

# REGIONAL GROWTH OPPORTUNITIES

*In Food & Beverage Processing  
Employment in New Zealand*

*FINAL REPORT; v1.00b; August 2019*



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# *This project is targeted at a specific audience with clear objectives*

Regional Government

Regional Economic  
Development Agencies

National Agencies

Potential Investors

Other Stakeholders

1. Provide clear guidance on opportunities to create regional employment in post-farmgate food & beverage processing industry, both within and beyond traditional activities
2. Provide fact based/data driven foundation analysis to the regions of New Zealand
3. Move beyond typical 'aspirational, narrative-based' approach to regional strategic thinking in regards to where to focus limited resources to achieve post-farmgate food & beverage growth
4. Benchmark relative performance to identify gaps
5. Provide inputs to various regional strategy formation initiatives (rather than proposing a strategy)
6. Do not duplicate previous research (trade data etc.) but add to existing findings



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# EXECUTIVE SUMMARY

## FOOD IS IMPORTANT

New Zealand is a temperate climate country the size of Italy, Japan or the United Kingdom, but with the population of Singapore. Many of the regions of New Zealand are themselves the size of small countries. The country has an abundance of natural resources spread across a small population. Much of New Zealand's success to date in food has come from this simple fact.

From the 19th Century to today, the food and beverage industry has played an outsized role in the economy, the importance of which is difficult to overstate.

Food production uses almost half of New Zealand's land and much of the surrounding ocean. Food accounts for 32% of New Zealand's total manufacturing GDP. At \$34b, food is the country's major export industry generating two thirds (65%) of merchandise exports and close to half (46%) of total exports (both goods and services).

The core production (on-farms and processing) parts of the food industry directly support 219,000 jobs. When the wider food chain is taken into account – which includes food service, food wholesaling and food retailing – the industry employs close to half a million people, or one in five workers. These jobs are not concentrated in Auckland; they are spread all across the country. In regions outside Wellington and Auckland, this chain directly employs 20–40% of the working population, making it the core economic base for both small rural communities and the larger regional cities.

## CHANGE IS REQUIRED

The New Zealand food production system has evolved over many years to be a highly efficient producer of a few major commodities, with growth based on increasing volumes, and relentless productivity improvements.

Today New Zealand's pasture-based production system is being placed under pressure. Increasing dairy cow numbers are pushing up against local environmental limits. The methane emissions of New Zealand's animals are a major contributor to the country's total emissions footprint. The food industry must make significant changes in the coming years to reduce these impacts on the wider environment.

## FARMING IS LOSING JOBS

Farming is under not only external pressures, but also internal ones. Farming is a dynamic industry undergoing a fundamental long-term shift to fewer, larger production units. Over the last two decades, New Zealand has seen a more than 30% fall in farm unit numbers. Total on-farm employment, including owner-operators, has seen a net loss of 12,300 jobs since 2000. On-farm jobs are down across most regions, other than Canterbury, Otago and the West Coast.

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## PROCESSING IS CREATING JOBS

At the same time, over the last two decades, the number of food processing firms has increased by 50% and more than 13,500 jobs have been created. These jobs are not just on the factory floor, but in a wide variety of roles such as marketing, sales, branding, package design, and new product development. This growth is occurring across all regions and most sectors.

## REGIONAL NEW ZEALAND CAN CREATE MORE JOBS IN FOOD AND BEVERAGE PROCESSING

New Zealand has been missing out on processing jobs. New Zealand is the clear outlier when it comes to creating post-farmgate jobs from food. All peers create significantly more jobs per tonne of farm gate raw material than New Zealand. In fact, New Zealand food supports 5–10 times more jobs for others beyond the border than it currently does at home. A key reason for this is that our production and export system is configured to producing and exporting the ingredients which others then take and

manufacture into the products that consumers buy. One way to think about this is that the export of commodities is also the export of jobs (see *diagram next page*).

Peers suggest that by continuing to do more with raw ingredients, the regions of New Zealand can continue to create significant new **post farm gate** processing employment across multiple sectors.

This research finds New Zealand's largest industry is not "a sunset sector" that has limited growth potential. Precisely the opposite is true. Food exports are growing, outperforming most other export sectors. Much of this growth is driven by value added products such as processed foods, wine and nutraceuticals. This growth can continue on the back of rising global demand.

The New Zealand industry is "de-commodifying". The last 10 years has seen a significant "move up the value chain" through the development of a large and growing food processing sector. Processors are turning more and more of our abundant ingredients into finished consumer ready products, for

example milk powder into infant formula. These are products that are ready to go into the back door of supermarkets or restaurants.

To continue the "de-commodification" trend New Zealand needs to find five to ten new growth platforms. This research identifies many product categories that can contribute to this, ranging from advanced dairy based medical nutritionals to pet food.

## WHAT IS NEEDED?

Realising this employment growth opportunity requires three specific sets of potential investors to embrace the future: (1) existing large firms at scale need to reinvest, (2) new large investors with scale and skills need to be attracted, and (3) new and emerging firms need to be nurtured.

The regions of New Zealand that focus their investment of scarce time and resources in these identified growth sectors will be rewarded.

# New Zealand is missing out on food manufacturing jobs

FIGURE 1: FLOW OF NEW ZEALAND MILK POWDER FROM THE FARMER TO CONSUMER  
Simplified model



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## DAIRY PROCESSING

New Zealand can create more dairy processing jobs by producing more complex products, rather than simple ingredients. Opportunities identified for growth include: (1) Medical Infant Formula, (2) Dairy-based Nutritionals, (3) Non-Cow dairy, and (4) Specialty Cheese.

## MEAT PROCESSING

While meat processing is currently a major employer, it is unclear whether the sector can create significant new jobs going forward. Opportunities identified for growth include: (1) Meat-Based Snacks, (2) Branded Packaged Consumer-Ready Products, and (3) Consumer-Ready Convenience Meals.

## POULTRY PROCESSING

Poultry processing can continue to create employment growth for New Zealand. Opportunities identified for growth include: (1) Further Domestic Consumption, (2) Targeting Key Export Markets, (3) Developing Value Added Products, and (4) Alternative Poultry Species.

## SEAFOOD

Seafood is unlikely to create new jobs without new aquaculture coming into production. Opportunities identified for growth include: (1) Salmon, and (2) Region-Suitable Aquaculture.

## PRODUCE PROCESSING/WHOLESALE

Produce wholesaling and processing is unlikely to create new jobs without significant new land coming into production. Opportunities identified for growth include: (1) Nuts, (2) Apples, (3) Kiwifruit, (4) Avocados, (5) Emerging Fruit, (6) Under Cover Crops, (7) Root Crops, and (8) Processing Vegetables.

## GRAIN PROCESSING/WHOLESALE

Grain processing & wholesaling is unlikely to create significant new jobs going forward without developing new products. Opportunities identified for growth include: (1) High-Dairy Baked, (2) Oat “Milk,” (3) Seeds, and (4) Hemp (for food and beverage usage).

## PROCESSED FOODS

New Zealand can continue to grow employment in processed foods production. Opportunities identified for growth include: (1) Nutraceuticals, (2) Pet Food, (3) Confectionery/ Snacking, and (4) New & Innovative Foods.

## WINE

Creating employment growth in New Zealand wine production will require regions outside Marlborough to grow. Opportunities identified for growth include: (1) Sparkling Wine, (2) “Cognac”, and (3) Non-Marlborough Reds.

## OTHER BEVERAGES

New Zealand can continue to grow employment in non-wine beverages. Opportunities identified for growth include: (1) Alcoholic Spirits, (2) Water, (3) Cider & Similar, and (4) Premium Non-Alcoholic.

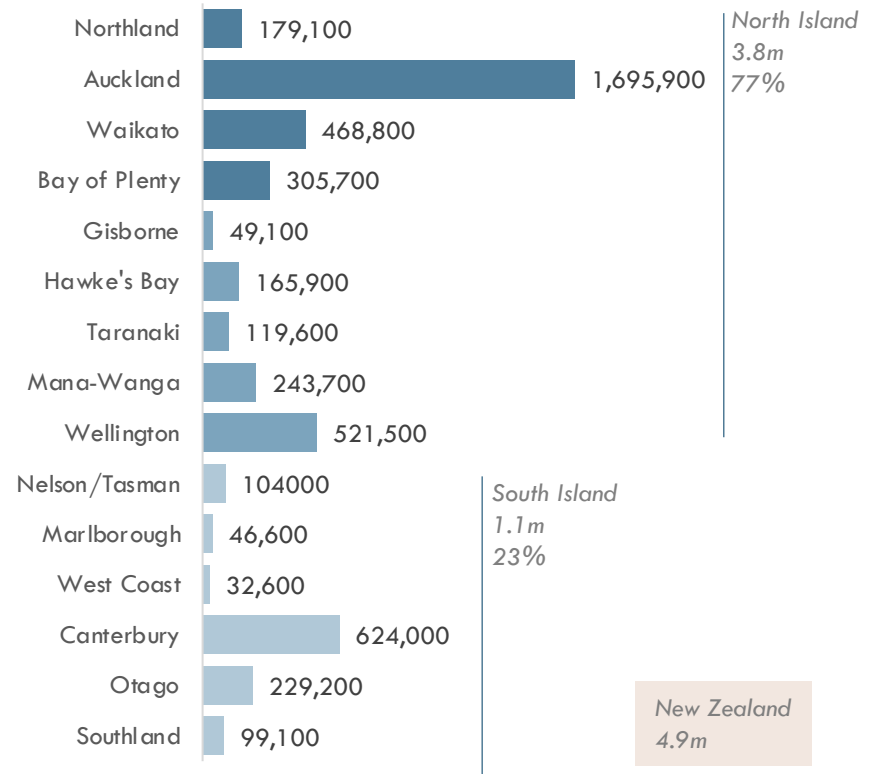


# This analysis is conducted at the level of New Zealand's fifteen\* regions

## NEW ZEALAND REGIONS 2019



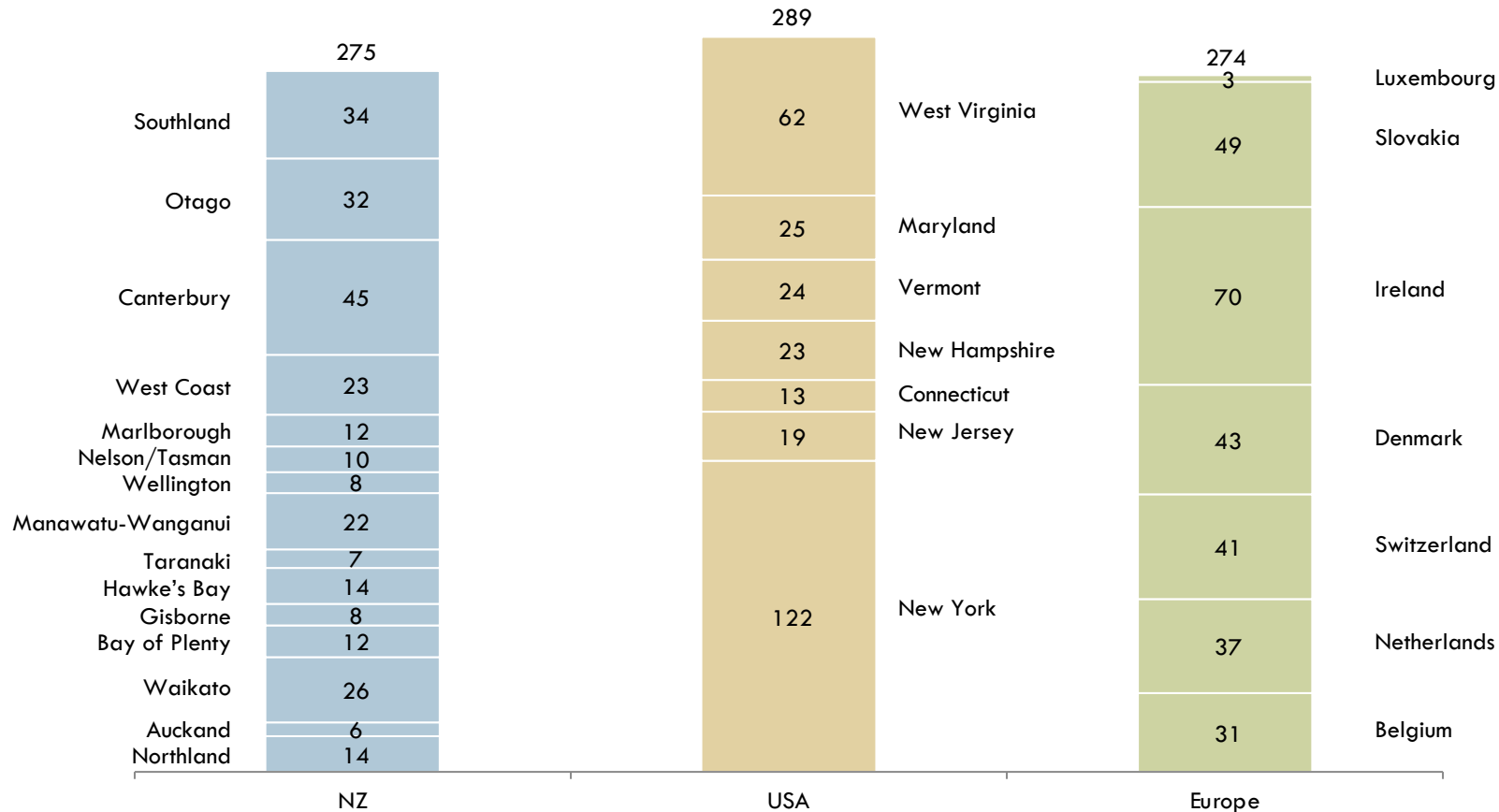
## POPULATION BY REGION 2018



\*Nelson and Tasman data combined in the research; See Appendix for Regional Snapshots; Source: MBIE Regional database, Coriolis analysis

*As a reminder, New Zealand is not a small country; many regions are the size of major European countries or American states*

**TOTAL AREA: NEW ZEALAND VS. SELECT TEMPERATE DEVELOPED PEER COUNTRIES**  
*km<sup>2</sup>; 2018*



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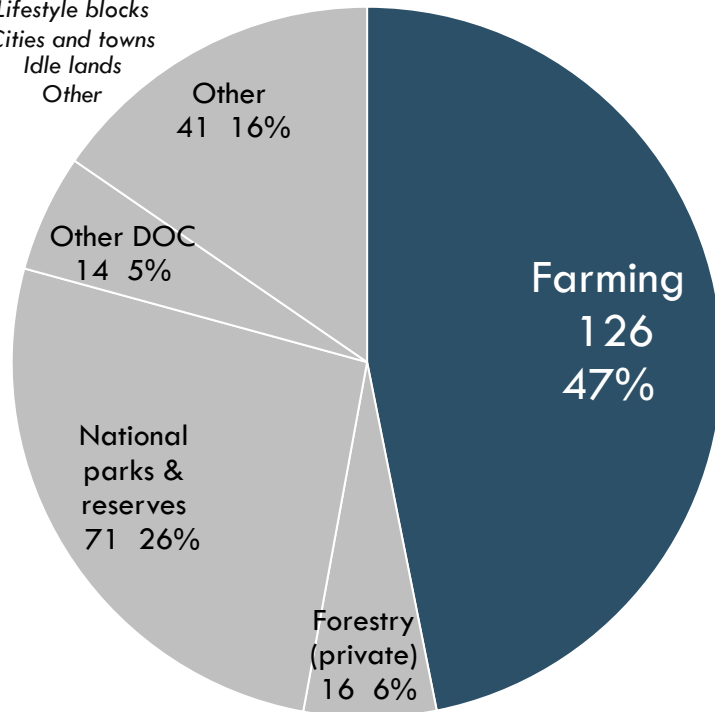
# AGENDA

- A. THE FOOD & BEVERAGE INDUSTRY IS IMPORTANT TO NEW ZEALAND
- B. FOOD PROCESSING IS GROWING & CREATING JOBS POST FARMGATE
- C. SECTORS VARY IN LIKELY JOB CREATION IN PROCESSING GOING FORWARD

# Food production uses almost half of New Zealand's land and much of its oceans

## NEW ZEALAND LAND USE km<sup>2</sup>; 000; 2010

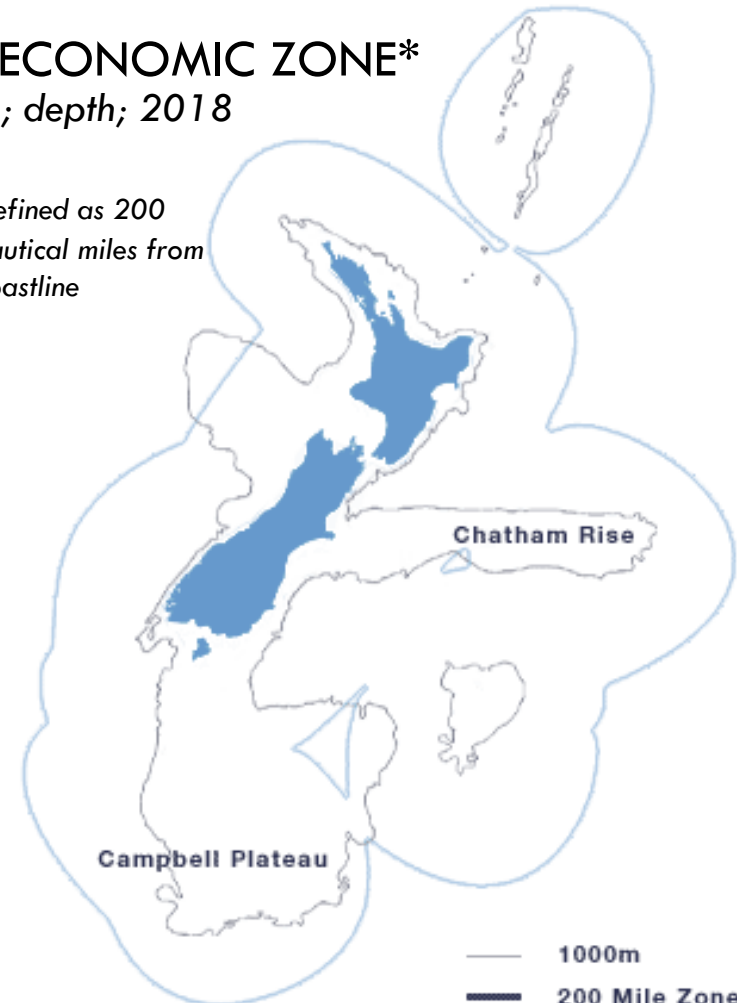
Other government lands  
Non-Ag Tribal Lands  
Lifestyle blocks  
Cities and towns  
Idle lands  
Other



TOTAL = 268,000 km<sup>2</sup>

## NZ ECONOMIC ZONE\* Area; depth; 2018

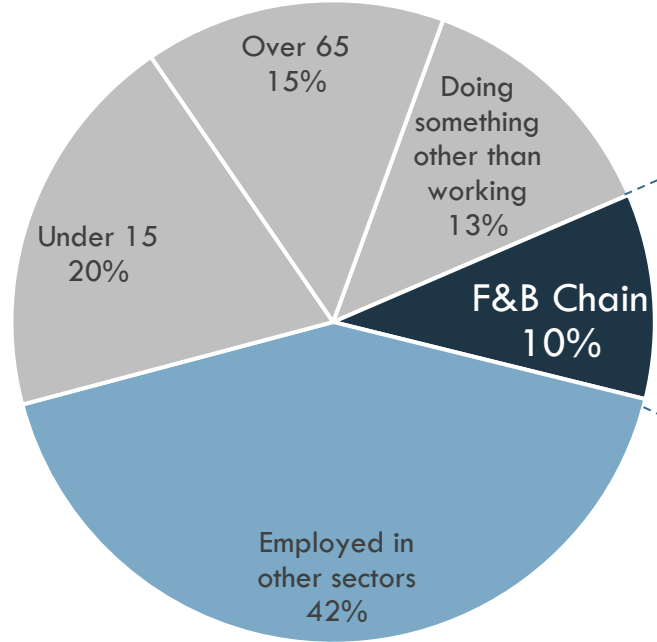
Defined as 200 nautical miles from coastline



\*EEZ; Note: a nautical mile is 1,852 metres; Source: Statistics NZ; Department of Conservation; Sealord; Coriolis analysis

# The wider food chain directly employs one in five working people in the country

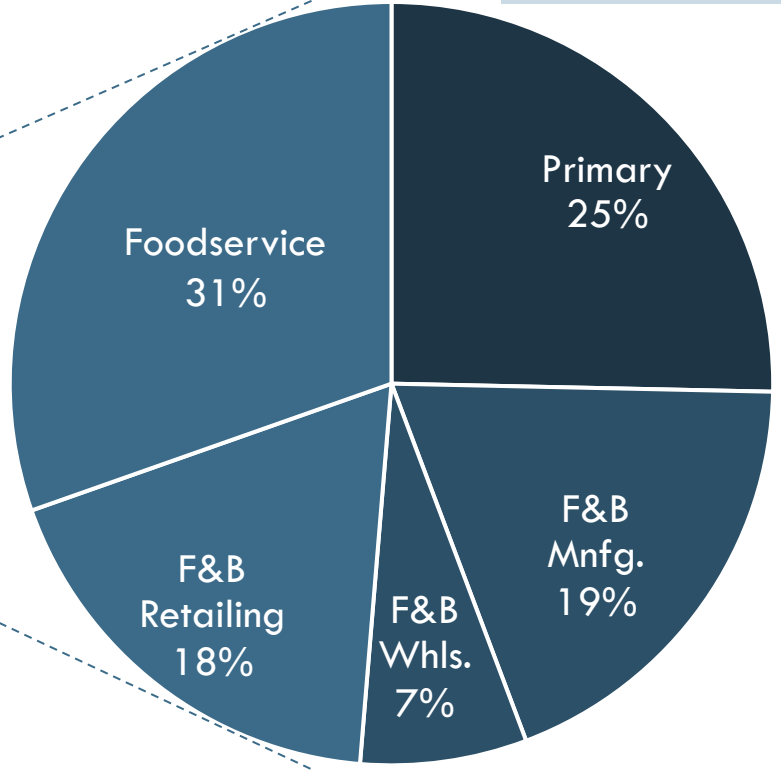
**NZ POPULATION BY EMPLOYMENT**  
 People; m; 2017



Total = 4.8m

**FOOD CHAIN EMPLOYMENT BY SECTOR**  
 People; %; 2017

NOTE: Tight definition; excludes all inputs and support services; likely closer to 1/3 including those



Total = 493,000

... or one in five of working population

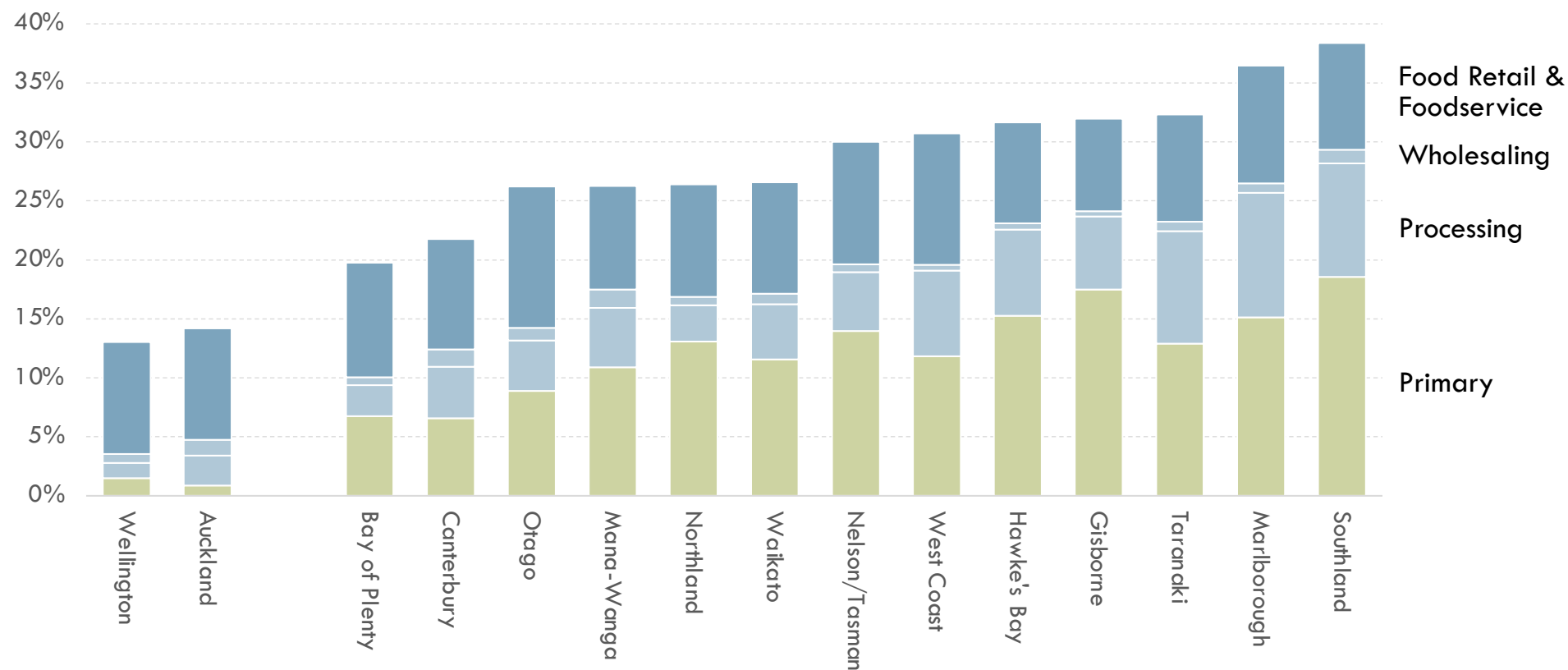


# In regions outside of Wellington & Auckland, the wider food chain directly employs 20-40% of the working population

## PERCENT OF REGIONAL EMPLOYMENT IN THE FOOD CHAIN

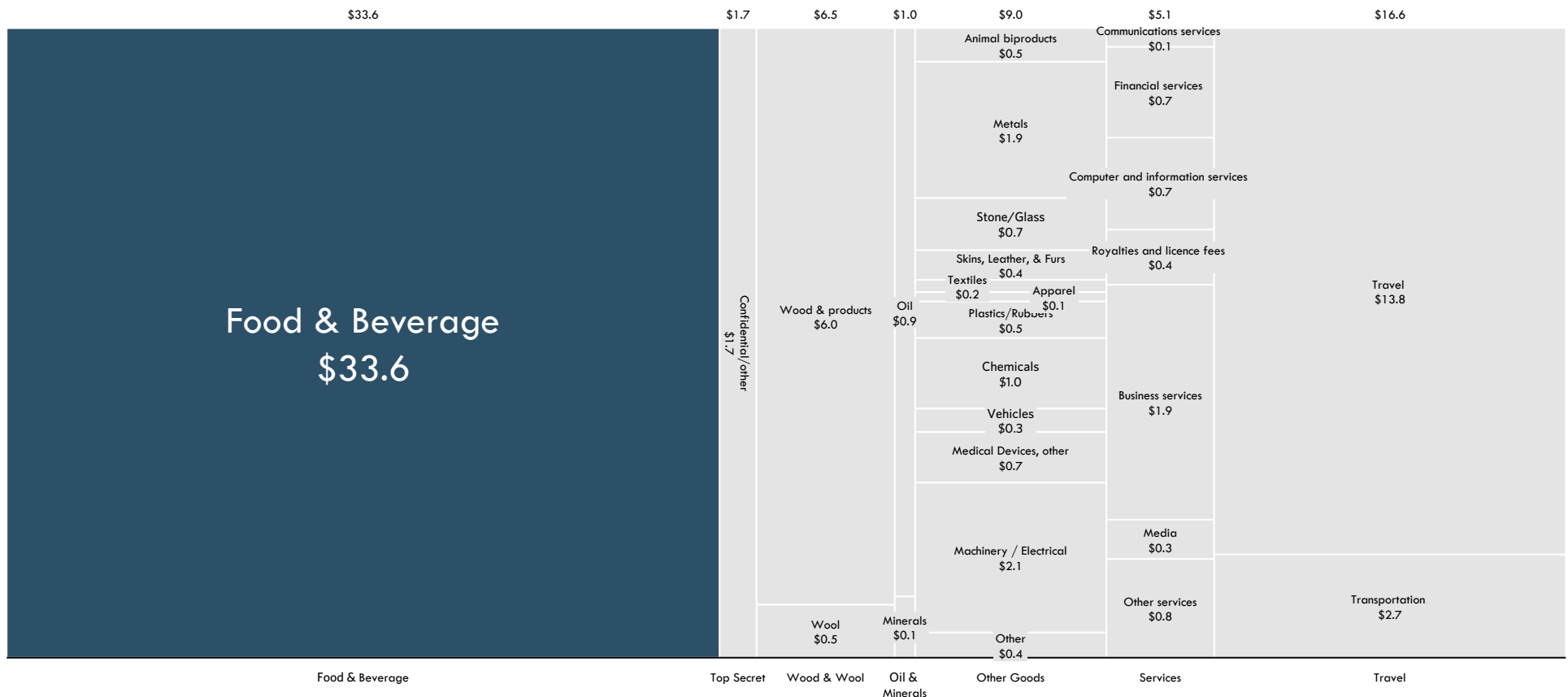
% of employees; 2018

NOTE: Tight definition; excludes all inputs and support services; likely closer to 1/3 including those



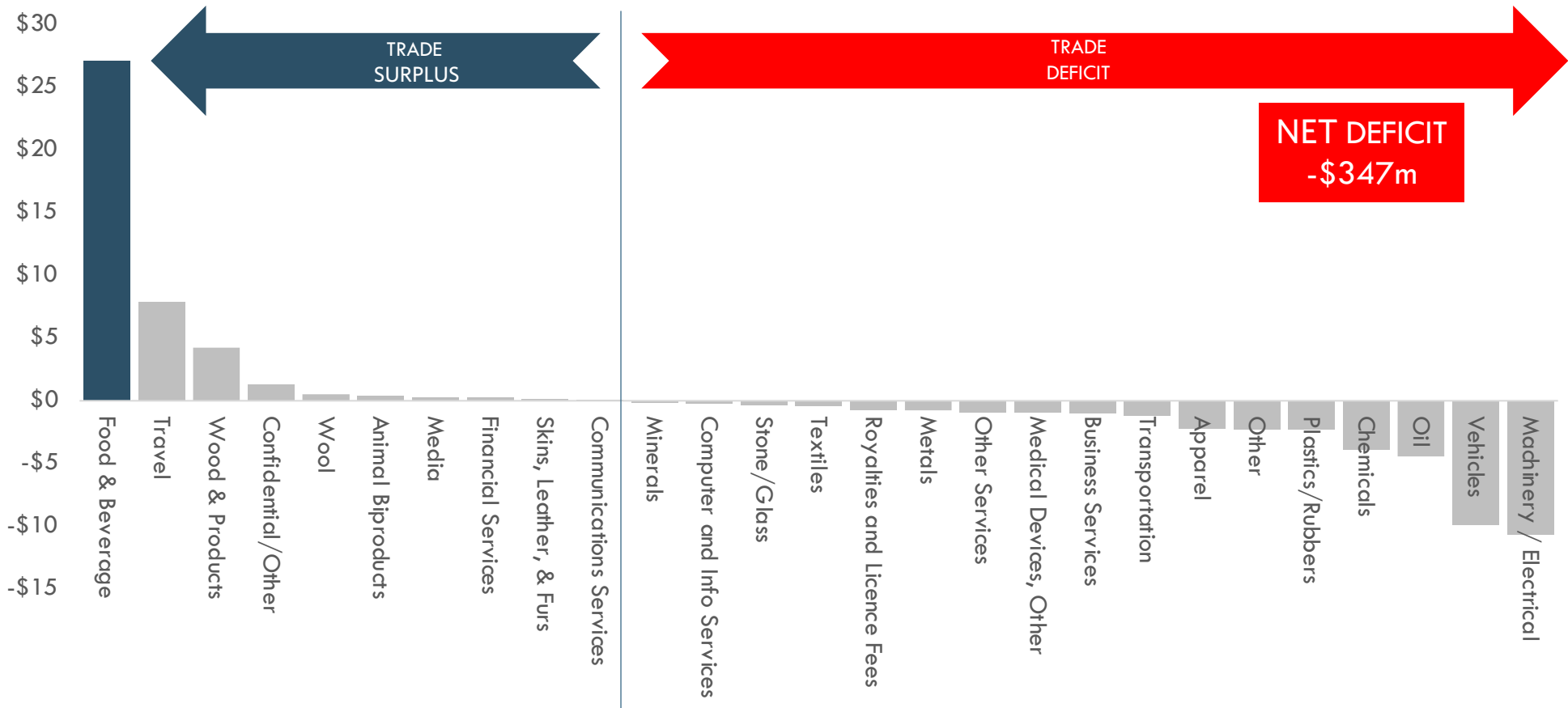
# Food & beverage is the major New Zealand export industry, accounting for almost half of total goods and services exports

## TOTAL NEW ZEALAND EXPORT OF GOODS AND SERVICES BY CATEGORY NZ\$; b; 2017



# The food & beverage industry achieves a large trade surplus, while most other sectors are underperforming or in deficit

NET TRADE POSITION IN TOTAL NEW ZEALAND TRADE (EXPORTS-IMPORTS)  
 NZ\$; b; 2017



Source: SNZ; Coriolis analysis and classifications

# Food & beverage is growing exports strongly, where most other sectors are underperforming or going backwards

10 YEAR NET CHANGE IN TOTAL NEW ZEALAND EXPORTS  
 NZ\$; b; 2007-2017

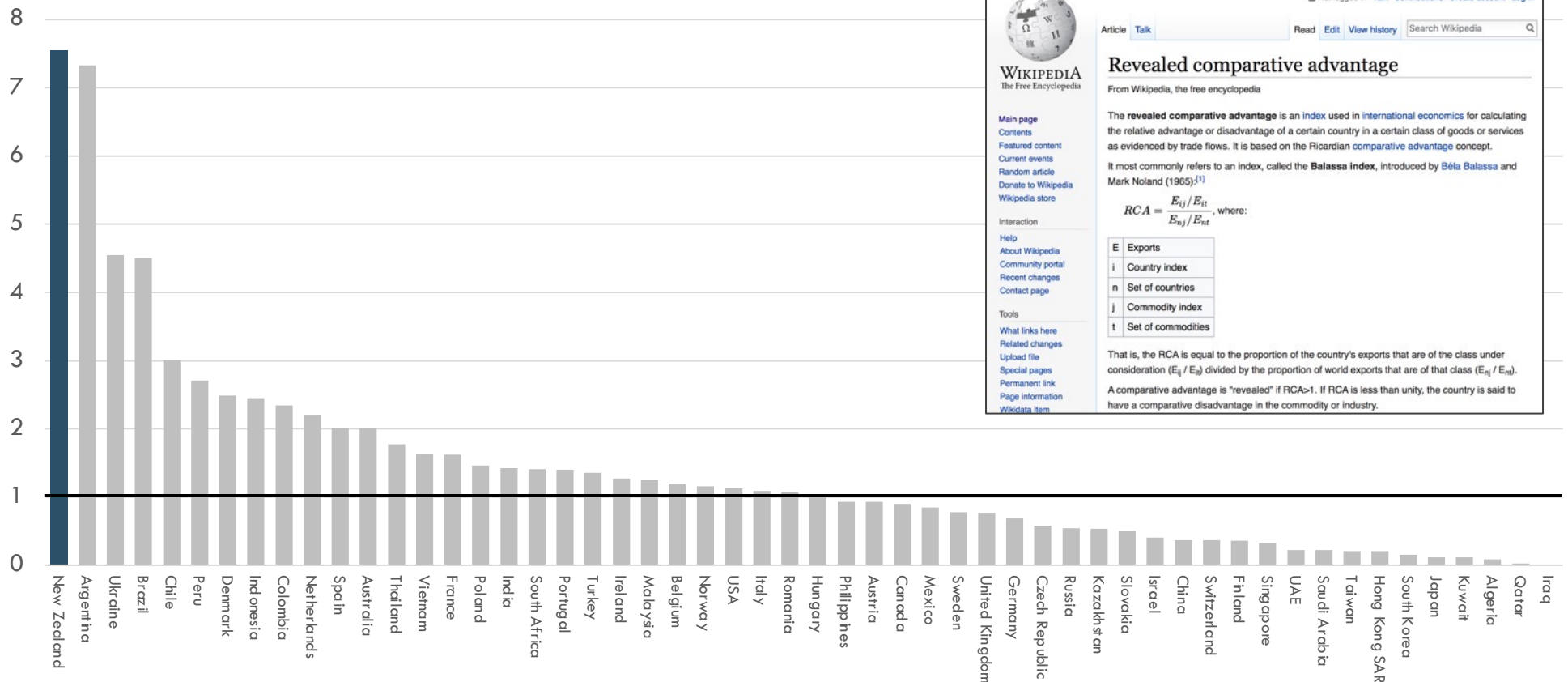


Source: SNZ; Coriolis analysis and classifications

# New Zealand has the highest 'revealed comparative advantage' in food & beverage of any major exporter

## REVEALED COMPARATIVE ADVANTAGE IN FOOD & BEVERAGE

RCA index; top 54 exporting countries; 2016





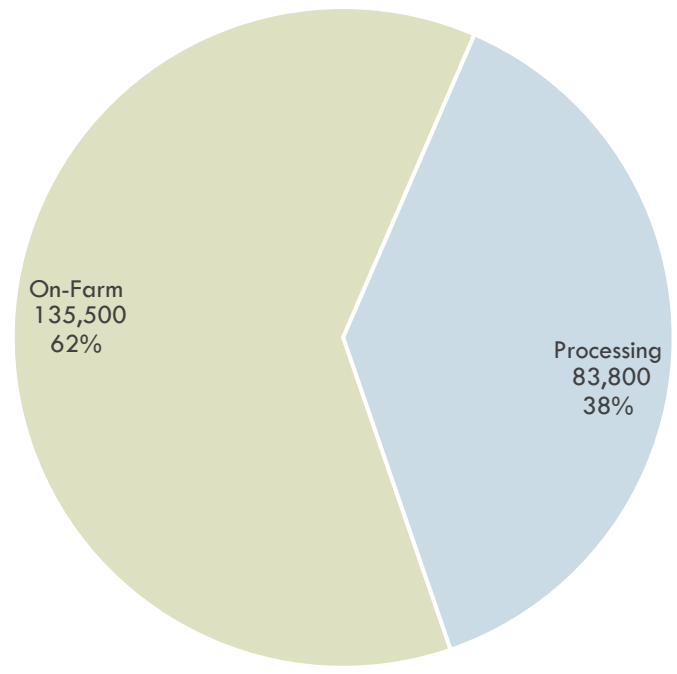
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# AGENDA

1. THE FOOD & BEVERAGE INDUSTRY IS IMPORTANT TO NEW ZEALAND
2. FOOD PROCESSING IS GROWING & CREATING JOBS POST FARMGATE
3. SECTORS VARY IN LIKELY JOB CREATION IN PROCESSING GOING FORWARD

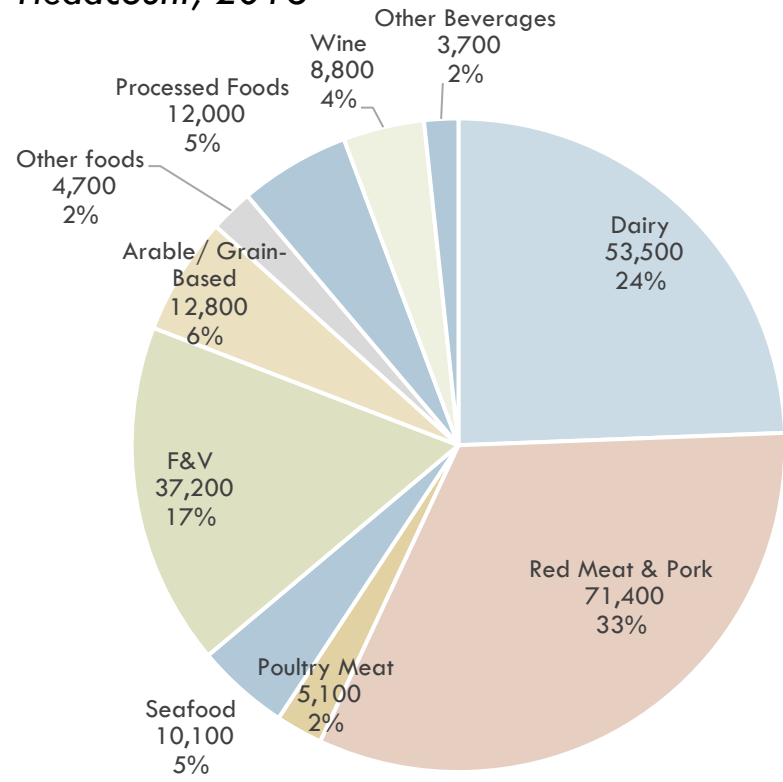
# The core New Zealand food & beverage industry (on-farm & processing) has a total headcount of about 219,000

**F&B JOBS BY LOCATION\***  
Headcount; 2018



Total = ~219,000

**F&B JOBS BY SECTOR\***  
Headcount; 2018



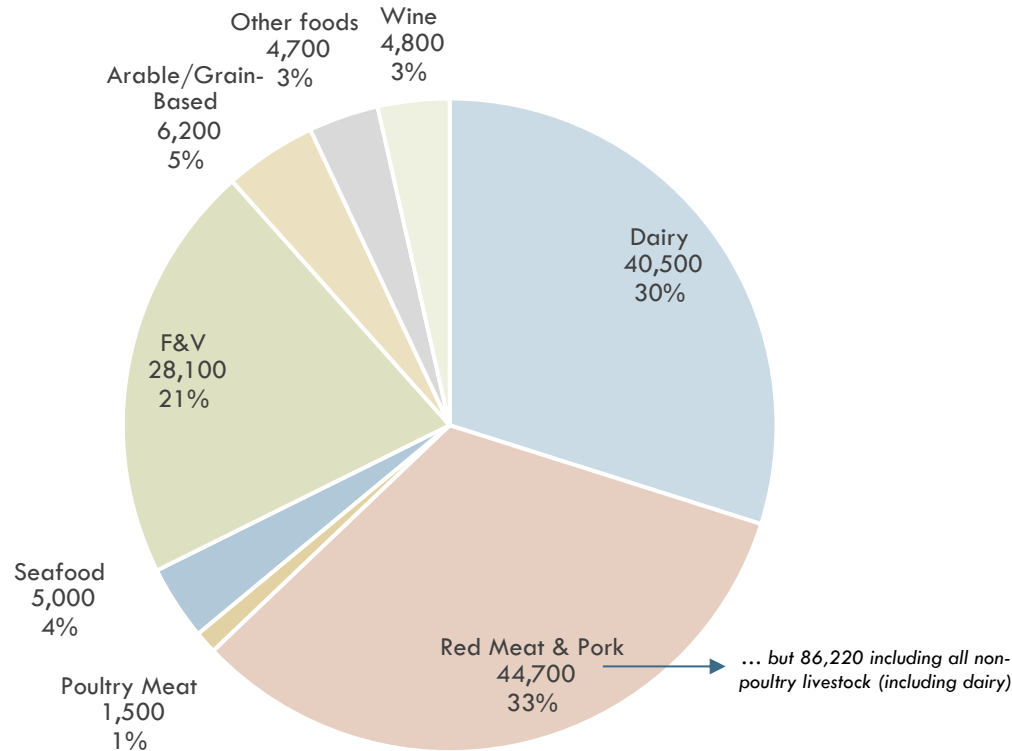
Total = 219,000

TOTALS ROUNDED

Note: Actual total will be larger as this data does not include contract labour (e.g. picking gangs) and other direct labour services to farming; \*Including assumed owner-operators (i.e. non-PAYE); does not include most wholesaling (only seafood and F&V); Source: Statistics NZ; Coriolis estimates, modelling and analysis

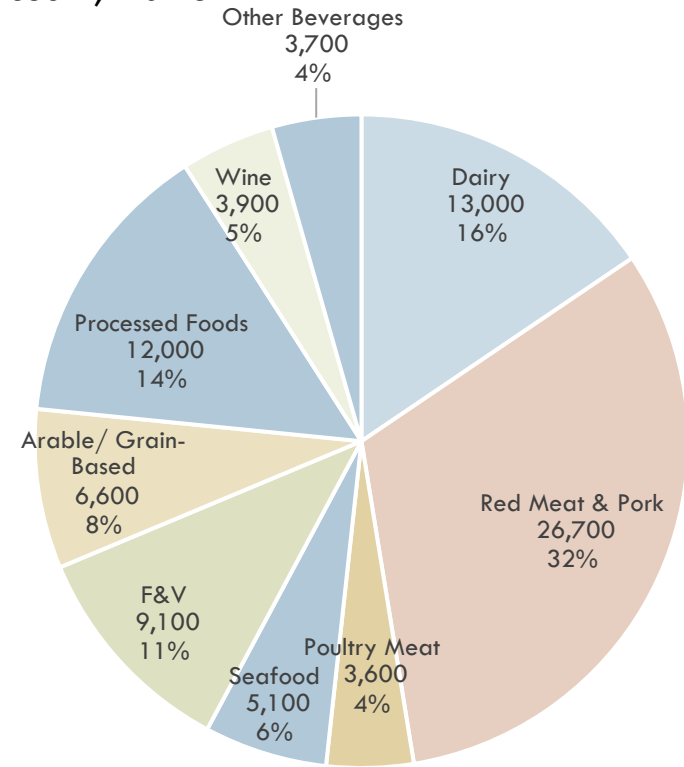
# On-farm currently accounts for about 60% of jobs; post farmgate processing 40%

**F&B JOBS ON-FARM\***  
Headcount; 2018



Total = 135,500  
~60%

**F&B JOBS IN PROCESSING\*\***  
Headcount; 2018



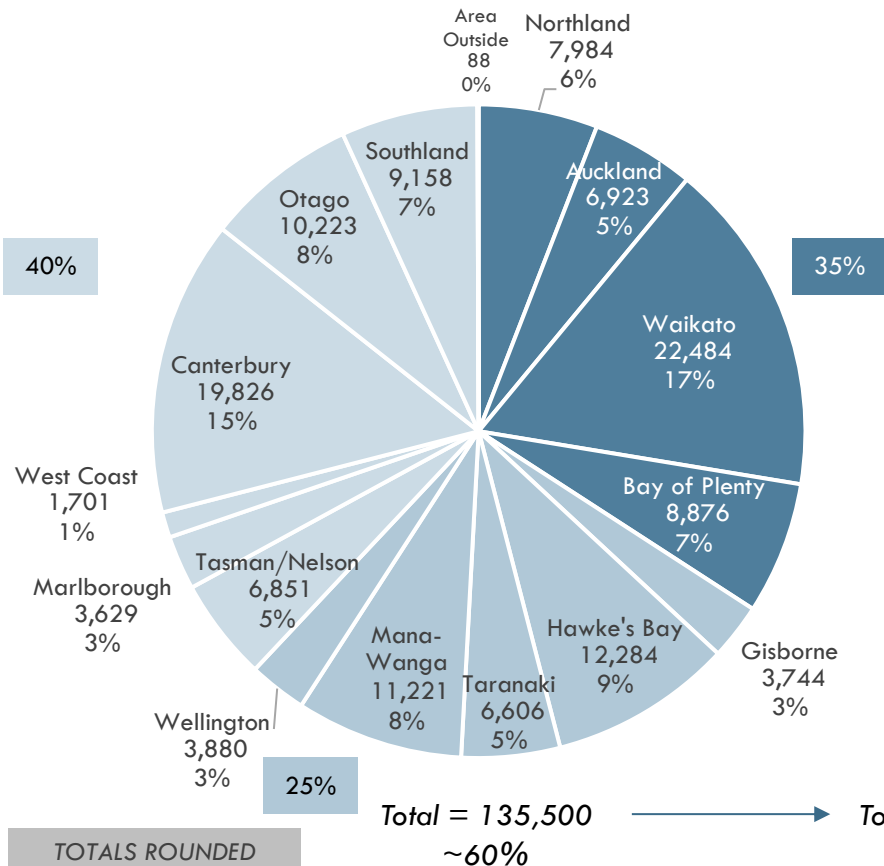
Total = 83,800  
~40%

TOTALS ROUNDED

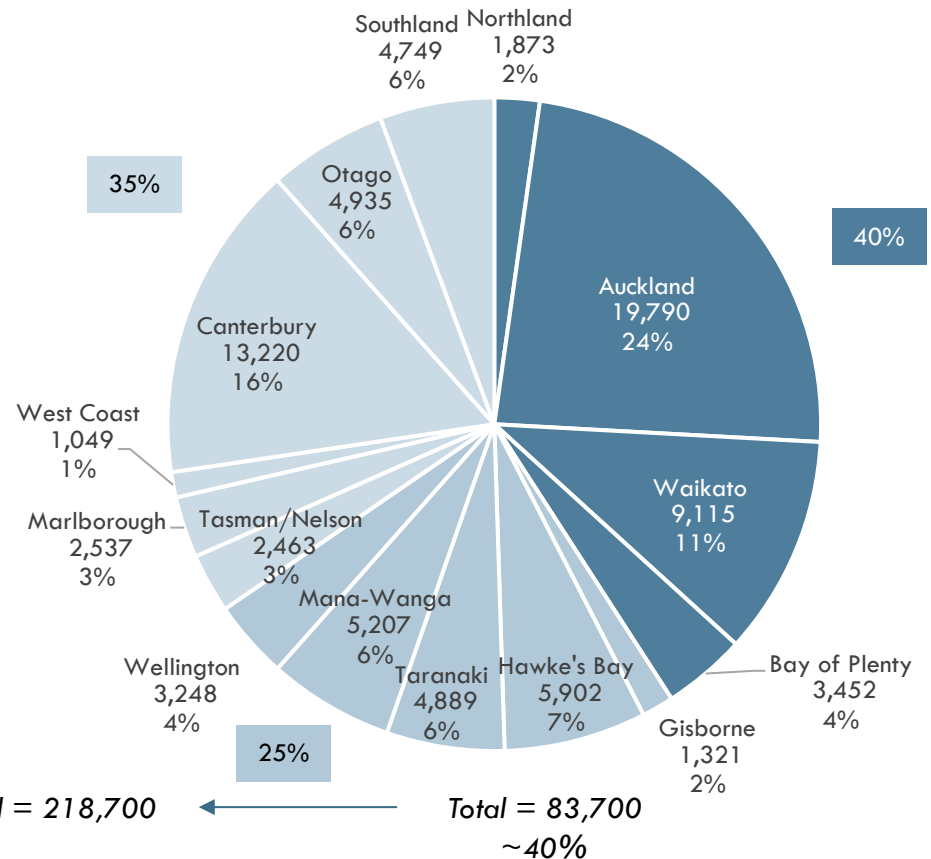
\*Including assumed owner-operators (i.e. non-PAYE); \*\*Some sectors include wholesaling; Note: Other foods (honey & eggs), when processed, are not broken out by Statistics NZ and are therefore included in our defined 'processed foods'; Source: Statistics NZ; Coriolis estimates, modelling and analysis

# Both on-farm and processing jobs are spread across the country

**F&B JOBS ON-FARM\***  
Headcount; 2018



**F&B JOBS IN PROCESSING\*\***  
Headcount; 2018

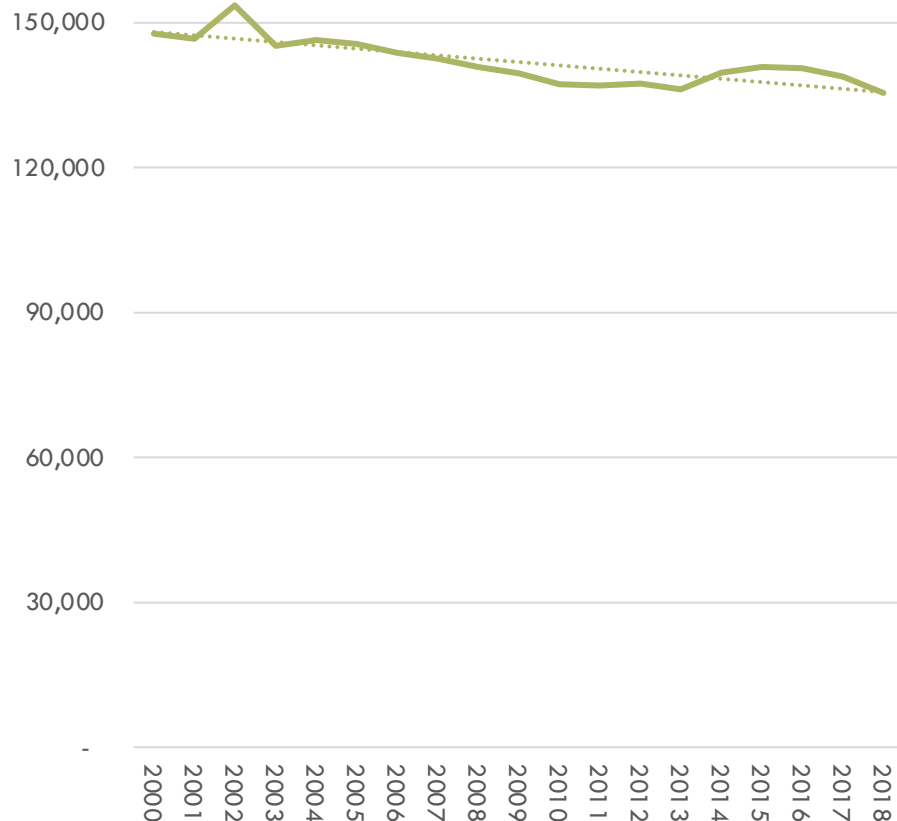


Note: Area Outside = at sea; \*Including assumed owner-operators (i.e. non-PAYE); \*\*Some sectors include wholesaling; Source: Statistics NZ; Coriolis estimates, modelling and analysis

# On-farm employment is falling while processing employment is growing; NZ is adding more jobs (or value) beyond the farm

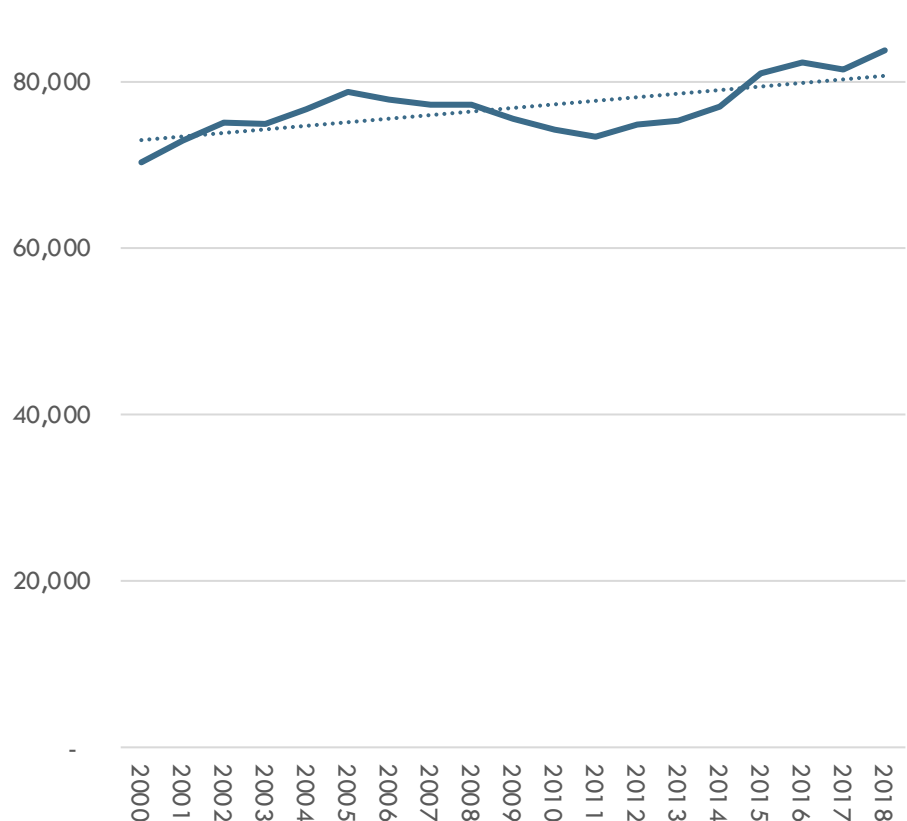
## F&B JOBS ON-FARM\*

Headcount; 2000-2018



## F&B JOBS IN PROCESSING\*\*

Headcount; 2000-2018



\*Including assumed owner-operators (i.e. non-PAYE); \*\*Some sectors include wholesaling; Note: Other foods (honey & eggs), when processed, are not broken out by Statistics NZ and are therefore included in our defined 'processed foods'; Source: Statistics NZ; Coriolis estimates, modelling and analysis



# However, regions vary in their performance in post-farmgate food & beverage processing job creation

See Appendix for Details

## PROCESSING JOBS 18 YEAR CHANGE BY REGION

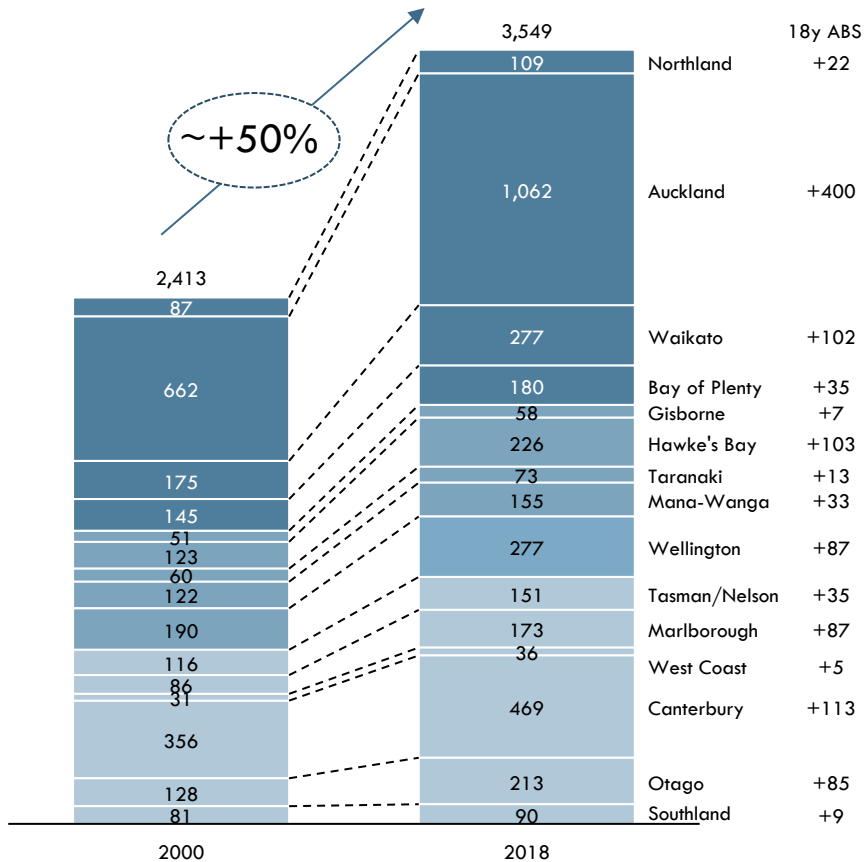
Absolute change; 2000 vs. 2018

	Northland	Auckland	Waikato	Bay of Plenty	Gisborne	Hawke's Bay	Taranaki	Manawatu-Wanganui	Wellington	Nelson/Tasman	Marlborough	West Coast	Canterbury	Otago	Southland	TOAL NZ
<b>Dairy</b>	-80	1,220	1,450	-120	45	100	-100	340	-30	-64	-61	360	1,460	0	210	4,730
<b>Red Meat &amp; Pork</b>	-155	570	360	-281	264	-445	315	840	250	-57	-220	99	300	-318	-300	1,222
<b>Poultry Meat</b>	0	590	560	-30	0	0	370	3	-85	-3	0	0	290	-31	-85	1,579
<b>Seafood</b>	3	210	-51	100	-27	45	-40	-48	-117	-1,062	-17	70	-485	-242	-115	-1,776
<b>Produce</b>	64	880	117	370	35	-410	9	-80	110	93	-72	-12	-30	-228	-18	828
<b>Grain-Based</b>	-141	555	-113	-31	-6	-76	-56	-102	-421	-8	-15	-3	245	27	-97	-242
<b>Processed Foods</b>	187	1,080	1,235	513	-12	283	83	359	434	177	83	9	25	81	-8	4,529
<b>Wine</b>	35	130	-21	20	20	280	-6	3	40	45	700	0	140	215	3	1,604
<b>Other Beverages</b>	0	490	107	-60	18	109	6	-21	216	106	7	-13	-60	86	12	1,003
<b>TOTAL</b>	-87	5,725	3,644	481	337	-114	581	1,294	397	-773	405	510	1,885	-410	-398	13,477

# New Zealand has a large and growing food processing sector that is creating new firms

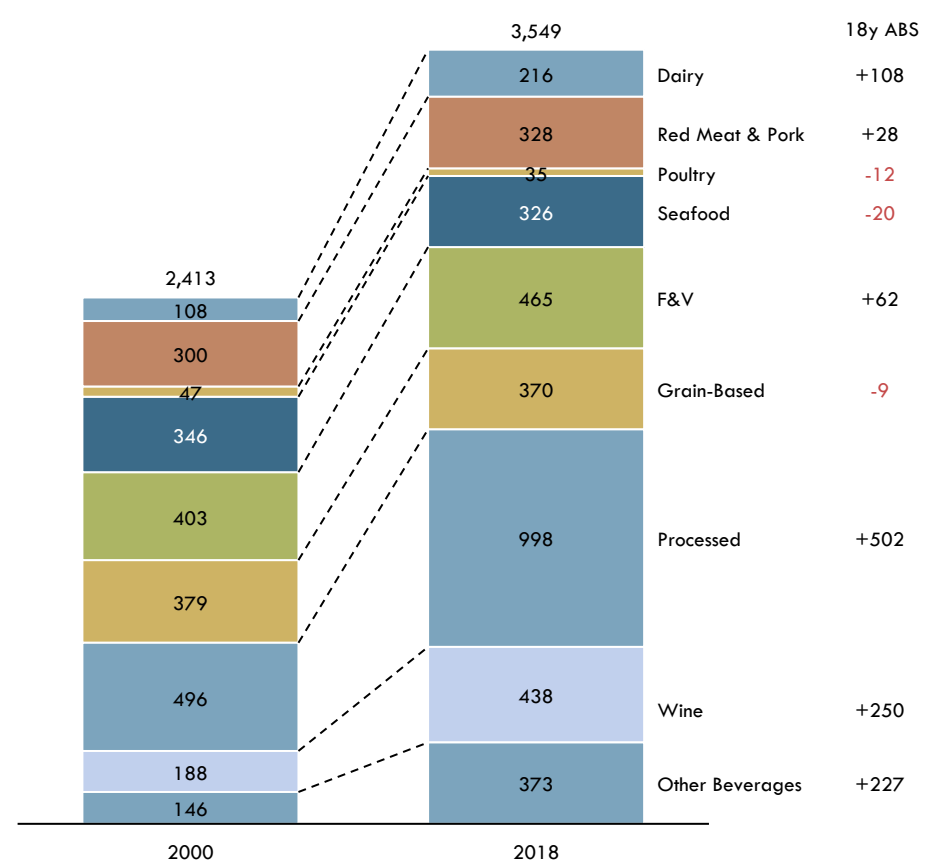
## # OF PROCESSING UNITS BY REGION

Geographic units; 2000 vs 2018



## # OF PROCESSING UNITS BY SECTOR

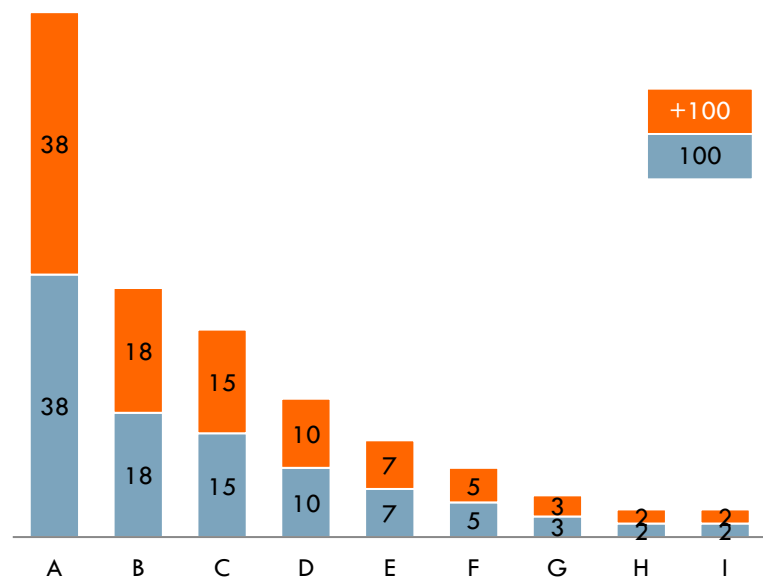
Geographic units; 2000 vs 2018



Source: Statistics NZ; Coriolis estimates, modelling and analysis

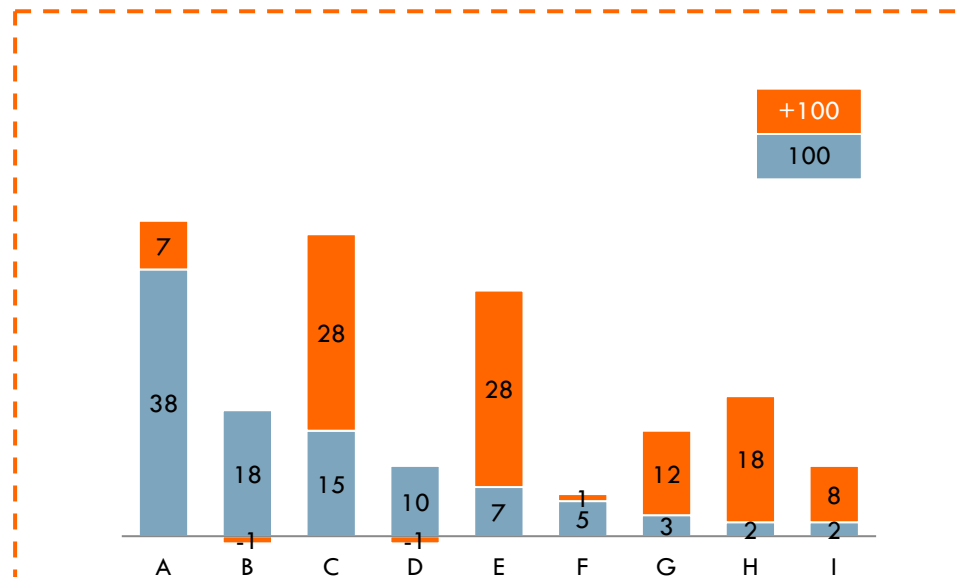
# Continued growth will require some sectors to grow much larger, as other sectors have growth constraints

## MODEL 1: EVERYTHING DOUBLES



- Simple story: “Rising tide lifts all ships”
- Assumes all sectors can double in the timeframe
- Often how it is “spun” politically
- Unlikely in reality

## MODEL 2: SOME GROW/OTHER NO



- More complex story: “The Good, the Bad and the Ugly”
- Assumes some sectors cannot grow significantly
- Other sectors will need to grow 5x or 10x to compensate
- Peer group regions suggest this is the likely outcome

# Numerous product categories have been identified that can contribute to this growth

## IDENTIFIED PRODUCT CATEGORIES THAT CAN CONTRIBUTE TO GROWTH

Model; 2019

DAIRY	RED MEAT	POULTRY	SEAFOOD	F&V
Advanced/Medical Infant Formula	Meat-Based Snacks	Further Domestic Consumption	Atlantic Salmon	Under Cover/Glasshouse
Dairy-Based Nutritionals		Target Key Export Markets		Region Suitable Aquaculture
Non-Cow Dairy	Branded, Packaged Consumer Case Ready		Develop Value Added Products	
Specialty Cheese		Consumer-Ready Convenience Meals		Alternative Poultry Species
				Avocados
ARABLE/GRAIN	OTHER FOODS	PROCESSED FOODS	WINE	OTHER BEVERAGES
High Dairy Baked	Honey	Nutraceuticals	Sparkling Wine	Alcoholic Spirits
Oat 'Milk'		Eggs	Pet Food	'Cognac'
Seeds	Hemp (F&B usage)		Confectionery/Snacking	Non-Marlborough Reds
		New & Innovative Foods	Premium Non-Alcoholic	

# Realising this growth opportunity requires three specific sets of potential investors

## EXISTING LARGE FIRMS AT SCALE

### REINVESTMENT

- Remove barriers to investment
- Ensure available capital is reinvested in New Zealand (not elsewhere)
- Sell New Zealand; make the case for investment in F&B here

## NEW LARGE INVESTORS WITH SCALE AND SKILLS

### ATTRACTION

- Identify the right investors (rather than 'waiting for the phone to ring')
- Focus on firms able to add value to New Zealand volume
- Sell New Zealand; make the case for investment in F&B here

## NEW AND EMERGING FIRMS

### NURTURING

- Encourage both existing small firms and new start-ups
- Focus effort on scaling small and medium firms into large, globally competitive firms at scale (currently could do more here)

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1. THE FOOD & BEVERAGE INDUSTRY IS IMPORTANT TO NEW ZEALAND
2. FOOD PROCESSING IS GROWING & CREATING JOBS POST FARMGATE
3. SECTORS VARY IN LIKELY JOB CREATION IN PROCESSING GOING FORWARD

## Sectors vary in likely job creation in processing going forward

1. New Zealand can create more **dairy processing** jobs by producing more complex products, rather than simple ingredients
2. While **meat processing** is currently a major employer, it is unclear whether the sector can create significant new jobs going forward
3. **Poultry processing** can continue to create employment growth for New Zealand
4. **Seafood** is unlikely to create new jobs without new aquaculture coming into production
5. **Produce wholesaling and processing** is unlikely to create new jobs without significant new land coming into production
6. **Grain processing & wholesaling** is unlikely to create significant new jobs going forward without developing new products
7. New Zealand can continue to grow employment in **processed foods** production
8. Creating employment growth in New Zealand **wine production** will require regions outside Marlborough to grow
9. New Zealand can continue to grow employment in **non-wine beverages**

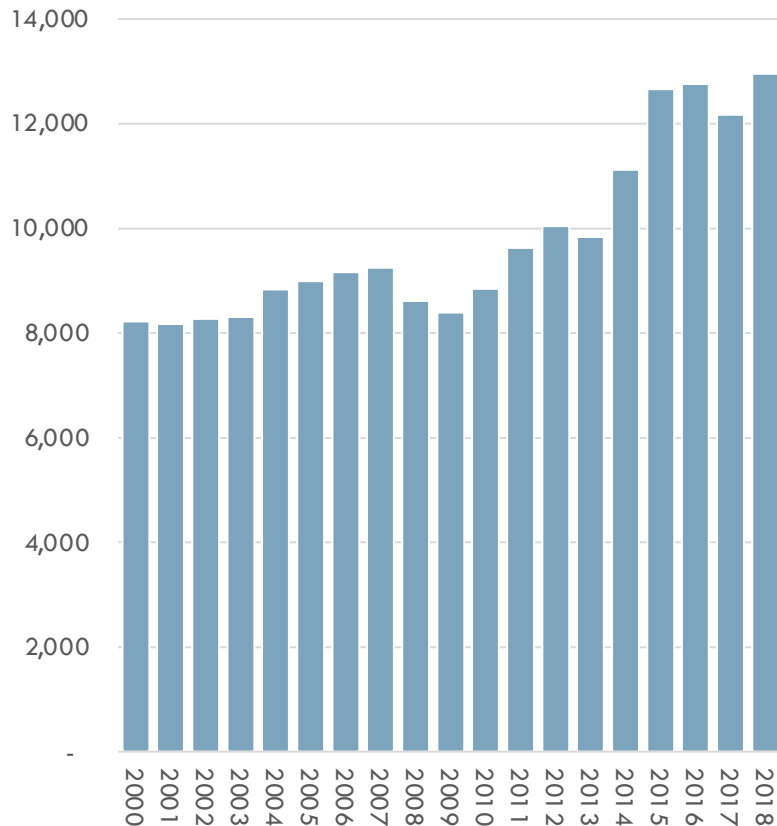
# 1. *New Zealand can create more **dairy processing** jobs by producing more complex products, rather than simple ingredients*

- Dairy processing in New Zealand is creating jobs and jobs are spread across regions
- Regions vary significantly in terms of how many regional dairy processing jobs they create from regional milk
- Only three regions (Auckland, West Coast & Canterbury) have created more processing jobs from their milk over the last decade
- Looking beyond New Zealand shows most peers create more jobs from their milk and this confirms more jobs can be created
- Significant new dairy processing jobs would be created if New Zealand could match the performance of global peers
- Four broad standout opportunities exist to drive growth in the dairy processing industry

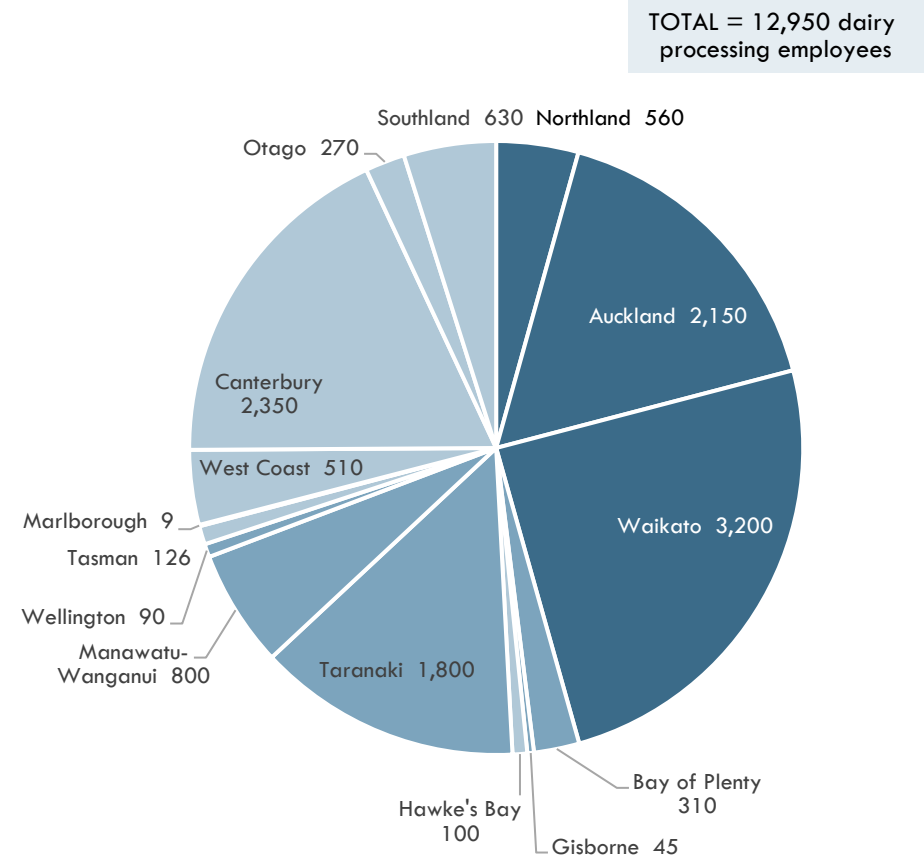


# Dairy processing in New Zealand is creating jobs and jobs are spread across regions

**DAIRY PROCESSING EMPLOYMENT**  
Headcount; 2000-2018



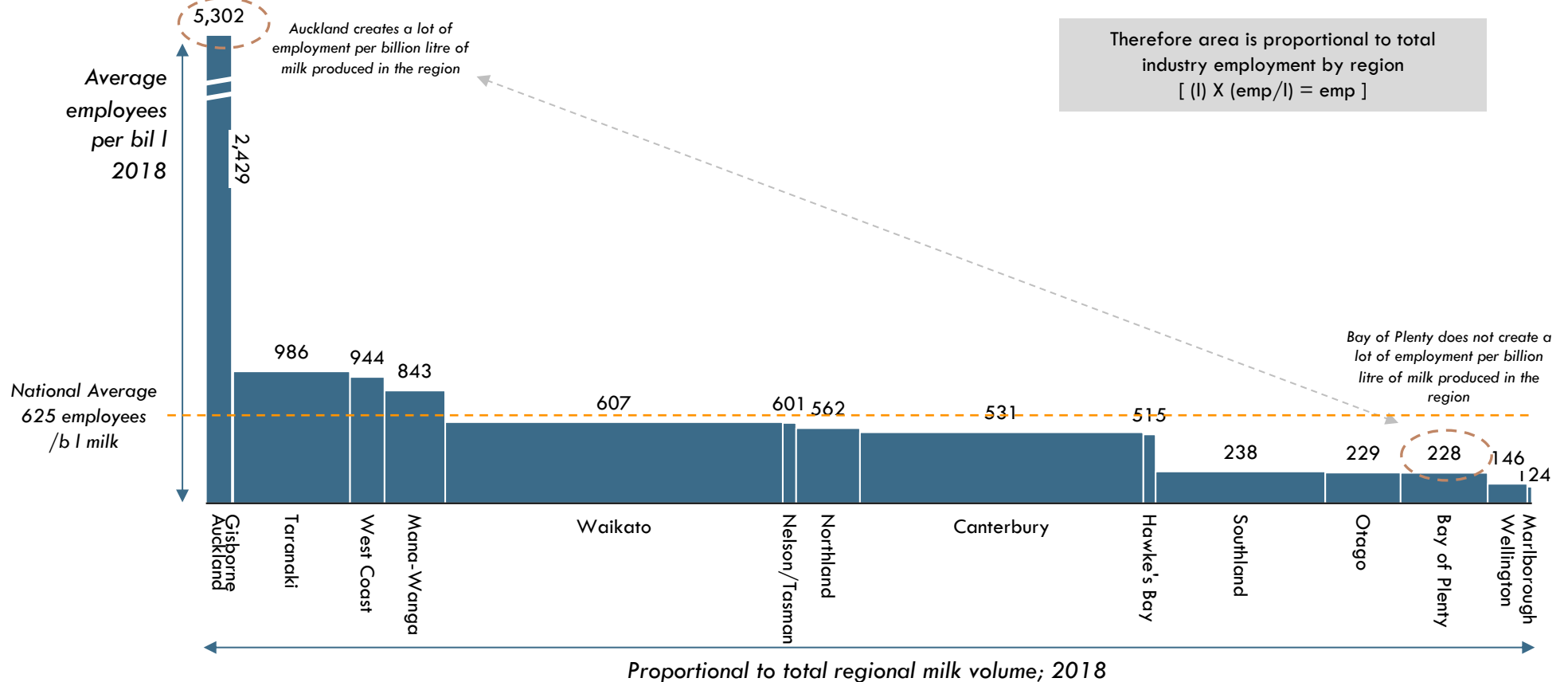
**DAIRY PROCESSING JOBS BY REGION**  
Headcount; 2018



# Regions vary significantly in terms of how many regional dairy processing jobs they create from regional milk

## MEKKO: MILK PRODUCED VS DAIRY PROCESSING EMPLOYMENT PER BIL LITRE\*

Bil l; employment per b litre of regional milk; 2018



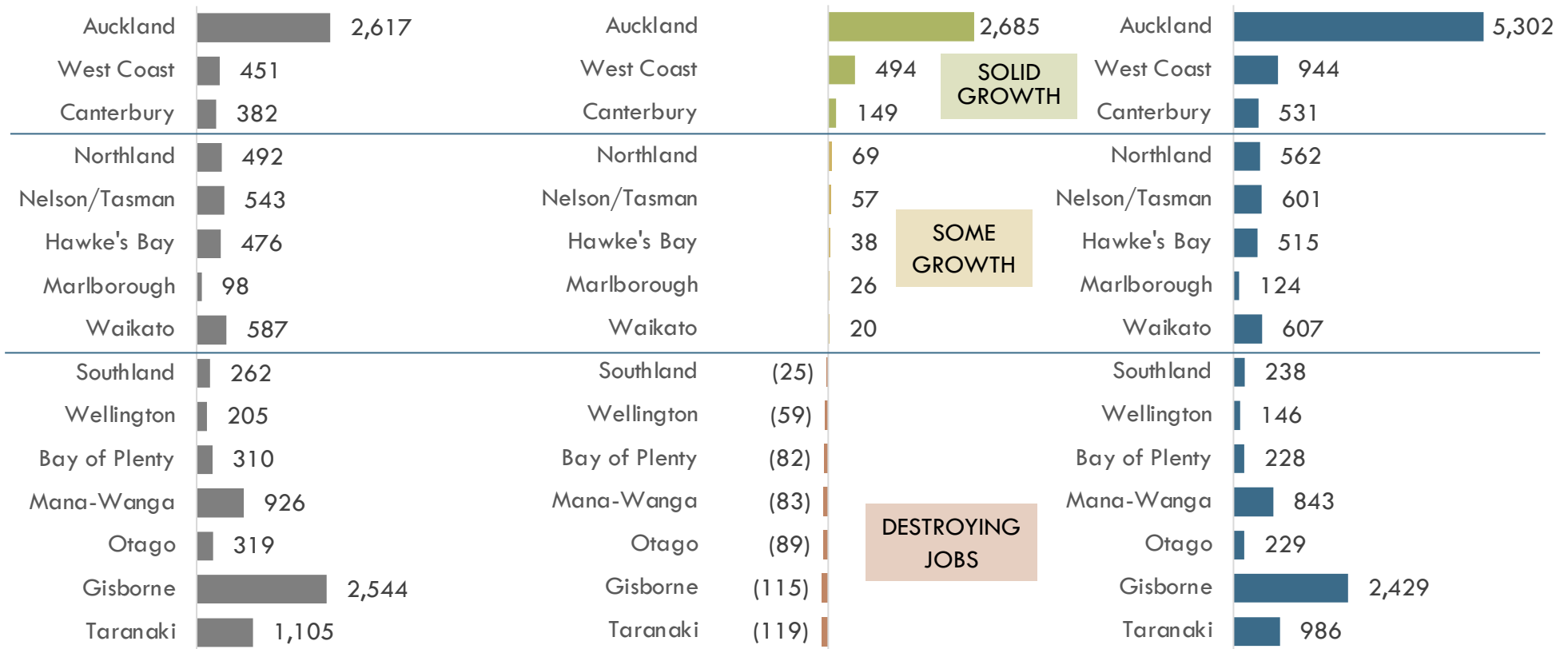
\*Not adjusted for inter-regional transfer; Significant volumes of milk will move between regions (e.g. Gisborne to Hawke's Bay, Waikato to Auckland); Source: Statistics NZ; DairyNZ; Coriolis analysis

# Only three regions (Auckland, West Coast & Canterbury) have created more processing jobs from their milk over the last decade

**JOBS/BIL L IN 2008**  
Headcount/bil l; 2008

**10Y CHANGE JOBS/BIL L**  
Headcount/bil l; 08vs18

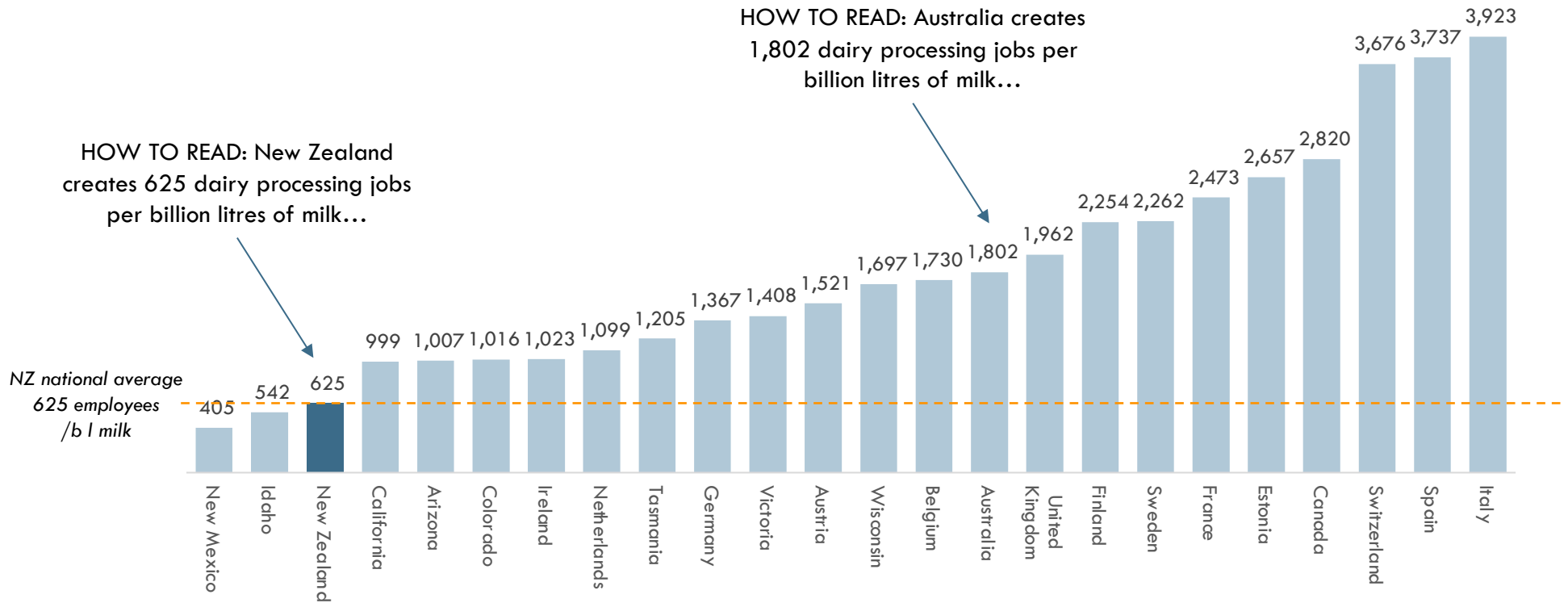
**JOBS/BIL L IN 2018**  
Headcount/bil l; 2018



# Looking beyond New Zealand shows most peers create more jobs from their milk and this confirms more jobs can be created

## JOBS CREATED FROM MILK: NEW ZEALAND VS PEERS

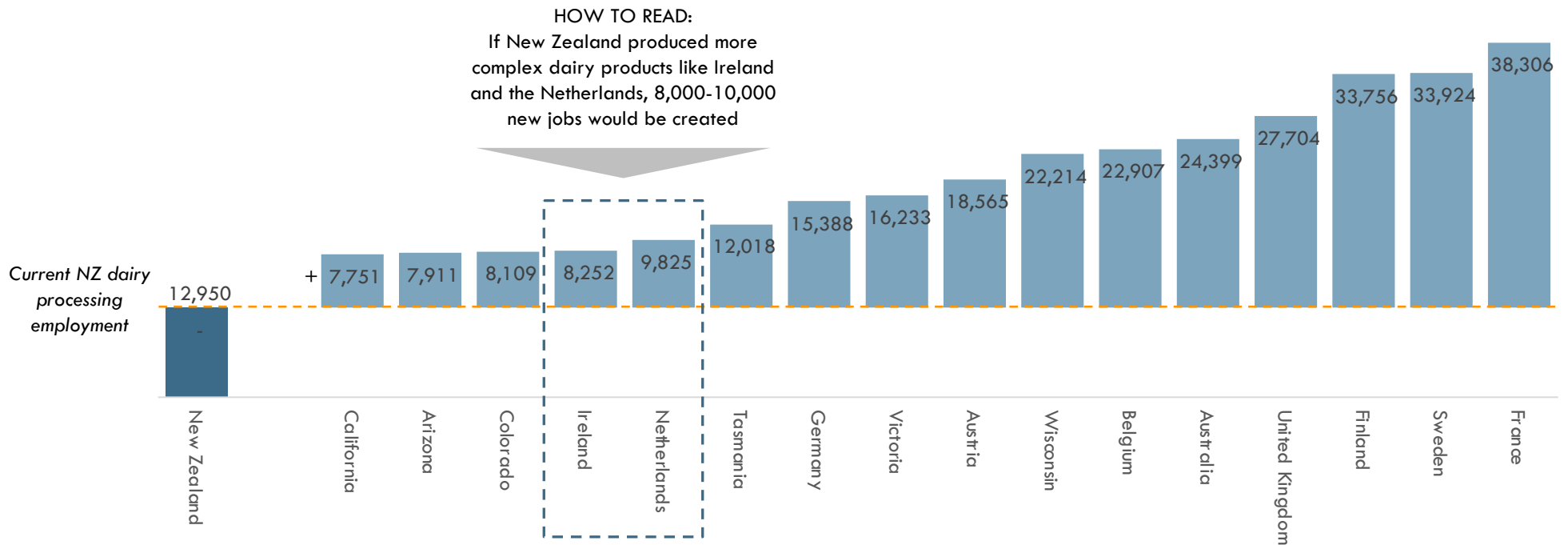
Headcount/bil l or kg; 2018 or as available



# Significant new dairy processing jobs would be created if New Zealand could match the performance of global peers

## HYPOTHETICAL NEW DAIRY PROCESSING JOBS IN NEW ZEALAND

Model; headcount; 2018 vs model



How many new dairy processing jobs would be created if New Zealand could create post-farmgate employment from milk like these countries/regions?

# Four broad standout opportunities exist to drive growth in the dairy processing industry



1

## ADVANCED/MEDICAL INFANT FORMULA

- High value dairy segment - US\$9b global import value (2016)
- Export growth platform
- Leverages NZ capabilities and reputation
- NZ achieves a premium in the global market



2

## DAIRY-BASED NUTRITIONALS

- Growth in protein based nutritionals
- Aging population requiring specialty diets



3

## NON-COW DAIRY (GOAT & SHEEP)

- Leverages NZ capabilities and reputation
- Growth in alternative dairy categories
- Multiple added value categories

4



## PROCESSED/PIZZA CHEESE

- Leverages NZ capabilities in cheese
- Attract new investment to a growth segment in Asia

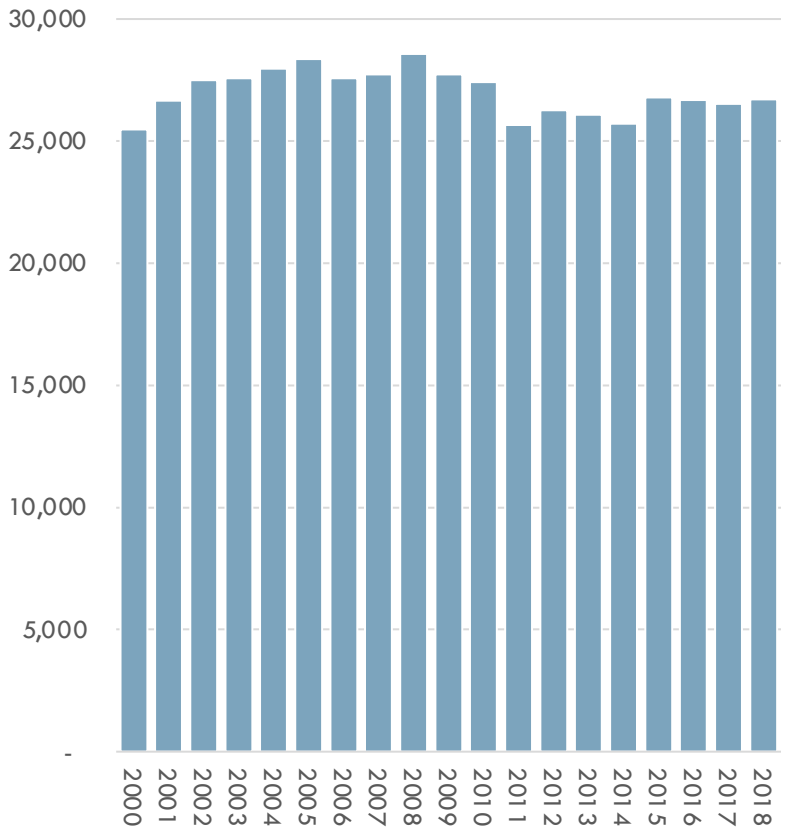
## *2. While **meat processing** is currently a major employer, it is unclear whether the sector can create significant new jobs going forward*

- Meat processing supports a large number of jobs across all regions of the country, but employment is not growing
- About half of regions are creating significant new meat processing employment, the other half are shrinking
- It is not immediately obvious that there is significant processing employment per tonne upside (increased automation and robotics)
- Three broad standout opportunities exist to drive growth in the meat processing industry

# Meat processing supports a large number of jobs across all regions of the country, but employment is not growing

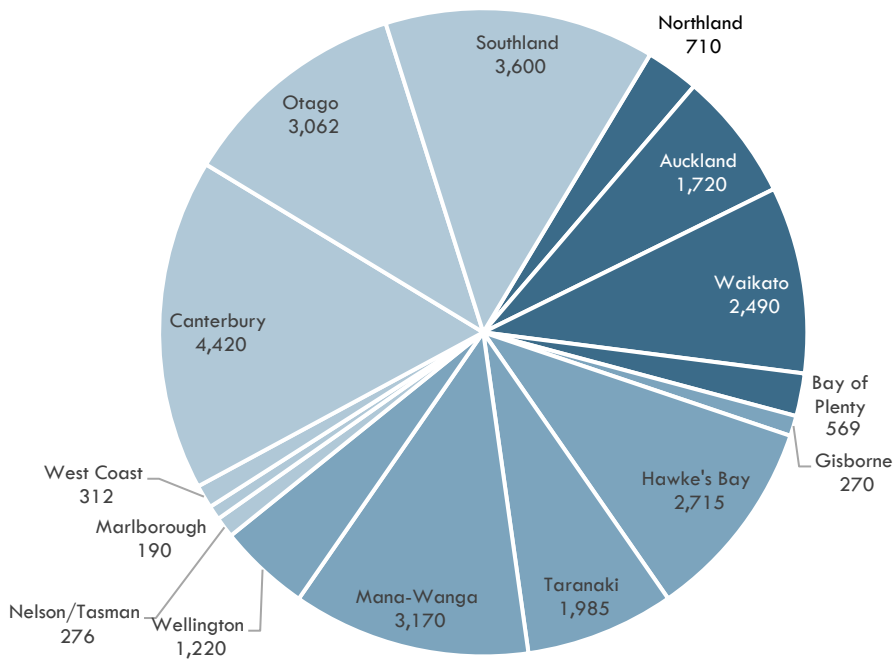
## MEAT PROCESSING EMPLOYMENT

Headcount; 2000-2018



## MEAT PROCESSING JOBS BY REGION

Headcount; 2018



TOTAL = 26,709 meat processing employees

Source: Statistics NZ; Coriolis analysis



# About half of regions are creating significant new meat processing employment, the other half are shrinking

## EMPLOYMENT 2000

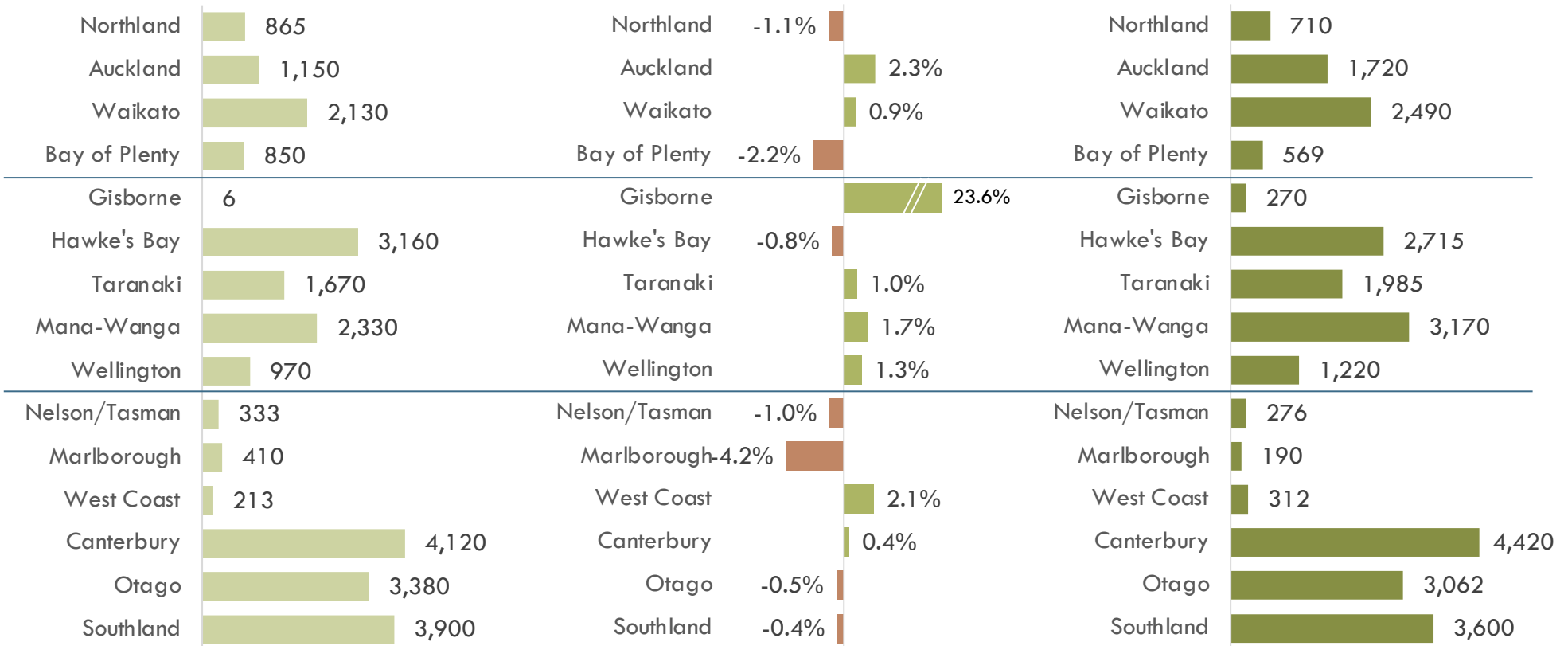
Headcount; 2000

## 18Y CAGR

% head; 00vs18

## EMPLOYMENT 2018

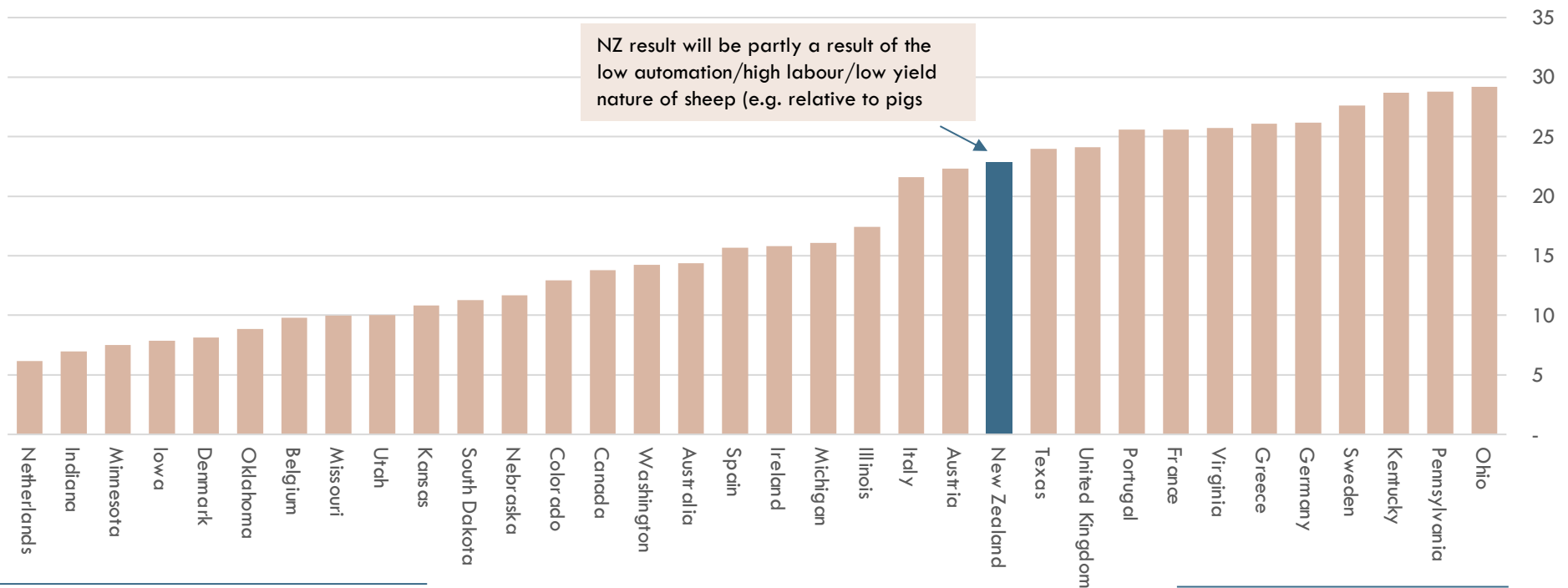
Headcount; 2018



*It is not immediately obvious that there is significant processing employment per tonne upside (increased automation and robotics)*

## PROCESSING JOBS PER THOUSAND TONNES: NZ VS PEERS

Headcount/1,000t; 2018 or as available



Likely either (1) exporting jobs to neighbouring regions or (2) highly automated, low complexity products and 'simple' species (e.g. pigs)

Likely either (1) more difficult to automate or (2) producing higher complexity products (e.g. case ready rather than carcass/primal)

\* Source: Statistics NZ; Eurostat; UN FAO; US DOL; USDA NASS; Coriolis analysis and estimates

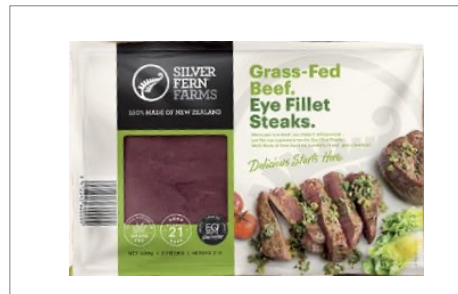
# Three broad standout opportunities exist to drive growth in the meat processing industry



1

## MEAT-BASED SNACKS

- High value product \$80-\$100/kg
- Leverages NZ capabilities and reputation
- Growing global demand
- Growth in snacking and high protein snacking



2

## BRANDED PACKAGED CONSUMER READY PRODUCTS

- Brand and story develops loyalty
- Leverages NZ reputation
- Premium consumers in key export markets



3

Processed Foods adjacency

## CONSUMER READY CONVENIENCE MEALS

- Leverages NZ capabilities and reputation
- Growth in convenience categories
- Multiple added value categories

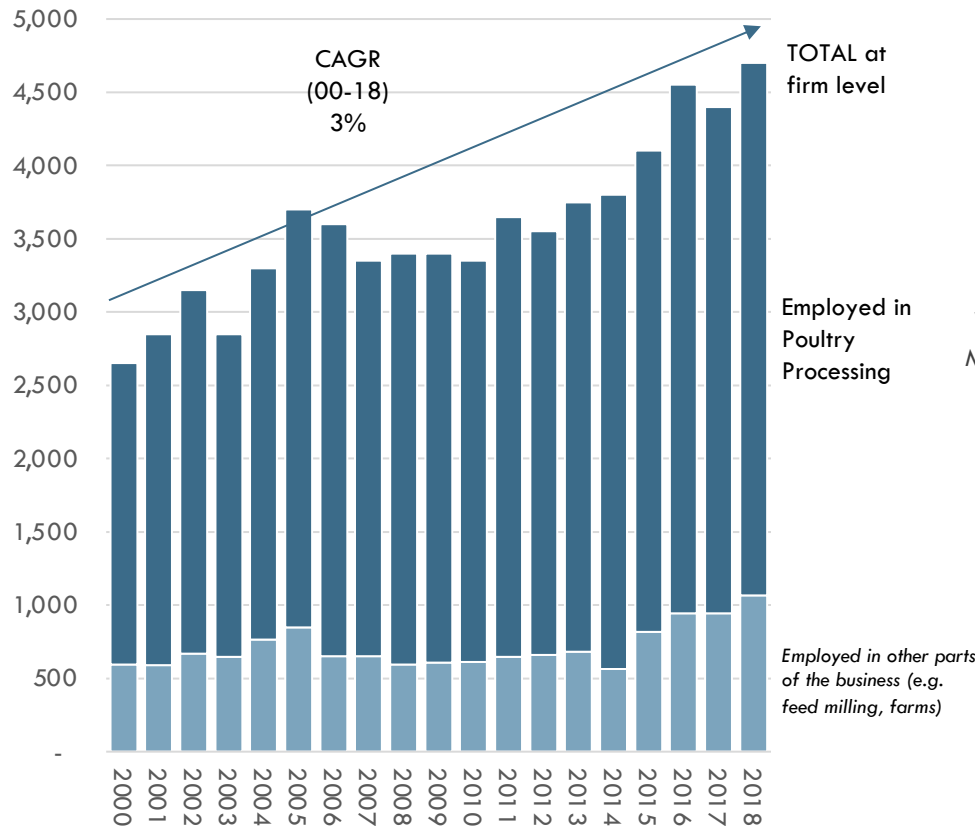
### ***3. Poultry processing can continue to create employment growth for New Zealand***

- Poultry processing in New Zealand is creating jobs, but jobs are currently located primarily in four regions
- Only these four key regions – Auckland, Waikato, Taranaki and Canterbury – are creating significant new processing employment
- There appears to be potential to create more processing jobs from existing volumes
- New Zealand poultry meat production can continue to grow
- Future employment growth will either come from (1) existing regions getting bigger or (2) a new region emerging
- Four broad opportunities exist to drive growth in the poultry industry

# Poultry processing in New Zealand is creating jobs, but jobs are currently located primarily in four regions

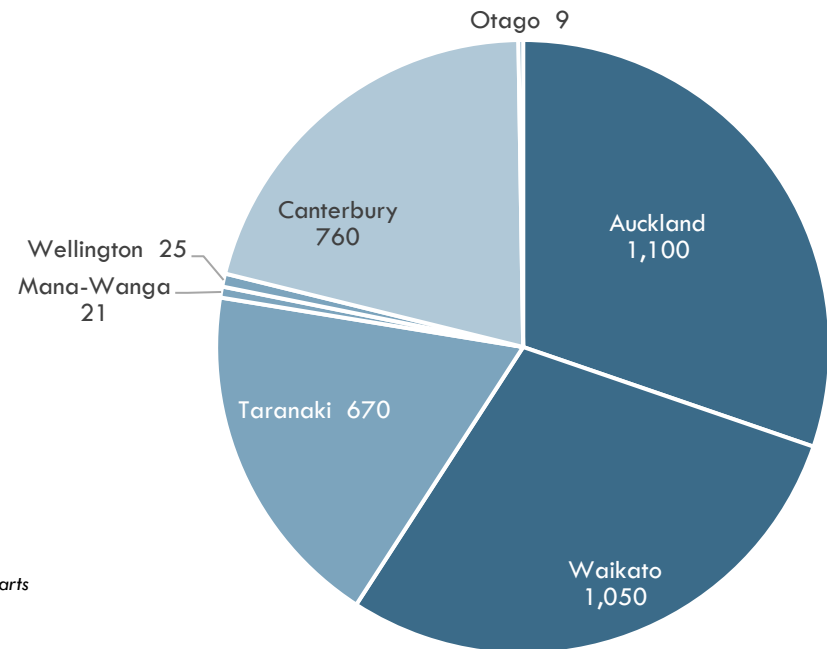
## POULTRY PROCESSING EMPLOYMENT

Headcount; 2000-2018



## POULTRY PROCESSING JOBS BY REGION

Headcount; 2018

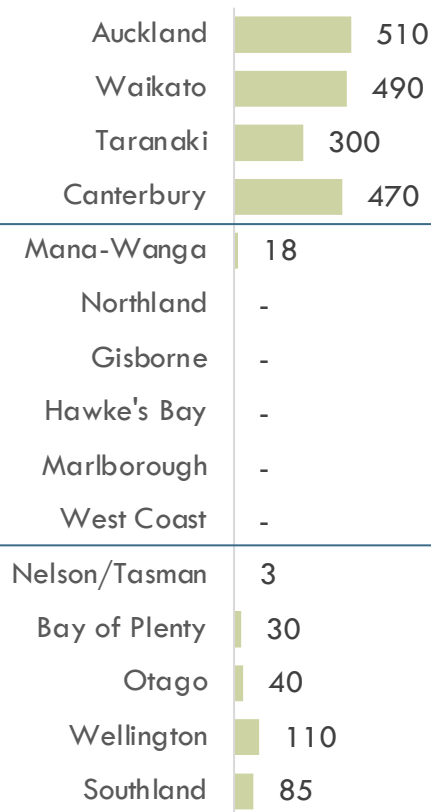


TOTAL = 3,635 poultry processing employees

# Only these four key regions – Auckland, Waikato, Taranaki and Canterbury – are creating significant new processing employment

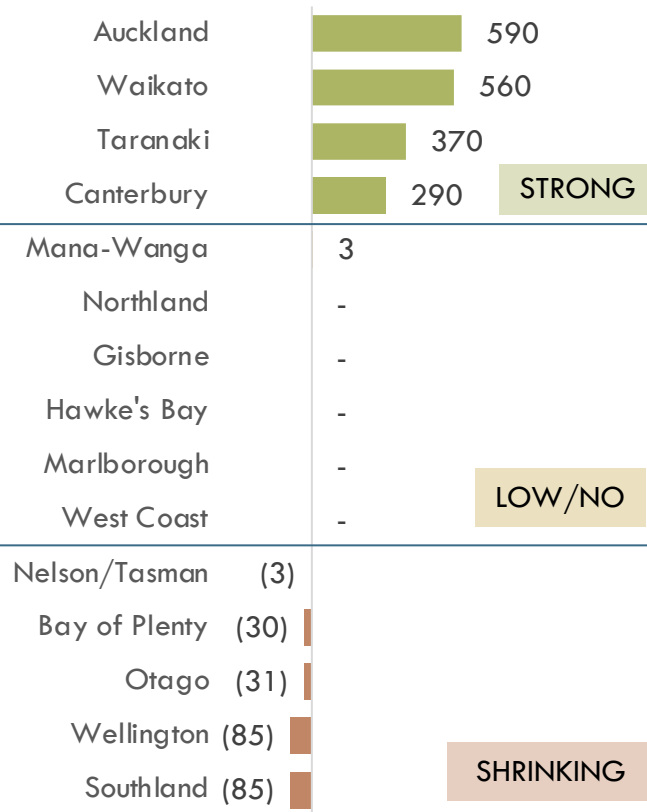
## EMPLOYMENT 2003

Headcount; 2003



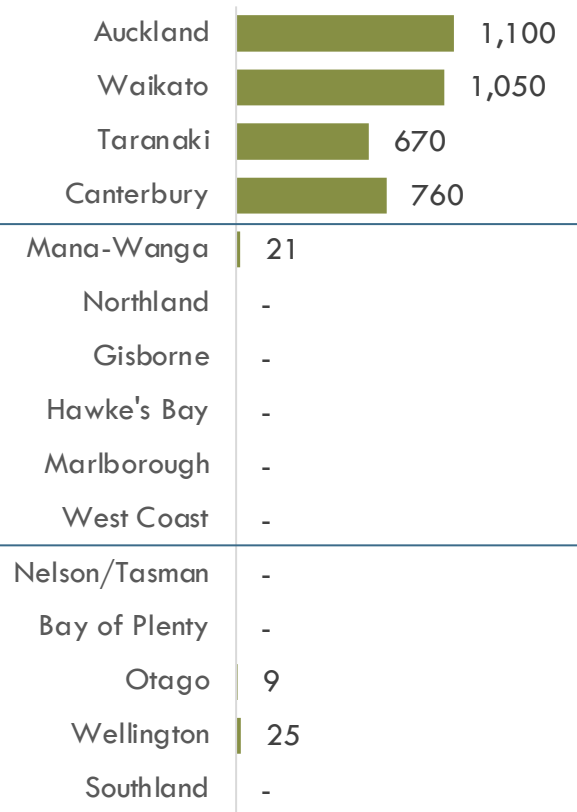
## 15Y CHANGE

Headcount; 03vs18



## EMPLOYMENT 2018

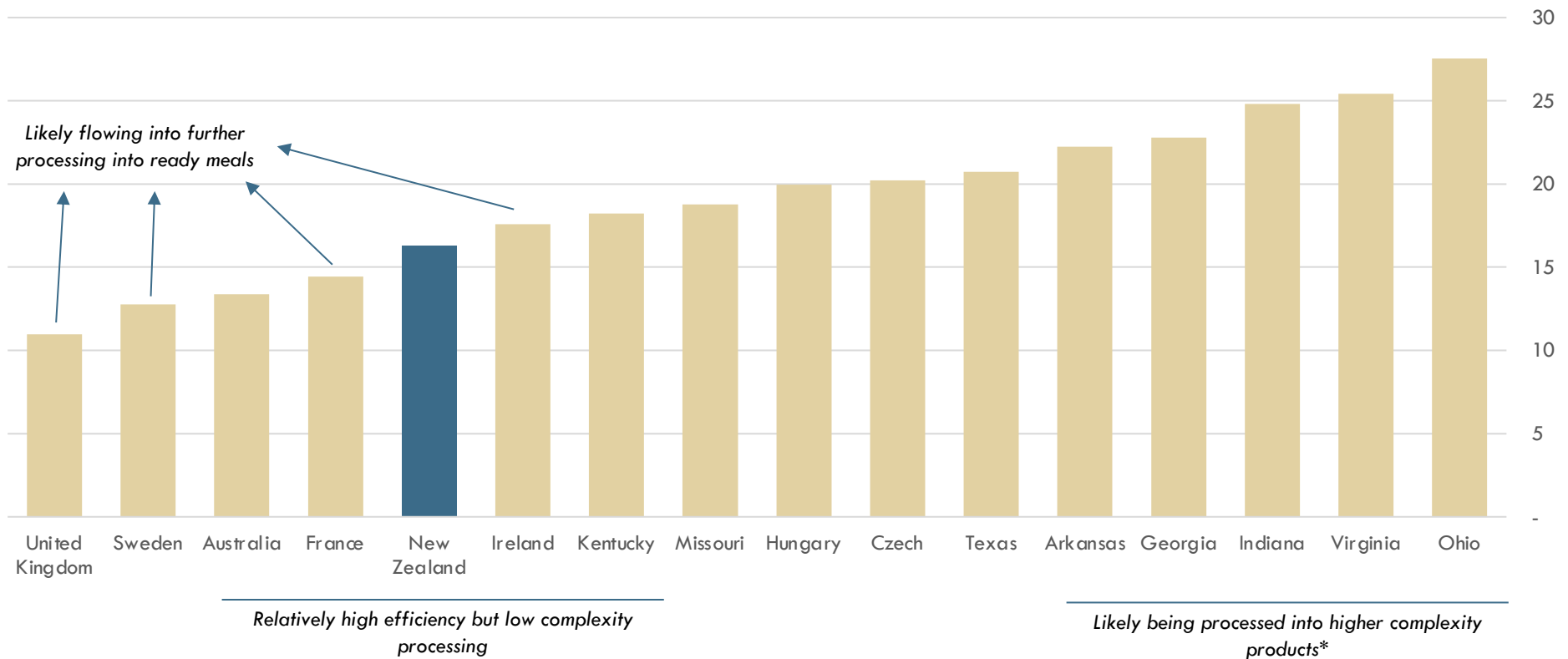
Headcount; 2003



# There appears to be potential to create more processing jobs from existing volumes

## PROCESSING JOBS PER THOUSAND TONNES: NZ VS PEERS

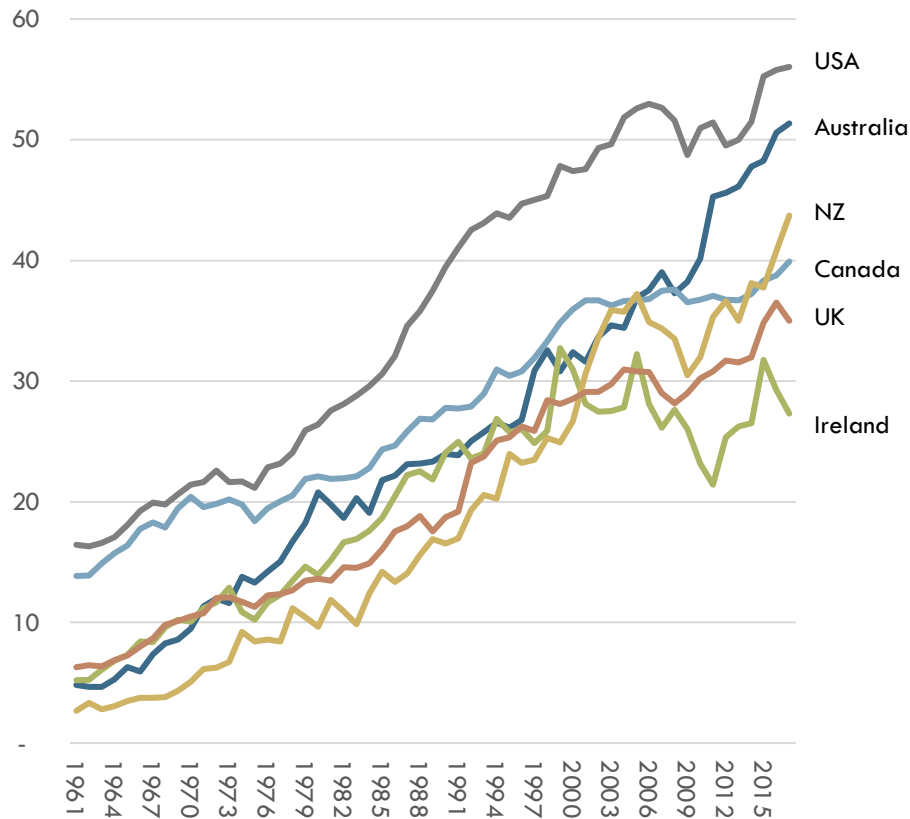
Headcount/1,000t; 2018 or as available



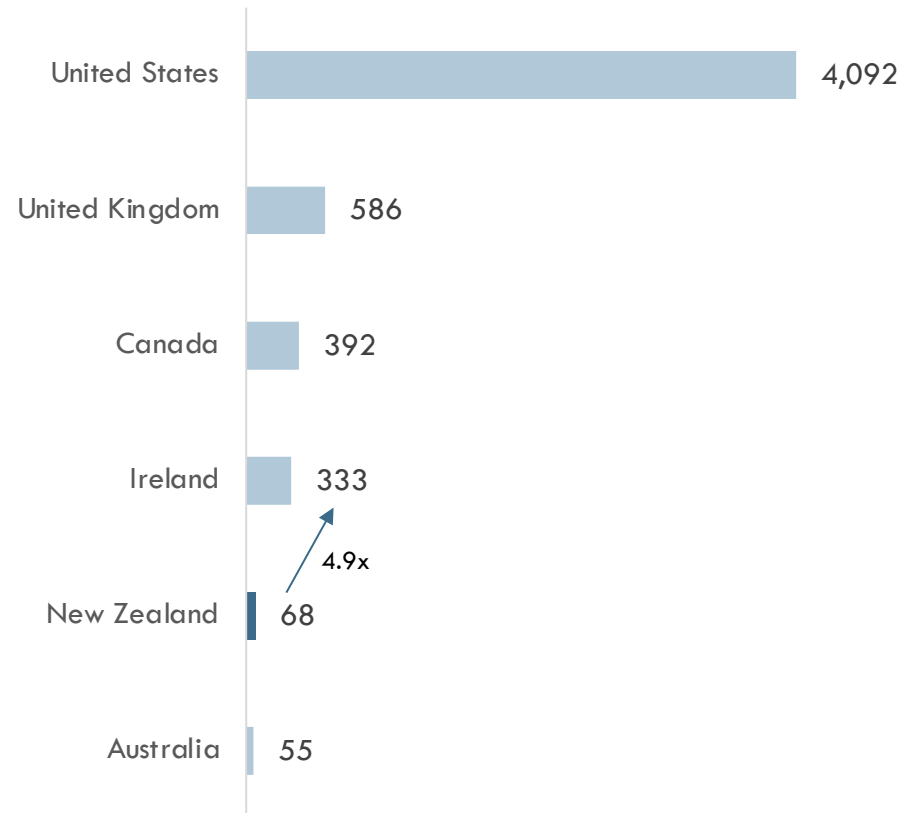
\*As an example, compare the processed chicken range of Tyson (US) with Inghams (NZ); Source: Statistics NZ; Eurostat; UN FAO; US DOL; USDA NASS; Coriolis analysis and estimates

# New Zealand poultry meat production can continue to grow

**POULTRY CONSUMPTION PER CAPITA**  
Kg/person/year; 1961-2017



**POULTRY EXPORT VOLUME**  
T; 000; 2018 or as available



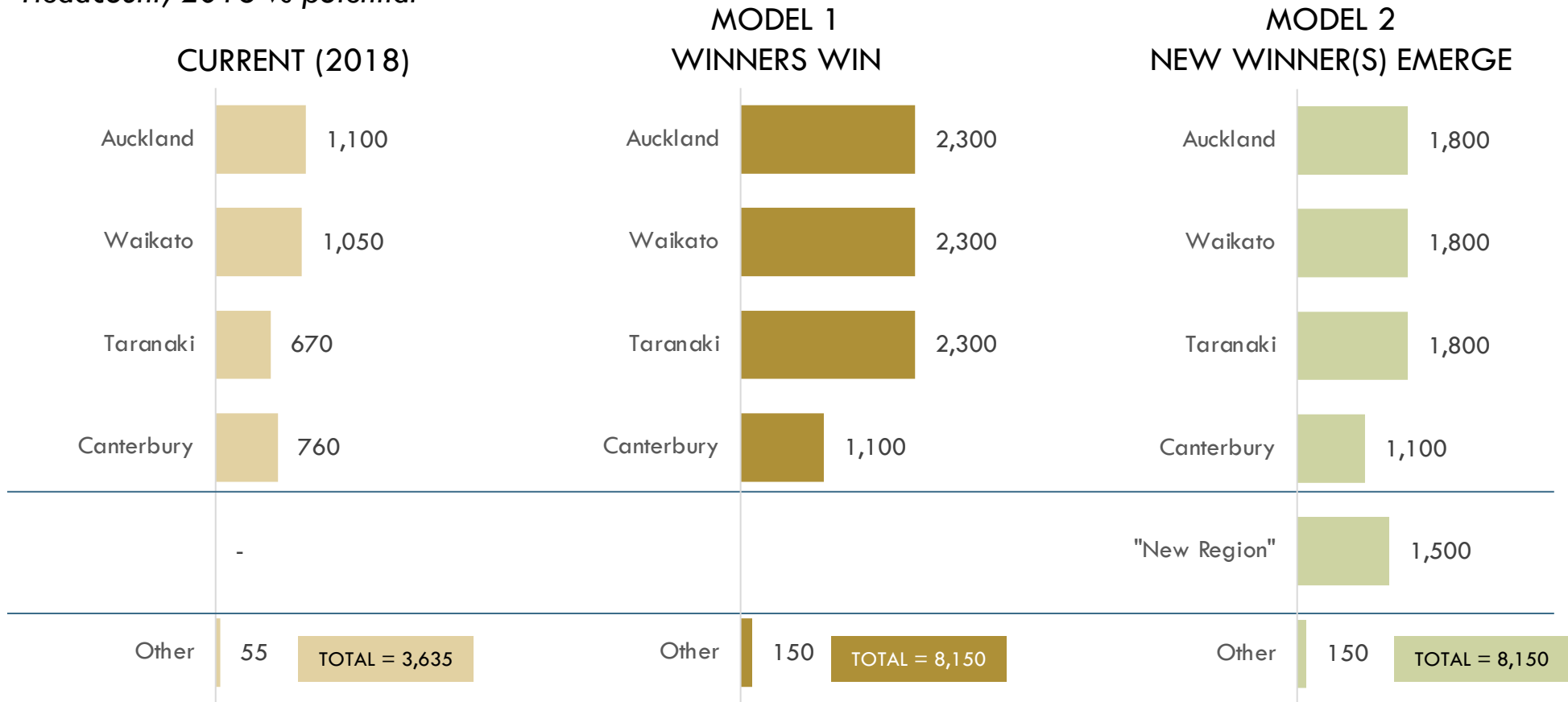
Source: UN FAO; MAF/MPI; UN Comtrade; Coriolis analysis



# Future employment growth will either come from (1) existing regions getting bigger or (2) a new region emerging

## SIMPLE MODEL OF POTENTIAL FUTURE POULTRY PROCESSING EMPLOYMENT BY REGION

Headcount; 2018 vs potential



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

# Four broad opportunities exist to drive growth in the poultry industry



1

## INVEST IN GROWTH OF DOMESTIC CONSUMPTION

- Growing chicken consumption in NZ



2

## TARGET KEY EXPORT MARKETS

- Growing global demand for protein (in particular chicken)
- Leverages NZ capabilities and reputation (free-from)
- Premium consumers in key export markets



3

## DEVELOP VALUE-ADDED PRODUCTS

- High value product
- Leverages NZ capabilities and reputation



4

## INVEST IN ALTERNATIVE POULTRY SPECIES (DUCK, TURKEY)

- Brand and story develops loyalty
- Leverages NZ reputation
- Premium consumers in key export markets
- Duck favoured species in parts of Asia

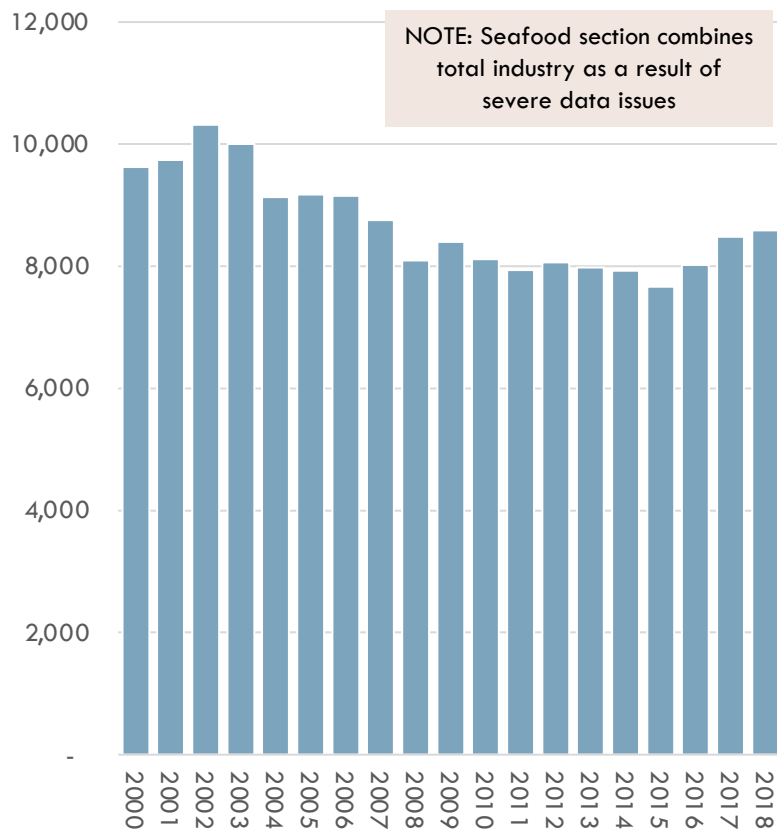
## ***4. Seafood is unlikely to create new jobs without new aquaculture coming into production***

- Seafood production & processing employment in New Zealand is concentrated in key regions and overall employment is falling
- Seafood is creating jobs in some regions, but not others; job losses in Nelson/Tasman are the standout
- New Zealand has an abundance of coastline spread across all regions; however, only Nelson/Tasman and Canterbury stand out as creating significant seafood jobs from their coastline
- Realised production of wild capture per kilometre of coastline has been falling and aquaculture has stalled
- New Zealand achieves a moderate wild catch per kilometre of coastline relative to many peers
- New Zealand has clear potential to produce more aquaculture
- NZ seafood industry jobs per kilometre of coastline is lower than European peers supporting the potential for employment growth; if New Zealand could match any peer, significant new jobs would result
- Two broad opportunities to drive growth in seafood are highlighted: (1) Salmon and (2) Region Suitable Aquaculture (e.g. opportunity for inland aquaculture on rough coasts)

# Seafood production & processing employment in New Zealand is concentrated in key regions and overall employment is falling

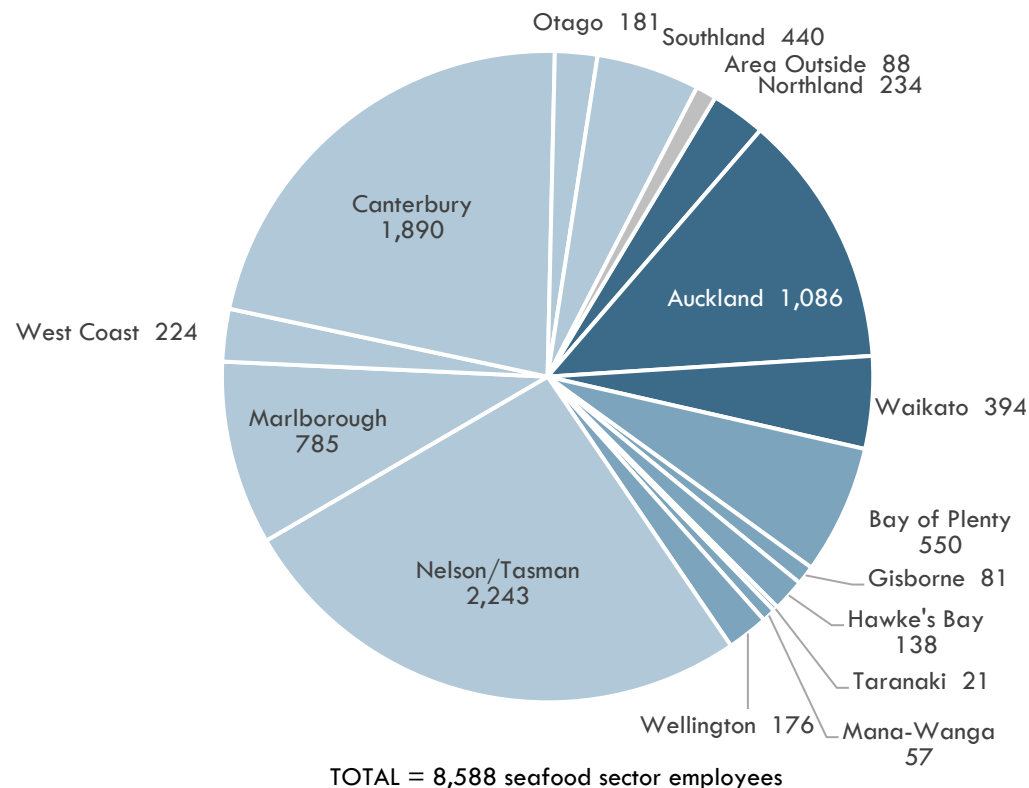
## TOTAL SEAFOOD SECTOR EMPLOYMENT

Headcount; 2000-2018



## SEAFOOD SECTOR JOBS BY REGION

Headcount; 2018

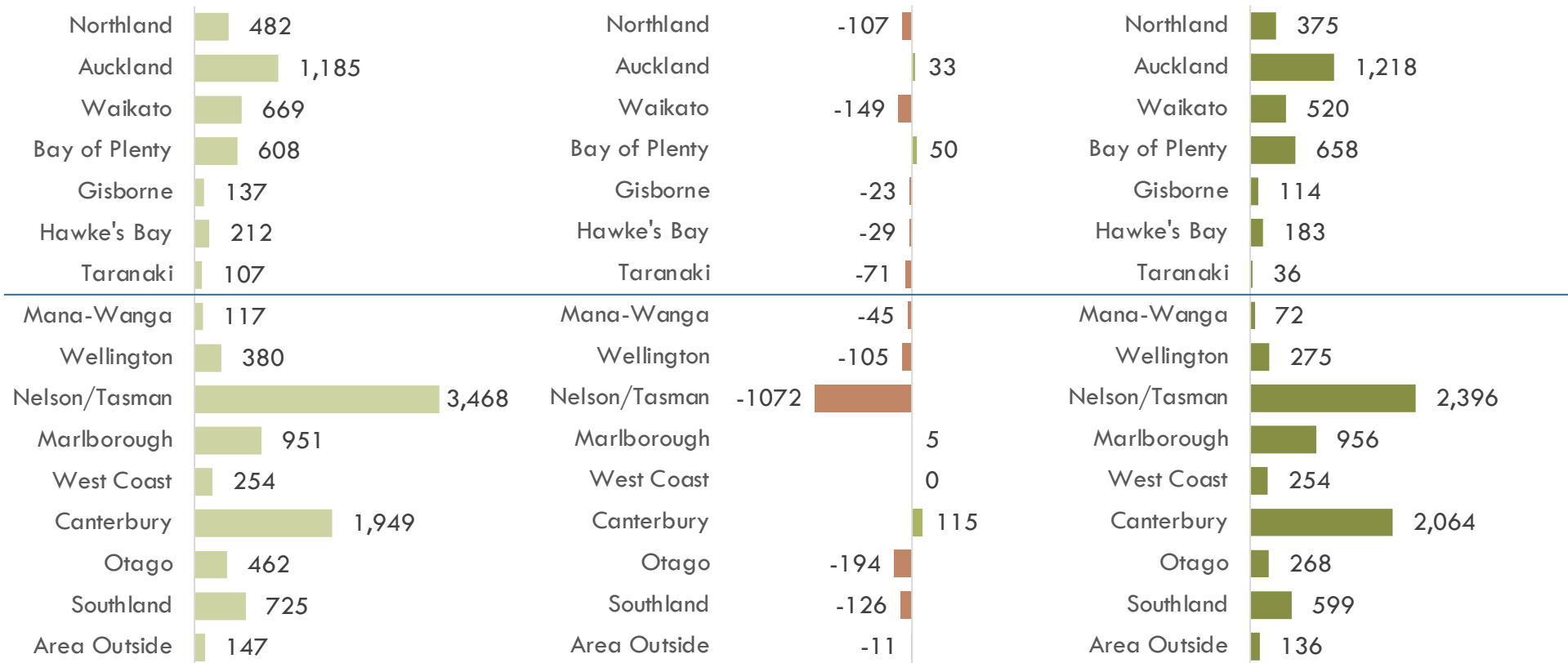


# Seafood is creating jobs in some regions, but not others; job losses in Nelson/Tasman are the standout

**EMPLOYMENT 2000**  
*Headcount; 2000*

**18Y CHANGE**  
*Headcount; 00vs18*

**EMPLOYMENT 2018**  
*Headcount; 2018*

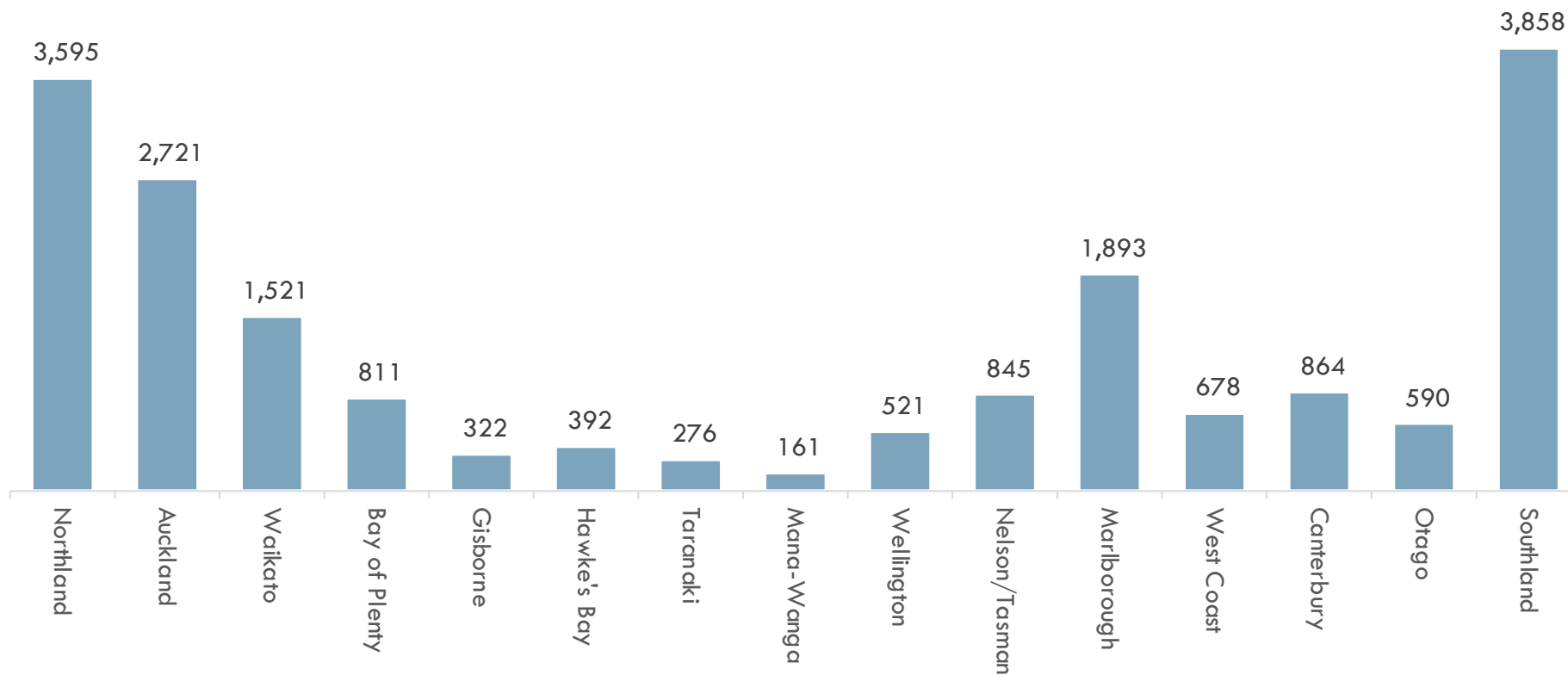


Note: Area Outside = at sea; Source: Statistics NZ; UN FAO; MAF/MPI; Coriolis analysis

# New Zealand has an abundance of coastline spread across all regions

## COASTLINE BY REGION

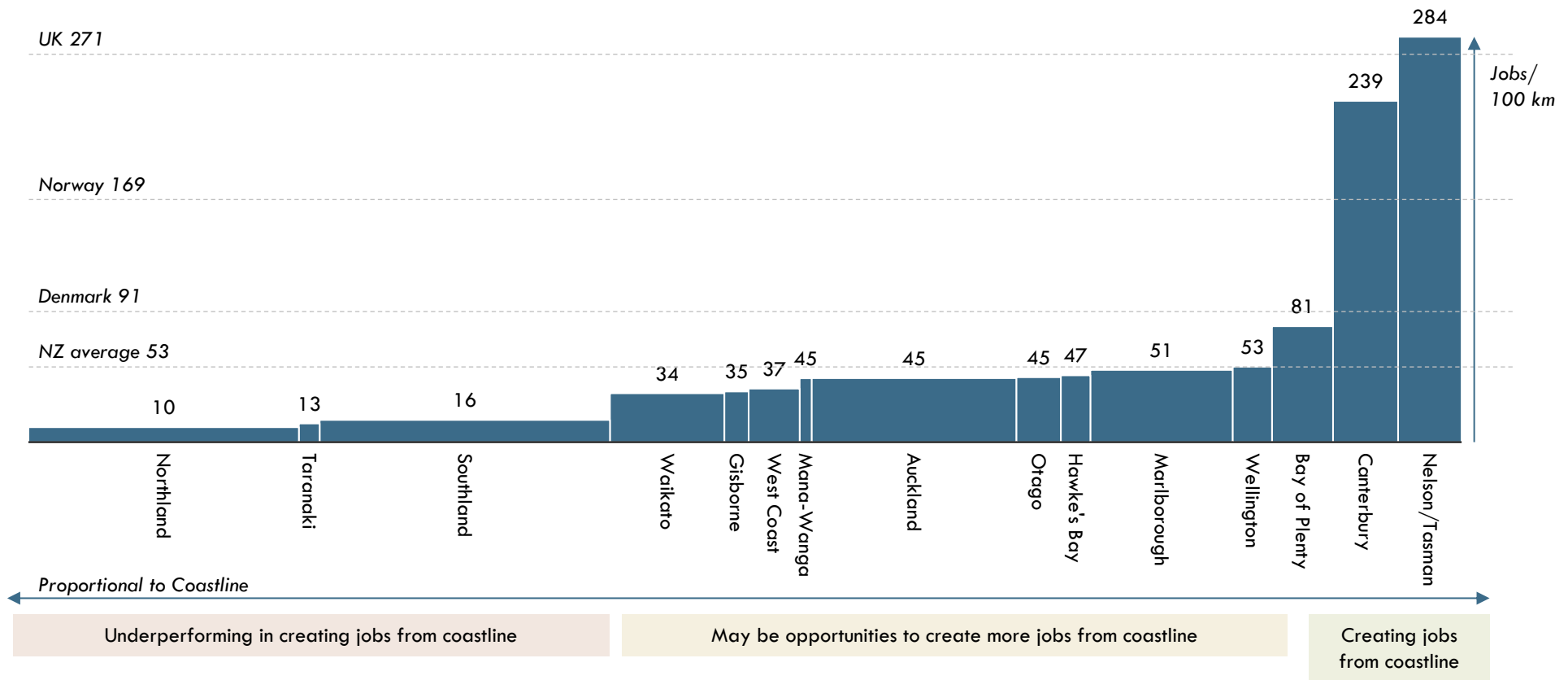
Km; 2019



# Only Nelson/Tasman and Canterbury stand out as creating significant seafood jobs from their coastline

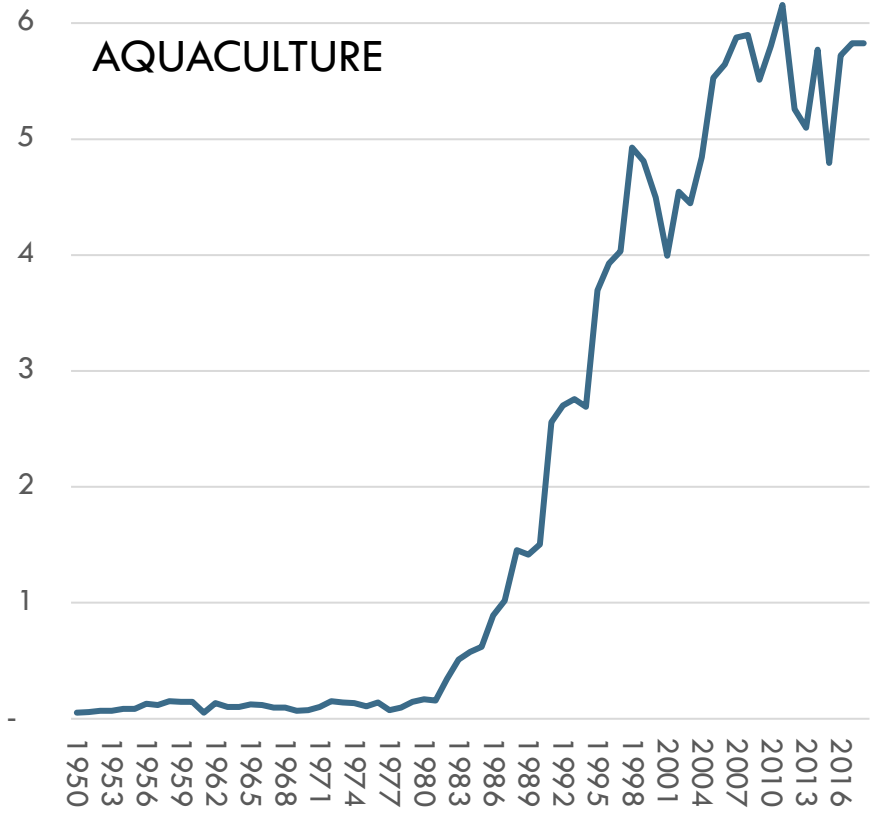
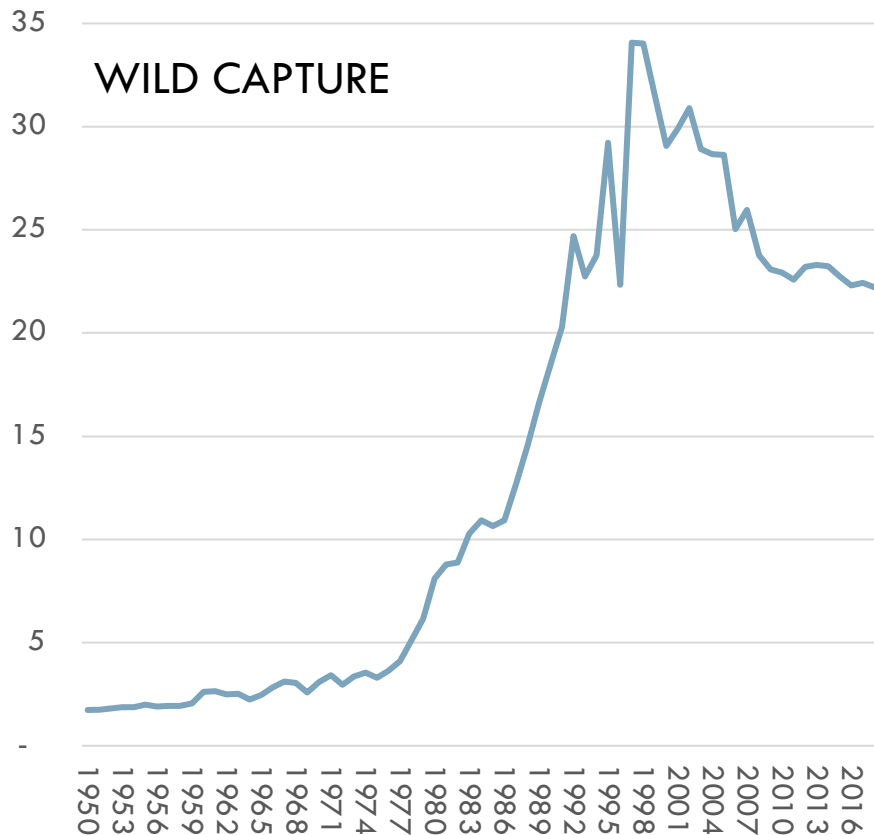
## TOTAL SEAFOOD INDUSTRY EMPLOYMENT PER KILOMETRE OF COASTLINE

Headcount/100 km; 2018



# Realised production of wild capture per kilometre of coastline has been falling and aquaculture has stalled

LANDED TONNES PER KM COASTLINE  
T/km; 1950-2018

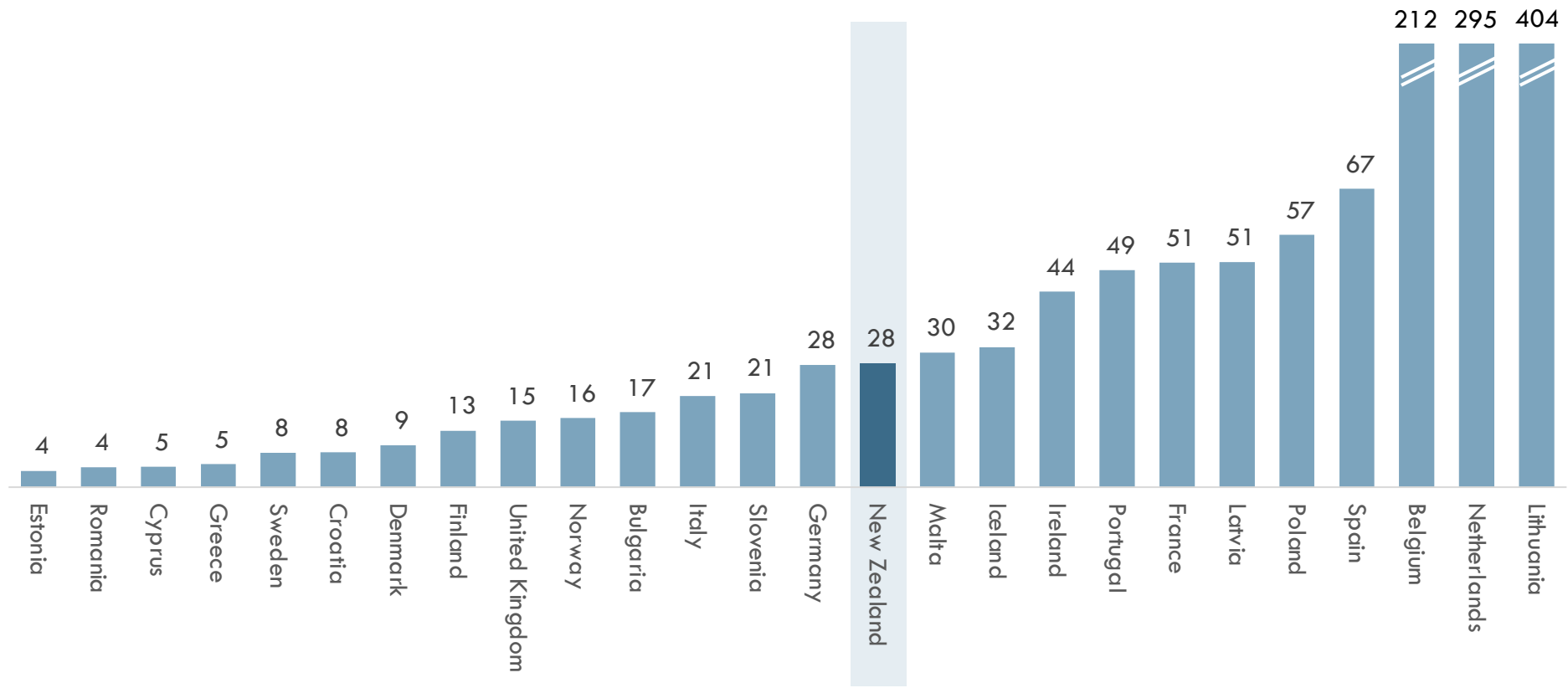


Source: UN FishStat; Statistics NZ; MPI/MAF/MoF; Coriolis analysis



# New Zealand achieves a moderate wild catch per kilometre of coastline relative to many peers

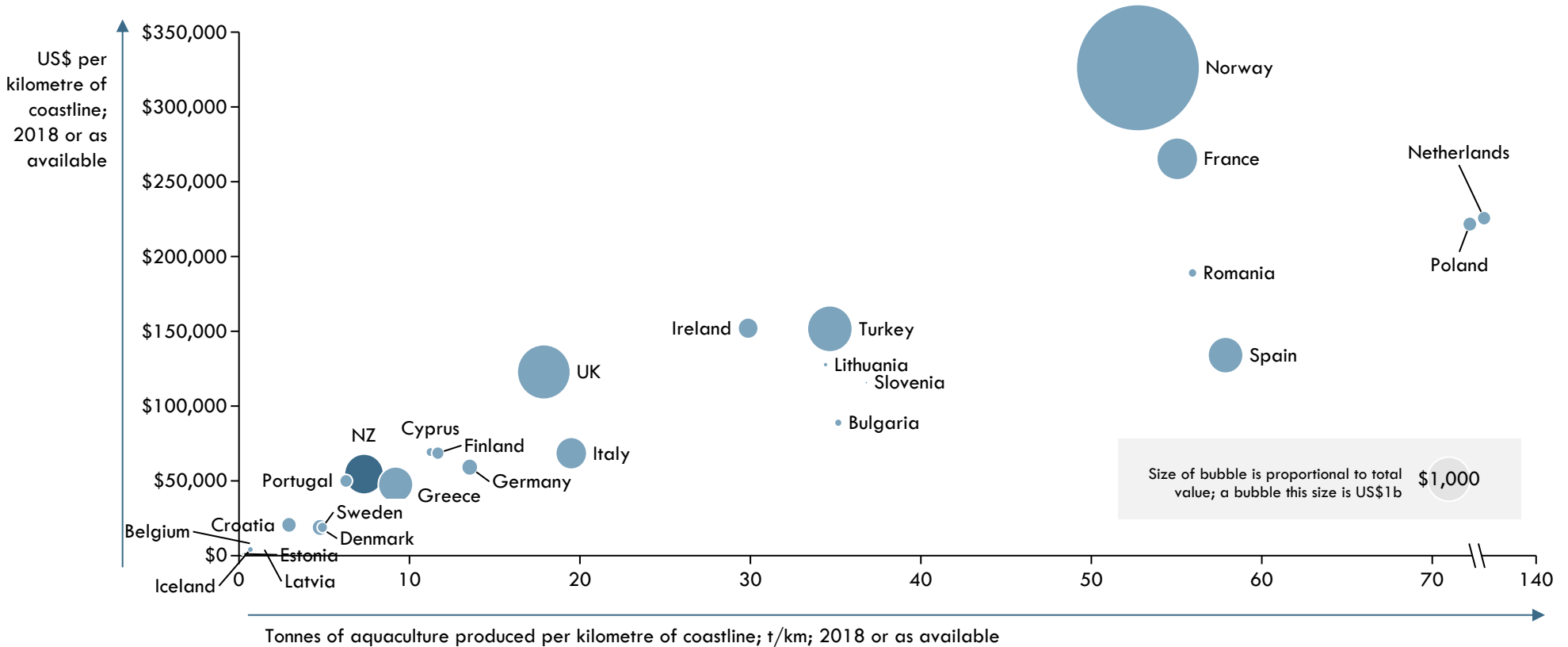
LANDED WILD CATCH PER KILOMETRE OF COASTLINE: NZ VS EUROPE  
T/km; 2018 or as available



Source: UN FAO FishStat; Eurostat; MPI; CIA World Fact Book; Coriolis analysis

# New Zealand has clear potential to produce more aquaculture

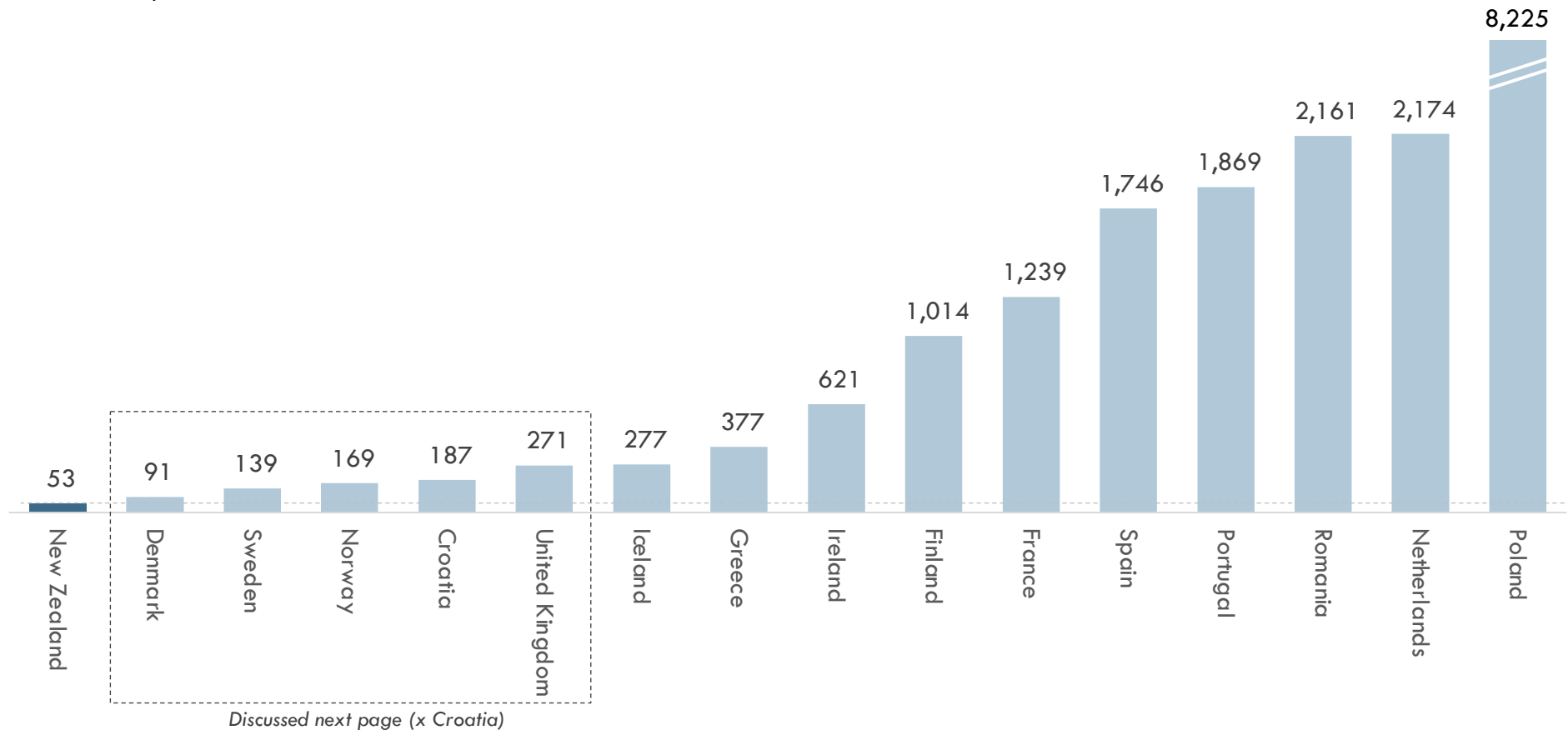
**MATRIX: TONNES/KILOMETRE VS DOLLARS/KILOMETRE VS TOTAL INDUSTRY VALUE**  
*T/km (actual); US\$/km (actual); total US\$m; 2018 or as available*



Source: UN FAO FishStat; Eurostat; MPI; CIA World Fact Book; Coriolis analysis

# NZ seafood industry jobs per kilometre of coastline is lower than European peers supporting the potential for employment growth

FISHING/AQUACULTURE/PROCESSING SEAFOOD INDUSTRY EMPLOYMENT PER KM  
Headcount/km; 2018 or as available

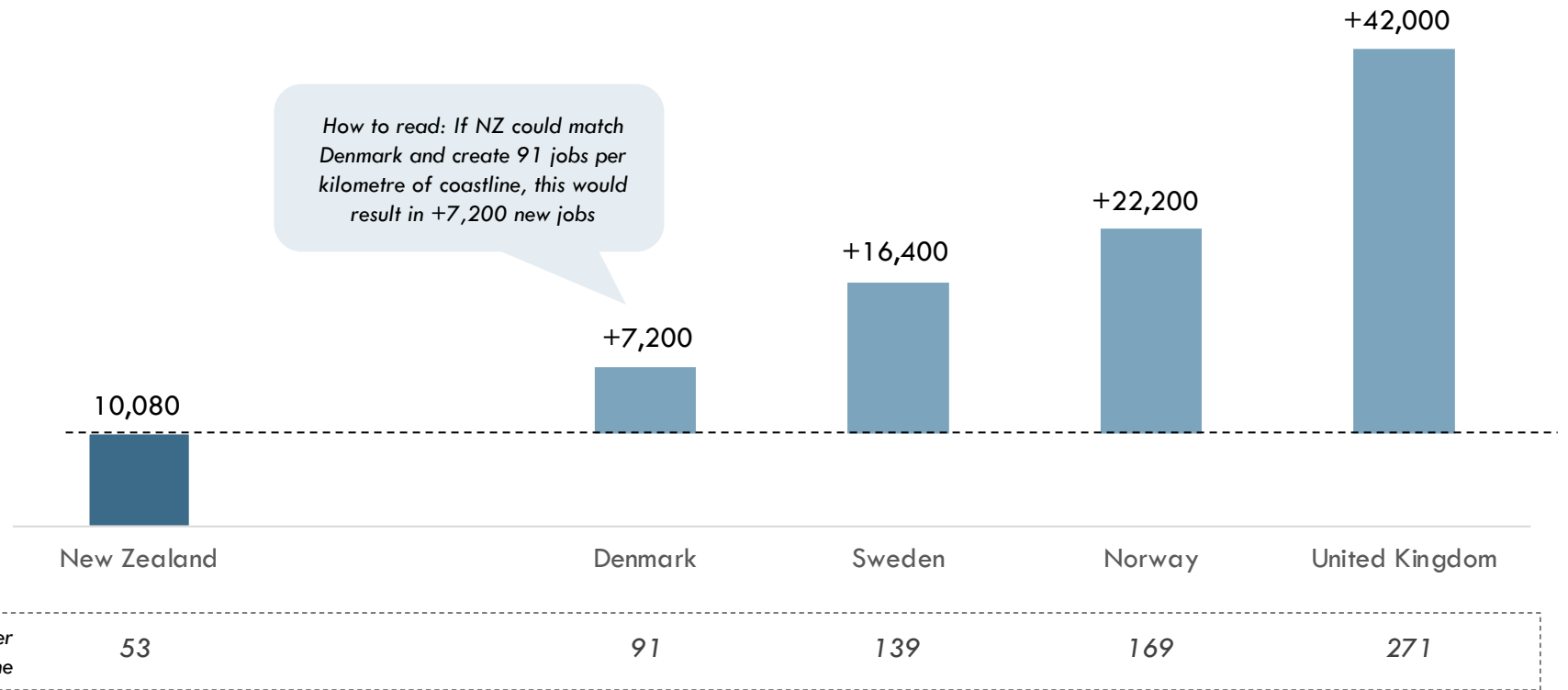


Note: New Zealand total includes wholesale but other do not; Source: UN FAO FishStat; Eurostat; MPI; CIA World Fact Book; Coriolis analysis

# If New Zealand could match any peer, significant new jobs would result

## MODEL: NUMBER OF JOBS CREATED IF NZ COULD MATCH PERFORMANCE OF...

Headcount; 2018 versus modelled potential



Note: New Zealand total includes wholesale but other do not; Denmark excludes Greenland and Faroe Is. data (cf. Kingdom of Denmark); Source: UN FAO FishStat; Eurostat; MPI; CIA World Fact Book; Coriolis analysis

## Two broad opportunities to drive growth in seafood are highlighted: (1) Salmon and (2) Region Suitable Aquaculture



1

### ATLANTIC & PACIFIC SALMON

- 41% of NZ peers<sup>1</sup> produced Atlantic salmon (2015)
- Global trade \$15.1b in 2015
- Capabilities in salmon farming
- High quality omegas and oils



2

### IDENTIFY REGION SUITABLE AQUACULTURE

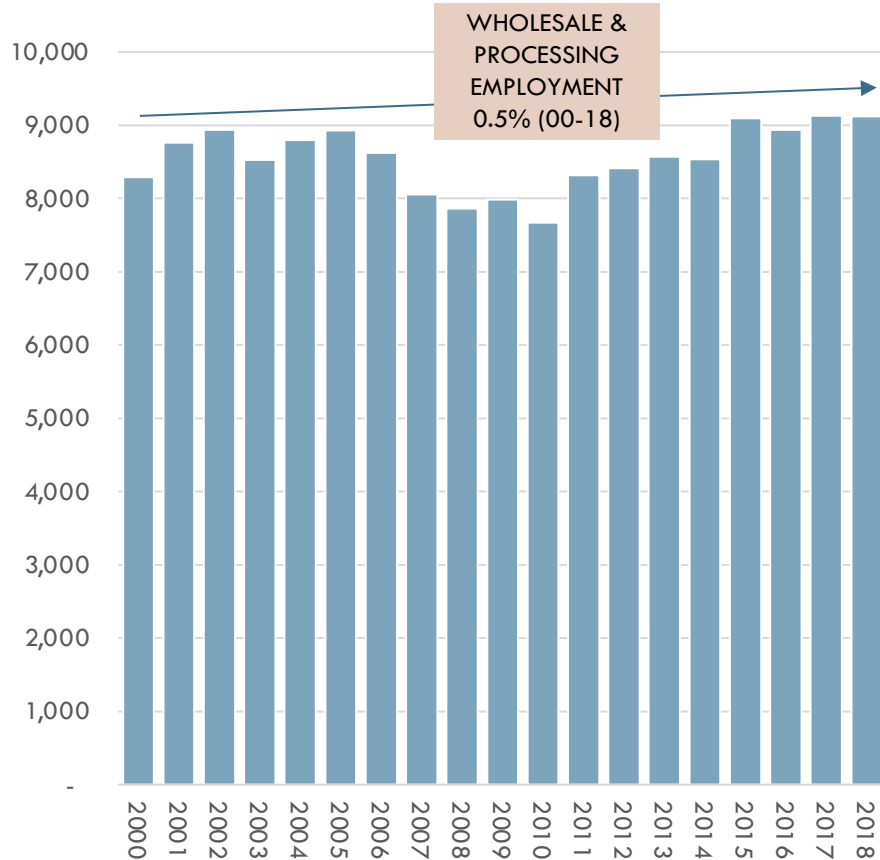
- Opportunity to develop aquaculture beyond mussels, oysters and salmon
- Extensive coastline (10<sup>th</sup> longest in the world)
- Aquaculture global growth story vs wild

## ***5. Produce wholesaling & processing is unlikely to create new jobs without significant new land coming into production***

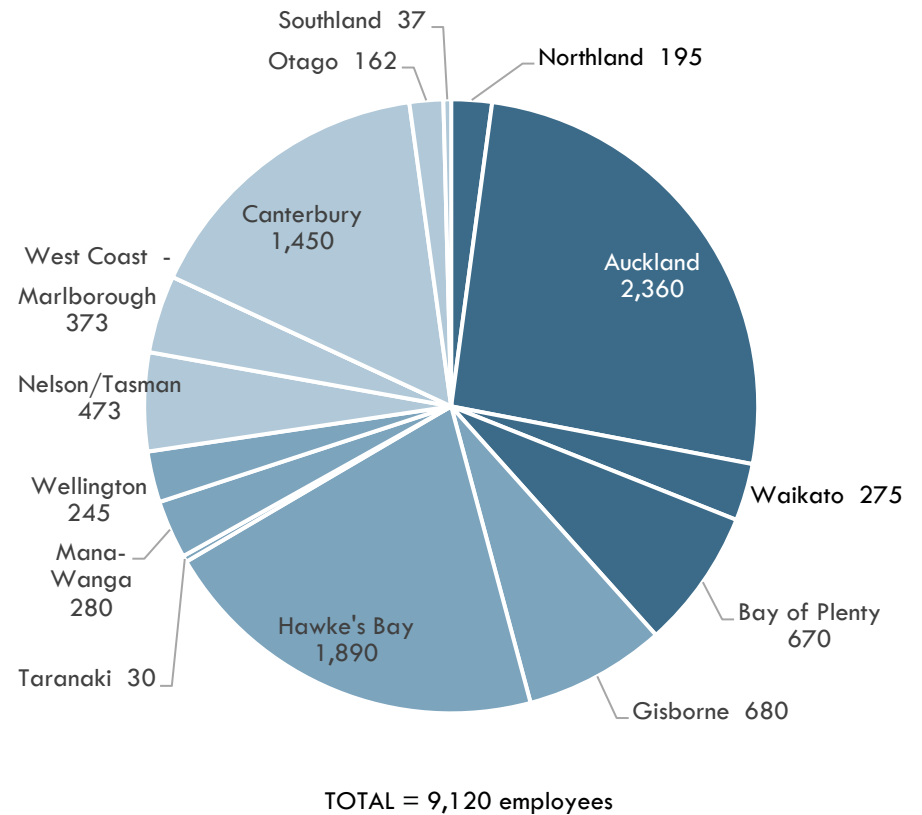
- New Zealand F&V processors/wholesalers are creating modest numbers of new jobs and jobs are spread across all regions
- Mild overall employment growth masks regional shifts, with the Upper North Island leading growth and many others declining
- New Zealand turns its abundant fruit and vegetables into few processing jobs, particularly relative to major US regions
- There is a clear case that all regions of New Zealand can increase area in fruit and vegetables
- Eight broad opportunities to drive growth in the fruit, nut and vegetable industry are highlighted

# New Zealand F&V processors/wholesalers are creating modest numbers of new jobs and jobs are spread across all regions

**F&V PROC/WHLS EMPLOYMENT**  
Headcount; 2000-2018



**F&V PROC/WHLS EMPLOYMENT**  
Headcount; 2018



# Mild overall employment growth masks regional shifts, with the Upper North Island leading growth and many others declining

## EMPLOYMENT 2000

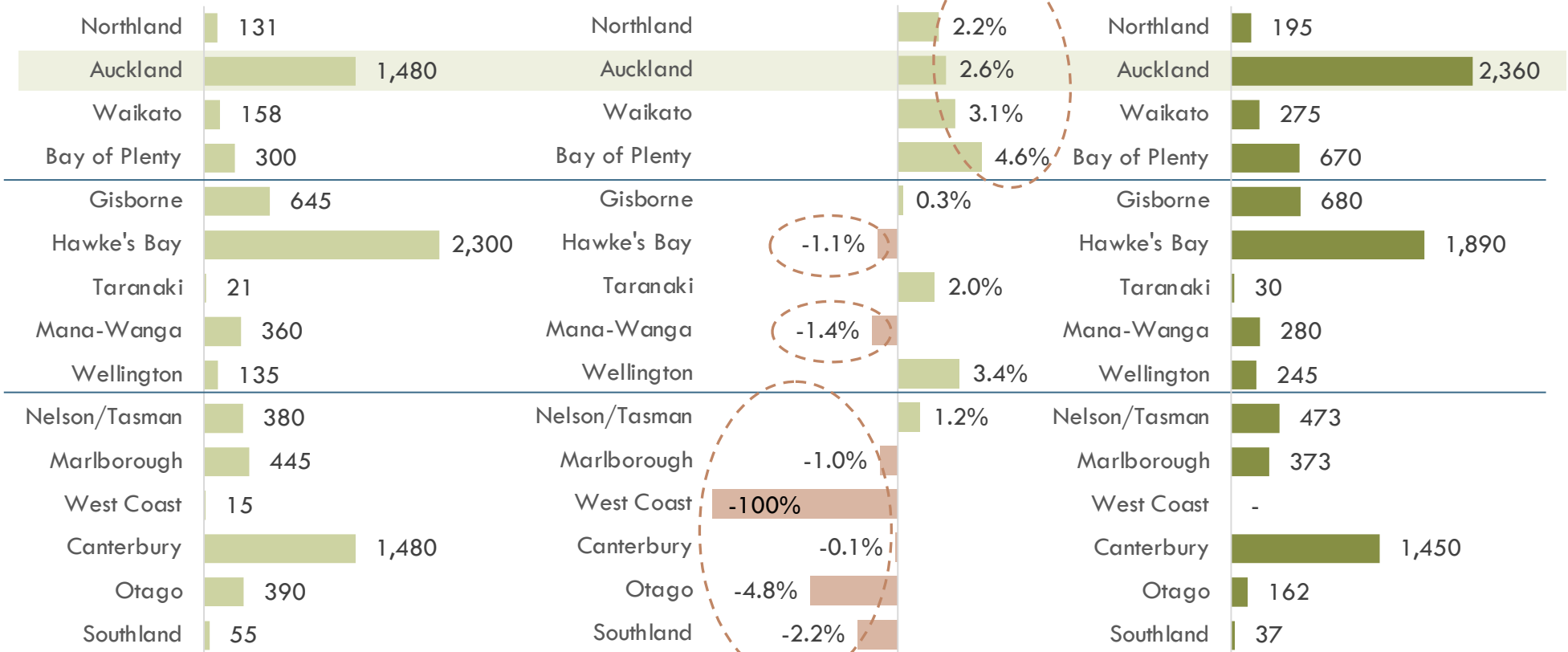
Headcount; 2000

## 18Y CHANGE (CAGR)

Headcount; 00vs18

## EMPLOYMENT 2018

Headcount; 2018

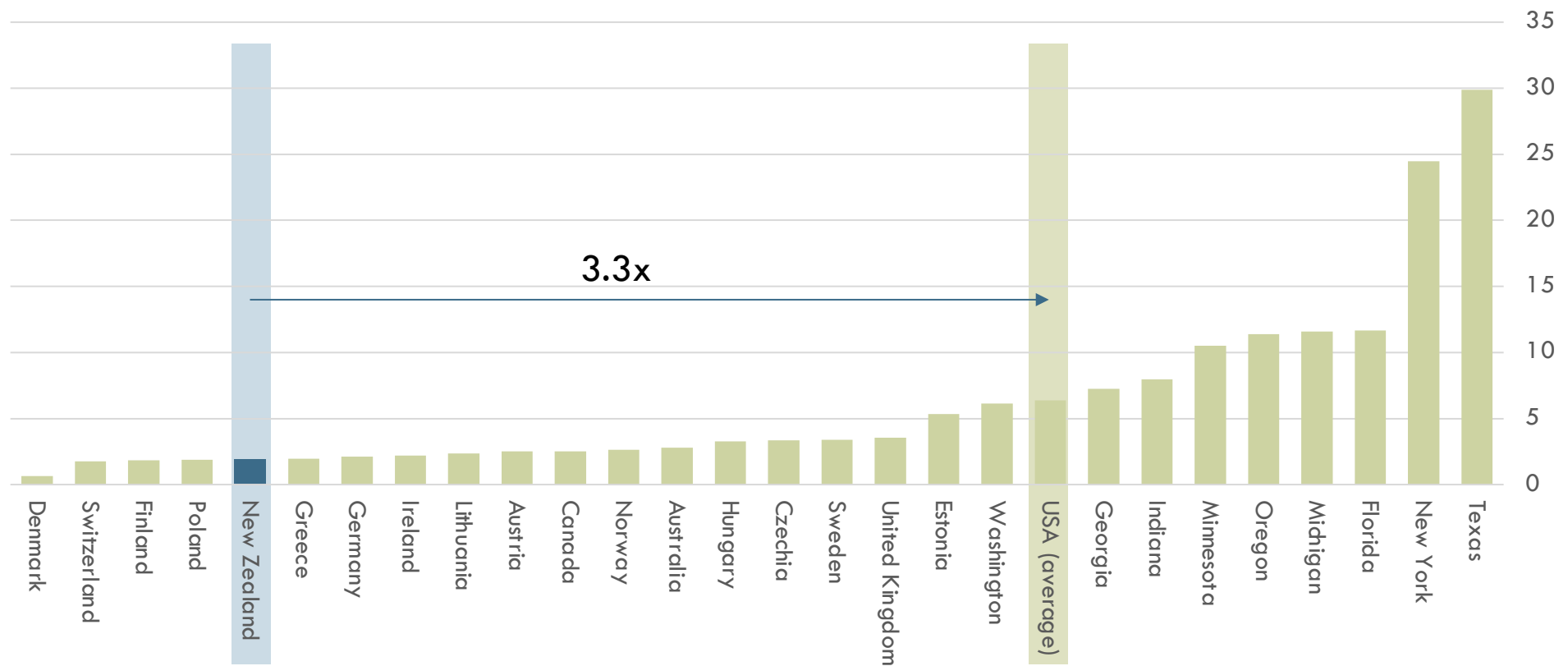




# New Zealand turns its abundant fruit and vegetables into few processing jobs, particularly relative to major US regions

## PROCESSING EMPLOYMENT PER 1,000 TONNE OF F&V: NZ VS SELECT PEERS

Headcount/1,000t processed/handled; 2018 or as available

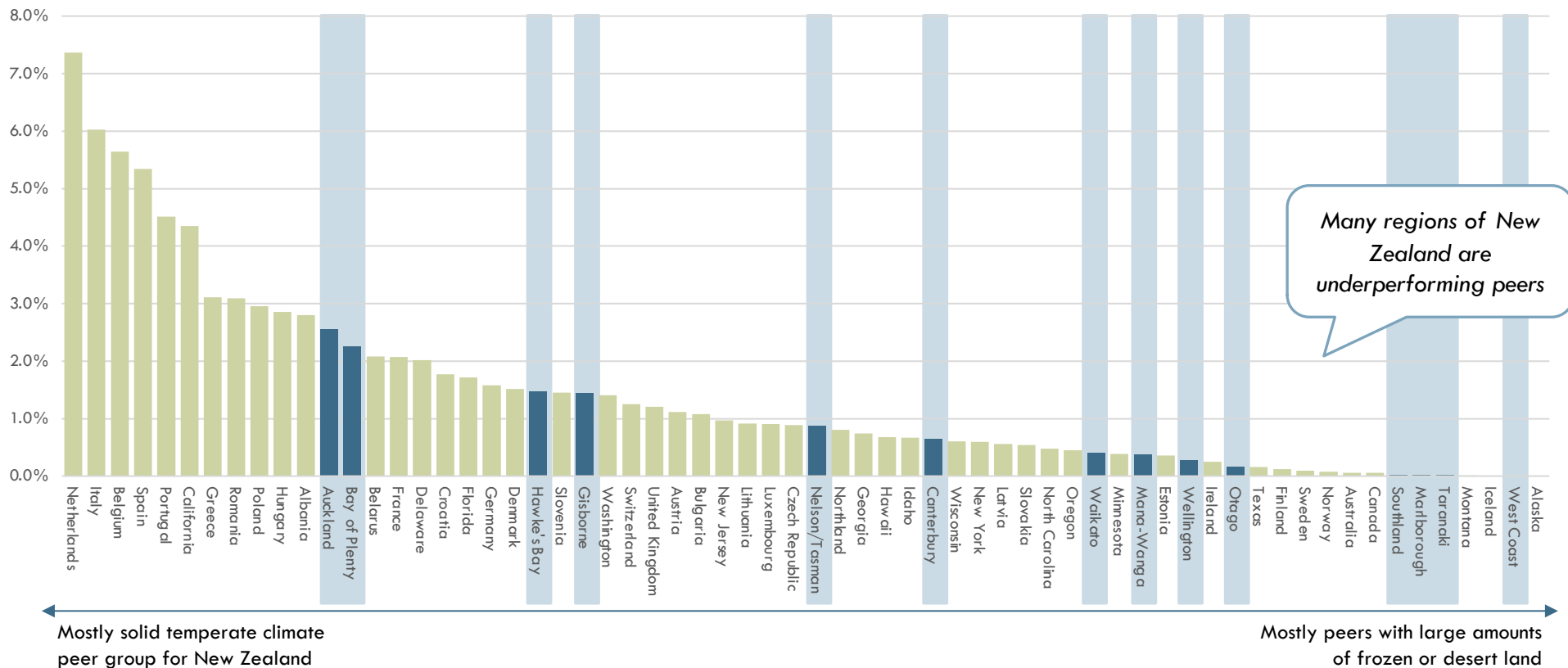


Note: This specific analysis excludes wholesaling for data availability reasons (comparing apples with apples); Source: UN FAO; USDA NASS; USDA Census of Agriculture; Eurostat; MPI; Coriolis analysis and classifications

# There is a clear case that all regions of New Zealand can increase area in fruit and vegetables

## SHARE OF TOTAL LAND AREA IN FRUIT & VEGETABLES

% of sq km; 2018 or as available



Source: UN FAO; USDA Census of Agriculture; Eurostat; OIV; CIA World Fact Book; Statistics NZ; Coriolis analysis

# Three broad opportunities to drive growth in the vegetable industry are highlighted



1

## UNDER COVER/ GLASSHOUSE

- Increase industry scale
- Attract new investment from Europe
- Target high value markets, particularly AU and developed Asia



2

## ONIONS, POTATOES & OTHER ROOT CROPS

- New Zealand achieves world class yields
- Need to scale up and increase average farm sizes
- Targeting value added processed products for Asian markets



3

## OTHER PROCESSING VEGETABLES

- Attract new investment
- Need to scale up and increase average farm sizes
- Targeting value added processed products for Asian markets

# Five broad opportunities to drive growth in the fruit & nut industry are highlighted



4

## NUTS\*

- Huge growth in healthy foods and snacking categories
- High \$/kilo\*

5

## APPLES

- Leverage market access and capabilities in apples
- #3 Southern Hemisphere producer
- Growth in new varieties

6

## KIWIFRUIT

- Leverage market access and capabilities in kiwifruit
- #1 global exporter
- Strong export growth

7

## AVOCADOS

- Significant growth in plantings/production
- Growth in global consumption
- Growth in NZ exports to AU and Asia
- Strong promotion of health benefits

8

## CHERRIES, BERRIES & OTHER EMERGING FRUIT

- Significant growth in plantings/production
- Growth in global consumption
- Growth in NZ exports to AU and Asia
- Strong promotion of health benefits

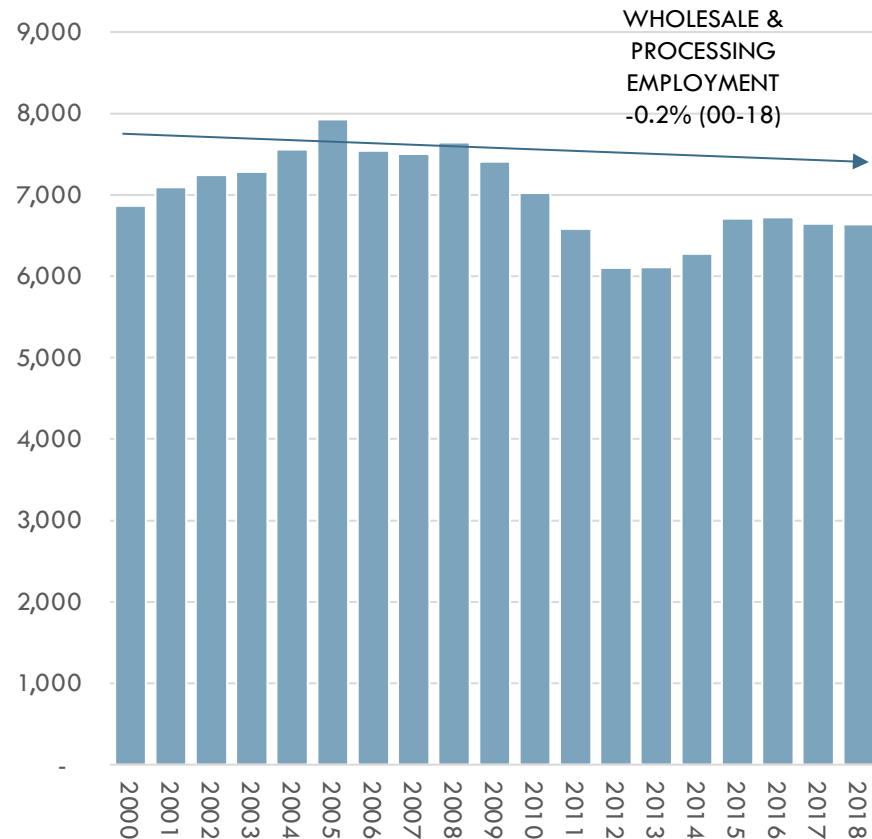
\*For more detail on nuts see 'What does Asia want for dinner' <https://www.mbie.govt.nz/dmsdocument/2237-what-does-asia-want-for-dinner-part-1-pdf>; Note: Jobs includes on-farm and processing; Photo credit: various firms or fair use; low resolution; complete product/brand for illustrative purposes; Source: Coriolis estimates

## ***6. Grain processing & wholesaling is unlikely to create significant new jobs going forward without developing new products***

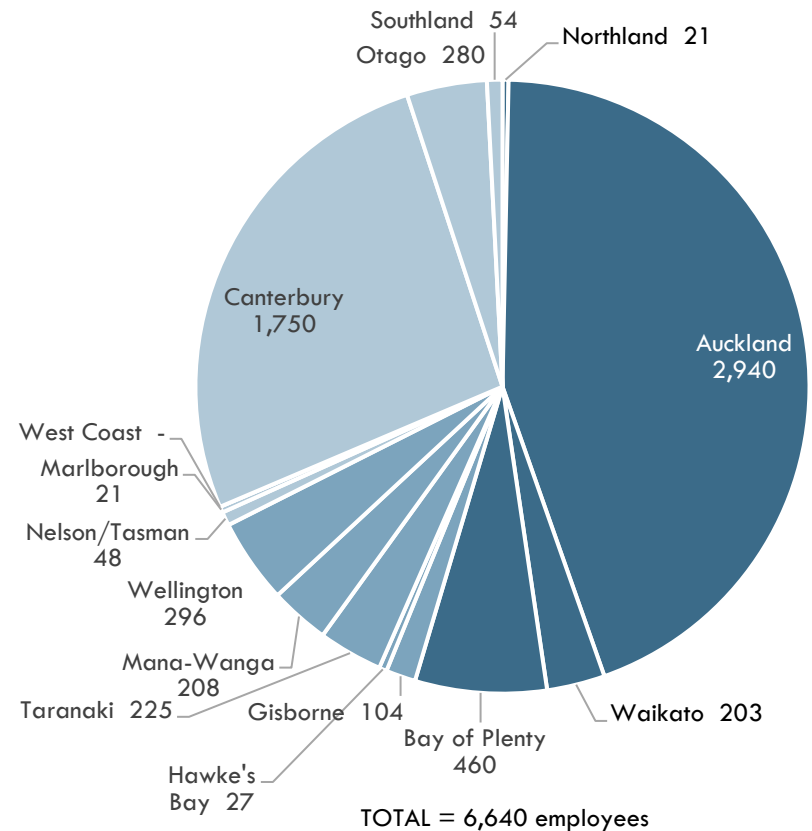
- Grain processors/wholesalers jobs are predominantly in Auckland and Canterbury and employment is not growing
- Mild overall decline masks regional shifts, with Auckland, Canterbury and Otago growing jobs while all others are declining
- New Zealand is not obviously underperforming peers in turning area in market grains into grain-processing jobs
- Four broad opportunities to drive growth in the grain-based foods industry are highlighted

# Grain processors/wholesalers jobs are predominantly in Auckland and Canterbury and employment is not growing

**GRAIN PROC/WHLS EMPLOYMENT**  
Headcount; 2000-2018



**GRAIN PROC/WHLS EMPLOYMENT**  
Headcount; 2018



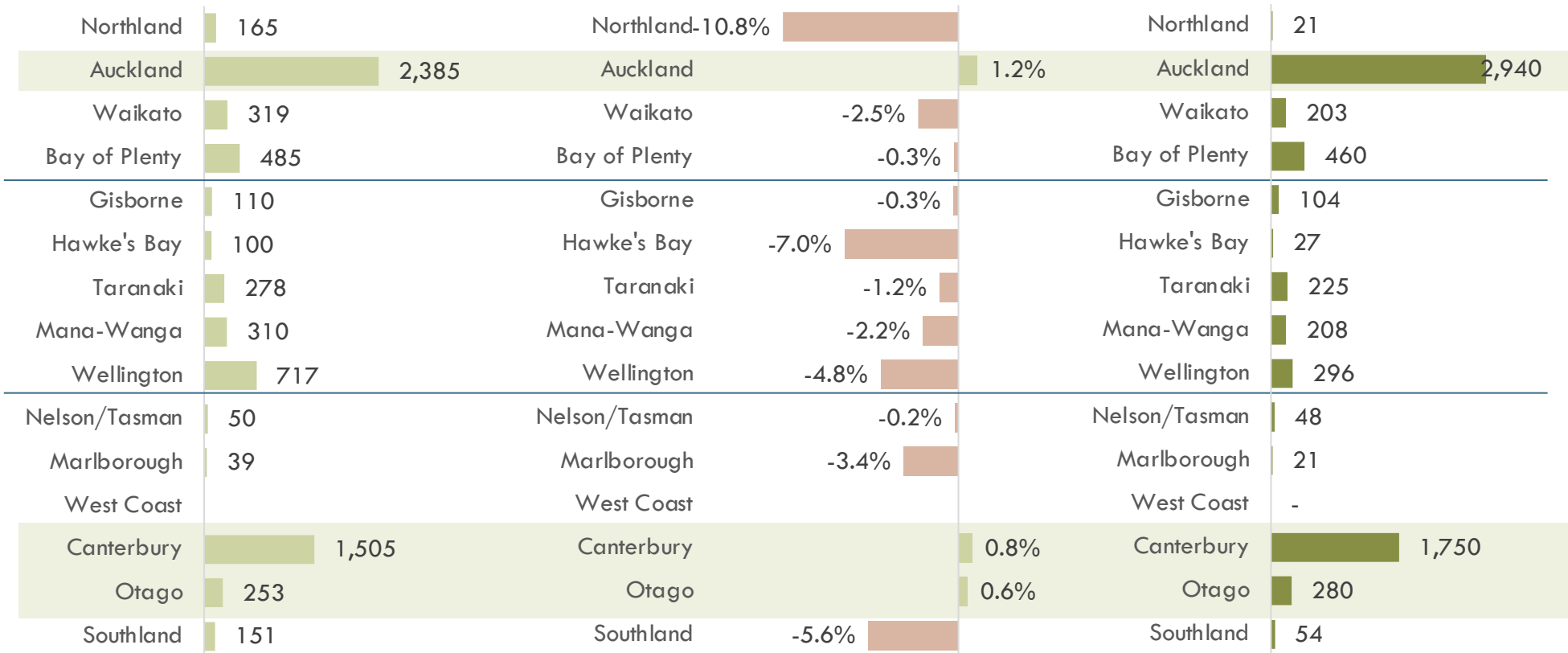
Source: Statistics NZ; Coriolis analysis

# Mild overall decline masks regional shifts, with Auckland, Canterbury and Otago growing jobs while all others are declining

**EMPLOYMENT 2000**  
Headcount; 2000

**18Y CHANGE (CAGR)**  
Headcount; 00vs18

**EMPLOYMENT 2018**  
Headcount; 2018

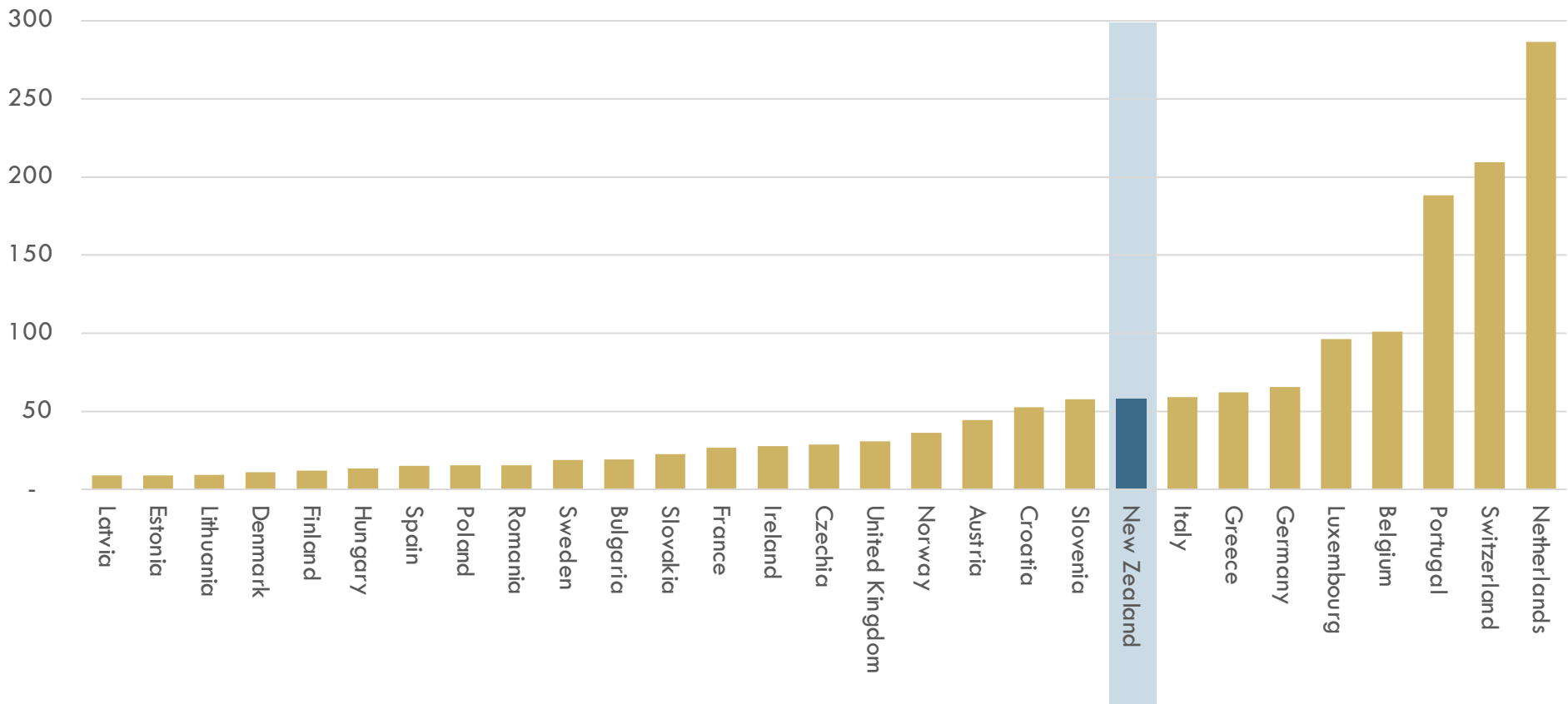


Source: Statistics NZ; UN FAO; MAF/MPI; Coriolis analysis

# New Zealand is not obviously underperforming peers in turning area in market grains into grain-processing jobs

## POST FARMGATE GRAIN-BASED PROCESSED FOOD JOBS PER HECTARE OF GRAINS\*

Headcount/ha; 2018 or as available



\*Uses grains and pulses (excludes fodder crops); Note: not adjusted for imports/exports (it is out of scope, but performance would be poorer if this was included); there is clearly further scope for import substitution; Source: Statistics NZ; UN FAO; MAF/MPI; Eurostat; Coriolis analysis



# Four broad opportunities to drive growth in the grain-based foods industry are highlighted



CROISSANTS & PASTRIES



2

**OAT 'MILK'**

- Add value to existing and new oat crops



3

**SEEDS**

- Counter-seasonal clean seed production
- Climatically suited to wide range of crops (pasture, vegetable, grains, seed, forage)



4

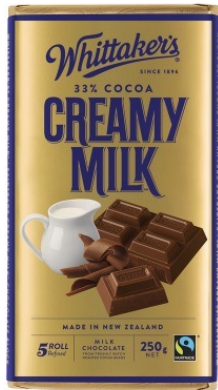
**HEMP  
(F&B USAGE)**

- Significant source of essential amino acids, omegas
- Growth in plant based proteins
- Leverage growing capabilities

## 7. *New Zealand can continue to grow employment in **processed foods** production*

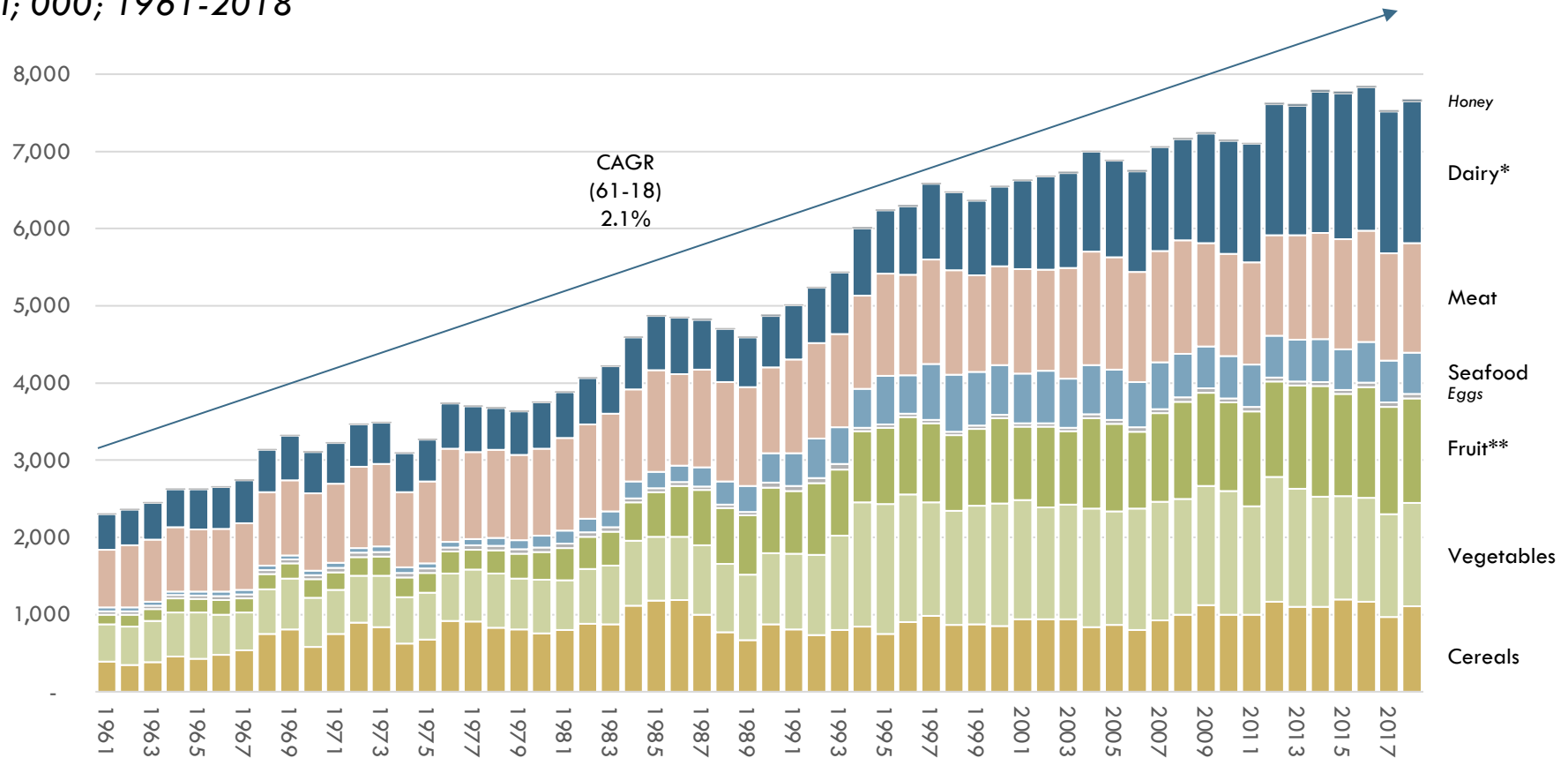
- 'Processed foods' captures a wide range of products that are made from a combination of ingredients
- New Zealand has large and growing volumes of raw materials suitable for making processed foods
- New Zealand's food & beverage exports are currently still over-weighted to low value-added, unprocessed ingredients
  - However, New Zealand's exports of value-added processed foods and beverages are growing strongly long term
- Processed foods is creating jobs; however, jobs are currently concentrated in Auckland
- Employment growth varies by region; Northland, Hawke's Bay, Wellington and Nelson/Tasman achieving high growth rates
- Peers suggest New Zealand can create more processed foods jobs from its abundant raw materials
  - If New Zealand could match key peers, ~3,000 to 30,000 new jobs would result
- Four broad opportunities to drive growth in the processed foods industry are highlighted

*‘Processed foods’ captures a wide range of products that are made from a combination of ingredients*



# New Zealand has large and growing volumes of raw materials suitable for making processed foods

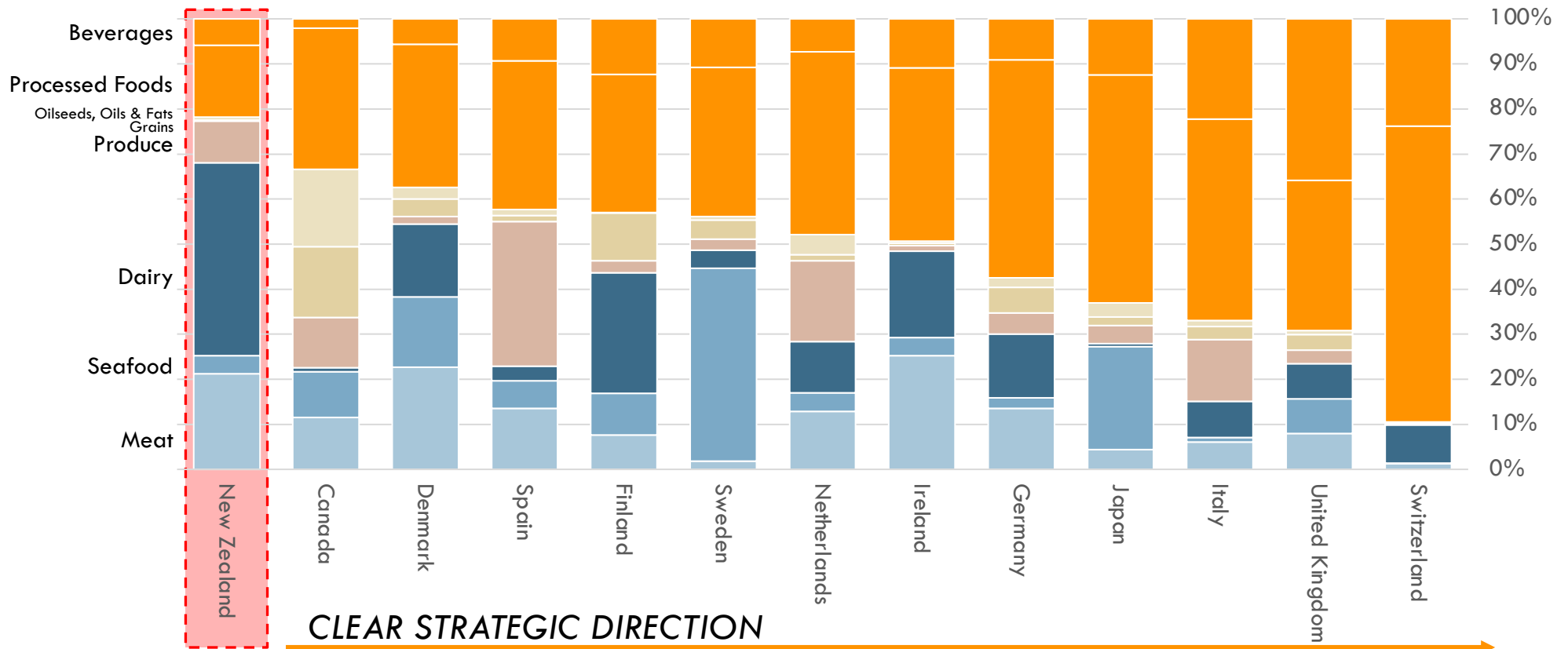
TOTAL NEW ZEALAND FOOD PRODUCTION VOLUME AT FARM GATE<sup>1</sup>  
T; 000; 1961-2018



1. Dockside for seafood production; \*Milk is milk solids; meat is dressed but bone-in; seafood is green weight as reported; \*\*Fruit includes wine grapes; honey line is thickened to make it visible;  
Source: United Nations FAOStat & FishStat; MAF/MPI; Coriolis analysis

# New Zealand's food & beverage exports are currently still overweighted to low value-added, unprocessed ingredients

AGRIFOOD EXPORTS VALUE SHARE BY SEGMENT: NZ VS OTHER RICH COUNTRIES  
% of value; 2017

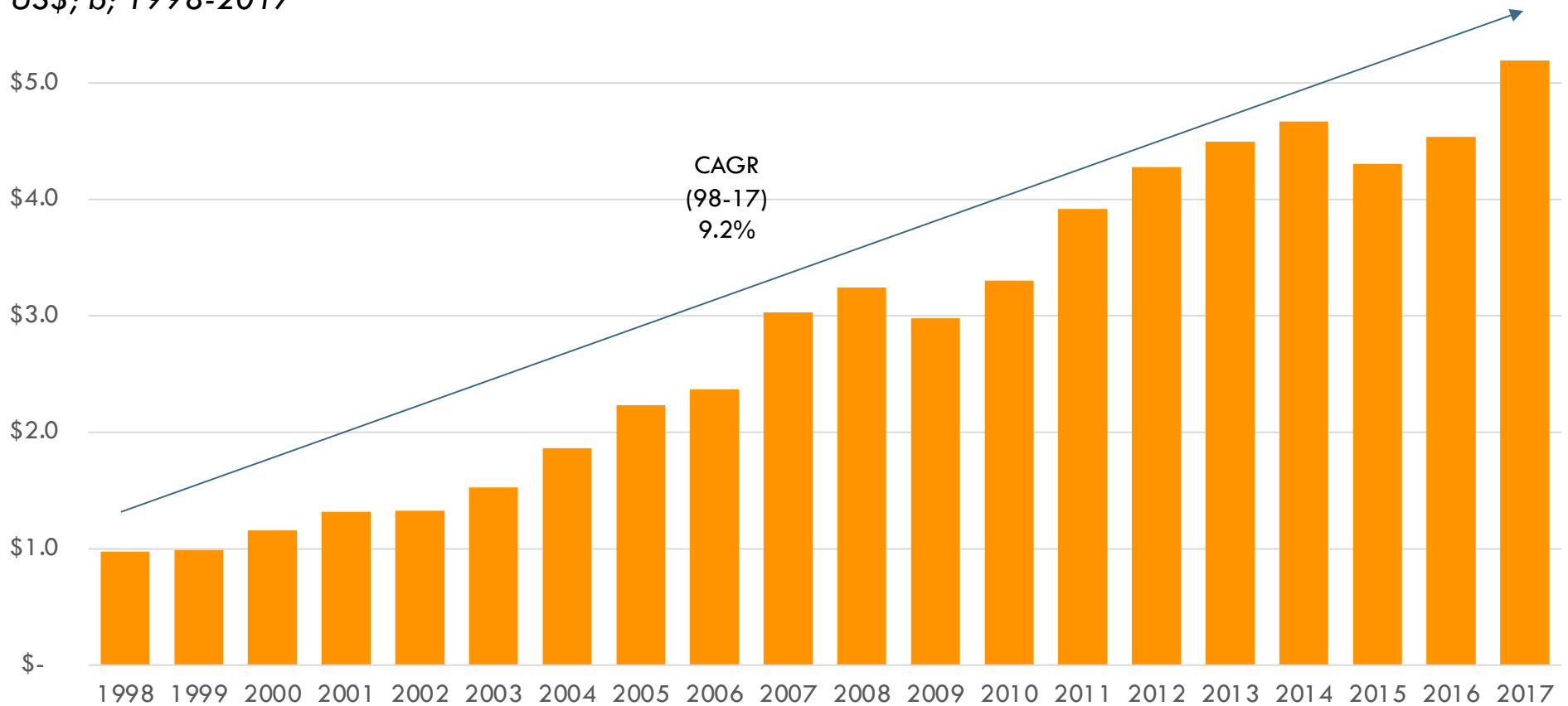


Source: UN Comtrade database; Coriolis classifications and analysis

*However, New Zealand's exports of value-added processed foods and beverages are growing strongly long term*

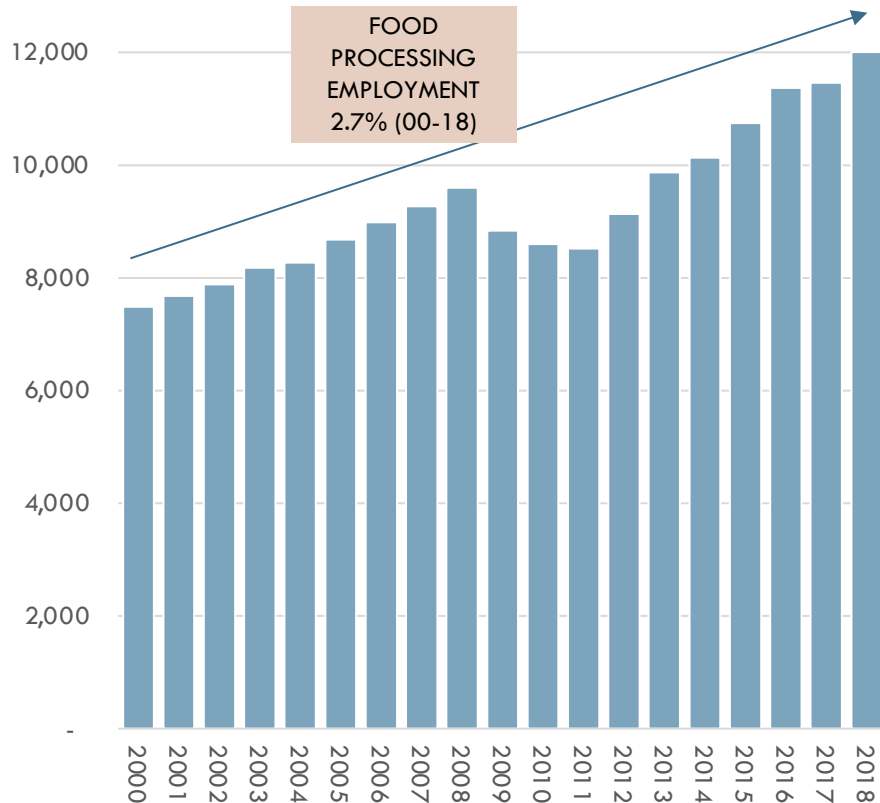
### NEW ZEALAND VALUE-ADDED PROCESSED FOODS & BEVERAGE EXPORTS

US\$; b; 1998-2017

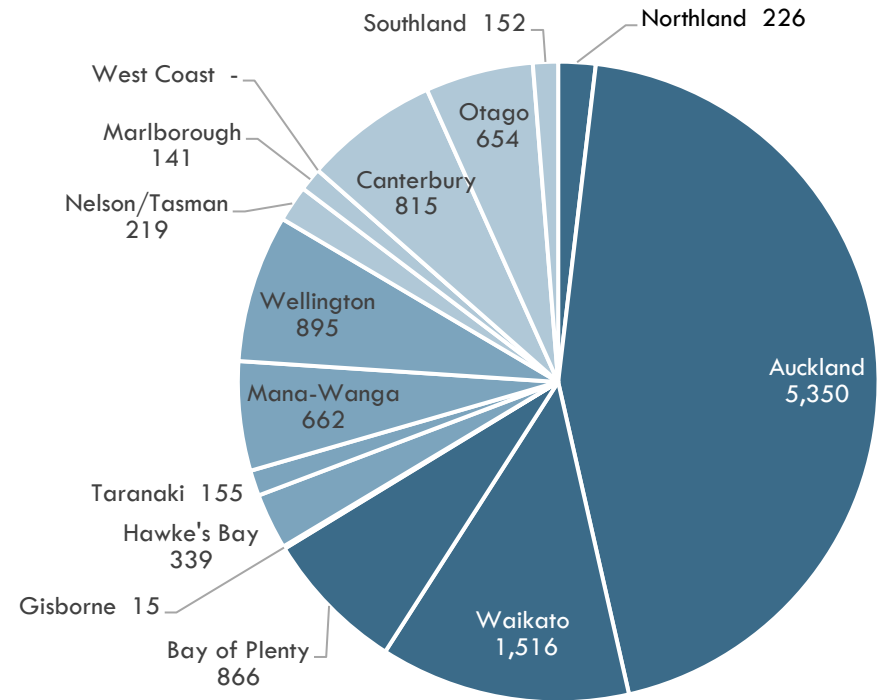


# Processed foods is creating jobs; however, jobs are currently concentrated in Auckland

**PROCESSING EMPLOYMENT**  
Headcount; 2000-2018



**PROCESSING EMPLOYMENT**  
Headcount; 2018



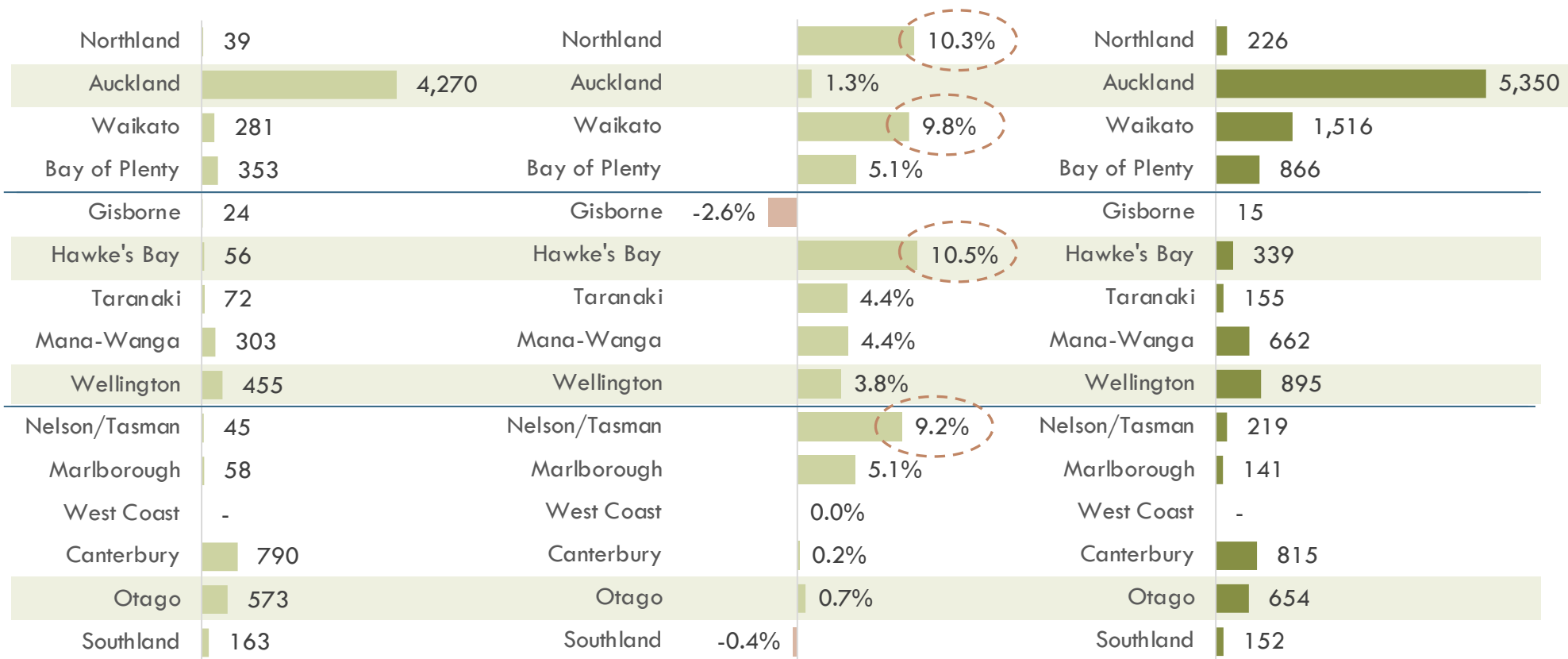
TOTAL = 12,005 processed foods employees

# Employment growth varies by region; Northland, Hawke's Bay, Wellington and Nelson/Tasman achieving high growth rates

**EMPLOYMENT 2000**  
Headcount; 2000

**18Y GROWTH (CAGR)**  
%; 00vs18

**EMPLOYMENT 2018**  
Headcount; 2018



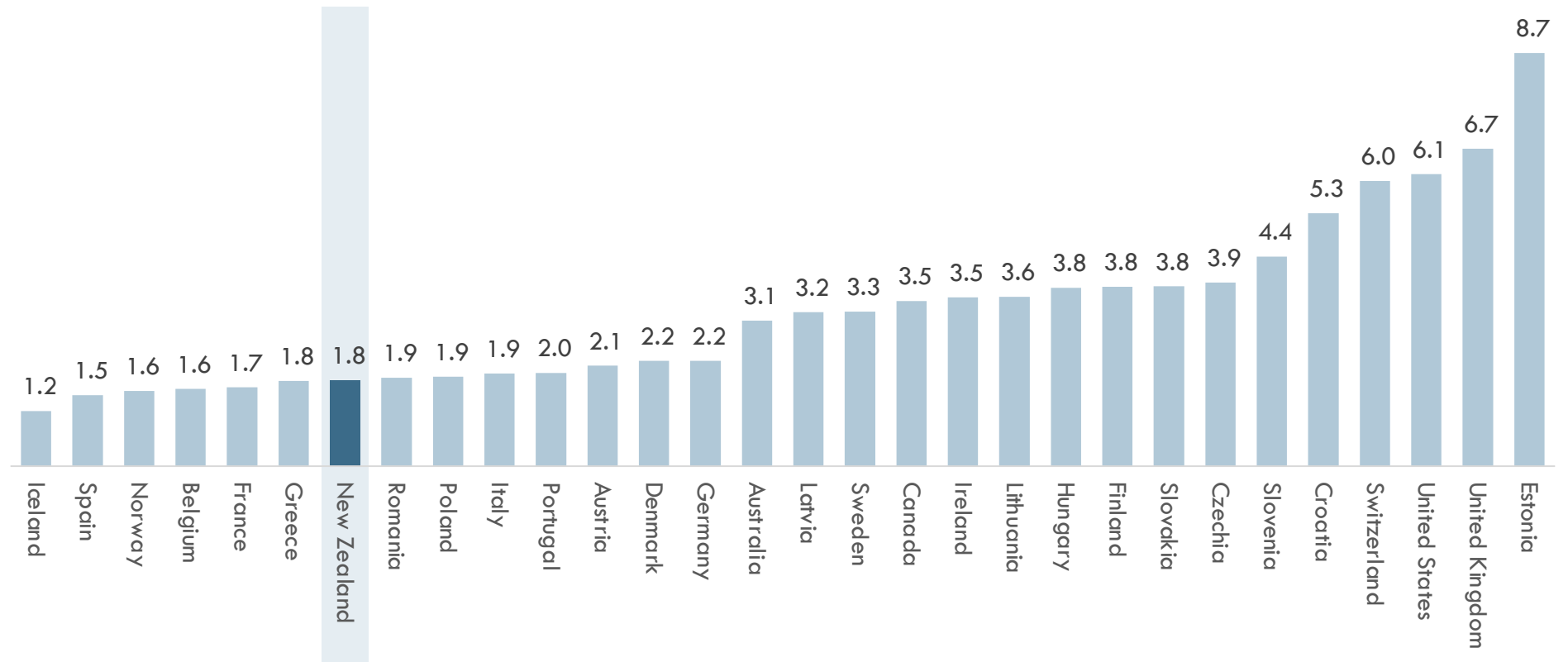
Source: Statistics NZ; UN FAO; MAF/MPI; Coriolis analysis



# Peers suggest New Zealand can create more processed foods jobs from its abundant raw materials

## PROCESSED FOODS JOBS PER 1,000 TONNE RAW MATERIALS\*

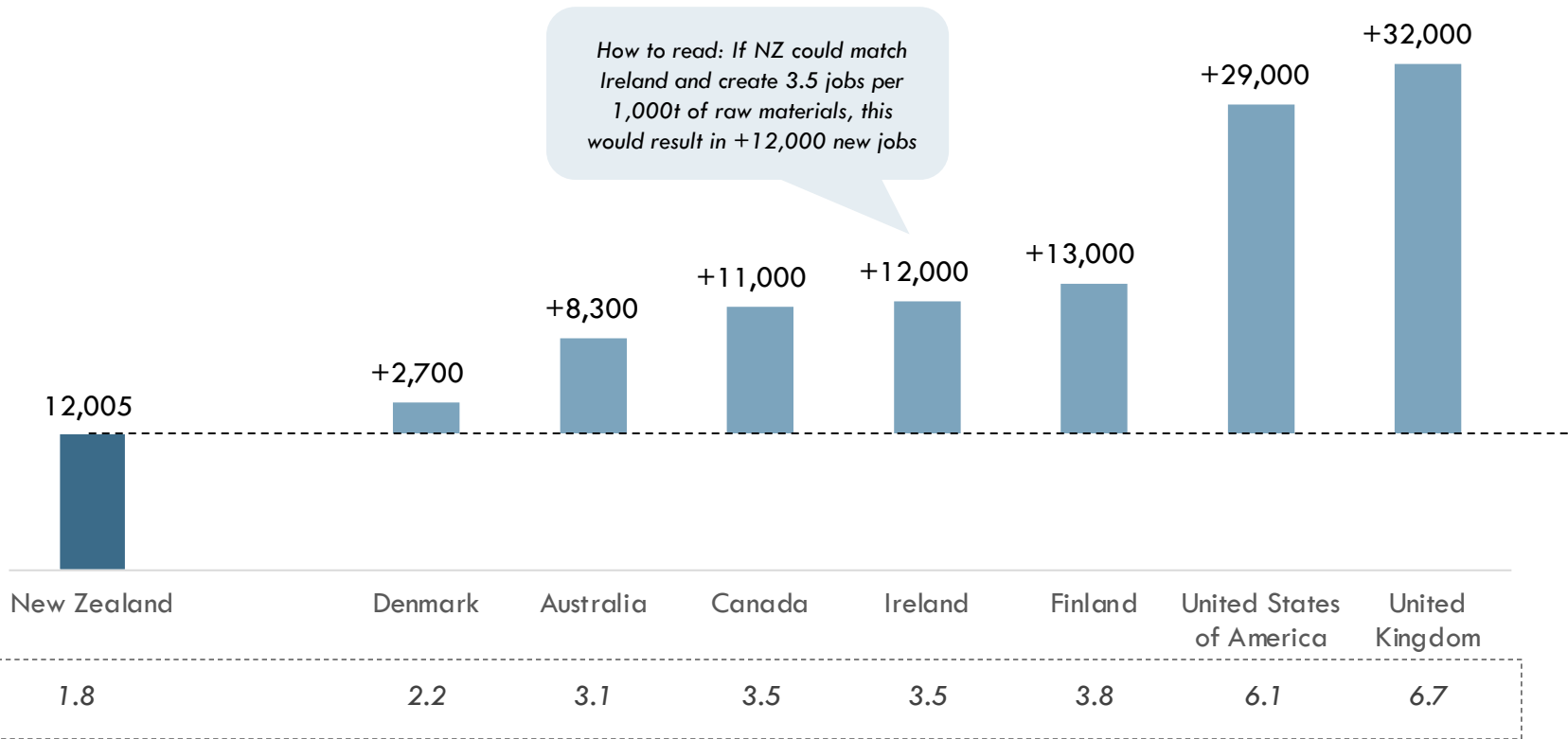
Headcount/1,000t; 2018 or as available



\*Non-grain based (see previous section for grain); Source: UN FAO AgStat; UN FAO FishStat; Eurostat; Statistics Canada; US DOL; USDA NASS; Statistics NZ; Australian Bureau of Statistics; Coriolis classification and analysis

# If New Zealand could match key peers, ~3,000 to 30,000 new jobs would result

MODEL: NUMBER OF JOBS CREATED IF NZ COULD MATCH PERFORMANCE OF...  
 Headcount; 2018 versus modelled potential



\*Non-grain based (see previous section for grain); Source: UN FAO AgStat; UN FAO FishStat; Eurostat; Statistics Canada; US DOL; USDA NASS; Statistics NZ; Australian Bureau of Statistics; Coriolis classification and analysis

# Four broad opportunities to drive growth in the processed foods industry are highlighted



1

## NUTRACEUTICALS

- High value product
- Leverages NZ capabilities and reputation
- Growing global demand



2

## PET FOOD

- Leverages NZ reputation
- Premium consumers in key export markets
- High growth category
- Global Pet food category ~US\$100b



3

## CONFECTIONERY & SNACKS

- Leverages NZ capabilities and reputation
- Growth in convenient, portable, snacking categories
- Multiple added value options across multiple categories
- Global category +US\$100b



4

## NEW & INNOVATIVE FOODS\*

- New products and categories that didn't previously exist
- Segment is demonstrating strong export driven growth
- Leveraging NZ innovation

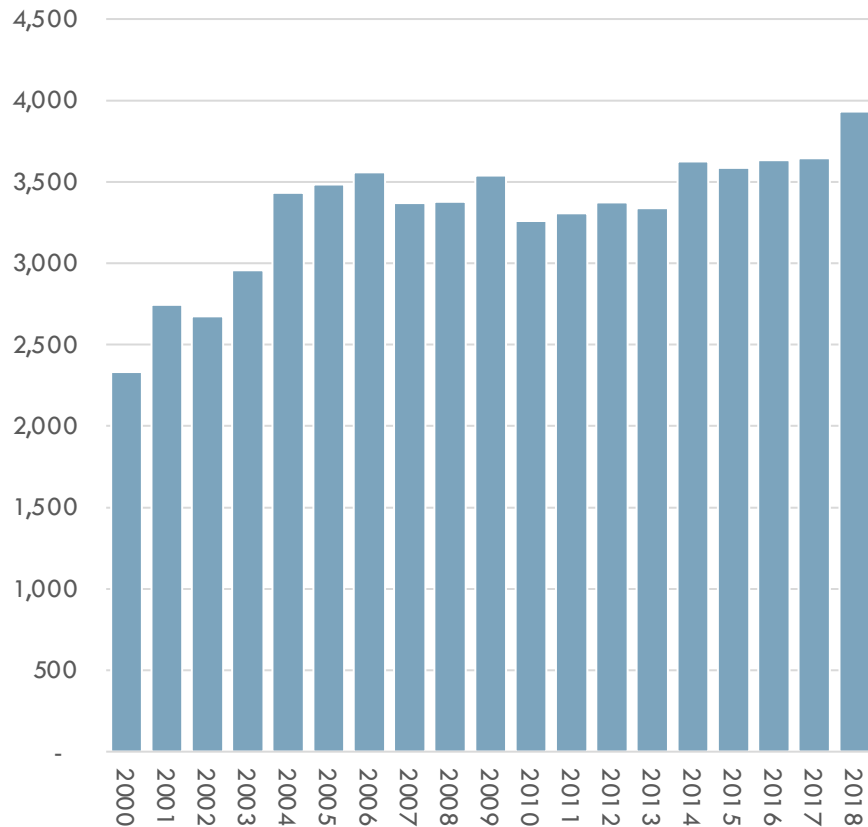
## 8. *Creating employment growth in New Zealand wine production will require regions outside Marlborough to grow*

- New Zealand wineries are creating jobs and jobs are spread across key regions; however, only four regions – Marlborough, Auckland, Otago and Nelson – are creating significant new wine processing employment
- NZ is unlikely to squeeze more processing jobs out of each tonne of grapes; more jobs will need to come from more grapes
- Can New Zealand produce more wine grapes?
  - New Zealand regions vary in terms of the share of total area that is in wine grapes; only Marlborough (2.4%) stands out
  - Relative to other countries and regions, only Marlborough has wine grapes at a relatively high proportion of land area
  - New Zealand is growing wine grape production, though this been driven primarily by new land in Marlborough
  - New Zealand is overweighted to one wine region; older, more mature climatic peers have a more balanced portfolio of regions; when New Zealand balances its portfolio, significant new area will come into production
- Three broad opportunities to drive growth in the wine industry are highlighted

# New Zealand wineries are creating jobs and jobs are spread across key regions

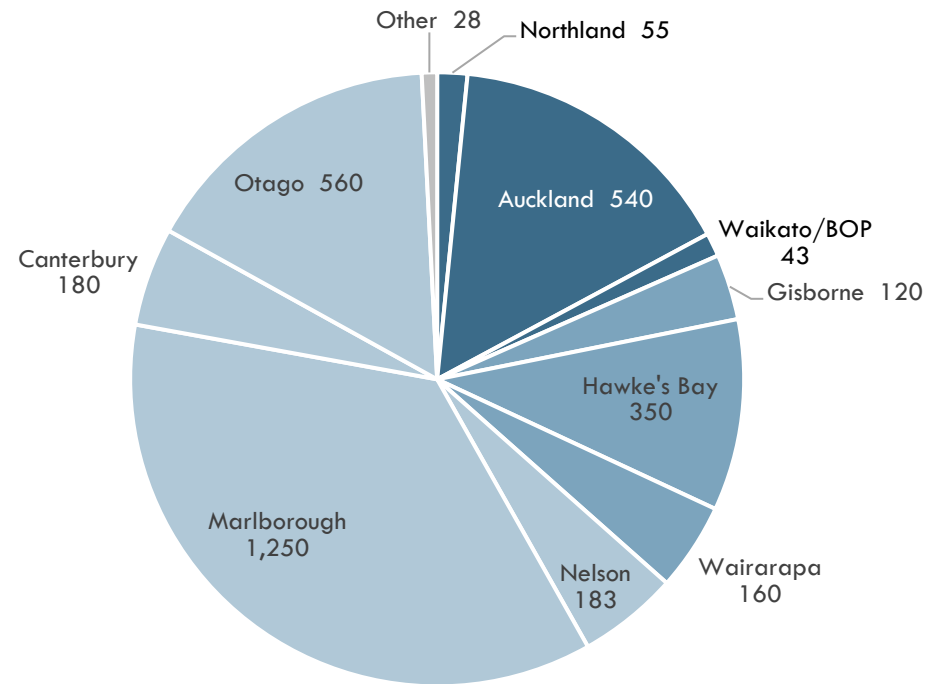
## WINE PROCESSING EMPLOYMENT

Headcount; 2000-2018



## WINE PROCESSING EMPLOYMENT

Headcount; 2018



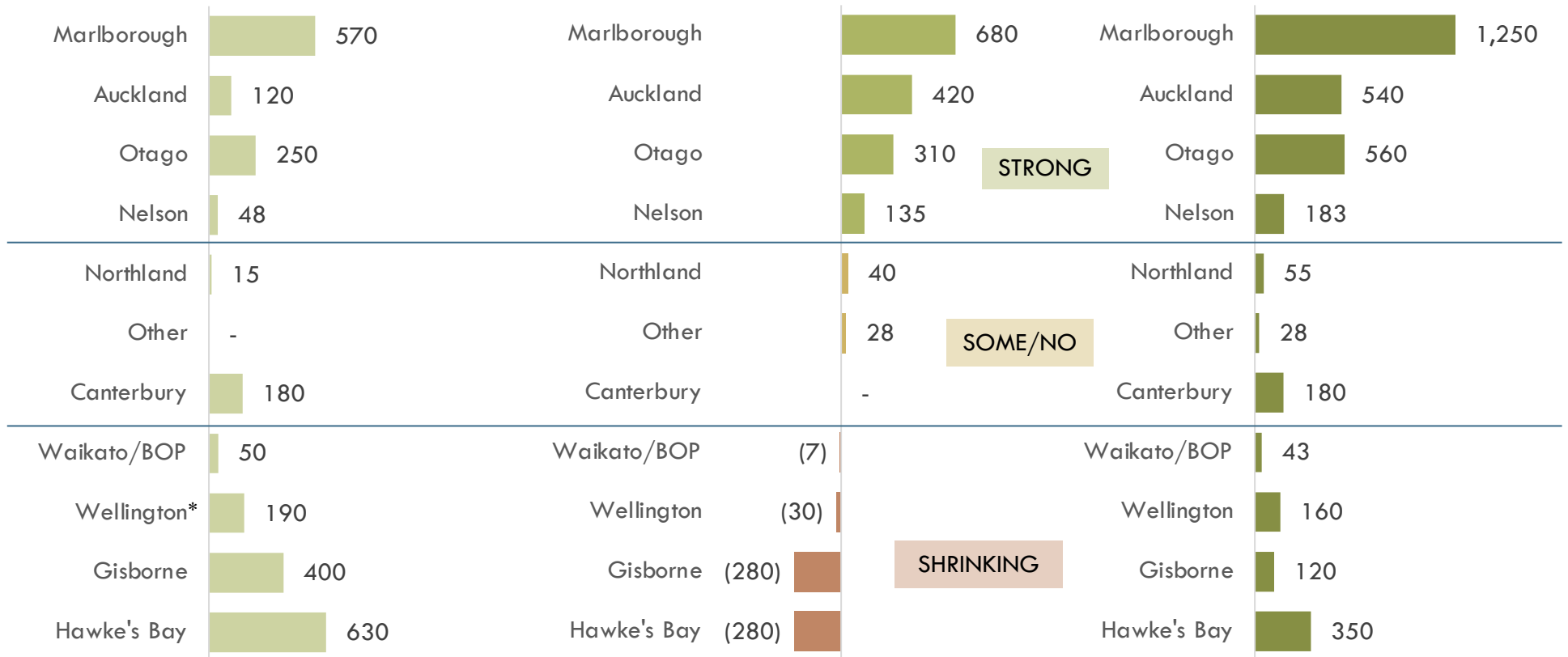
TOTAL = 3,469 wine processing employees

# Only four regions – Marlborough, Auckland, Otago and Nelson – are creating significant new wine processing employment

**EMPLOYMENT 2000**  
*Headcount; 2000*

**18Y CHANGE**  
*Headcount; 00vs18*

**EMPLOYMENT 2018**  
*Headcount; 2018*



\*Primarily in the Wairarapa; Source: Statistics NZ; UN FAO; MAF/MPI; Coriolis analysis

*NZ is unlikely to squeeze more processing jobs out of each tonne of grapes; more jobs will need to come from more grapes*

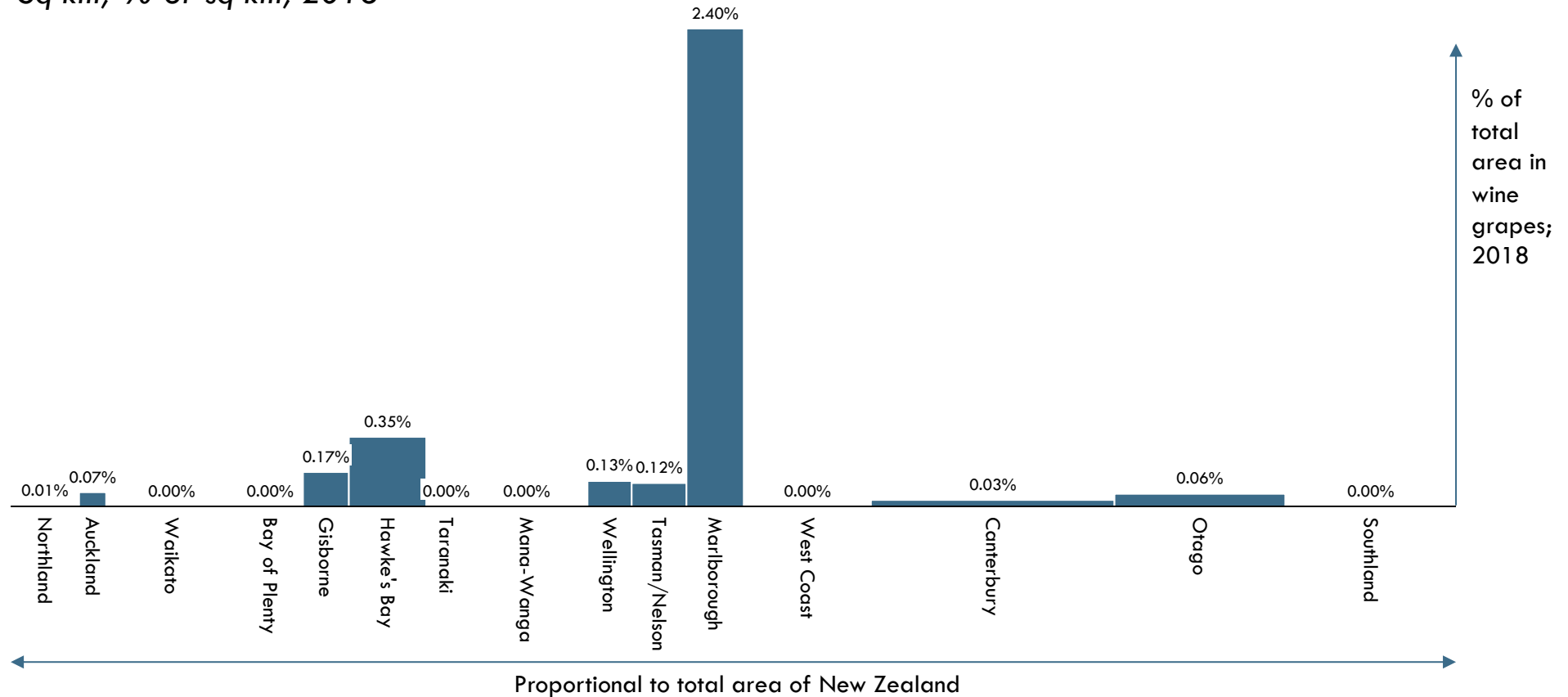
**WINERY EMPLOYMENT PER 1,000 TONNE OF GRAPES**  
*Headcount/1,000t processed; 2018*



# New Zealand regions vary in terms of the share of total area that is in wine grapes; only Marlborough (2.4%) stands out

## AREA VS SHARE OF TOTAL AREA IN WINE GRAPES

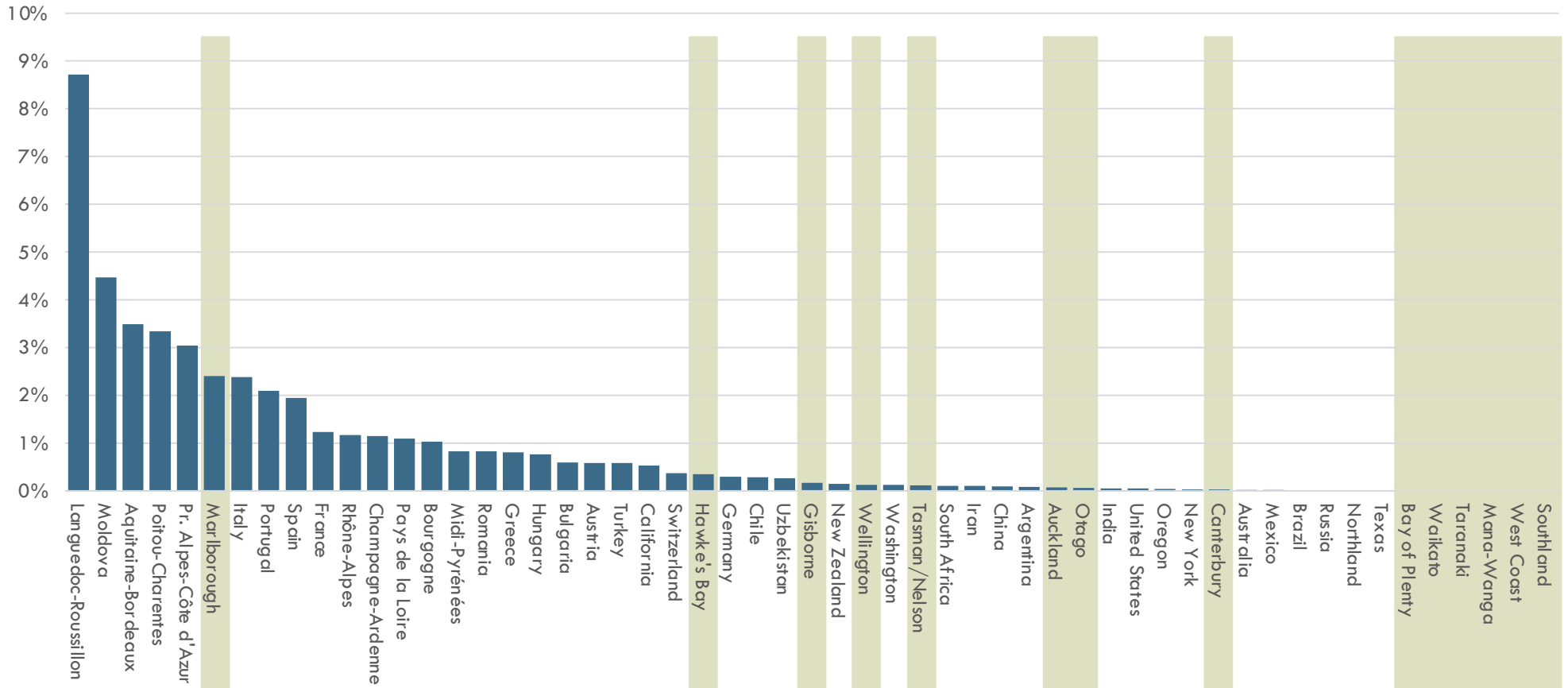
Sq km; % of sq km; 2018





# Relative to other countries and regions, only Marlborough has wine grapes at a relatively high proportion of land area

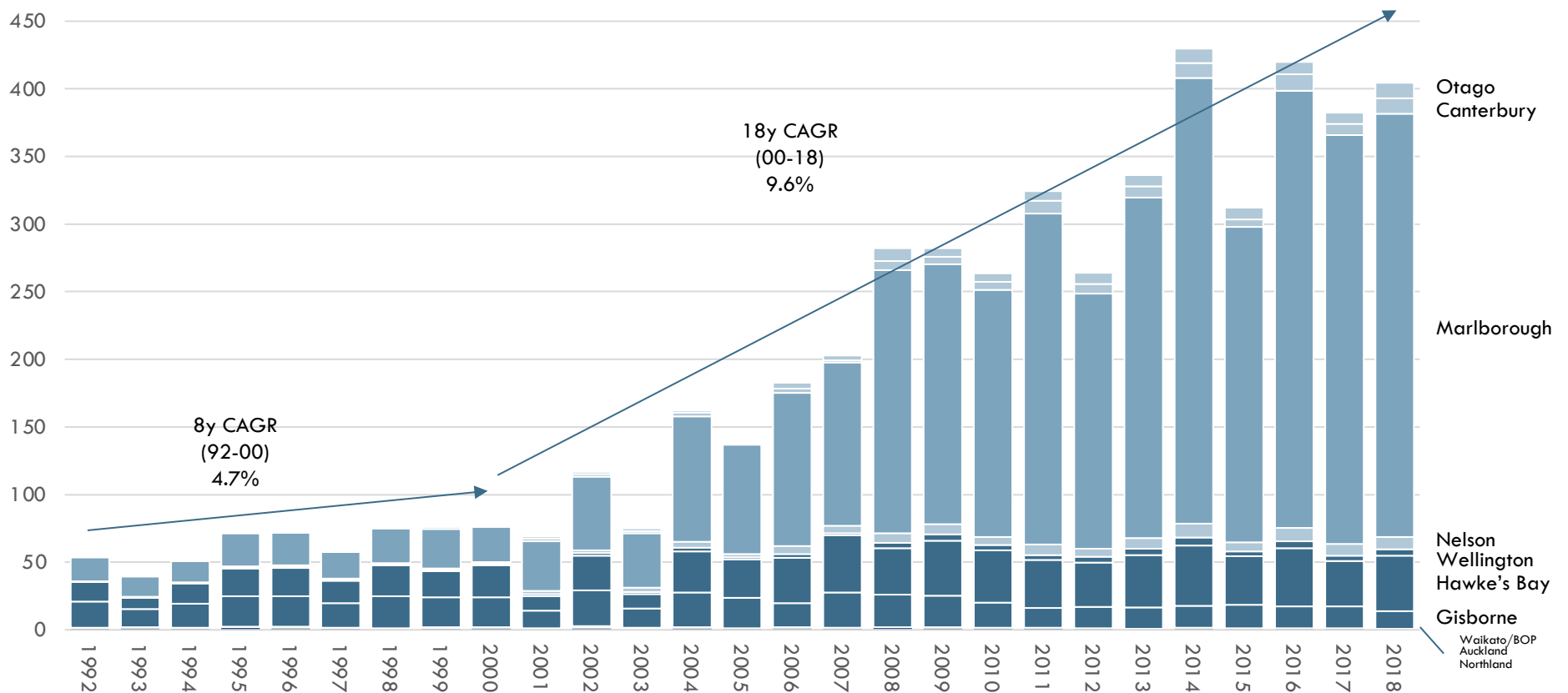
SHARE OF TOTAL AREA OF COUNTRY/REGION THAT IS IN WINE GRAPES  
% of area; 2018 or as available



Source: OIV; Eurostat; USDA; Wine Institute; Wine America; WineNZ; Statistics NZ; Coriolis analysis and estimates

# New Zealand is growing wine grape production, though this been driven primarily by new land in Marlborough

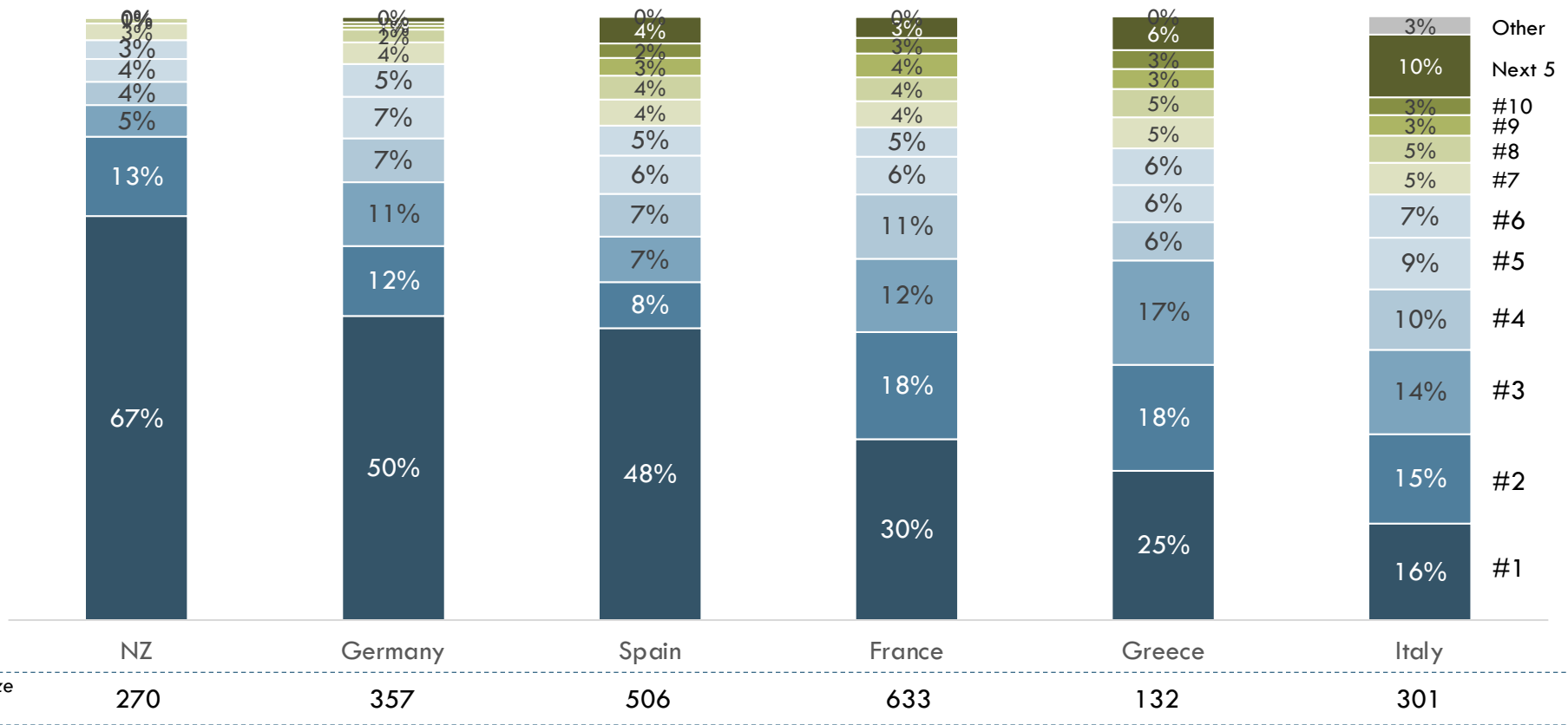
TOTAL NEW ZEALAND WINE GRAPE PRODUCTION  
T; 000; 1992-2018



Source: Statistics NZ; UN FAO; MAF/MPI; New Zealand Winegrowers; Coriolis analysis

# New Zealand is overweighted to one wine region; older, more mature climatic peers have a more balanced portfolio of regions

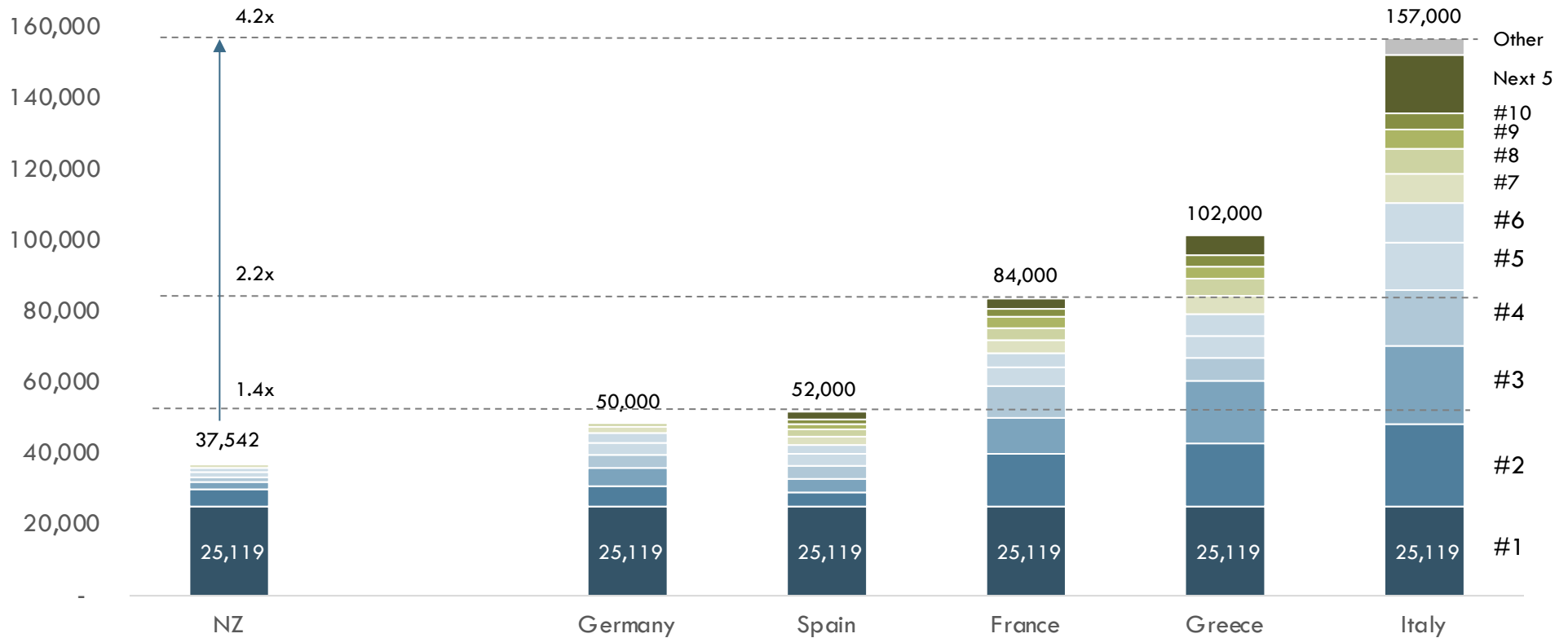
SHARE OF WINE GRAPE AREA TOP TEN REGIONS & OTHER: NZ VS SELECT  
% of ha; 2018 or as available



Note: Europe uses NUTS2 regions (which are not the same as the commonly known wine regions, which are smaller); Source: NZ Winegrowers; Eurostat; Coriolis analysis

# When New Zealand balances its portfolio, significant new area will come into production

MODEL: NEW ZEALAND WINE AREA IF IT MATCHES REGIONAL MIX OF SELECT PEERS  
 Ha; 2018 vs hypothetical future



What if Marlborough were to stay the same size and other regions match ratios of this country?

Note: Europe uses NUTS2 regions (which are not the same as the commonly known wine regions, which are smaller); Source: NZ Winegrowers; Eurostat; Coriolis analysis

## Three broad opportunities to drive growth in the wine industry are highlighted



1

### SPARKLING WINE

- Leverage NZ capabilities in beverages
- Growth in (non-Champagne) category e.g. Prosecco/Cava
- Long term growth of category
- NZ needs to identify its sparkling variety



2

### 'COGNAC'

- Opportunity for NZ to find it's high quality brandy
- Leverage NZ capabilities in wine
- +US\$6b traded in 2015
- US\$2.1b retail value of luxury cognac by 2020



3

### NON-MARLBOROUGH RED REGION

- Leverage NZ reputation for quality wine
- Red high value category

## 9. *New Zealand can continue to grow employment in **non-wine** beverages*

- Non-wine beverages are mostly water and some plant-based ingredients; as such they are not supply constrained
- Beverage processing is creating jobs; however, most jobs are currently concentrated in Auckland
- As a contrast, the beverage industry in the United Kingdom creates 95% of jobs outside London
- Beverage employment growth varies by region; Auckland, Waikato, Hawke's Bay, Wellington and Otago doing well
- New Zealand should be able to match the jobs per square kilometre performance of Ireland or Denmark
- Looked at a different way, NZ should at least be able to grow non-wine exports per capita, and thus jobs, to match peers
- Four broad opportunities to drive growth in the beverage industry are identified

# Non-wine beverages are mostly water and some plant-based ingredients; as such they are not supply constrained



## BEER

Water (~90-95%)  
Barley/other grains  
Hops  
Flavours



## SPIRITS

Water (60-70%)  
Alcohol (whey or other)  
Flavours



## SOFT DRINKS

Water (90%+)  
Juices  
Sugar/sweeteners  
Caffeine (from coffee)  
Flavours



## JUICE

Fruit  
(Water 85-90%)

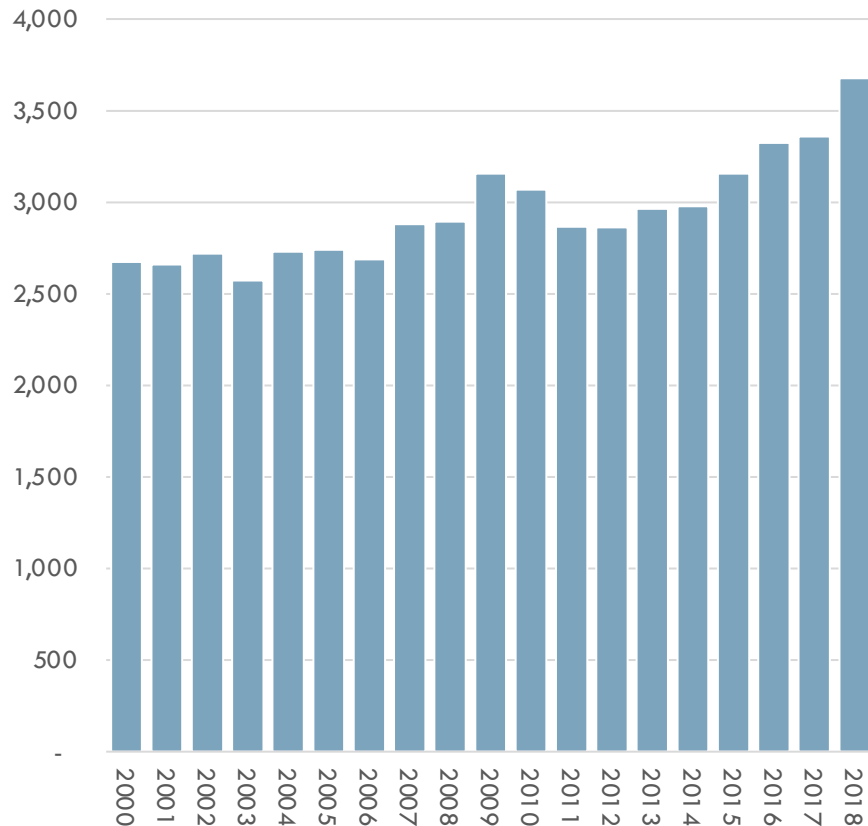


## WATER

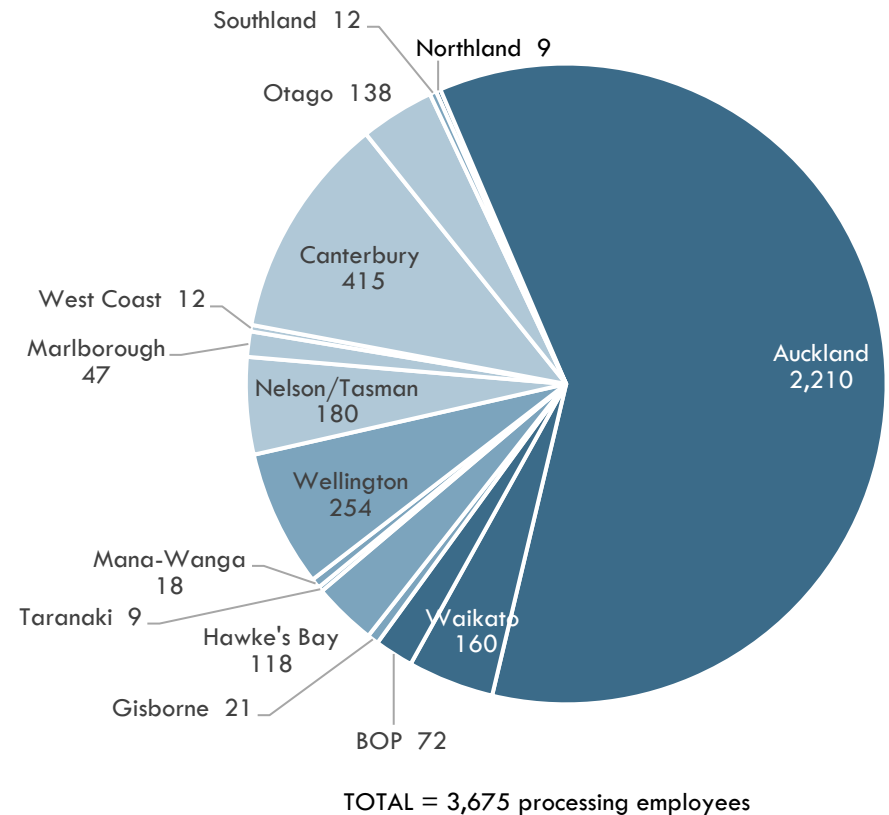
Water

# Beverage processing is creating jobs; however, most jobs are currently concentrated in Auckland

**BEVERAGE PROCESSING EMPLOYMENT**  
Headcount; 2000-2018



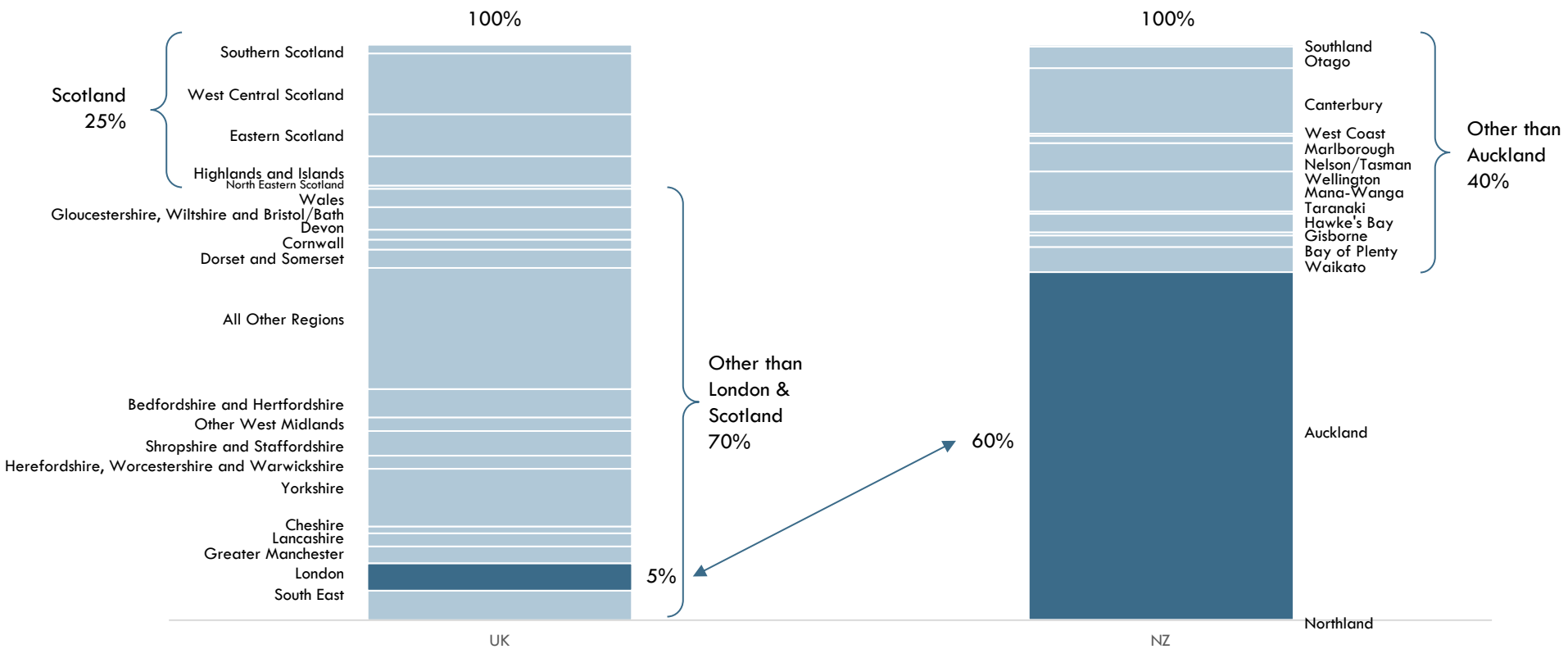
**BEVERAGE PROCESSING EMPLOYMENT**  
Headcount; 2018





# As a contrast, the beverage industry in the United Kingdom creates 95% of jobs outside London

SHARE OF NON-WINE BEVERAGE PROCESSING JOBS BY REGION: UK VS NZ  
 % of beverage manufacturing employment; NZ 2018/UK 2016



Note: West Central Scotland creates more non-wine beverage jobs on its own than all of NZ; Source: Statistics NZ; Eurostat; Coriolis analysis

# Beverage employment growth varies by region; Auckland, Waikato, Hawke's Bay, Wellington and Otago doing well

## EMPLOYMENT 2000

Headcount; 2000

## 18Y CHANGE (CAGR)

%; 00vs18

## EMPLOYMENT 2018

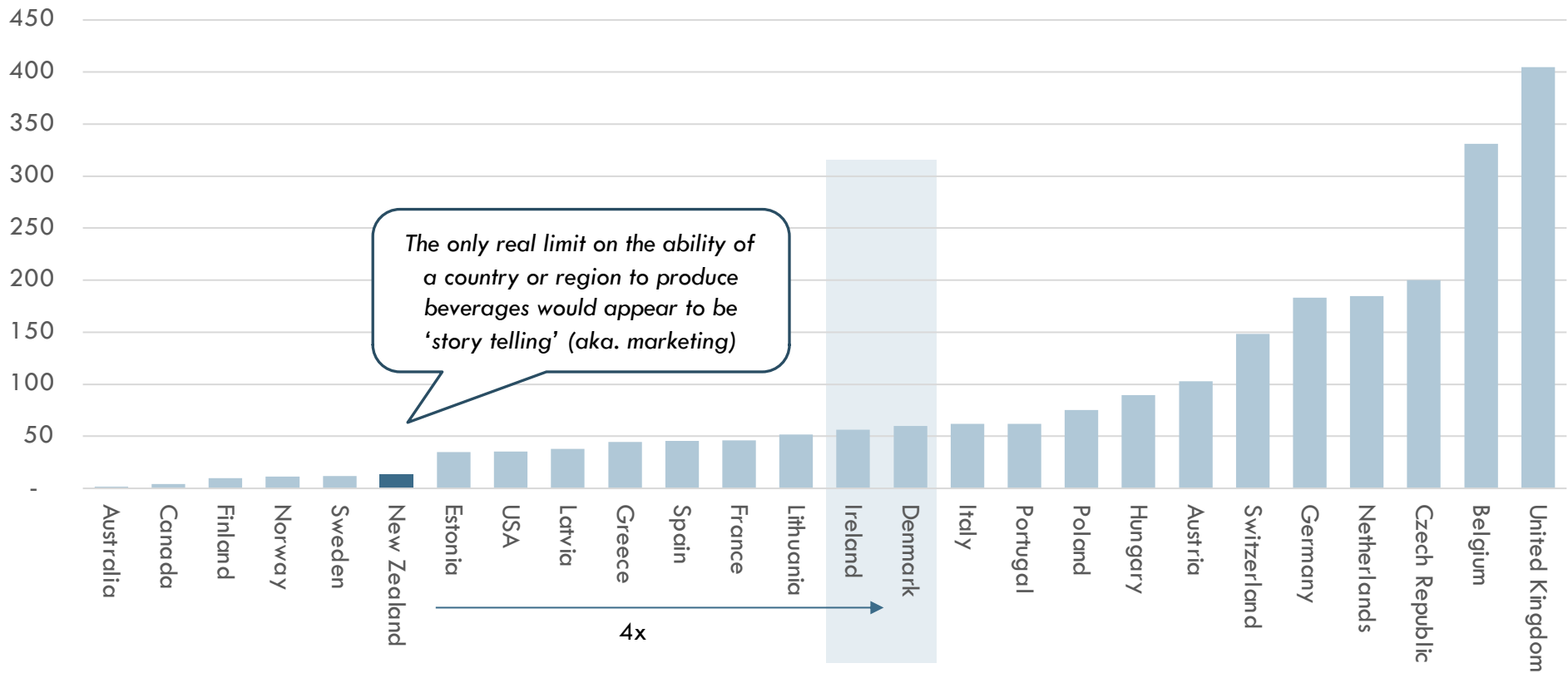
Headcount; 2018

Region	2000 Headcount	18Y CAGR (%)	2018 Headcount
Northland	9	0.0%	9
Auckland	1,720	1.4%	2,210
Waikato	53	6.3%	160
Bay of Plenty	132	-3.3%	72
Gisborne	3	11.4%	21
Hawke's Bay	9	15.4%	118
Taranaki	3	6.3%	9
Mana-Wanga	39	-4.2%	18
Wellington	38	11.1%	254
Nelson/Tasman	74	5.1%	180
Marlborough	40	0.9%	47
West Coast	25	-4.0%	12
Canterbury	475	-0.7%	415
Otago	52	5.6%	138
Southland	-	-	12

# New Zealand should be able to match the jobs per square kilometre performance of Ireland or Denmark

## NON-WINE BEVERAGE JOBS PER 1,000 SQUARE KILOMETRE OF COUNTRY

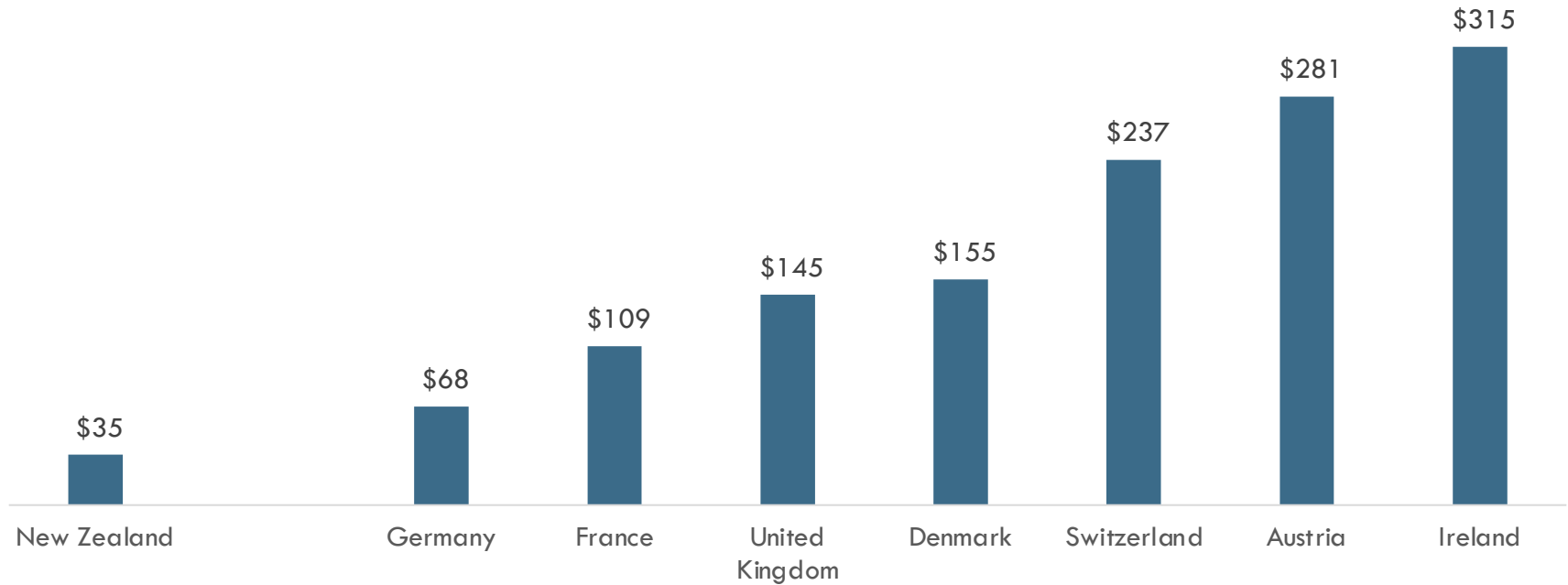
Headcount/1,000 km<sup>2</sup>; 2018 or as available



*Looked at a different way, NZ should at least be able to grow non-wine exports per capita, and thus jobs, to match peers*

**NON-WINE EXPORT VALUE PER CAPITA: NZ VS SELECT PEERS**

*US\$/capita; 2018 or as available*



*How many new jobs would be created if NZ could match this country?\**

	+300	+700	+1,000	+1,100	+1,900	+2,300	+2,600
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*\*Conservatively assumes 1 direct beverage processing job per NZ\$730,000 in export revenue (no magic multipliers, etc.); Source: UN Comtrade; Statistics NZ; Coriolis analysis and classification*



# APPENDIX

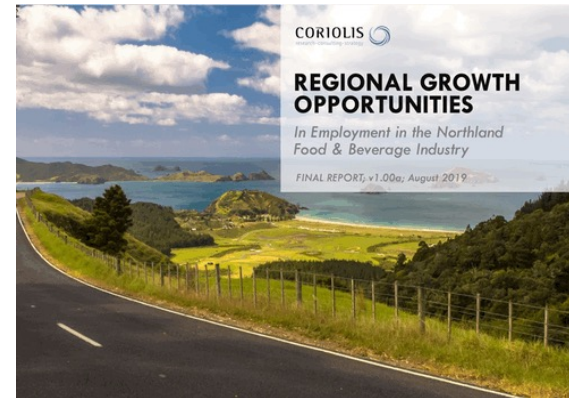
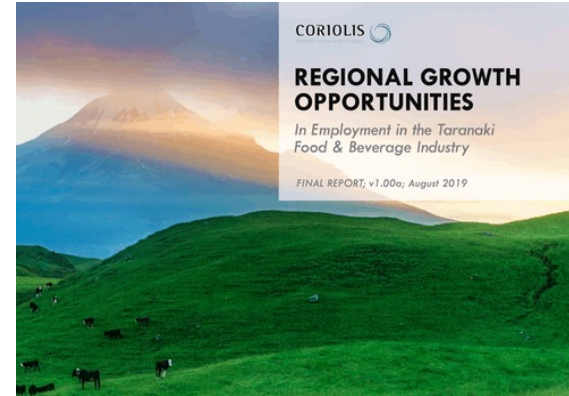
- A1. Regional Growth Opportunities project context
- A2. Regional Metrics Snapshot
- A3. Abbreviations

# A1: This work is part of the Regional Growth Opportunities research for the Food and Beverage Information Project (F&BIP)

## NATIONAL

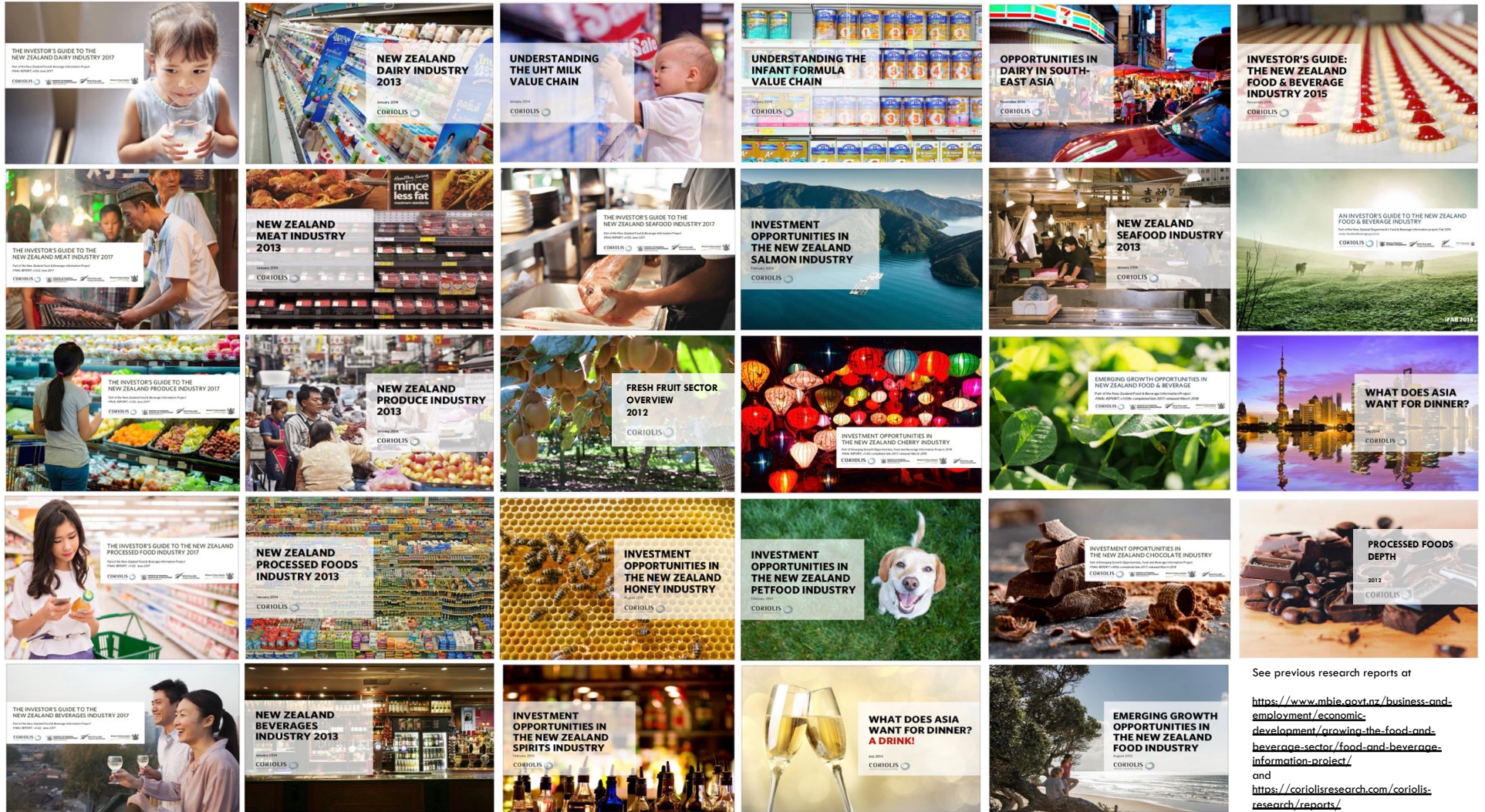


## SELECT REGIONS





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



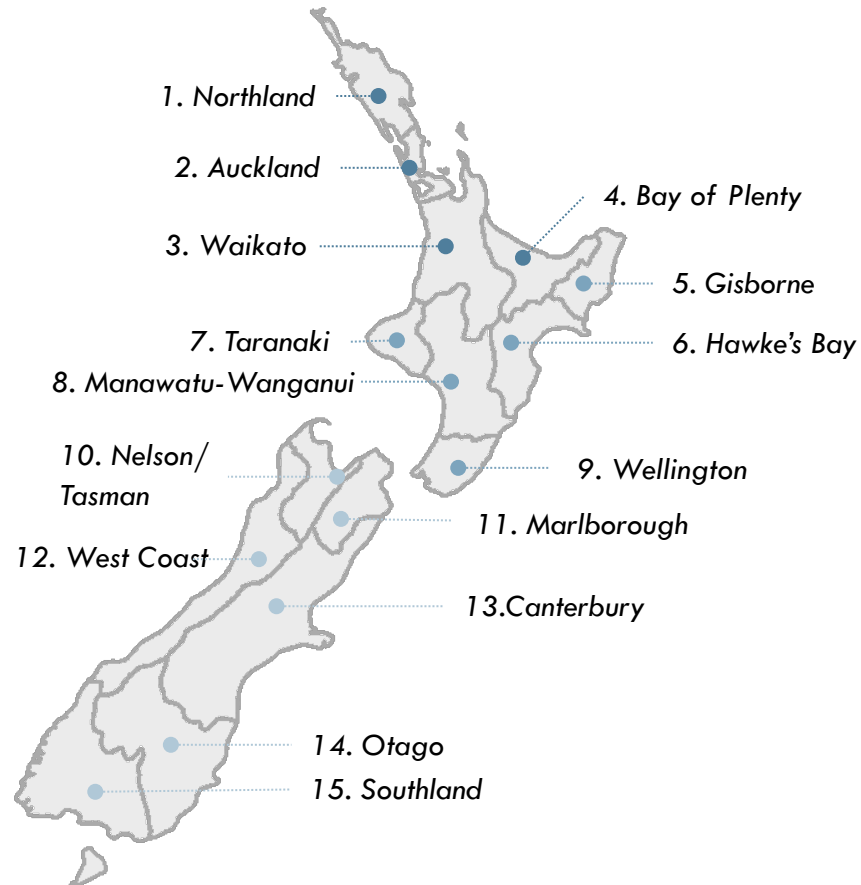
See previous research reports at  
<https://www.mbie.govt.nz/business-and-employment/economic-development/growing-the-food-and-beverage-sector/food-and-beverage-information-project/>  
 and  
<https://coriolisresearch.com/coriolis-research/reports/>



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## A2. APPENDIX: REGIONAL F&B PROCESSING EMPLOYMENT

### REGIONS OF NEW ZEALAND PROFILED



# 1. NORTHLAND – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: NORTHLAND

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%	↓	560	4.3%	-80	-2%	-0.7%	↓
Red Meat & Pork	12	3.7%	0	0%	0.0%	↓	710	2.7%	-155	-13%	-1.1%	↓
Poultry Meat	-	0.0%	0	0%	N/A	↑	-	0.0%	0	0%	N/A	↑
Seafood	15	4.6%	-3	-	-1.0%	↓	99	1.9%	3	-	0.2%	↑
Produce	15	3.2%	0	0%	0.0%	↓	195	2.1%	64	8%	2.2%	↑
Grain-Based	6	1.6%	-3	-	-2.2%	↓	24	0.4%	-141	-	-10.2%	↓
Processed Foods	37	3.7%	25	5%	6.5%	↑	226	1.9%	187	4%	10.3%	↑
Wine	6	1.4%	0	0%	0.0%	↓	50	1.3%	35	2%	6.9%	↑
Other Beverages	12	3.2%	3	1%	1.6%	↓	9	0.2%	0	0%	0.0%	↓
<b>TOTAL</b>	109	3.1%	22	2%	1.3%	↓	1,873	2.2%	-87	-1%	-0.3%	↓

## 2. AUCKLAND – PROCESSING

### PROCESSING QUANTITATIVE METRICS SCORECARD: AUCKLAND

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS % of new unit growth in sector (00-18)	18y CAGR vs NZ average	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	18y ABS % of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	63	29.2%	42	39%	6.3%	↑	2,150	16.6%	1,220	26%	4.8%	↑
Red Meat & Pork	54	16.5%	0	0%	0.0%	↓	1,720	6.4%	570	47%	2.3%	↑
Poultry Meat	12	34.3%	0	0%	0.0%	↑	1,100	30.3%	590	37%	4.4%	↑
Seafood	105	32.2%	6	-	0.3%	↑	980	19.2%	210	-	1.3%	↑
Produce	147	31.6%	9	15%	0.4%	↓	2,360	25.9%	880	106%	2.6%	↑
Grain-Based	138	37.3%	45	-	2.2%	↑	2,940	44.2%	555	-	1.2%	↑
Processed Foods	348	34.9%	187	37%	4.4%	↑	5,350	44.5%	1,080	24%	1.3%	↓
Wine	75	17.1%	33	13%	3.3%	↓	980	24.9%	130	8%	0.8%	↓
Other Beverages	120	32.2%	78	34%	6.0%	↑	2,210	60.1%	490	49%	1.4%	↓
<b>TOTAL</b>	<b>1,062</b>	<b>29.9%</b>	<b>400</b>	<b>35%</b>	<b>2.7%</b>	<b>↑</b>	<b>19,790</b>	<b>23.6%</b>	<b>5,725</b>	<b>42%</b>	<b>1.9%</b>	<b>↑</b>

### 3. WAIKATO – PROCESSING

#### PROCESSING QUANTITATIVE METRICS SCORECARD: WAIKATO

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS growth in sector (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 growth in sector (00-18)	% of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average
Dairy	39	18.1%	15	14%	2.7%	↓	3,200	24.7%	1,450	31%	3.4%	↑
Red Meat & Pork	36	11.0%	-3	-11%	-0.4%	↓	2,490	9.3%	360	29%	0.9%	↑
Poultry Meat	9	25.7%	6	-	6.3%	↑	1,050	28.9%	560	35%	4.3%	↑
Seafood	21	6.4%	3	-	0.9%	↑	209	4.1%	-51	-	-1.2%	↑
Produce	21	4.5%	6	10%	1.9%	↑	275	3.0%	117	14%	3.1%	↑
Grain-Based	27	7.3%	6	-	1.4%	↑	206	3.1%	-113	-	-2.4%	↓
Processed Foods	85	8.5%	45	9%	4.3%	↑	1,516	12.6%	1,235	27%	9.8%	↑
Wine	6	1.4%	0	0%	0.0%	↓	9	0.2%	-21	-1%	-6.5%	↓
Other Beverages	33	8.8%	24	11%	7.5%	↑	160	4.4%	107	11%	6.3%	↑
<b>TOTAL</b>	<b>277</b>	<b>7.8%</b>	102	9%	2.6%	↑	<b>9,115</b>	<b>10.9%</b>	3,644	27%	2.9%	↑

# 4. BAY OF PLENTY – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: BAY OF PLENTY

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS growth in sector (00-18)	% of new unit 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	9	4.2%	6	6%	6.3%	↑	310	2.4%	-120	-3%	-1.8%	↓
Red Meat & Pork	16	4.9%	3	11%	1.2%	↑	569	2.1%	-281	-23%	-2.2%	↓
Poultry Meat	-	0.0%	-1	-	-100.0%	↓	-	0.0%	-30	-2%	-100.0%	↓
Seafood	21	6.4%	3	-	0.9%	↑	415	8.1%	100	-	1.5%	↑
Produce	48	10.3%	12	19%	1.6%	↑	670	7.3%	370	45%	4.6%	↑
Grain-Based	16	4.3%	-14	-	-3.4%	↓	460	6.9%	-31	-	-0.4%	↓
Processed Foods	58	5.8%	27	5%	3.5%	↓	866	7.2%	513	11%	5.1%	↑
Wine	6	1.4%	5	2%	10.5%	↑	90	2.3%	20	1%	1.4%	↓
Other Beverages	6	1.6%	-6	-3%	-3.8%	↓	72	2.0%	-60	-6%	-3.3%	↓
<b>TOTAL</b>	<b>180</b>	<b>5.1%</b>	<b>35</b>	<b>3%</b>	<b>1.2%</b>	<b>↓</b>	<b>3,452</b>	<b>4.1%</b>	<b>481</b>	<b>4%</b>	<b>0.8%</b>	<b>↓</b>

## 5. GISBORNE – PROCESSING

### PROCESSING QUANTITATIVE METRICS SCORECARD: GISBORNE

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS 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	% of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average	
Dairy	3	1.4%	3	3%	N/A	45	0.3%	45	1%	N/A	↑
Red Meat & Pork	3	0.9%	-3	-11%	-3.8%	270	1.0%	264	22%	23.6%	↑
Poultry Meat	-	0.0%	0	0%	N/A	-	0.0%	0	0%	N/A	↑
Seafood	7	2.1%	-2	-	-1.4%	46	0.9%	-27	-	-2.5%	↓
Produce	15	3.2%	3	5%	1.2%	680	7.5%	35	4%	0.3%	↓
Grain-Based	8	2.2%	-2	-	-1.2%	104	1.6%	-6	-	-0.3%	↓
Processed Foods	6	0.6%	-1	0%	-0.9%	15	0.1%	-12	0%	-3.2%	↓
Wine	12	2.7%	6	2%	3.9%	140	3.6%	20	1%	0.9%	↓
Other Beverages	4	1.1%	3	1%	8.0%	21	0.6%	18	2%	11.4%	↑
<b>TOTAL</b>	<b>58</b>	<b>1.6%</b>	<b>7</b>	<b>1%</b>	<b>0.7%</b>	<b>1,321</b>	<b>1.6%</b>	<b>337</b>	<b>3%</b>	<b>1.6%</b>	<b>↑</b>

## 6. HAWKE'S BAY – PROCESSING

### PROCESSING QUANTITATIVE METRICS SCORECARD: HAWKE'S BAY

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%	6	6%	N/A	↑	100	0.8%	100	2%	N/A	↑
Red Meat & Pork	30	9.1%	9	32%	2.0%	↑	2,715	10.2%	-445	-36%	-0.8%	↓
Poultry Meat	-	0.0%	0	0%	N/A	↑	-	0.0%	0	0%	N/A	↑
Seafood	12	3.7%	6	-	3.9%	↑	123	2.4%	45	-	2.6%	↑
Produce	51	11.0%	18	29%	2.4%	↑	1,890	20.7%	-410	-50%	-1.1%	↓
Grain-Based	7	1.9%	-3	-	-2.0%	↓	27	0.4%	-76	-	-7.2%	↓
Processed Foods	33	3.3%	20	4%	5.3%	↑	339	2.8%	283	6%	10.5%	↑
Wine	66	15.1%	33	13%	3.9%	↓	590	15.0%	280	17%	3.6%	↑
Other Beverages	21	5.6%	14	6%	6.3%	↑	118	3.2%	109	11%	15.4%	↑
<b>TOTAL</b>	226	6.4%	103	9%	3.4%	↑	5,902	7.0%	-114	-1%	-0.1%	↓

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

# 7. TARANAKI – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: TARANAKI

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS 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	% of new NZ employment 18y ABS 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%	↑
<b>TOTAL</b>	<b>73</b>	<b>2.1%</b>	<b>13</b>	<b>1%</b>	<b>1.1%</b>	<b>↓</b>	<b>4,889</b>	<b>5.8%</b>	<b>581</b>	<b>4%</b>	<b>0.7%</b>	<b>↓</b>



## 8. MANAWATU-WANGANUI – PROCESSING

### PROCESSING QUANTITATIVE METRICS SCORECARD: MANAWATU-WANGANUI

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS growth in sector (00-18)	% of new unit 18y CAGR (00-18)	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	% of new NZ employment 18y ABS growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	12	5.6%	6	6%	3.9%	↓	800	6.2%	340	7%	3.1%	↑
Red Meat & Pork	33	10.1%	6	21%	1.1%	↑	3,170	11.9%	840	69%	1.7%	↑
Poultry Meat	3	8.6%	-3	-	-3.8%	↓	21	0.6%	3	0%	0.9%	↓
Seafood	6	1.8%	-1	-	-0.9%	↓	45	0.9%	-48	-	-4.0%	↓
Produce	21	4.5%	3	5%	0.9%	↑	280	3.1%	-80	-10%	-1.4%	↓
Grain-Based	14	3.8%	-16	-	-4.1%	↓	208	3.1%	-102	-	-2.2%	↓
Processed Foods	54	5.4%	30	6%	4.6%	↑	662	5.5%	359	8%	4.4%	↑
Wine	3	0.7%	3	1%	N/A	↑	3	0.1%	3	0%	N/A	↑
Other Beverages	9	2.4%	5	2%	4.6%	↓	18	0.5%	-21	-2%	-4.2%	↓
<b>TOTAL</b>	155	4.4%	33	3%	1.3%	↓	5,207	6.2%	1,294	10%	1.6%	↑

# 9. WELLINGTON – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: WELLINGTON

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS growth in sector (00-18)	% of new unit 18y CAGR (00-18)	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	% of new NZ employment 18y ABS growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	15	6.9%	9	8%	5.2%	↑	90	0.7%	-30	-1%	-1.6%	↓
Red Meat & Pork	15	4.6%	-9	-32%	-2.6%	↓	1,220	4.6%	250	20%	1.3%	↑
Poultry Meat	3	8.6%	2	-	6.3%	↑	25	0.7%	-85	-5%	-7.9%	↓
Seafood	24	7.4%	-6	-	-1.2%	↓	103	2.0%	-117	-	-4.1%	↓
Produce	21	4.5%	-3	-5%	-0.7%	↓	245	2.7%	110	13%	3.4%	↑
Grain-Based	28	7.6%	-11	-	-1.8%	↓	296	4.5%	-421	-	-4.8%	↓
Processed Foods	90	9.0%	45	9%	3.9%	↓	895	7.4%	434	10%	3.8%	↑
Wine	33	7.5%	21	8%	5.8%	↑	120	3.0%	40	2%	2.3%	↓
Other Beverages	48	12.9%	39	17%	9.7%	↑	254	6.9%	216	22%	11.1%	↑
<b>TOTAL</b>	<b>277</b>	<b>7.8%</b>	<b>87</b>	<b>8%</b>	<b>2.1%</b>	<b>↓</b>	<b>3,248</b>	<b>3.9%</b>	<b>397</b>	<b>3%</b>	<b>0.7%</b>	<b>↓</b>

# 10. NELSON/TASMAN – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: NELSON/TASMAN

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS growth in sector (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 growth in sector (00-18)	% of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average
Dairy	12	5.6%	6	6%	3.9%	↓	126	1.0%	-64	-1%	-2.3%	↓
Red Meat & Pork	6	1.8%	-3	-11%	-2.2%	↓	276	1.0%	-57	-5%	-1.0%	↓
Poultry Meat	-	0.0%	-3	-	-100.0%	↓	-	0.0%	-3	0%	-100.0%	↓
Seafood	18	5.5%	-9	-	-2.2%	↓	998	19.6%	-1,062	-	-3.9%	↓
Produce	30	6.5%	3	5%	0.6%	↓	473	5.2%	93	11%	1.2%	↑
Grain-Based	10	2.7%	0	0%	0.0%	↑	48	0.7%	-8	-	-0.9%	↓
Processed Foods	33	3.3%	20	4%	5.3%	↑	222	1.8%	177	4%	9.3%	↑
Wine	24	5.5%	12	5%	3.9%	↓	140	3.6%	45	3%	2.2%	↓
Other Beverages	18	4.8%	9	4%	3.9%	↓	180	4.9%	106	11%	5.1%	↑
<b>TOTAL</b>	151	4.3%	35	3%	1.5%	↓	2,463	2.9%	-773	-6%	-1.5%	↓

# 11. MARLBOROUGH – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: MARLBOROUGH

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS 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	% of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	3	1.4%	0	0%	0.0%	↓	9	0.1%	-61	-1%	-10.8%	↓
Red Meat & Pork	6	1.8%	3	11%	3.9%	↑	190	0.7%	-220	-18%	-4.2%	↓
Poultry Meat	-	0.0%	0	0%	N/A	↑	-	0.0%	0	0%	N/A	↑
Seafood	12	3.7%	0	0%	0.0%	↑	453	8.9%	-17	-	-0.2%	↑
Produce	12	2.6%	0	0%	0.0%	↓	373	4.1%	-72	-9%	-1.0%	↓
Grain-Based	9	2.4%	4	-	3.3%	↑	24	0.4%	-15	-	-2.7%	↓
Processed Foods	22	2.2%	14	3%	5.8%	↑	141	1.2%	83	2%	5.1%	↑
Wine	105	24.0%	66	26%	5.7%	↑	1,300	33.0%	700	44%	4.4%	↑
Other Beverages	4	1.1%	0	0%	0.0%	↓	47	1.3%	7	1%	0.9%	↓
<b>TOTAL</b>	<b>173</b>	<b>4.9%</b>	<b>87</b>	<b>8%</b>	<b>4.0%</b>	<b>↑</b>	<b>2,537</b>	<b>3.0%</b>	<b>405</b>	<b>3%</b>	<b>1.0%</b>	<b>↓</b>

## 12. WEST COAST – PROCESSING

### PROCESSING QUANTITATIVE METRICS SCORECARD: WEST COAST

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS % of new unit growth in sector (00-18)	18y CAGR % of new unit growth in sector (00-18)	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	18y ABS % of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	3	1.4%	0	0%	0.0%	↓	510	3.9%	360	8%	7.0%	↑
Red Meat & Pork	9	2.7%	5	18%	4.6%	↑	312	1.2%	99	8%	2.1%	↑
Poultry Meat	-	0.0%	0	0%	N/A	↑	-	0.0%	0	0%	N/A	↑
Seafood	6	1.8%	-6	-	-3.8%	↓	203	4.0%	70	-	2.4%	↑
Produce	3	0.6%	-3	-5%	-3.8%	↓	3	0.0%	-12	-1%	-8.6%	↓
Grain-Based	-	0.0%	-3	-	-100.0%	↓	-	0.0%	-3	-	-100.0%	↓
Processed Foods	9	0.9%	9	2%	N/A	↑	9	0.1%	9	0%	N/A	↑
Wine	-	0.0%	0	0%	N/A	↑	-	0.0%	0	0%	N/A	↑
Other Beverages	6	1.6%	3	1%	3.9%	↓	12	0.3%	-13	-1%	-4.0%	↓
<b>TOTAL</b>	<b>36</b>	<b>1.0%</b>	<b>5</b>	<b>0%</b>	<b>0.8%</b>	<b>↓</b>	<b>1,049</b>	<b>1.3%</b>	<b>510</b>	<b>4%</b>	<b>3.8%</b>	<b>↑</b>

# 13. CANTERBURY – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: CANTERBURY

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	18y ABS % 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 % of new NZ employment growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	24	11.1%	9	8%	2.6%	↓	2,350	18.1%	1,460	31%	5.5%	↑
Red Meat & Pork	48	14.6%	6	21%	0.7%	↑	4,420	16.5%	300	25%	0.4%	↑
Poultry Meat	6	17.1%	-3	-	-2.2%	↓	760	20.9%	290	18%	2.7%	↓
Seafood	42	12.9%	0	0%	0.0%	↑	1,010	19.8%	-485	-	-2.2%	↓
Produce	48	10.3%	15	24%	2.1%	↑	1,450	15.9%	-30	-4%	-0.1%	↓
Grain-Based	67	18.1%	-11	-	-0.8%	↓	1,750	26.3%	245	-	0.8%	↑
Processed Foods	138	13.8%	41	8%	2.0%	↓	815	6.8%	25	1%	0.2%	↓
Wine	48	11.0%	30	12%	5.6%	↑	250	6.4%	140	9%	4.7%	↑
Other Beverages	48	12.9%	26	11%	4.4%	↓	415	11.3%	-60	-6%	-0.7%	↓
<b>TOTAL</b>	<b>469</b>	<b>13.2%</b>	113	10%	1.5%	↓	<b>13,220</b>	<b>15.8%</b>	1,885	14%	0.9%	↓

# 14. OTAGO – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: OTAGO

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS growth in sector (00-18)	% of new unit 18y CAGR (00-18)	18y CAGR vs NZ average	Processing jobs (2018)	Region has this % all NZ processing jobs in this sector	% of new NZ employment 18y ABS growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	9	4.2%	3	3%	2.3%	↓	270	2.1%	0	0%	0.0%	↓
Red Meat & Pork	15	4.6%	-3	-11%	-1.0%	↓	3,062	11.5%	-318	-26%	-0.5%	↓
Poultry Meat	1	2.9%	-2	-	-5.9%	↓	9	0.2%	-31	-2%	-8.0%	↓
Seafood	7	2.1%	-5	-	-3.0%	↓	100	2.0%	-242	-	-6.6%	↓
Produce	24	5.2%	3	5%	0.7%	↓	162	1.8%	-228	-28%	-4.8%	↓
Grain-Based	24	6.5%	3	-	0.7%	↑	280	4.2%	27	-	0.6%	↑
Processed Foods	48	4.8%	22	4%	3.5%	↓	654	5.4%	81	2%	0.7%	↓
Wine	51	11.6%	39	16%	8.4%	↑	260	6.6%	215	13%	10.2%	↑
Other Beverages	34	9.1%	25	11%	7.7%	↑	138	3.8%	86	9%	5.6%	↑
<b>TOTAL</b>	<b>213</b>	<b>6.0%</b>	<b>85</b>	<b>7%</b>	<b>2.9%</b>	<b>↑</b>	<b>4,935</b>	<b>5.9%</b>	<b>-410</b>	<b>-3%</b>	<b>-0.4%</b>	<b>↓</b>

# 15. SOUTHLAND – PROCESSING

## PROCESSING QUANTITATIVE METRICS SCORECARD: SOUTHLAND

Various units as given; 2000-2018

	Units (2018)	Region has this % of all NZ units in this sector	% of new unit 18y ABS 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	% of new NZ employment 18y ABS growth in sector (00-18)	18y CAGR (00-18)	18y CAGR vs NZ average		
Dairy	6	2.8%	3	3%	3.9%	↓	630	4.9%	210	4%	2.3%	↓
Red Meat & Pork	24	7.3%	6	21%	1.6%	↑	3,600	13.5%	-300	-25%	-0.4%	↓
Poultry Meat	-	0.0%	-3	-	-100.0%	↓	-	0.0%	-85	-5%	-100.0%	↓
Seafood	27	8.3%	0	0%	0.0%	↑	255	5.0%	-115	-	-2.0%	↓
Produce	6	1.3%	-1	-2%	-0.9%	↓	37	0.4%	-18	-2%	-2.2%	↓
Grain-Based	7	1.9%	-4	-	-2.5%	↓	57	0.9%	-97	-	-5.4%	↓
Processed Foods	16	1.6%	4	1%	1.6%	↓	155	1.3%	-8	0%	-0.3%	↓
Wine	3	0.7%	3	1%	N/A	↑	3	0.1%	3	0%	N/A	↑
Other Beverages	1	0.3%	1	0%	N/A	↑	12	0.3%	12	1%	N/A	↑
<b>TOTAL</b>	<b>90</b>	<b>2.5%</b>	<b>9</b>	<b>1%</b>	<b>0.6%</b>	<b>↓</b>	<b>4,749</b>	<b>5.7%</b>	<b>-398</b>	<b>-3%</b>	<b>-0.4%</b>	<b>↓</b>



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## A3. ABBREVIATIONS

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



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