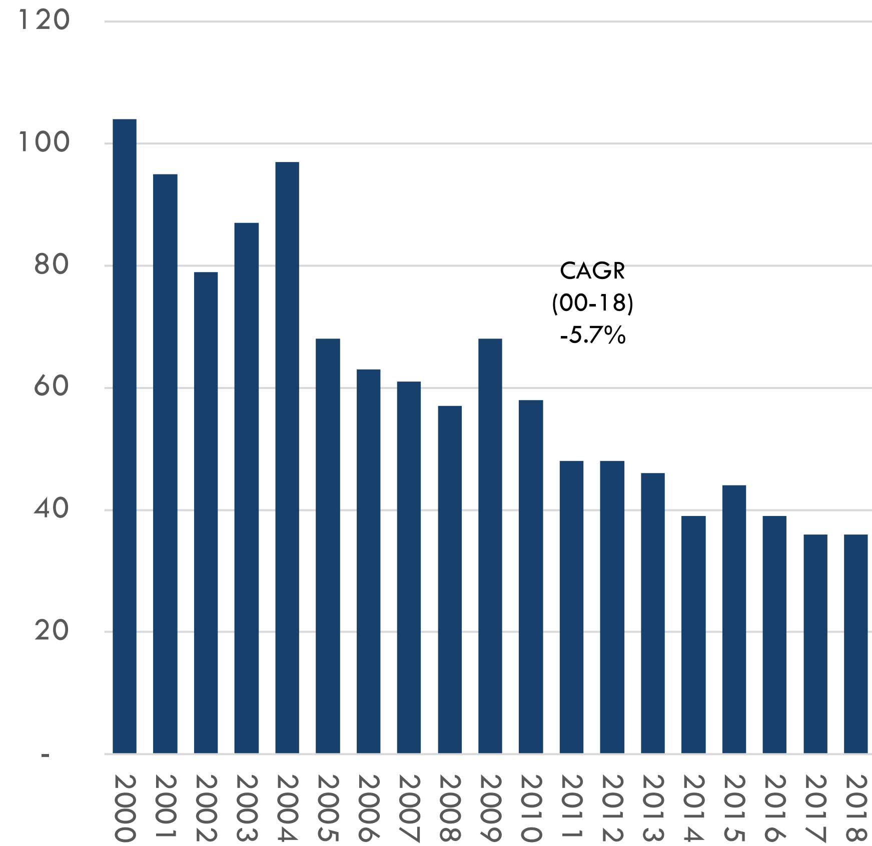
Headcount; 2018



TOTAL = 51,300 employed headcount

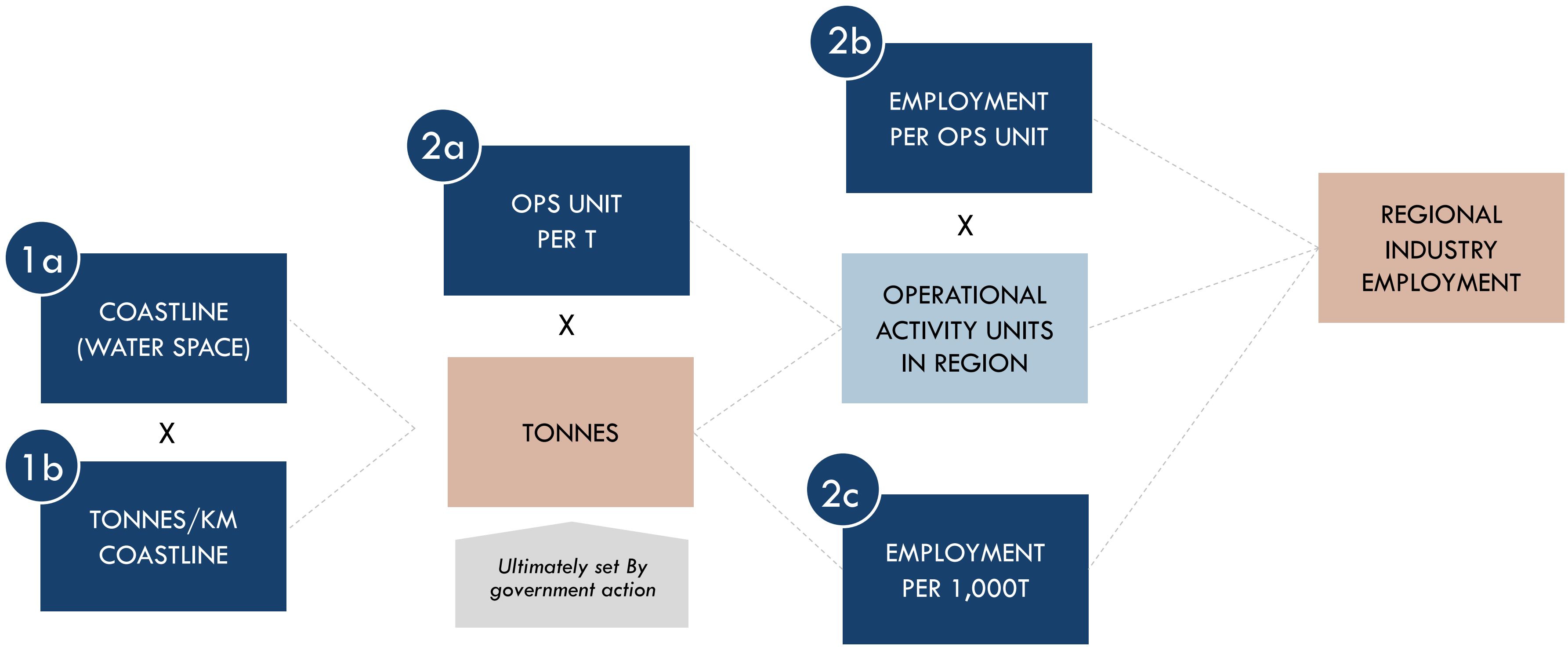
SEAFOOD EMPLOYMENT IN TARANAKI

Headcount; 2000-2018



Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Seafood sector employment in Taranaki is the result of a handful of drivers

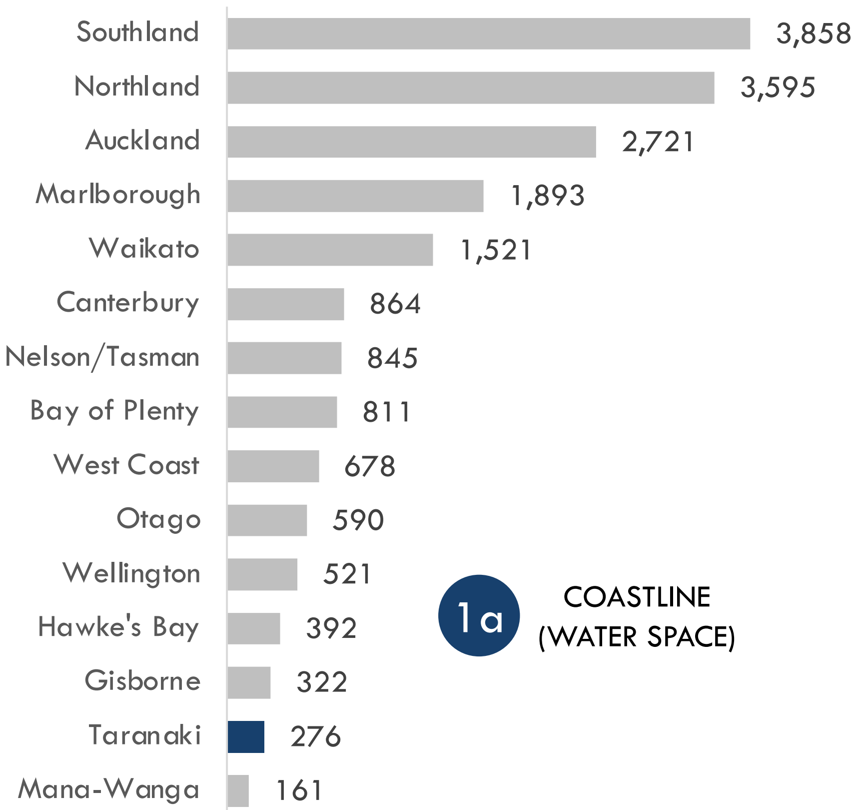


Source: Coriolis analysis

Taranaki has a limited amount of coastline relative to other regions of New Zealand

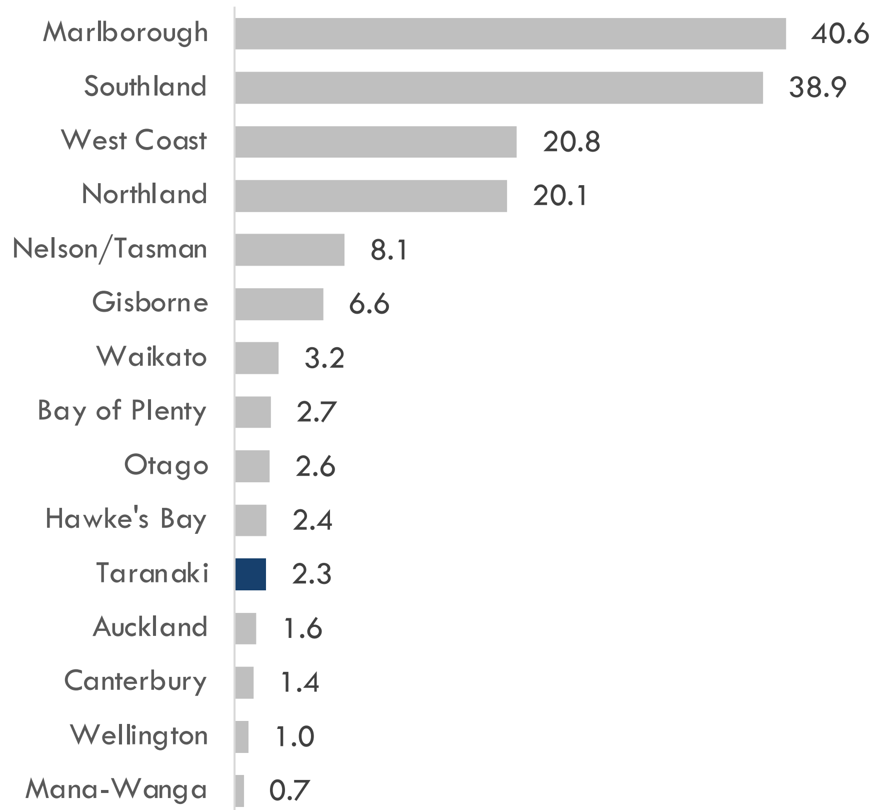
COASTLINE BY REGION

Km; 2019



COASTLINE PER CAPITA

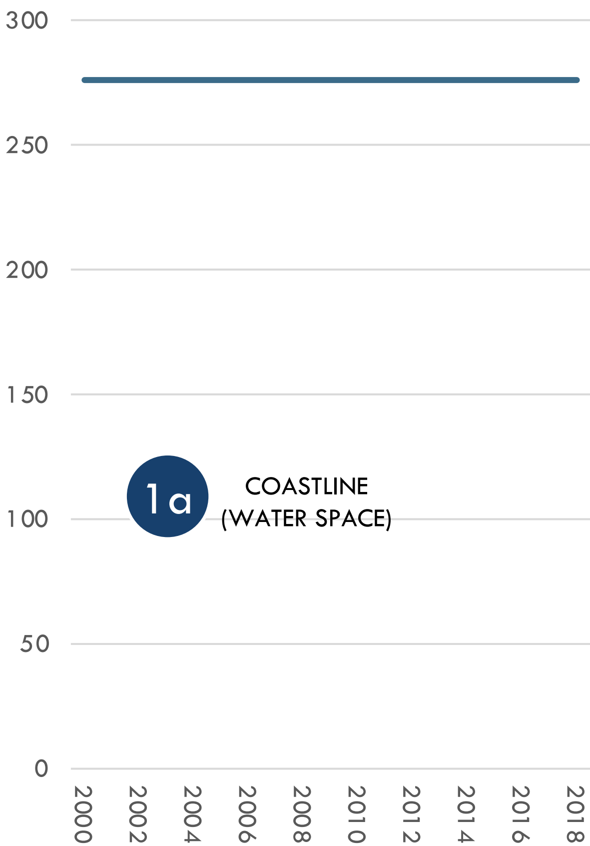
Metres/resident headcount; 2018



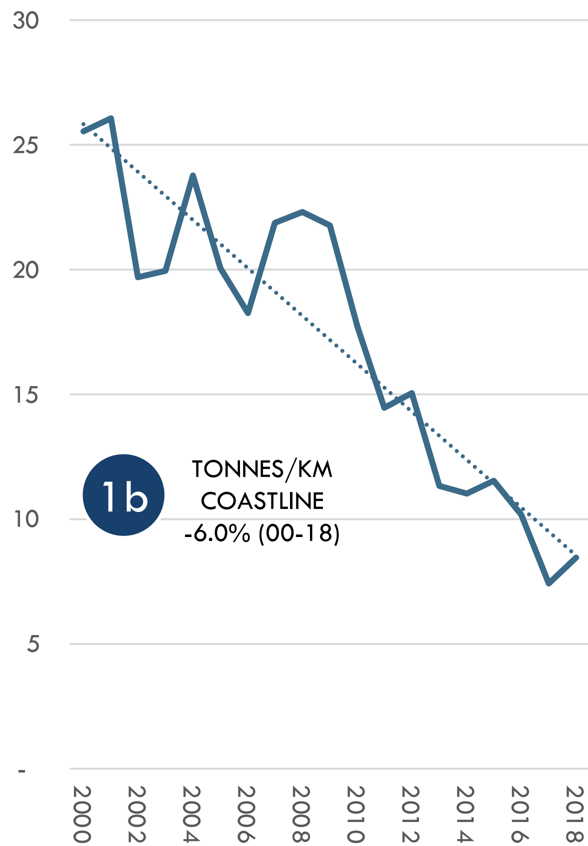
Source: LINZ dataset; Statistics NZ; Coriolis analysis

Taranaki is taking less and less seafood from its waters every year

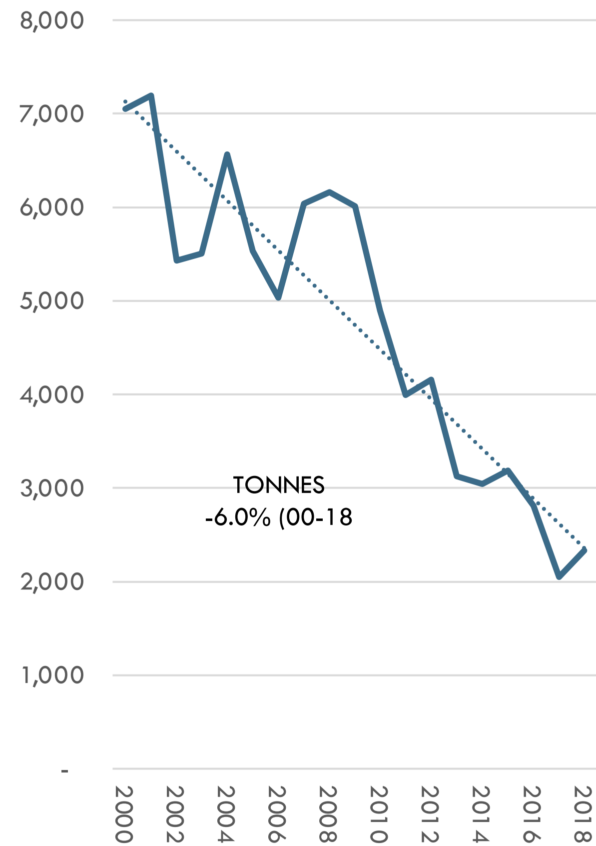
TARANAKI COASTLINE
Km; 2000-2018



EST. TONNES/KM COAST*
T/km; 2000-2018



EST. TONNES SEAFOOD*
T; 2000-2018

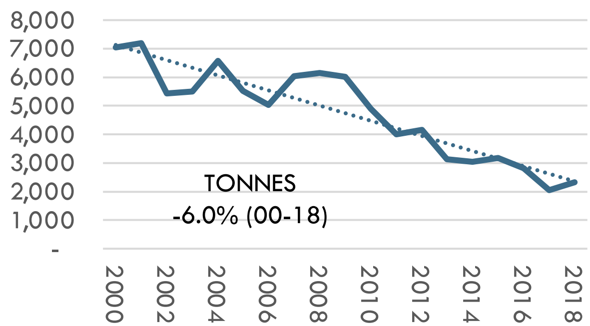


** No official regional data; Coriolis estimate; Source: Statistics NZ; UN Fishstat; MoF/MPI; Coriolis assumptions, analysis and estimates*

Falling production is leading to fewer operating units (boats, plants, etc.) in the region and falling employment

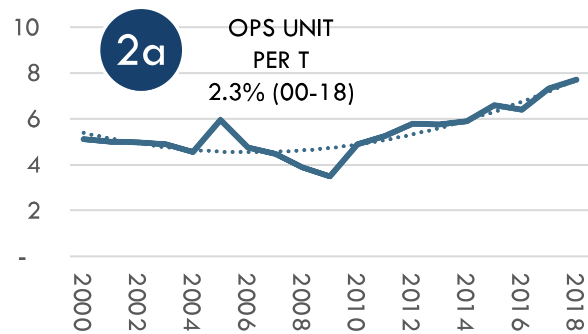
EST. TONNES SEAFOOD*

T; 2000-2018



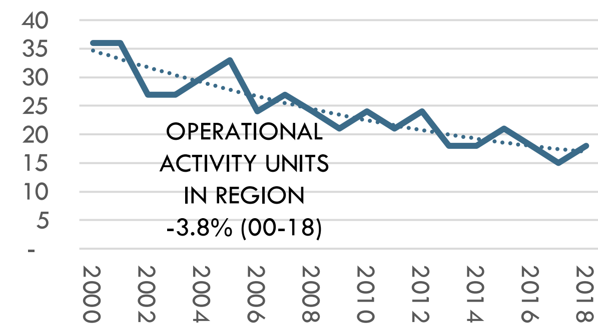
OPS UNITS/TONNE*

Geographic units/t; 2000-2018



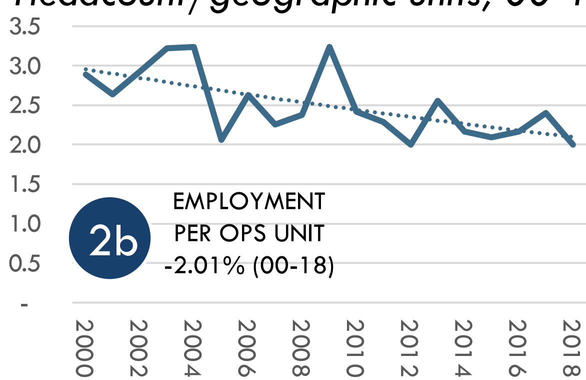
SEAFOOD OPS. UNITS*

Geographic units; 2000-2018



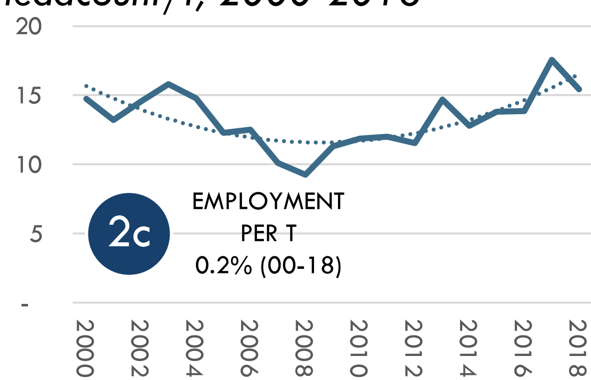
EMPLOYMENT/OPS UNIT*

Headcount/geographic units; 00-18



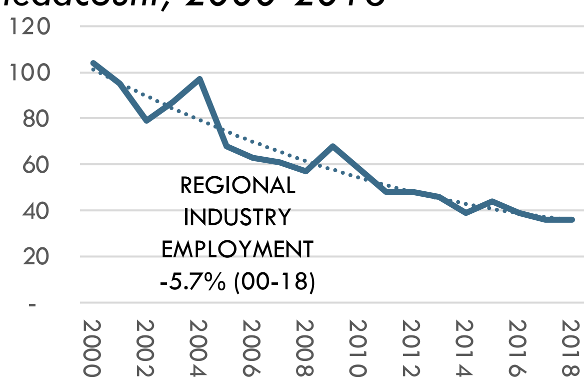
EMPLOYMENT/TONNE*

Headcount/t; 2000-2018



SEAFOOD EMPLOYMENT*

Headcount; 2000-2018

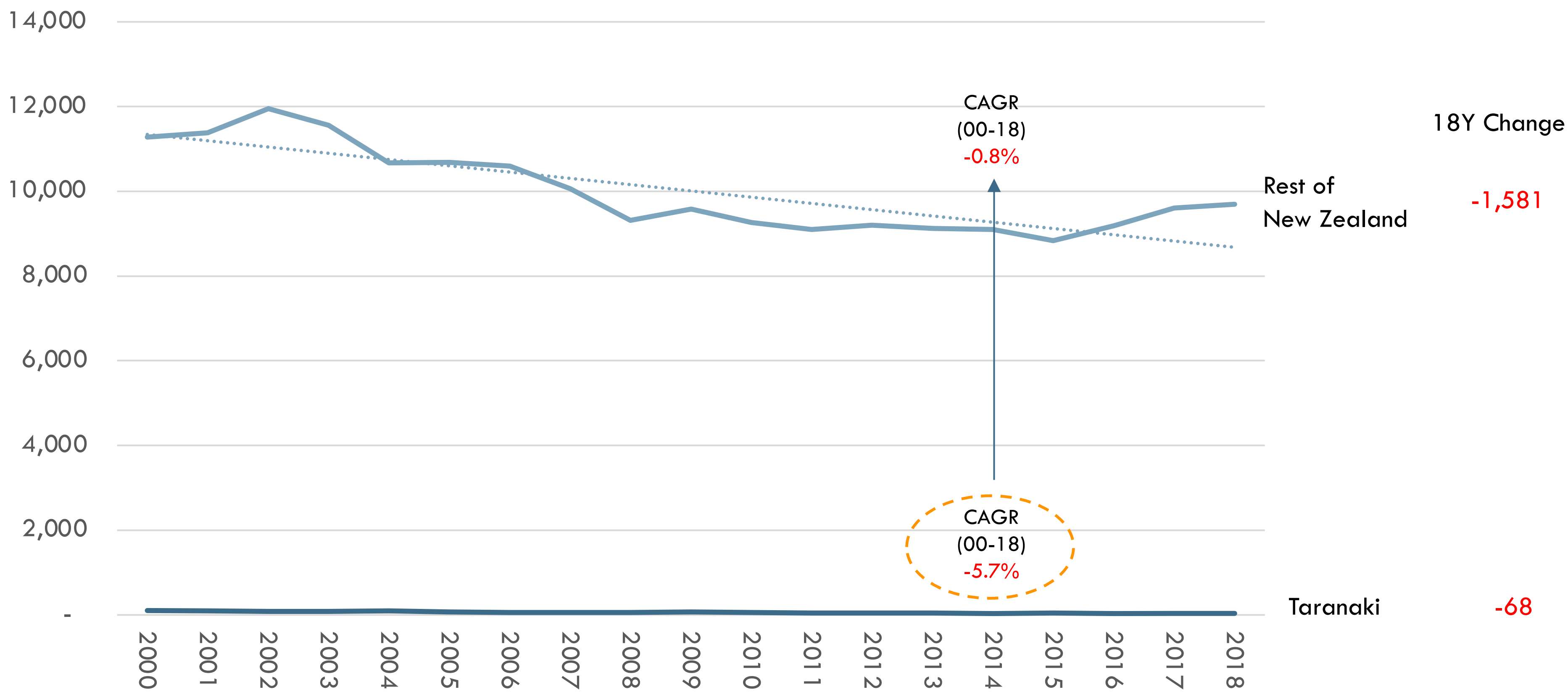


** No official regional data; Coriolis estimate; Source: Statistics NZ; UN Fishstat; MoF/MPI; Coriolis assumptions, analysis and estimates*

As a result, Taranaki is losing seafood industry employment faster than the rest of the country

NUMBER OF SEAFOOD INDUSTRY JOBS: TARANAKI VS REST OF NEW ZEALAND

Headcount; 2000-2018



Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Two broad opportunities exist to increase employment in Taranaki's seafood industry

1

Reinvestment and Growth by Existing Firms

PROPOSED NEW JOB TARGET	
SHORT TERM	*5*
MEDIUM TERM	*10*
LONG TERM	*20*

2

Identify Region Suitable Aquaculture (likely land based)

PROPOSED NEW JOB TARGET	
SHORT TERM	*20*
MEDIUM TERM	*40*
LONG TERM	*80*

Photo credit: stock photo; Source: Coriolis estimates

1. Taranaki needs to support the existing major firm (Egmont Seafoods) in the region

CHALLENGES

- Harvesting capacity
- Have available ACE[1] but limited by critical species (e.g. snapper)
- ACE not used locally, processed out of region
- Aging skippers
- Challenge attracting young skippers
- TACC[2] expensive, ACE over-valued
- Deemed Values (currently optimised for large operators)
- Smaller boats less efficient (less volume)
- Extra cost and time exporting from Auckland
- Compliance costs

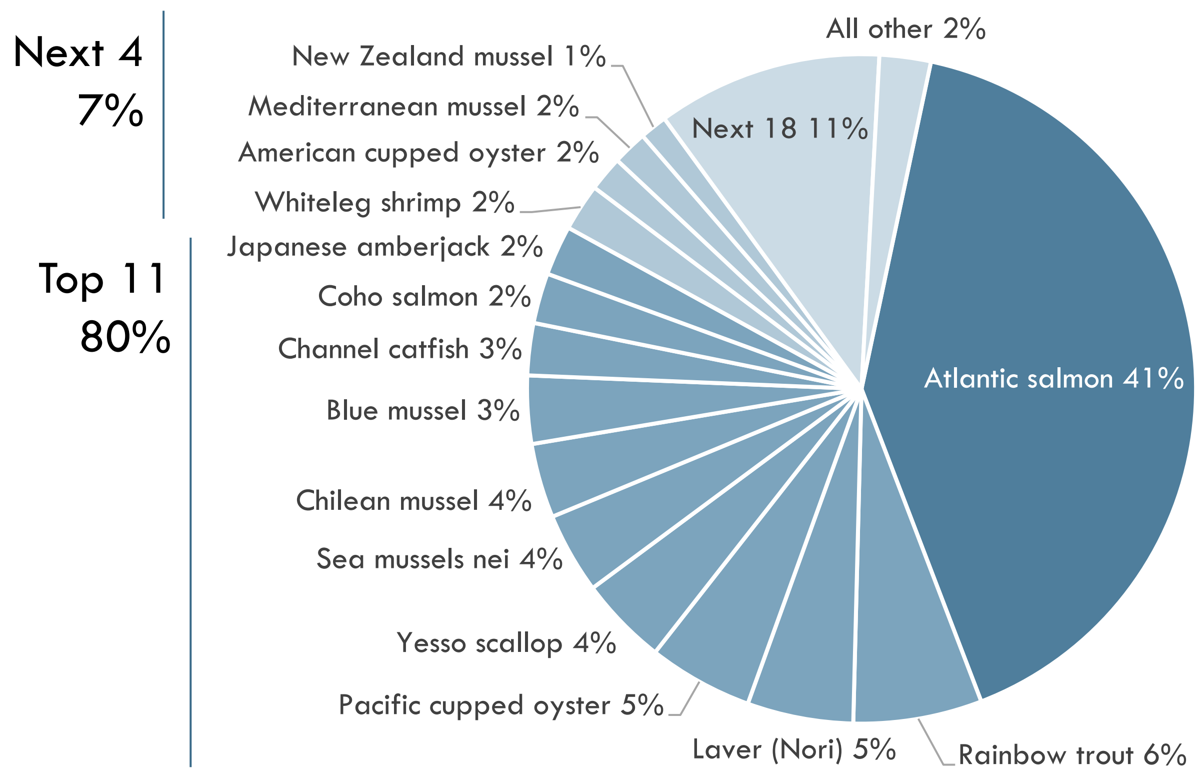
OPPORTUNITIES

- Investment in fleet, new boats
- Healthy inland fish stock numbers
- Fish quota and TACC fished and processed in region
- Review Deemed Values
- Promotion of local, fresh food
- Realign pricing to make independent fishing a viable career

1. ACE = Annual Catch Entitlement; 2. TACC - Total Allowable Commercial Catch; Source: interviews, Coriolis analysis

2. Taranaki needs to identify climatically suitable aquaculture options (likely inland vs ocean based)

AGGREGATE AQUACULTURE PRODUCTION ACROSS DEFINED PEER GROUP
% of t; 2015



DEFINED PEER GROUP
North America
Europe
Japan
Chile
Argentina
South Africa
Australia

Aquaculture producing nations with similar climatic conditions and water temperatures

Source: UN FAO Fishstat database; Coriolis analysis

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Taranaki has a handful of existing small F&V companies, with no processing employment in the region; growth opportunities exist

Taranaki is a very minor fruit and vegetable producing area for New Zealand currently. It accounts for 0.3% of New Zealand's vegetable area and 0.2% of fruit area.

Fruit, nut & vegetable employment in Taranaki is the result of a handful of drivers.

The number of fruit & vegetable farming operations in Taranaki is declining (34 total, down from 105 in 2000). The size of the average fruit and vegetable farm in Taranaki is also declining. The total area in fruit and vegetables in Taranaki is declining (down to 331 hectares).

Taranaki has falling fruit and vegetable production. The Taranaki climate provides challenging conditions in Taranaki (high winds, storms) for production, particularly of export grade fruit.

As a result of falling production, overall on-farm employment in F&V in Taranaki is falling, primarily owner operators exiting (total 124 employed in 2018, down from 170 in 2000).

Land is being taken up by competing land uses.

Taranaki currently has no F&V processors and F&V wholesaling appears to be a case of 'last man standing'. Taranaki has made modest increases (+20) in employment in fruit and vegetable wholesaling, likely as a result of more product being 'imported' into the region. As a result, Taranaki is not creating material numbers of post harvest F&V jobs in the region.

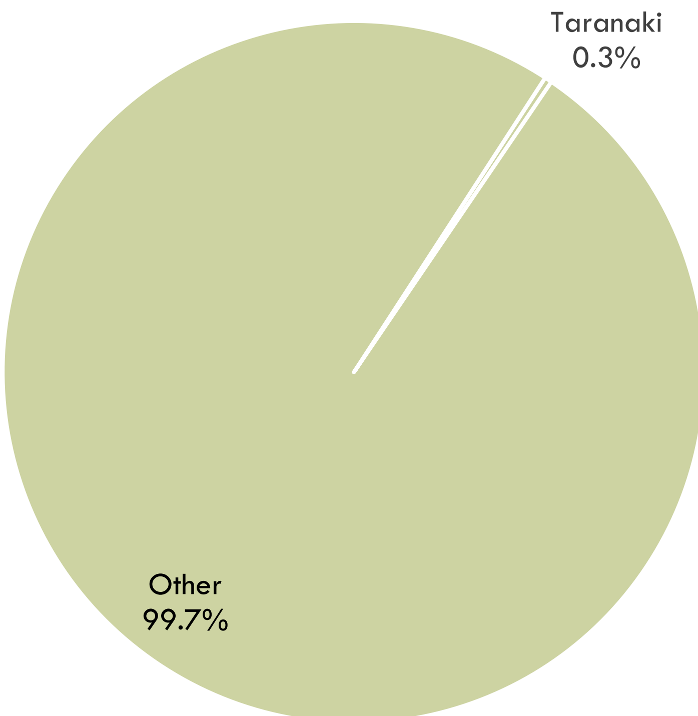
Three broad opportunities exist to increase employment in the Taranaki fruit and vegetable industry

1. Specialty fruit and vegetables in Taranaki have a clear growth trajectory
2. Taranaki needs to attract new investors for protected cropping; peers suggest significant upside
3. Support start-up and emerging value added F&V companies

Taranaki accounts for 0.3% of New Zealand's vegetable area and 0.2% of fruit area

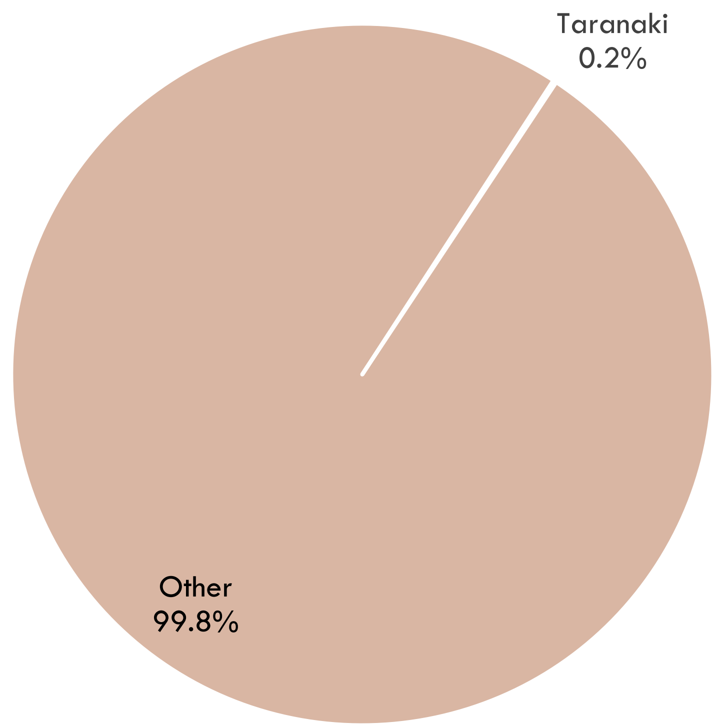
TARANAKI SHARE OF NZ VEG AREA

% of national area; 2018



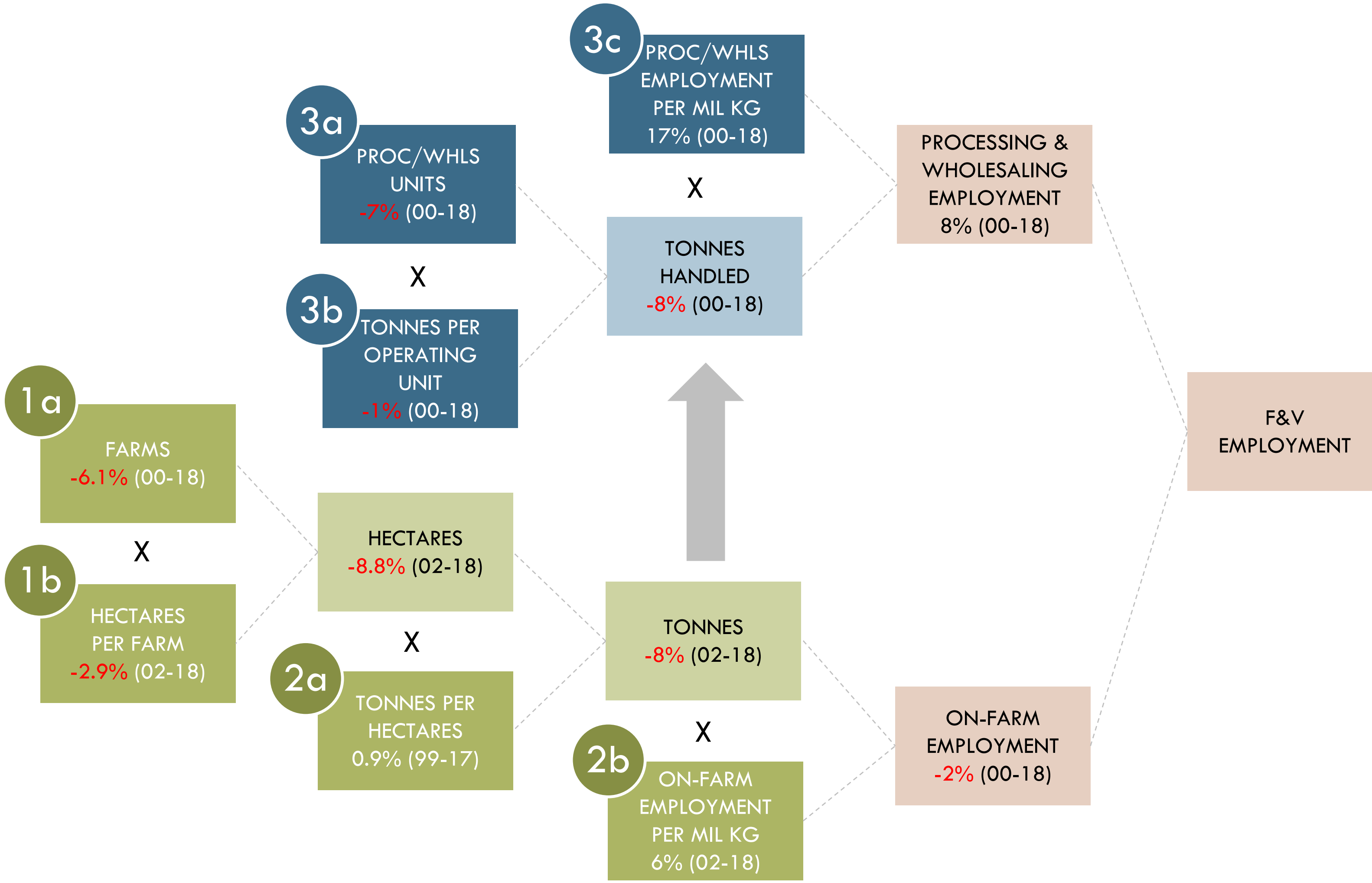
TARANAKI SHARE OF NZ FRUIT AREA

% of national area; 2018



Source: LINZ; Statistics NZ; Coriolis analysis

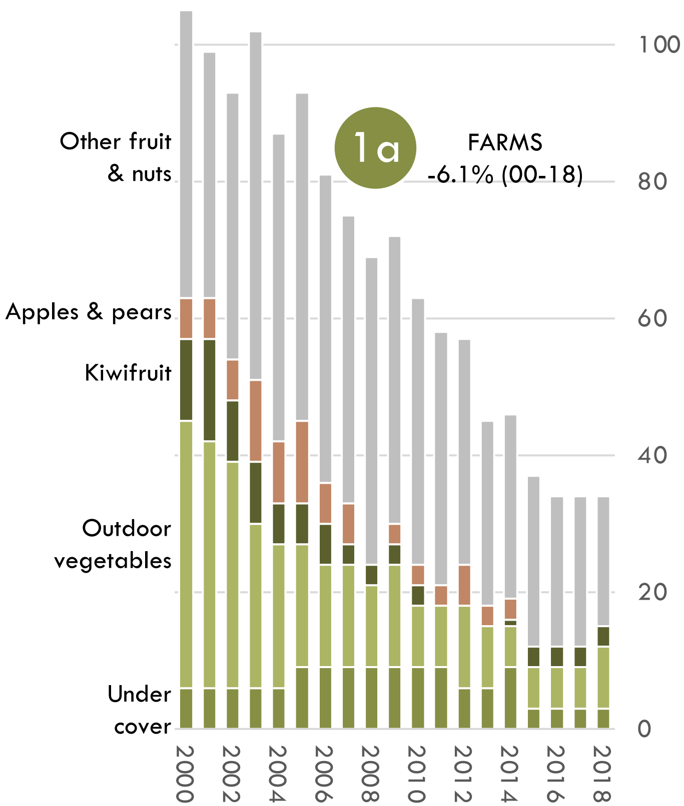
Fruit, nut & vegetable employment in Taranaki is the result of a handful of drivers



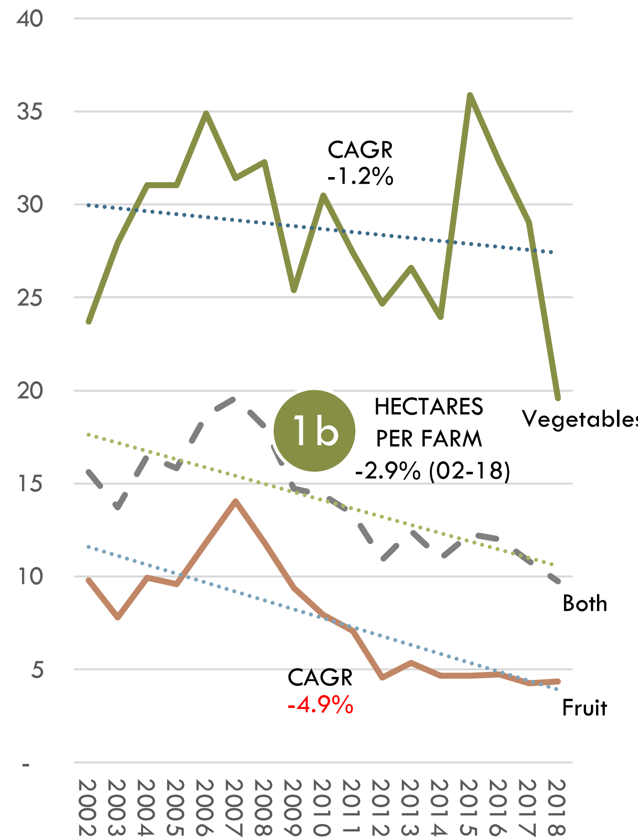
Note: Growth rates = CAGR (Compound Annual Growth Rate); Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Fruit & vegetable farm metrics are declining across the number of operations, farm size, and total area

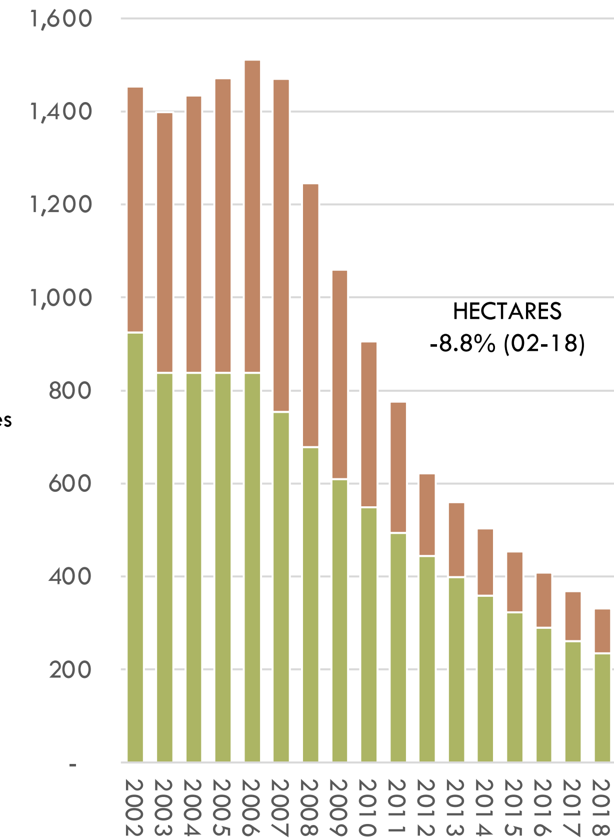
OF F, V & NUT FARMS*
Geog units; 2000-2018



AVERAGE F&V FARM SIZE^
Ha/geo unit; 2002-2018



F&V AREA^
Ha; 2002-2018

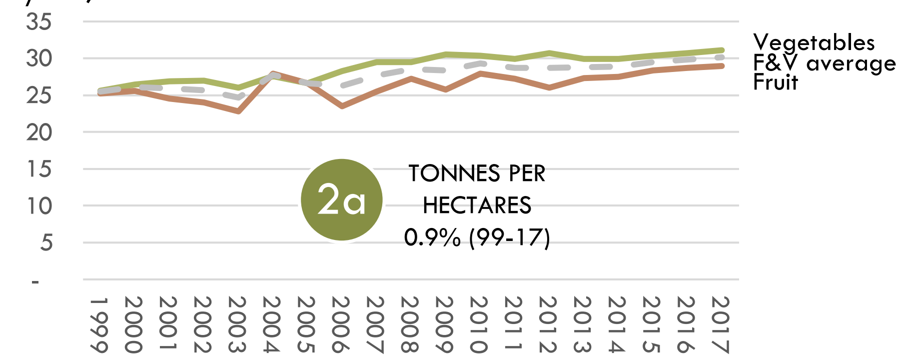


** Excluding grapes; ^ Uses line of best fit, patchy area data; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Taranaki has falling fruit and vegetable production and declining employment (primarily owner operators)

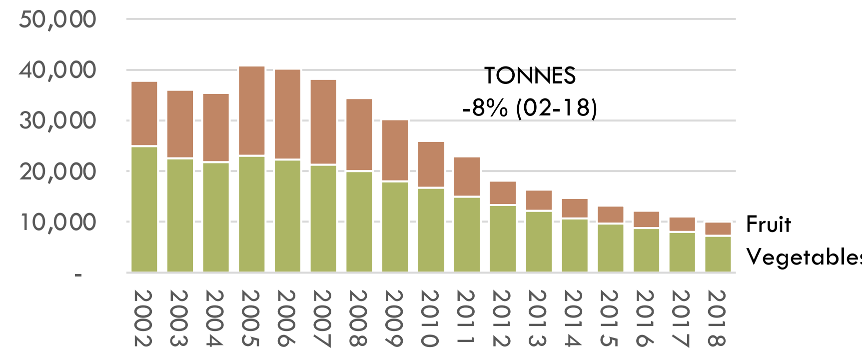
AVERAGE NZ YIELDS*

T/ha;1999-2017



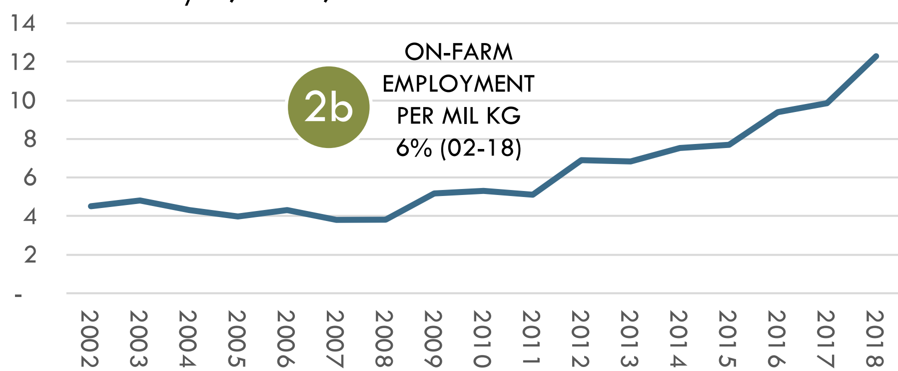
EST. TARANAKI FRUIT & VEG PRODUCTION

T; 2000-2018



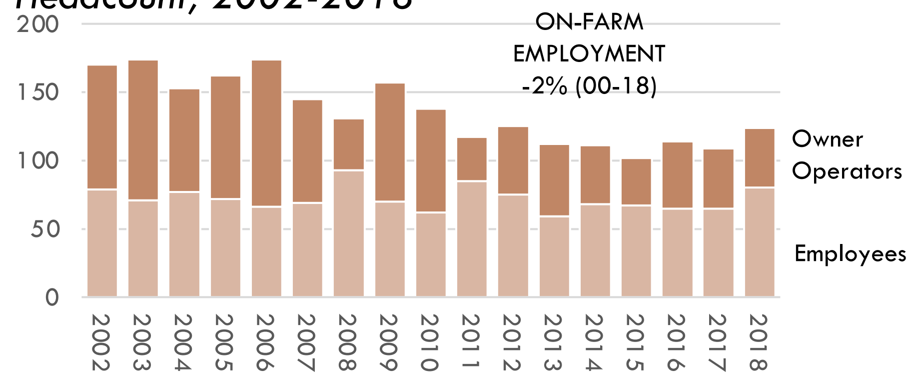
F&V EMP. PER 1,000 TONNE

Headcount/1,000t; 2002-2018



ON-FARM JOBS IN F&V^

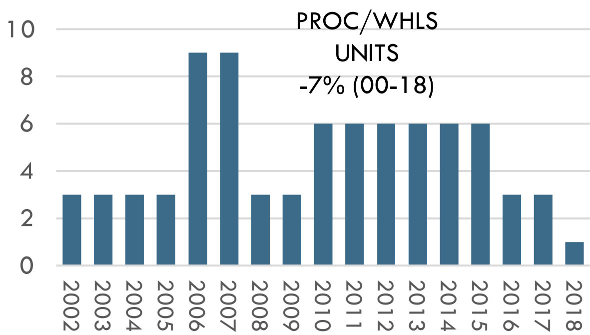
Headcount; 2002-2018



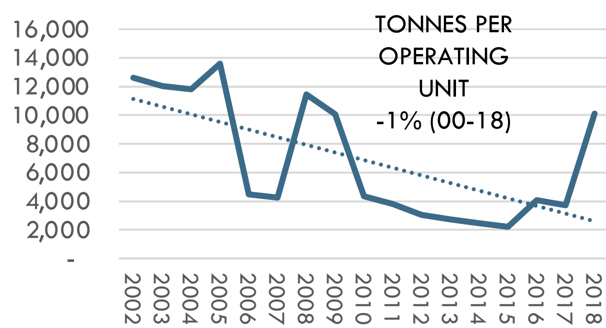
** No Regional data available; ^ Contains significant estimates; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Taranaki F&V wholesaling appears to be a case of ‘last man standing’; the region currently has no F&V processors

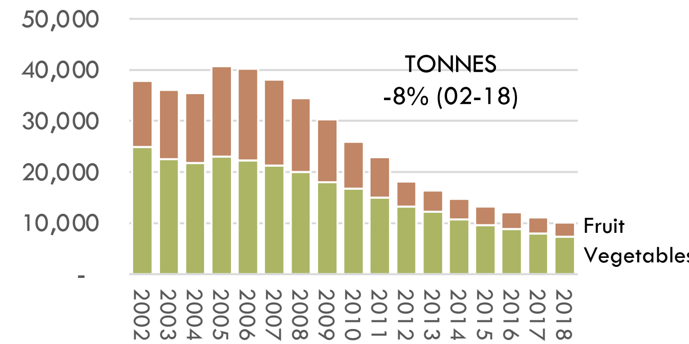
F&V WHLS/PROC UNITS
Geographic units; 2002-2018



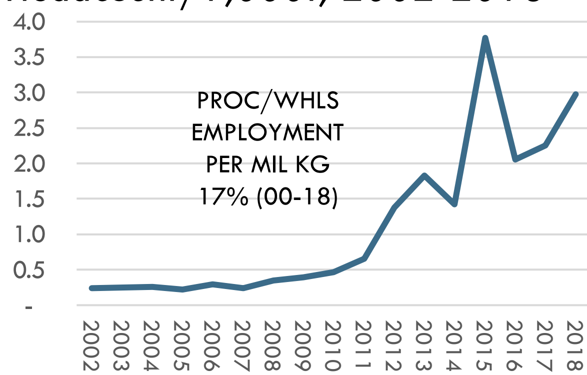
IMPLIED MAX TONNES/UNIT
T/unit; 2002-2018



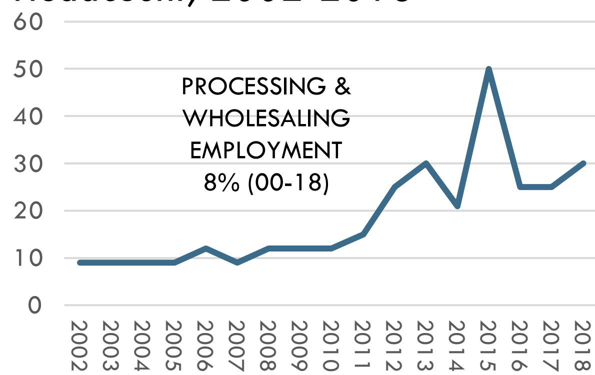
REGIONAL TONNES
T; 2002-2018



EMP./1,000 TONNE^
Headcount/1,000t; 2002-2018



EMP. IN PROC./WHLS.*
Headcount; 2002-2018

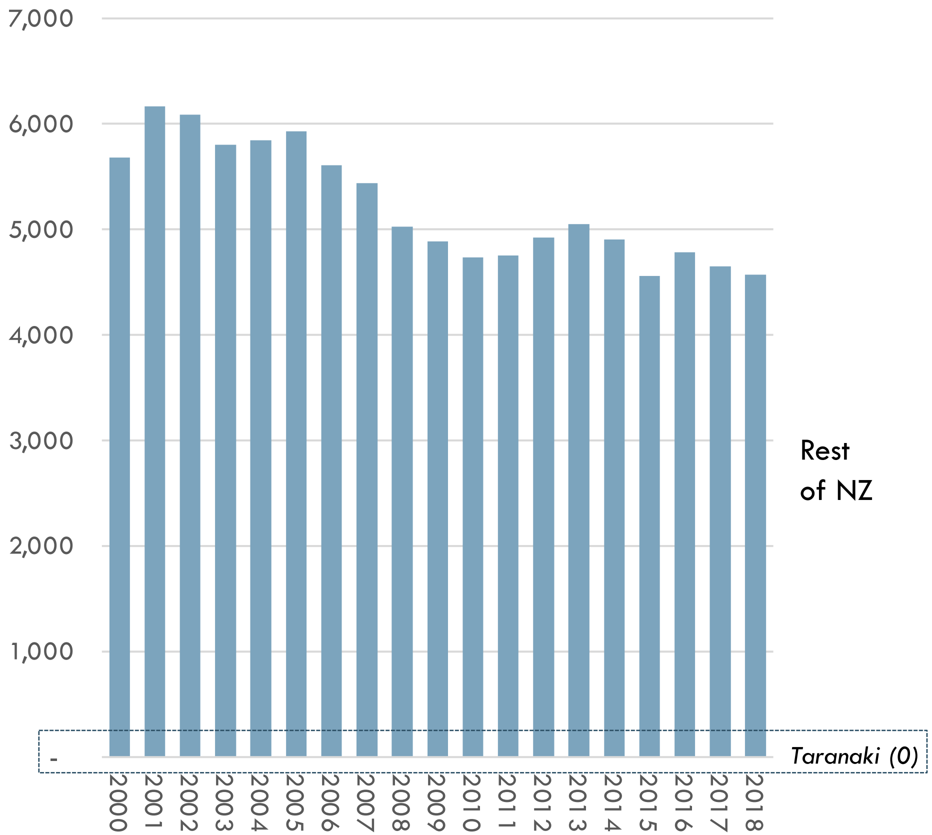


*Simplistic analysis: assumes all regional F&V flows through a wholesaler; ignores farm direct sales and regional ‘imports’; treat as directional; *As regional production has fallen, the region appears to have needed more wholesaling employees to handle ‘imports’ from other regions of New Zealand and elsewhere; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

As a result, Taranaki is not creating material numbers of post harvest F&V jobs in the region

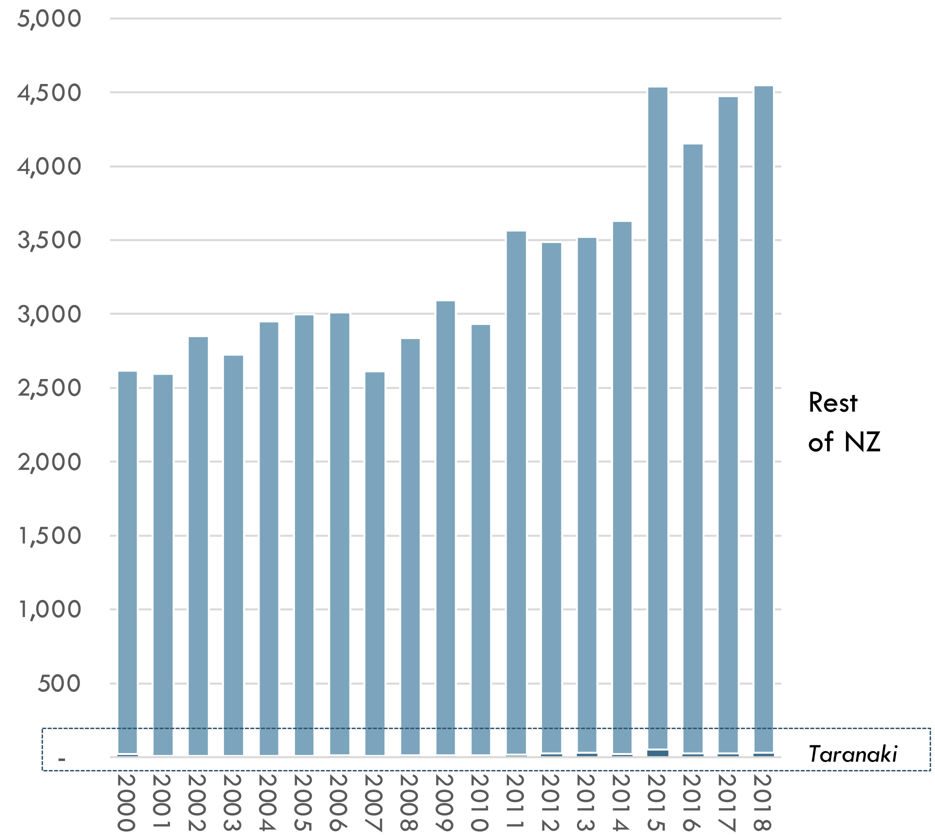
NUMBER OF F&V PROCESSING JOBS

Headcount; 2000-2018



NUMBER OF F&V WHOLESALING JOBS

Headcount; 2000-2018



Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Three broad opportunities exist to increase employment in the Taranaki fruit and vegetable industry

1 Target Specialty Fruit and Vegetables

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	100
LONG TERM	200

2 Attract New Investors for Protected Under Cover Options

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	100
LONG TERM	200

3 Support Value Added Products

PROPOSED NEW JOB TARGET	
SHORT TERM	20
MEDIUM TERM	40
LONG TERM	80

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; stock photo; Source: Coriolis estimates

1. Specialty fruit and vegetables in Taranaki have a clear growth trajectory

LOCAL/ REGIONAL FOODSERVICE

- Investigate climatically suitable crops
- Supply local restaurants, food service locations
- Growing demand for ‘local’ foods, in particular in foodservice
- ‘Taranaki on a Plate’ promotes local produce to restaurants/cafes

NATIONAL DISTRIBUTION

- Wellington
- Auckland
- Christchurch

SELECT EXPORT MARKETS*

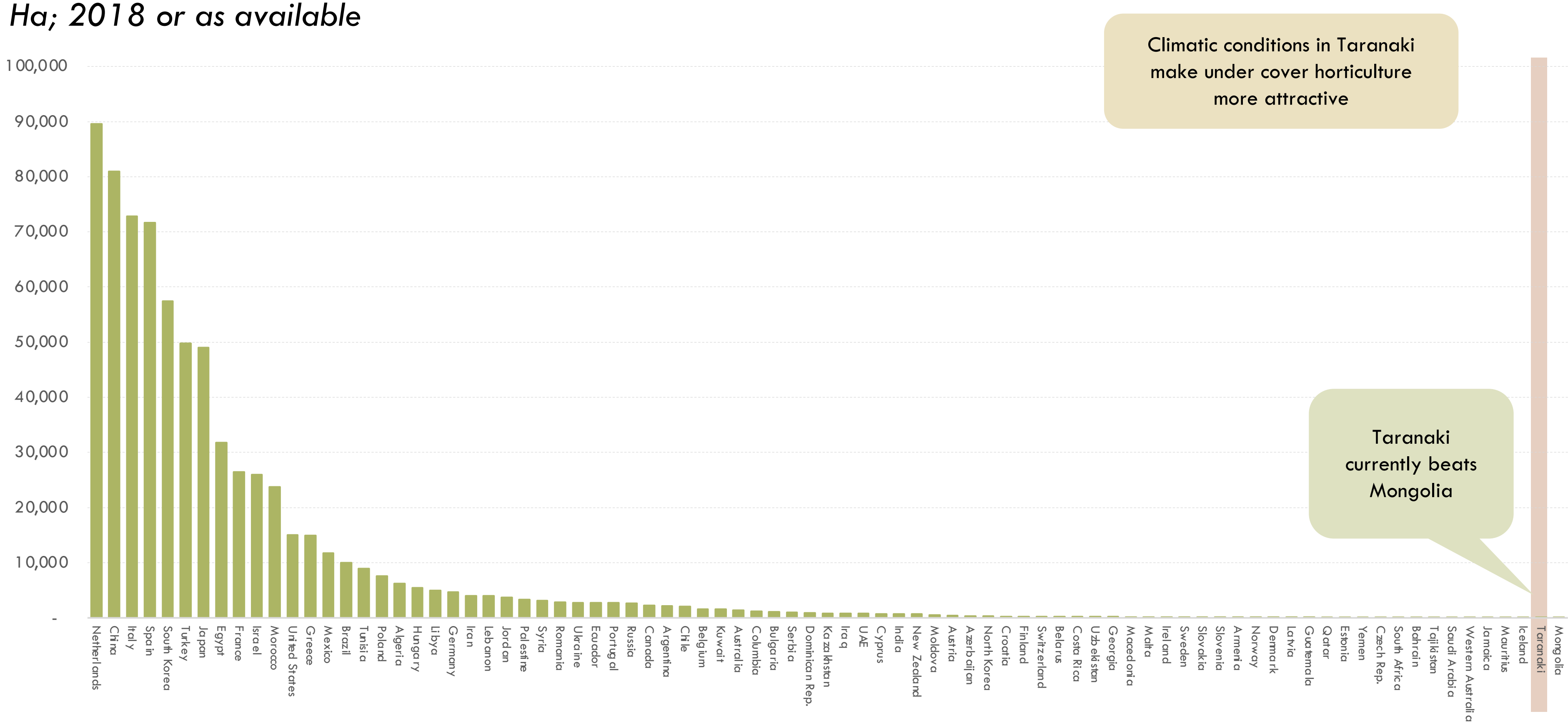
- Hong Kong
- Singapore
- UAE[1]
- Airfreight of relatively small quantities

**New Zealand has trade relationships and produce able to be exported to these markets; see previous Coriolis produce research; 1. United Arab Emirates; Source: interviews, Coriolis analysis*

2. Taranaki needs to attract new investors for protected cropping; peers suggest significant upside

AREA IN GREENHOUSE/UNDER COVER: TARANAKI VS SELECT PEERS

Ha; 2018 or as available



NOTE: data is from a wide range of sources and may not be perfectly comparable; many countries include glasshouse, greenhouse/PE tunnel & low tunnel; range of estimates for China (up to 2,760,000ha);
Source: Cuesta Roble Consulting; "Greenhouse production systems in Mediterranean area" Leonardi/De Pascale May 2010; "Greenhouse Technology Globally: The future of food"; Coriolis analysis

3. *Support start-up and emerging value added F&V companies*

EXAMPLES: TARANAKI VALUE ADDED F&V COMPANIES

SMOOTHIE INGREDIENTS

kaitahi The Native Superfood Company

Iwi owned - Ngaa Rauru Kiitahi
"Social-ecological enterprise"
Promoting the use of native superfoods
Revitalising the use of indigenous ingredients
Three products blended, blast frozen
Native ingredients: kawakawa, puha, kumara, rewarewa honey
Fine Food Winner of 2018 Most Innovative Foodservice Product

CRAFT SMOOTHIE

Riki Hoeata launched in 2016
Recipes and ingredients delivered to your door
5 superfood recipes (fresh F&V)
Ingredients sourced locally (wherever possible), organic suppliers

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Arable crops in Taranaki are driven by the dairy industry and processing jobs are in decline; however, growth options exist

Taranaki is a secondary arable crop region for New Zealand overall, accounting for 2.1% of New Zealand's arable crop area. This share is growing moderately. The key driver of the industry currently is the use of crops (maize) by the dairy industry.

Arable crop employment in Taranaki is the result of a handful of drivers.

The number of arable crop farms in Taranaki is growing while farms are consolidating into fewer, larger operations. Arable crop area (for all uses, grain, seed & fodder) and yields in Taranaki are growing, leading to growing production (CAGR 6.6%,+45,000 tonnes).

Arable crop farms in Taranaki are creating jobs (CAGR 11.4%).

However, Taranaki's growing arable crops are not being turned into new processed foods operations or jobs. The absolute number of processors in the region is small (6-9) and most ingredients for these processing operations are sourced from outside of the region.

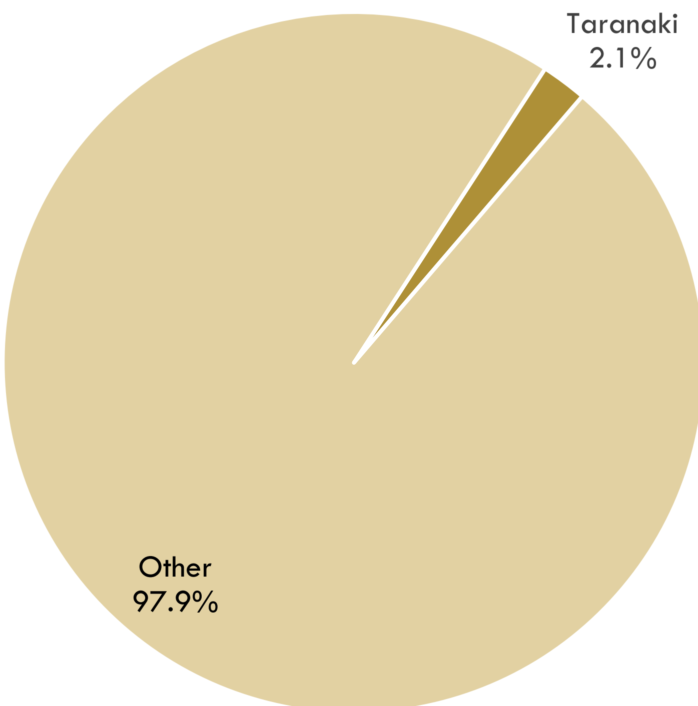
The two main manufacturers are Yarrows the Bakers and Van Dyck Foods both well established and growing companies.

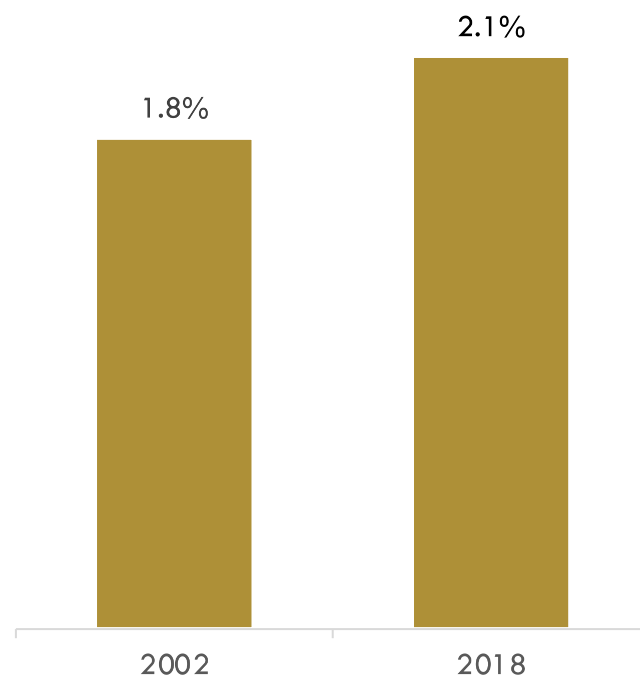
Three broad opportunities exist to increase employment in Taranaki's arable crops and grain-based foods industries

1. Taranaki needs to continue to achieve success in value added baked and bread products
2. Taranaki should learn from successes and investigate new specialty grains and crops; hemp seed (*Cannabis sativa*), as an example, has broad range of value add opportunities in the food industry
3. Taranaki is able to grow dairy feed and other feed in the region; able to substitution imports and export excess feed

Taranaki accounts for 2.1% of New Zealand's arable crop area and this share is growing moderately

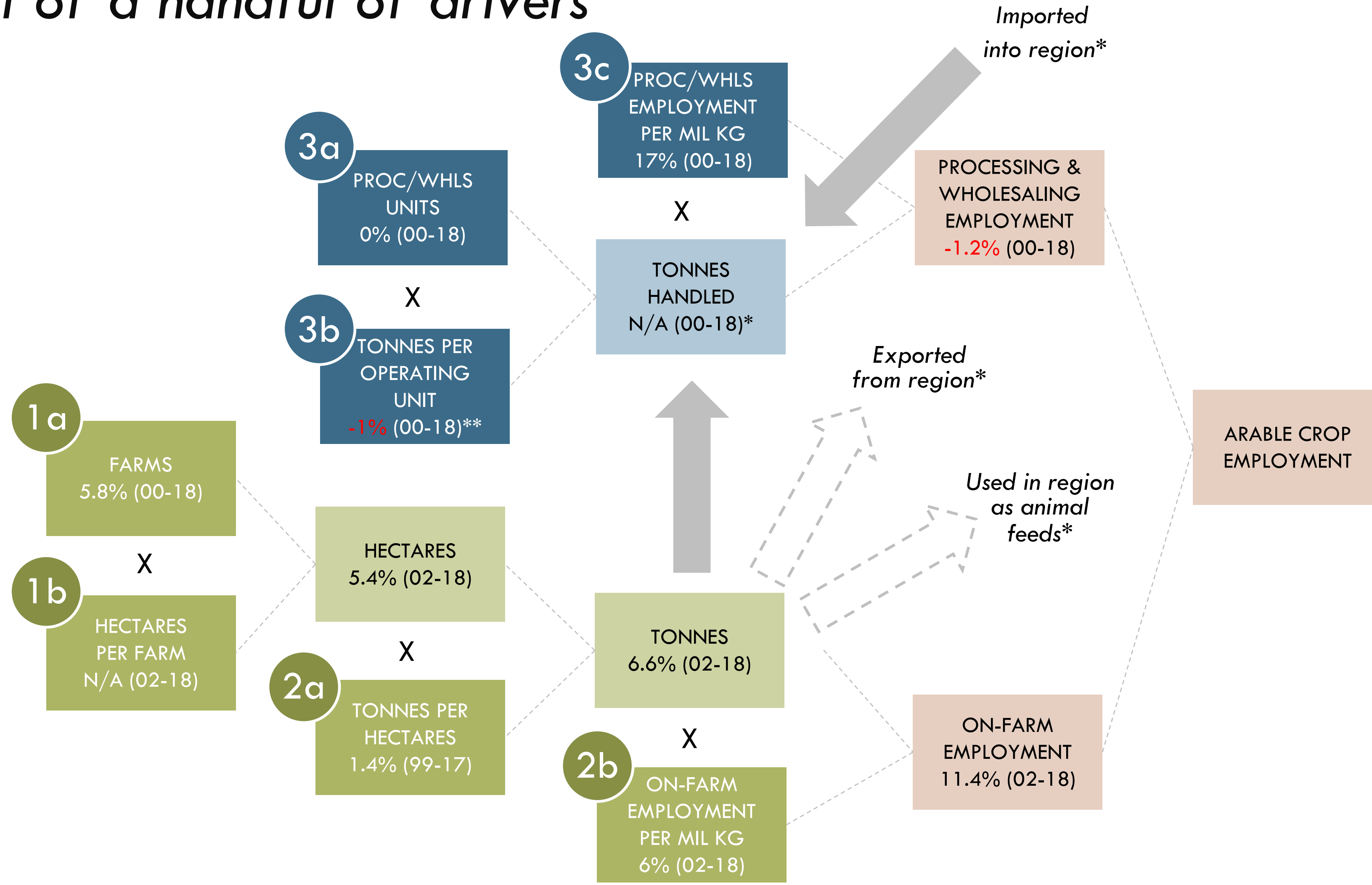
TARANAKI SHARE OF NZ ARABLE CROP AREA
% of national area; 2018





Source: Statistics NZ; Coriolis analysis

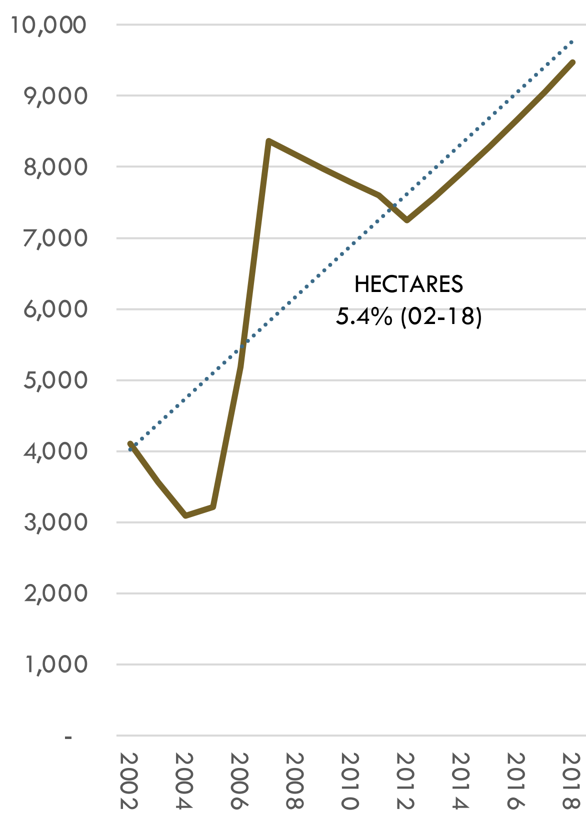
Arable crops, grains and seeds employment in Taranaki is the result of a handful of drivers



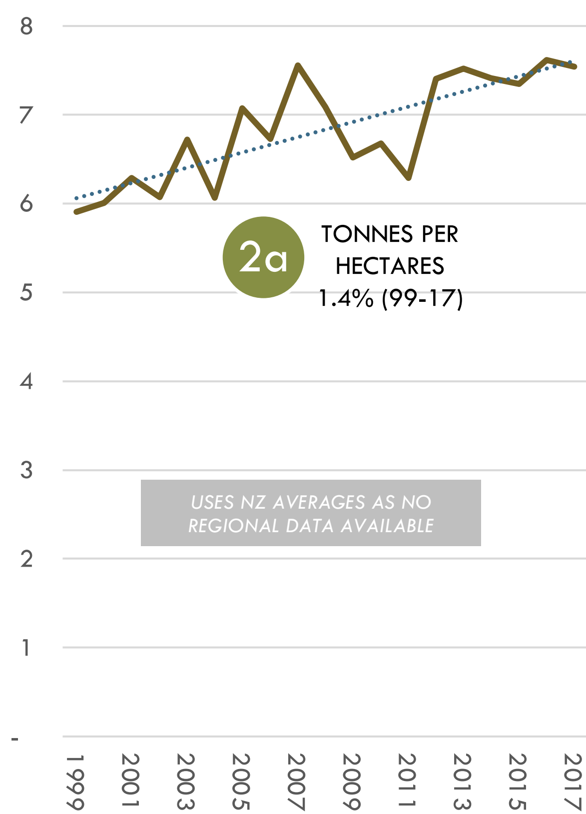
*Note: Growth rates = CAGR (Compound Annual Growth Rate); *No available data; **Estimate; Source: Statistics NZ; Coriolis assumptions, analysis and estimates*

Arable crop (grain, seed & fodder) area in Taranaki and yields are growing leading to growing production

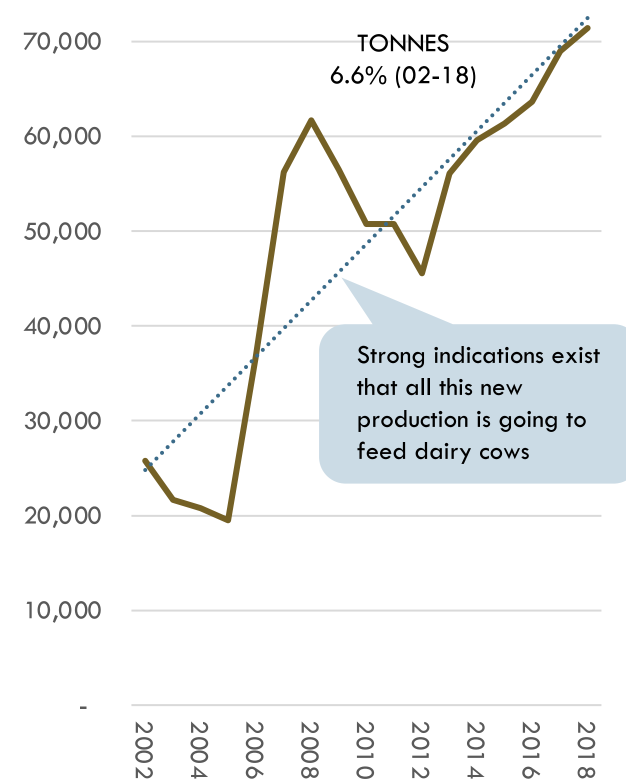
TARANAKI CROP AREA
Ha; 2002-2018



NZ AVERAGE TONNES/HA
T/ha; 1999-2017



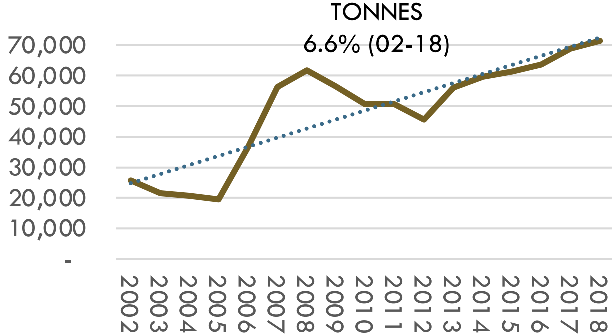
EST. TARANAKI TONNES
T; 2002-2018



Source: Statistics NZ; Coriolis assumptions, analysis and estimates

Arable crop farms in Taranaki are creating jobs; however, crops are not being turned into new processed foods operations or jobs

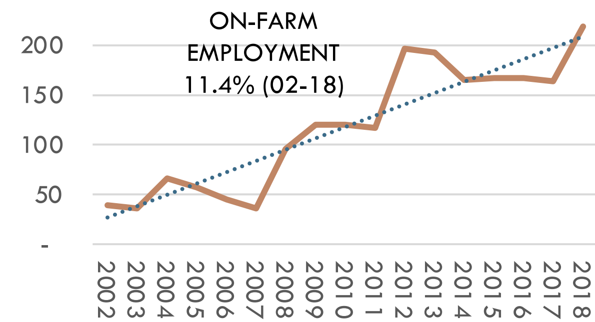
EST. ARABLE CROP TONNES
Tonnes; 2002-2018



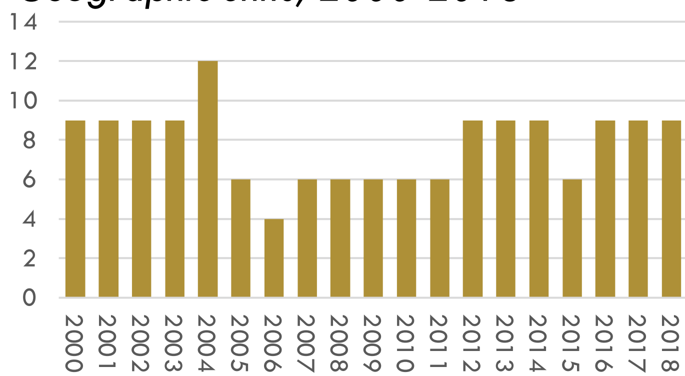
ON FARM EMP./1,000 T
Headcount; 2002-2018

Cannot be calculated due to significant arable crop area on dairy (and other) farms

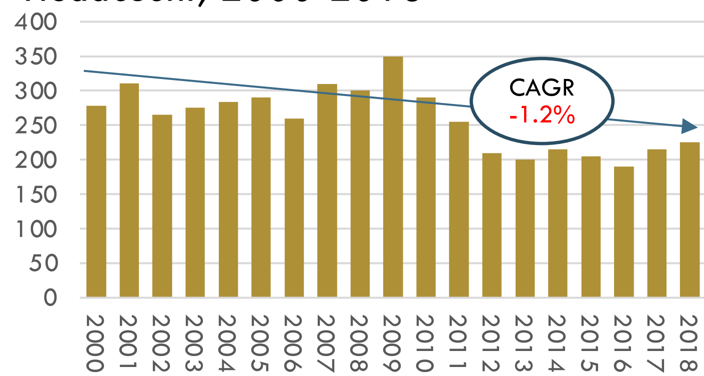
ARABLE ON-FARM EMPL.
Headcount; 2002-2018



GRAIN-BASED FOODS UNITS
Geographic units; 2000-2018



GRAIN-BASED FOODS EMPL.
Headcount; 2000-2018



Source: Statistics NZ; Coriolis analysis

Three broad opportunities exist to increase employment in Taranaki's arable crops and grain-based foods industries

1 Continue Investment by Existing Value Added Bread/Baked

PROPOSED NEW JOB TARGET	
SHORT TERM	100
MEDIUM TERM	200
LONG TERM	500

2 Investigate Specialty Grains and Crops

PROPOSED NEW JOB TARGET	
SHORT TERM	20
MEDIUM TERM	50
LONG TERM	100

3 Invest in Dairy and Other Feed

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	100
LONG TERM	200

Photo credit: stock photo; Source: Coriolis estimates

1. Taranaki needs to continue to achieve success in value added baked and bread products

YARROWS
THE BAKERS
EST. 1923

- Established 1923/2011
- Revenue $50-70m*; Staff: 250
- Bakery operates 7 days, 24hrs/day
- Produces range of breads, rolls, croissants, cookies and other quality baking products – fresh, par-bake and frozen dough
- Exports to Australia, Middle East and Asia

Van Dyck
Fine Foods Ltd

- Established 1999
- Revenue: $5-6m*; Staff: 30+
- Manufacturer of pancakes, sweet, plain and gluten free crepes, hotcakes, pikelets, mini hotcakes, blinis
- Manufacture under own brand 'Marcels' plus contract manufacture
- Exports to Australia, Hong Kong, Malaysia, Singapore, Taiwan, Fiji, Dubai

** Estimates; photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Source: company websites; interviews; Coriolis analysis and estimates*

2. Taranaki should learn from successes and investigate new specialty grains and crops

- NZ Quinoa Co. growing quinoa, an ancient supergrain, in South Taranaki
- Quinoa showing promising yields to date
- Opportunity in value added categories (following trends of health, snacking, convenience)
- Risk of over-supply (ensure sustainable growth)

- Global hype and excitement around industry
- Early stage trials in region
- Opportunity for value added food products
- Focus on entire supply chain
- Global examples show extreme volatility and significant regulatory hurdles to date

Image: Creative Commons; Source: interviews; Coriolis analysis

2. As an example, Hemp seed has a broad range of value add opportunities in the food industry

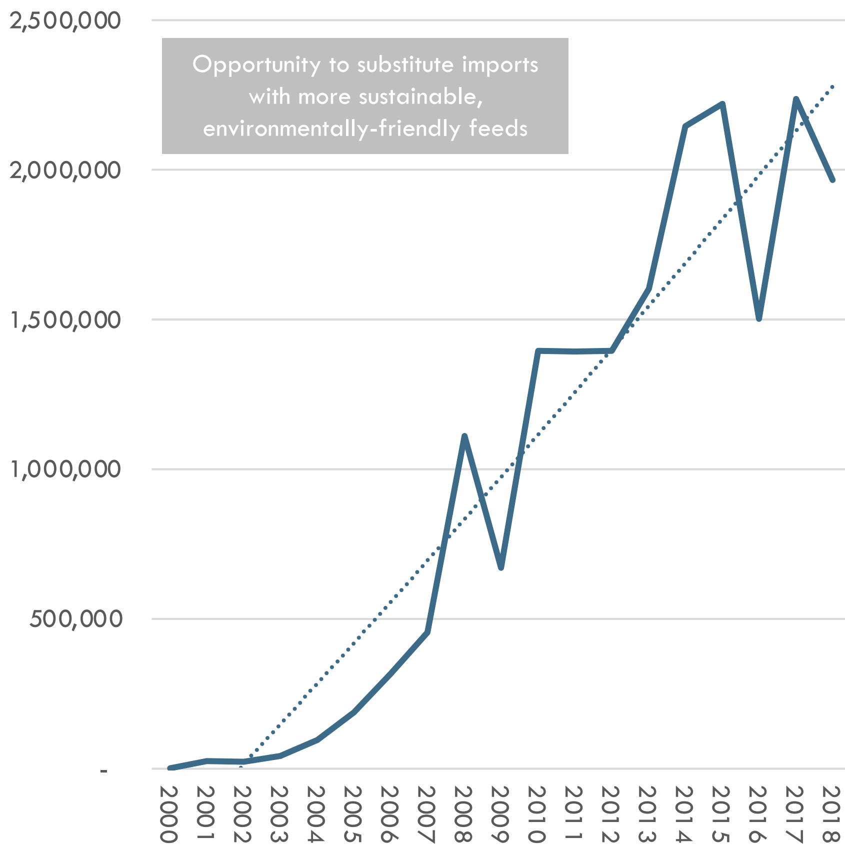
HEMP SEED

HEMP PRIMARY PROCESSED

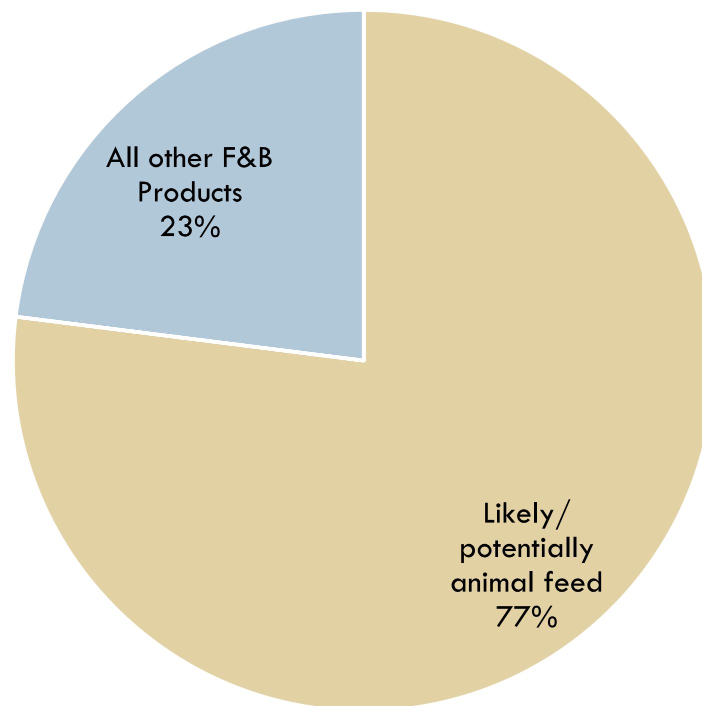
HEMP FURTHER PROCESSED

3. Taranaki is able to grow animal feeds, both for import substitution and for export markets (particularly E/SE Asia[1])

NEW ZEALAND PKE[2] IMPORTS
T; 2000-2018



TOTAL ASIAN FOOD IMPORT VOLUME
% of t; 2014



TOTAL = 225m tonnes of food and beverages

1. E/SE Asia East/South East Asia; 2. Palm Kernel Expeller HS230660 (dairy supplement used as has "reasonable levels of energy and protein" DairyNZ); Source: UN Comtrade; Target Market Opportunities in Asia for Western Australian Premium Produce, March 2016 (p28); Coriolis analysis

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Taranaki needs to attract new investment into the processed foods (including honey) sector

Taranaki produces 7.5% of New Zealand farmgate volume but only 2% of processed food operations and 1% of jobs.

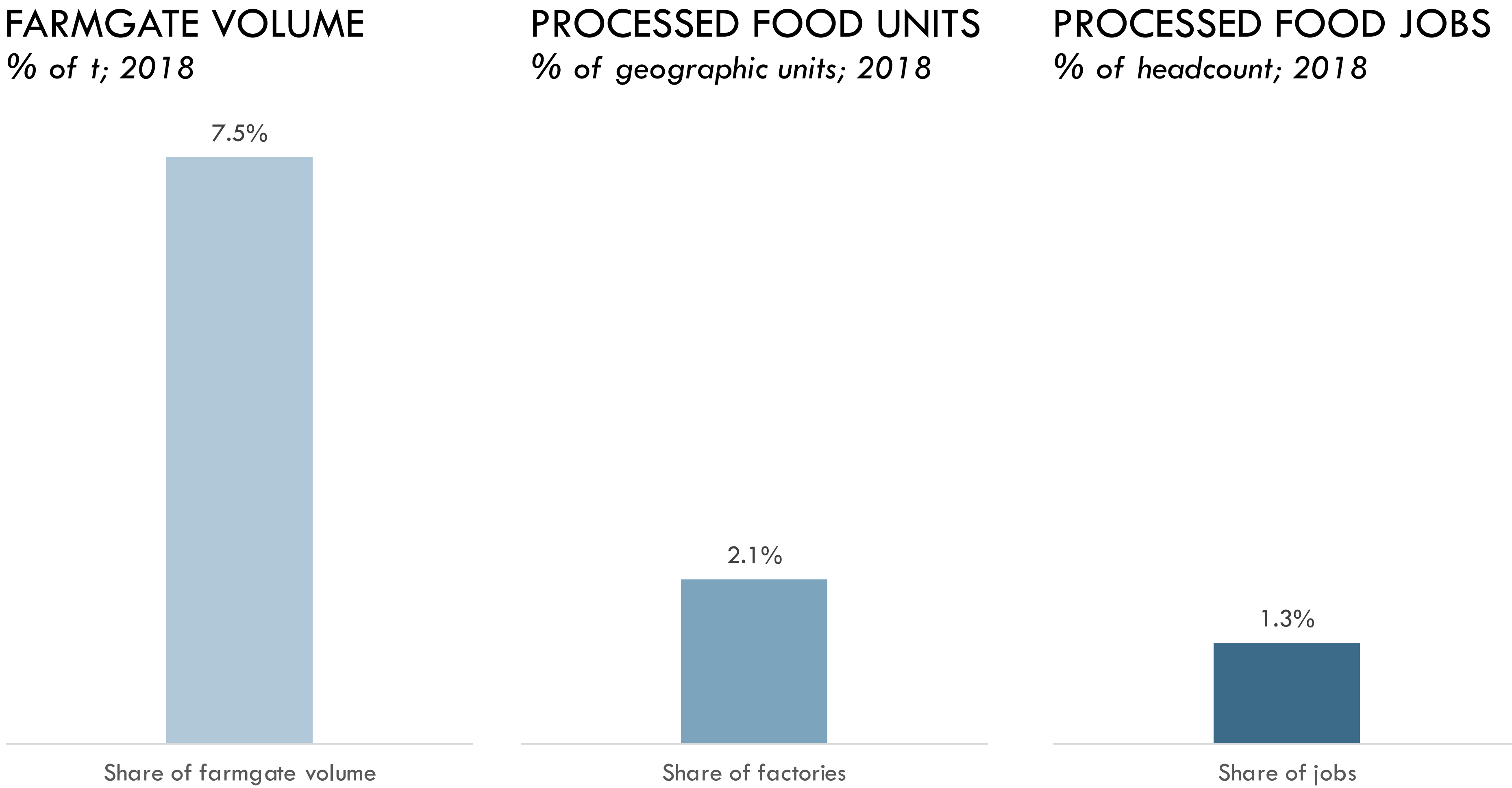
Taranaki is growing new processed foods firms and employment, though off a low base.

The Taranaki processed foods sector is currently concentrated in oils & fats and pet food; 'all other' segment accounts for the remaining third.

Two broad opportunities exist to increase employment in the Processed Foods in Taranaki

1. Taranaki needs to attract new investment into the high growth pet food sector
2. Taranaki needs to support small firms; region is not forming new processed food firms

Taranaki produces 7.5% of New Zealand farmgate volume but only 2% of processed food operations and 1% of jobs

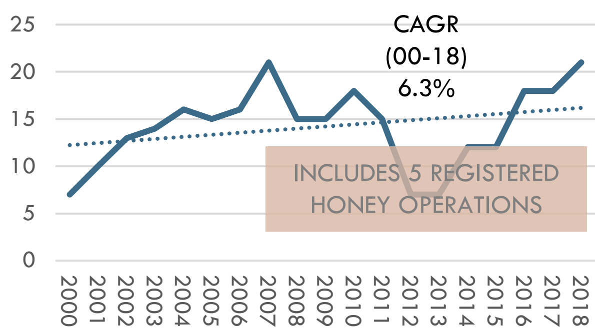


Note: Farmgate includes seafood; Source: Statistics NZ; Coriolis estimates and analysis

Taranaki is growing new processed foods firms and employment, though off a low base, over a third of jobs are in oils and fats

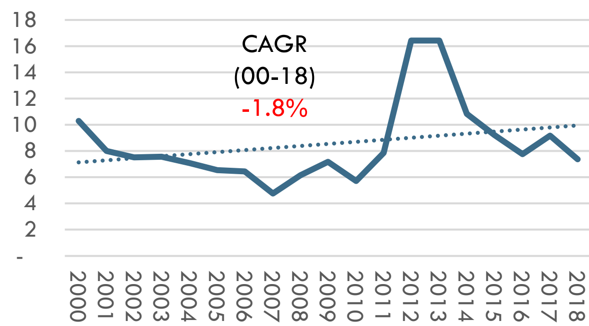
PROCESSED FOOD UNITS

Geographic units; 2000-2018



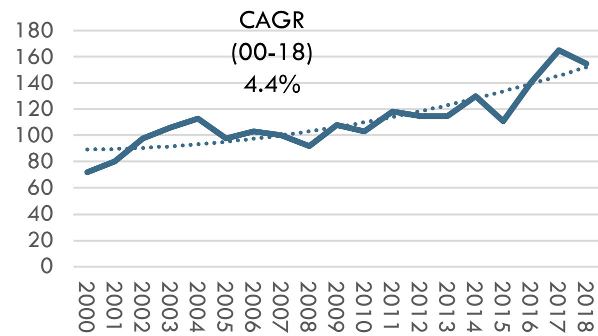
EMPLOYMENT/UNIT

Headcount/unit; 2000-2018



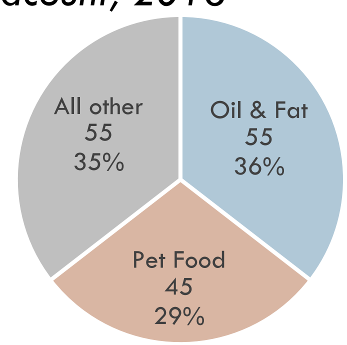
PROCESSED FOOD EMPL.

Headcount; 2000-2018



PROCESSED FOODS JOBS

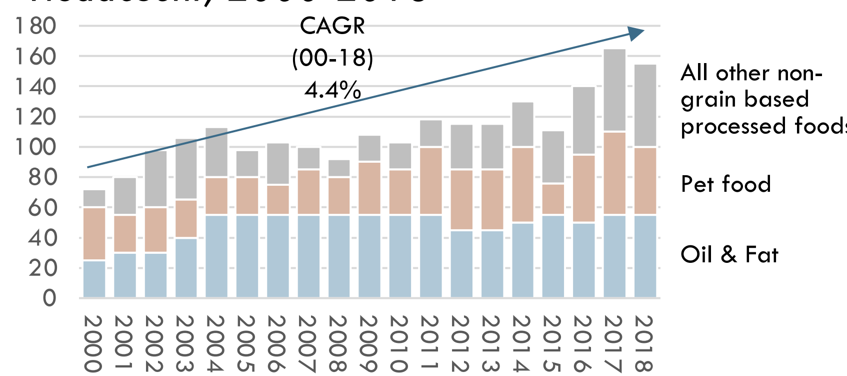
Headcount; 2018



Total = 155 jobs

PROCESSED FOODS JOBS

Headcount; 2000-2018



Source: Statistics NZ; Coriolis classification and analysis

Two broad opportunities exist to increase employment in the Processed Foods in Taranaki

1

Attract New Investment In Pet food

PROPOSED NEW JOB TARGET	
SHORT TERM	100
MEDIUM TERM	200
LONG TERM	500

2

Support Value Added Small Firms

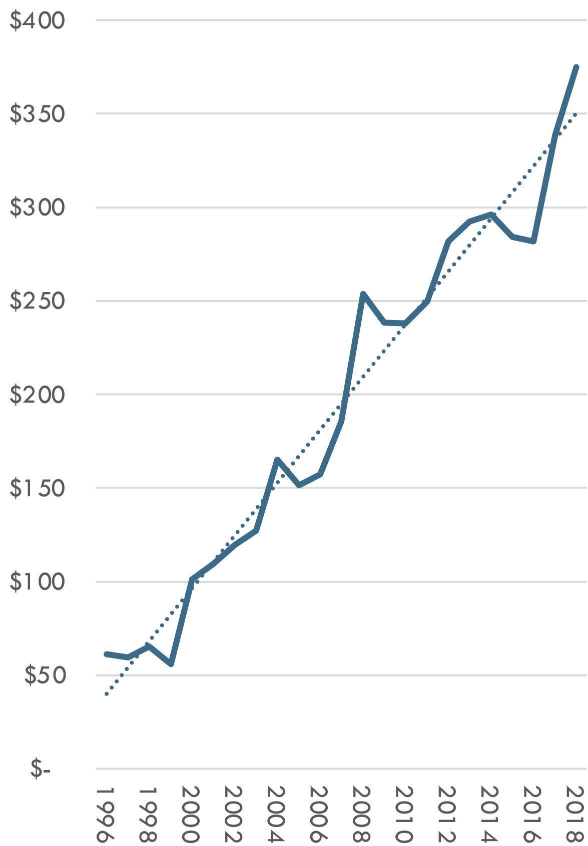
PROPOSED NEW JOB TARGET	
SHORT TERM	200
MEDIUM TERM	500
LONG TERM	1,000

Source: Coriolis estimates and modelling

1. Taranaki needs to attract new investment into the high growth pet food sector

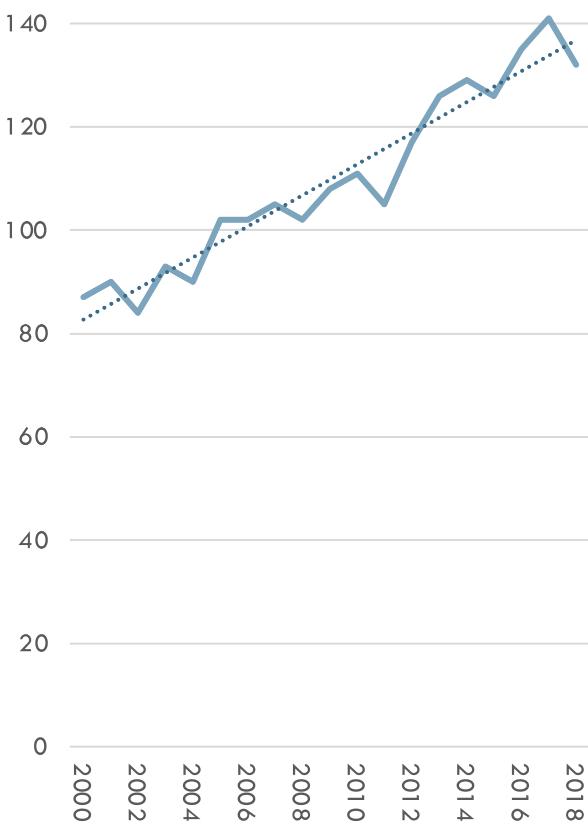
NZ PET FOOD EXPORTS

US$; m; 1996-2018



OF NZ PET FOOD FIRMS

Geographic units; 2000-2018



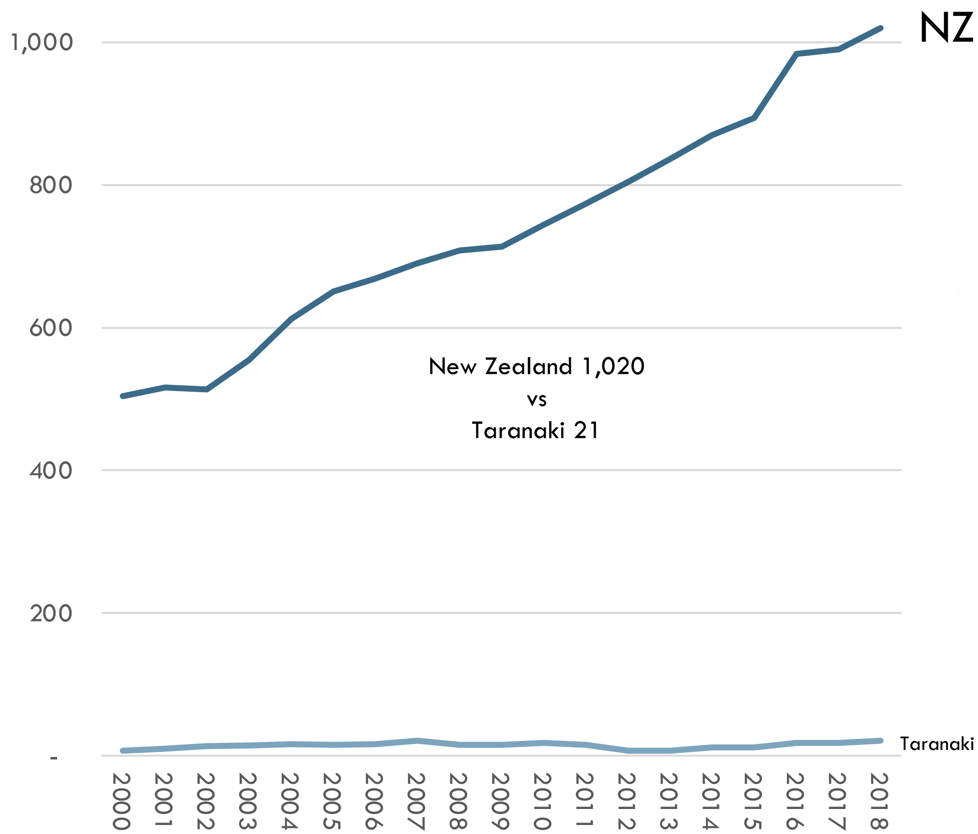
EXAMPLES OF SUCCESSFUL NZ PET FOOD PRODUCTS

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes; Source: Coriolis analysis

2. Taranaki needs to support small firms; the region is not forming significant numbers of new processed food firms

OF PROCESSED FOODS UNITS IN NZ

Geographic units; 2000-2018



EXAMPLES OF SUCCESSFUL NZ PROCESSED FOODS COMPANIES

Source: Statistics NZ; interviews; Coriolis analysis

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Taranaki has the opportunity to grow employment across all beverage categories

Taranaki has a handful of beverage companies across the core beverage categories (wine, beer, alcoholic spirits, and non-alcoholic beverages/water).

Four broad opportunities exist to increase employment in the Beverages industries in Taranaki

1. Taranaki needs to attract investment in the beer sector
2. Brand Taranaki appears well positioned for success in alcoholic spirits
3. Taranaki appears to have the required attributes for success in bottled water

Taranaki has a handful of beverage companies across the core beverage categories

PRELIMINARY

WINE	BEER	ALCOHOLIC SPIRITS	NON-ALCOHOLIC
okurukuru	Mike's	JUNO	pure one – Living Water - Made By Nature
KAIRAU LODGE & VINEYARD MOUNTAIN ROAD	Three Sisters Brewery Taranaki	in progress… Charteris Distillery	
	The Theoretical Brewer		

Source: Coriolis analysis

Three broad opportunities exist to increase employment in the Beverages industries in Taranaki

1 BEER

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	100
LONG TERM	~100

2 ALCOHOLIC SPIRITS

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	200
LONG TERM	500

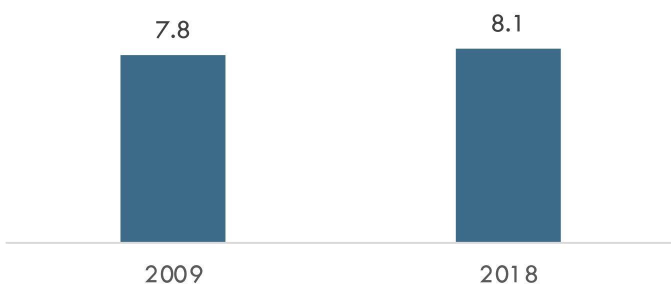
3 WATER

PROPOSED NEW JOB TARGET	
SHORT TERM	50
MEDIUM TERM	200
LONG TERM	500

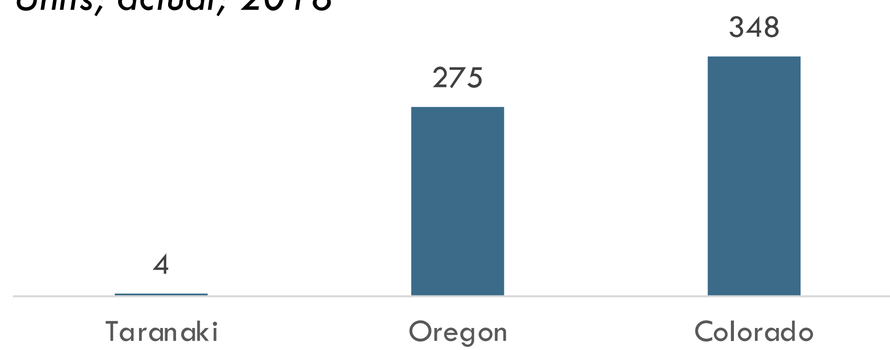
Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes and project authors; Coriolis estimates

1. *Taranaki needs to attract further investment in the beer sector*

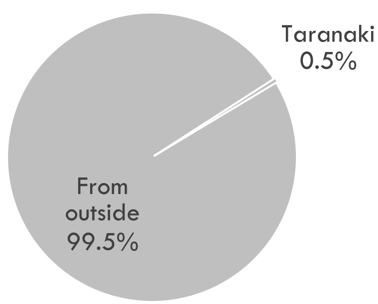
TARANAKI BEER CONSUMPTION
L; m; 2009 vs 2018



MICRO BREWERIES
Units; actual; 2018



TARANAKI BEER CONSUMPTION
% of l; 2018



Total = 8.08m litres consumed in region

EXAMPLE: MIKE'S BREWERY TARANAKI

2. Brand Taranaki appears to have the ingredients required for success in alcoholic spirits

PEERS DEMONSTRATE SUCCESS

Alcoholic spirits exports, US$; 2018

$1.2b

$6.1b

$510m

$142m

SPIRITS LEVERAGE REGIONAL IMAGE

Examples; 2018

SWEDEN

Clean, crisp, snow, fresh, mountains

ISLAY SCOTLAND

Isle of Islay (region); home of smoky, peaty Scotch whisky

TENNESSEE USA

Home of bourbon whiskey; home of country music

Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes and project authors; Creative Commons; Source: UN Comtrade; Coriolis analysis

3. Taranaki appears to have the required attributes for success in bottled water

FIJI WATER "No. 1 premium bottled water in the USA"

Website

remote

volcanic

untouched

finest

soft taste

natural artesian

pure

Islands

Earth' finest

Untouched by man™

VALUE OF WATER EXPORTS: FIJI

Exports, US$; m; 2000 vs 2018

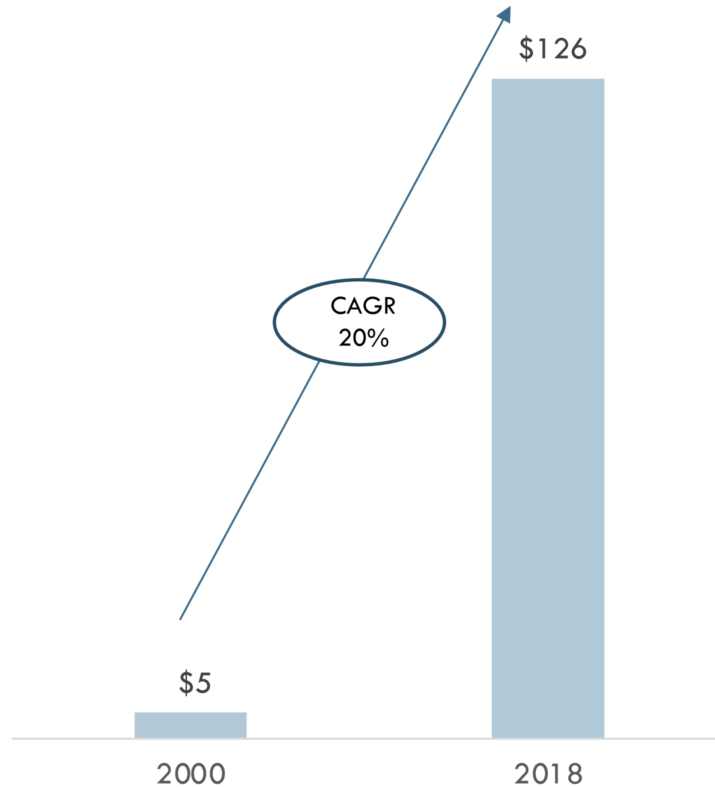


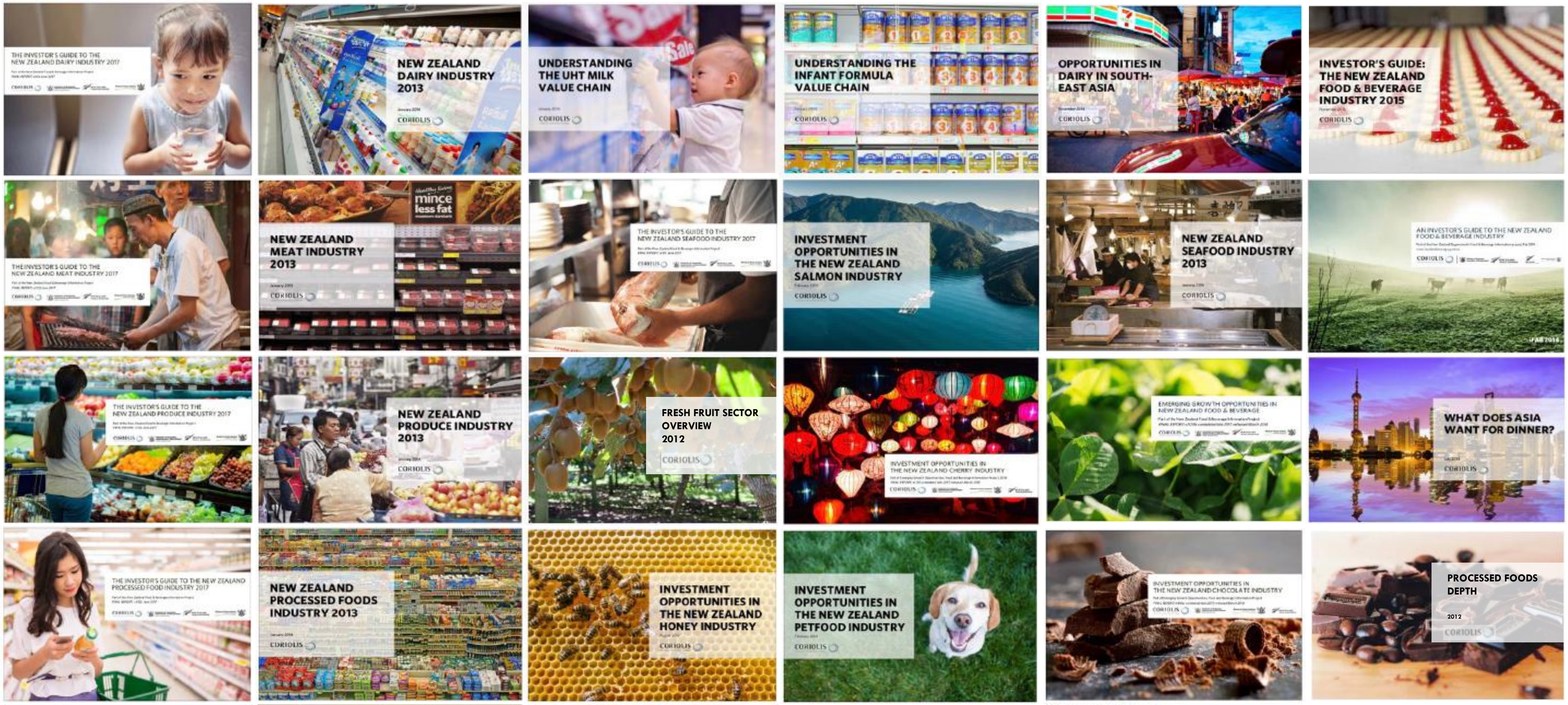
Photo credit: fair dealing/use; low resolution; complete product/brand for illustrative purposes and project authors; Source: http://www.fijiwater.com; Coriolis analysis

APPENDIX

A1: This work is part of the Regional Growth Opportunities research

THIS RESEARCH

This work builds on previous research as part of the F&BIP



See previous research reports at

https://www.mbie.govt.nz/business-and-employment/economic-development/growing-the-food-and-beverage-sector/food-and-beverage-information-project/
and
https://coriolisresearch.com/coriolis-research/reports/

A2. REGIONAL SNAPSHOT - TARNAKI – ON-FARM

ON-FARM QUANTITATIVE METRICS SCORECARD: TARANAKI

Various units as given; 2000-2018

	Share of NZ area*	Units (2018)	% NZ units of this sector	Units 18y ABS (00-18)	Units 18y CAGR (00-18)	On-farm jobs (2018)	% NZ on-farm jobs in this sector	Employment 18y ABS (00-18)	Employment 18y CAGR (00-18)
Dairy	11.7%	2,088	14.0%	-1,512	-3.0%	4,338	10.7%	-1,112	-1.3%
Red Meat & Pork	2.2%	1,056	4.3%	-105	-0.5%	1,521	3.4%	-139	-0.5%
Poultry Meat	N/A	51	17.0%	12	1.5%	311	21.1%	187	5.2%
Seafood	1.4%	15	1.0%	-12	-3.2%	21	0.4%	-31	-4.9%
Arable Crops	1.9%	144	3.2%	120	10.5%	219	3.5%	168	8.4%
Produce	0.7%	22	0.7%	-38	-5.4%	124	0.4%	-60	-2.2%
Other Foods	N/A	28	2.3%	10	2.5%	72	1.5%	48	6.3%
Grapes	0.0%	-	0.0%	-3	-100.0%	-	0.0%	-3	-100.0%
TOTAL	2.7%	3,404	6.6%	-1,528	-2.0%	6,606	4.9%	-942	-0.7%

*ABS = Absolute change; CAGR = Compound Annual Growth Rate; *Seafood uses share of coastline; poultry meat and other foods (eggs and honey) are not directly area dependent; Source: Statistics NZ; DairyNZ; MAF/MPI; MfE; Coriolis analysis and estimates*

REGIONAL SNAPSHOT - TARNAKI – PROCESSING

PROCESSING QUANTITATIVE METRICS SCORECARD: TARANAKI

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS (00-18)	% of new unit growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	18y ABS (00-18)	% of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average
Dairy	6	2.8%	0	0%	0.0%	↓	1,800	13.9%	-100	-2%	-0.3%	↓
Red Meat & Pork	21	6.4%	11	39%	4.2%	↑	1,985	7.4%	315	26%	1.0%	↑
Poultry Meat	1	2.9%	-5	-	-9.5%	↓	670	18.4%	370	23%	4.6%	↑
Seafood	3	0.9%	-6	-	-5.9%	↓	15	0.3%	-40	-	-7.0%	↓
Produce	3	0.6%	-3	-5%	-3.8%	↓	30	0.3%	9	1%	2.0%	↑
Grain-Based	9	2.4%	0	0%	0.0%	↑	225	3.4%	-56	-	-1.2%	↓
Processed Foods	21	2.1%	14	3%	6.3%	↑	155	1.3%	83	2%	4.4%	↑
Wine	-	0.0%	-1	0%	-100.0%	↓	-	0.0%	-6	0%	-100.0%	↓
Other Beverages	9	2.4%	3	1%	2.3%	↓	9	0.2%	6	1%	6.3%	↑
TOTAL	73	2.1%	13	1%	1.1%	↓	4,889	5.8%	581	4%	0.7%	↓

ABS = Absolute change; CAGR = Compound Annual Growth Rate; Source: Statistics NZ; DairyNZ; MAF/MPI; Coriolis analysis and estimates

A3. ACRONYMS

ABS	Absolute change
ANZSIC	AU/NZ Standard Industry Classification
AU	Australia
Australasia	Australia and New Zealand
b	Billion
CAGR	Compound Annual Growth Rate
F&B	Food and Beverage
F&V	Fruit and Vegetables
FAO	Food and Agriculture Organisation of the United Nations
FOB	Free on Board
f	Forecast
GEO	Geographic (unit)
Ha	Hectare
HS Code	Harmonized Commodity Description and Coding System
JV	Joint venture
kg	Kilogram
L	Litre
m/ml	Million
MFtE	Ministry for the Environment
MPI	Ministry of Primary Industries
mT	Metric Tonne
n/a	Not available/not applicable
Nec/nes/nei	Not elsewhere classified/specified/indicated
N/C	Not calculable
NZ	New Zealand
NZD/NZ$	New Zealand Dollar
T	Tonne
US/USA	United States of America
US$/USD	United States dollar
Y	Year

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