Measuring the impact of GrowingNZ

Indicators to monitor change in New Zealand's primary sector workforce

May 2017

Introduction

An important role of the Primary Industry Capability Alliance is to monitor trends in the workforce size and capability as these provide key indicators of the success of GrowingNZ and its member's strategies in achieving industry capability goals.

This report tracks the changes in two aspects of the Primary Industry workforce:

1.Workforce size. This monitors the changes in overall and individual primary industry sectors over time, and progress towards the strategic projections identified in the The Future Capabilities needs for the primary industries in New Zealand report (April 2014). Note: the most current available data (2014) predates the formation of PICA and hence does not reflect the impact of PICA's initiatives, however it provides a baseline against which the impact of GrowingNZ and other industry initiatives can be assessed going forward.

2.The capability of people in primary sector workforces. This monitors changes in the workforce capabilty over time towards the strategic objective of attracting, growing and retaining highly skilled and motivated people in the industry**.** Scorecards are used to describe changes in selected sectors within the primary sector workforce. As the data for these is more recent, changes may reflect GrowingNZ's work in attracting talent as well as the result of other interventions and environmental factors.

Disclaimer

The results in this report are not official statistics, they have been created for research purposes from the Integrated Data Infrastructure (IDI), managed by Statistics New Zealand.

The opinions, findings, recommendations, and conclusions expressed in this report are those of the author(s), not Statistics New Zealand.

Access to the anonymised data used in this study was provided by Statistics New Zealand in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business, or organisation, and the results in this report have been confidentialised to protect these groups from identification.

Careful consideration has been given to the privacy, security, and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from www.stats.govt.nz.

The results are based in part on tax data supplied by Inland Revenue to Statistics New Zealand under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information may be published or disclosed in any other form, or provided to Inland Revenue for administrative or regulatory purposes.

Any person who has had access to the unit record data has certified that they have been shown, have read, and have understood section 81 of the Tax Administration Act 1994, which relates to secrecy. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

Overview of workforce size by sector

Approach

Workforce size is calculated using IRD data in the Integrated Data Infrastructure (IDI). The number of employees in the industry as at March, June, September and December of each tax year is calculated, then divided by four to get an average employee count. This is then added to the self employed/business owner counts from the March end of year tax returns for each industry.

This method calculates a seasonal average in order to deal with the peaks and troughs that industries face throughout a year due to seasonal demands.

Sources

The results in this section draw on data in the Integrated Data Infrastructure (IDI), a system managed by Statistics NZ which links government administrative databases.

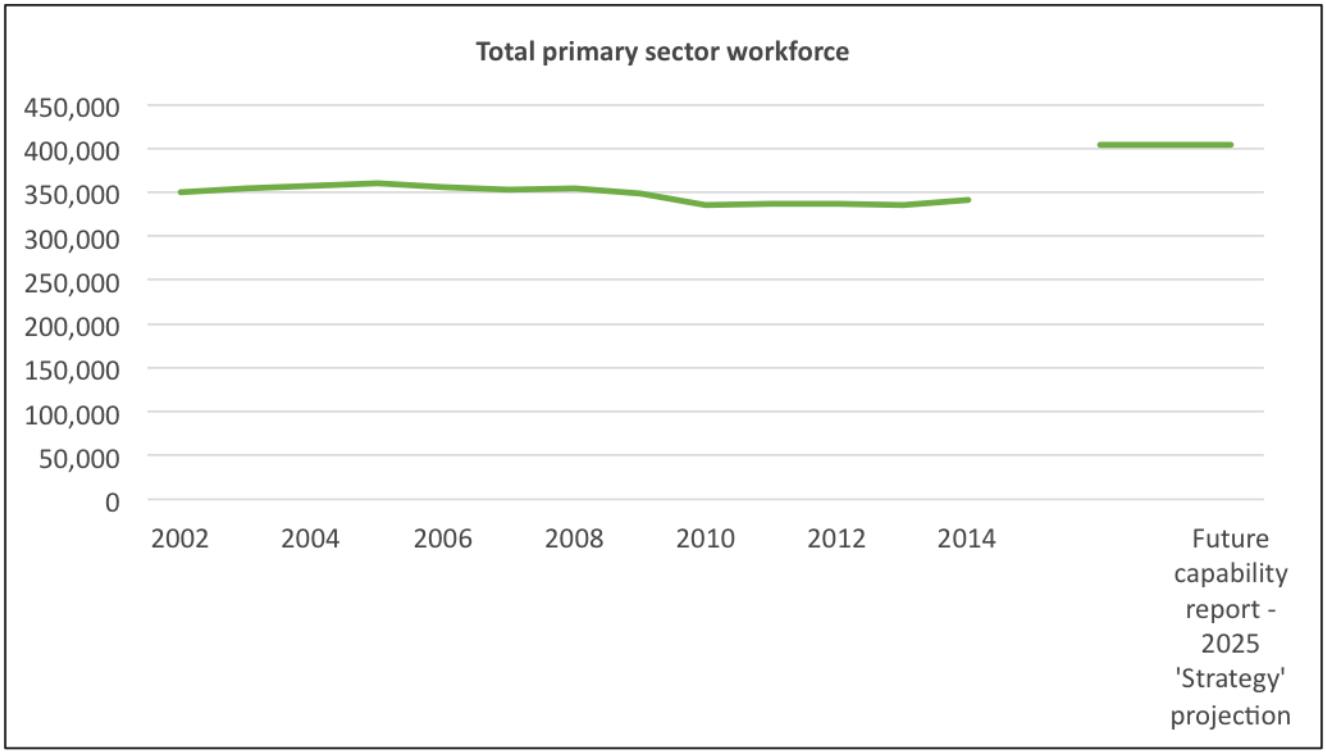
Key findings

While the overall size of primary industry workforce has been relatively static between 2002 and 2014, numbers have varied over this period with a reduction in employment in the red meat and wool, and forestry and a significant increase in those employed in Support Services.

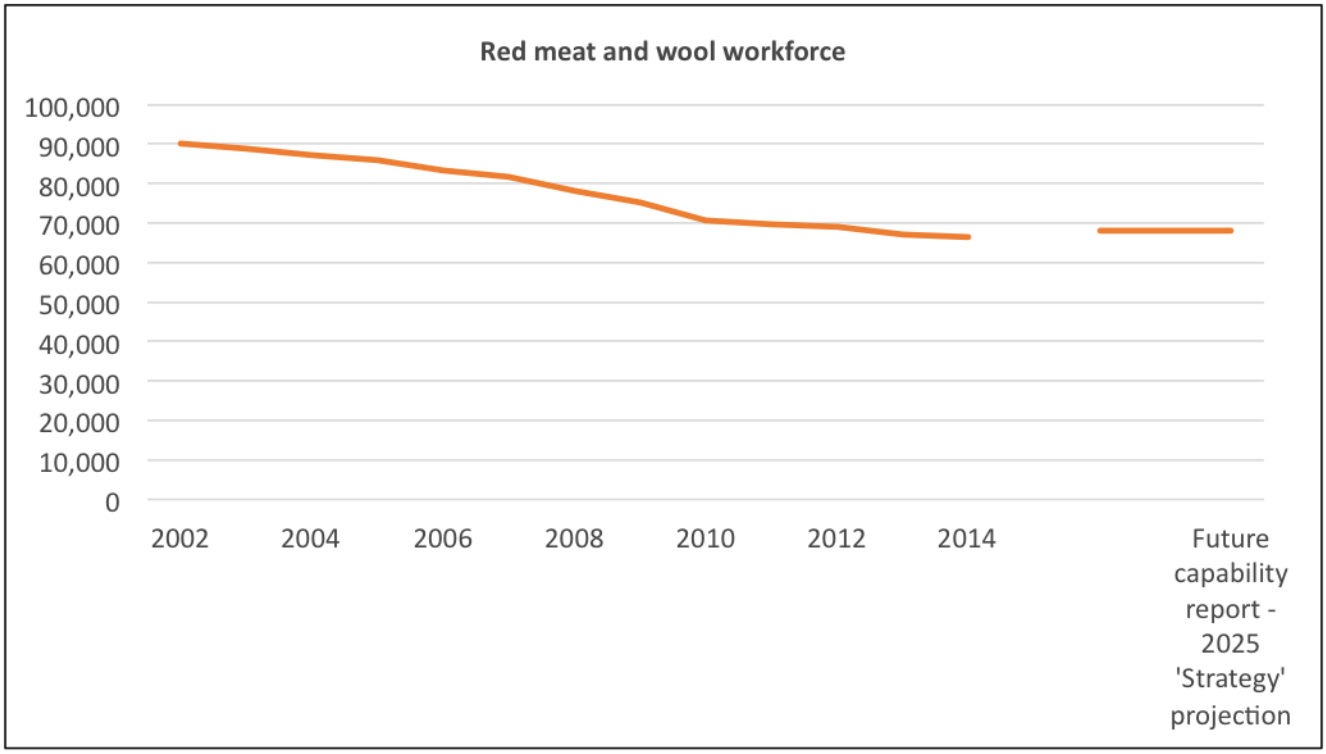
Support Services are roles that cannot be attributed to a specific sector, for example, veterinary services will be provided to all live stock farmers, fertilisers and pesticides can be applied to all land-based activities, and scientific research will have varying degrees of importance to all primary sector activities. This increase is consistent with the predictions of the Future Capability report which identified support services as a key growth area to support growth in productivity and to add value to products.

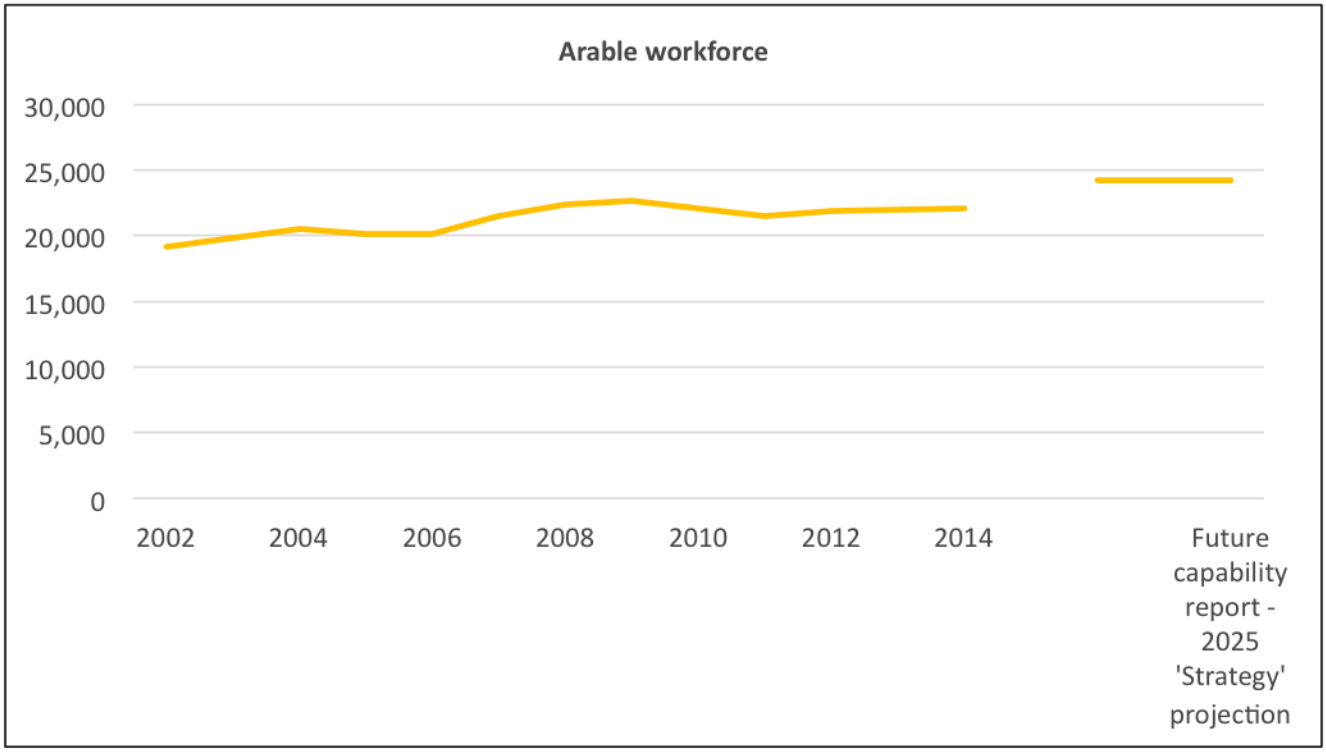
There has been a positive trend in overall workforce size since 2012 (up 1.5% from 2012 to 2014) which suggests an underlying positive trend in workforce growth for GrowingNZ to build on.

Workforce size by sector

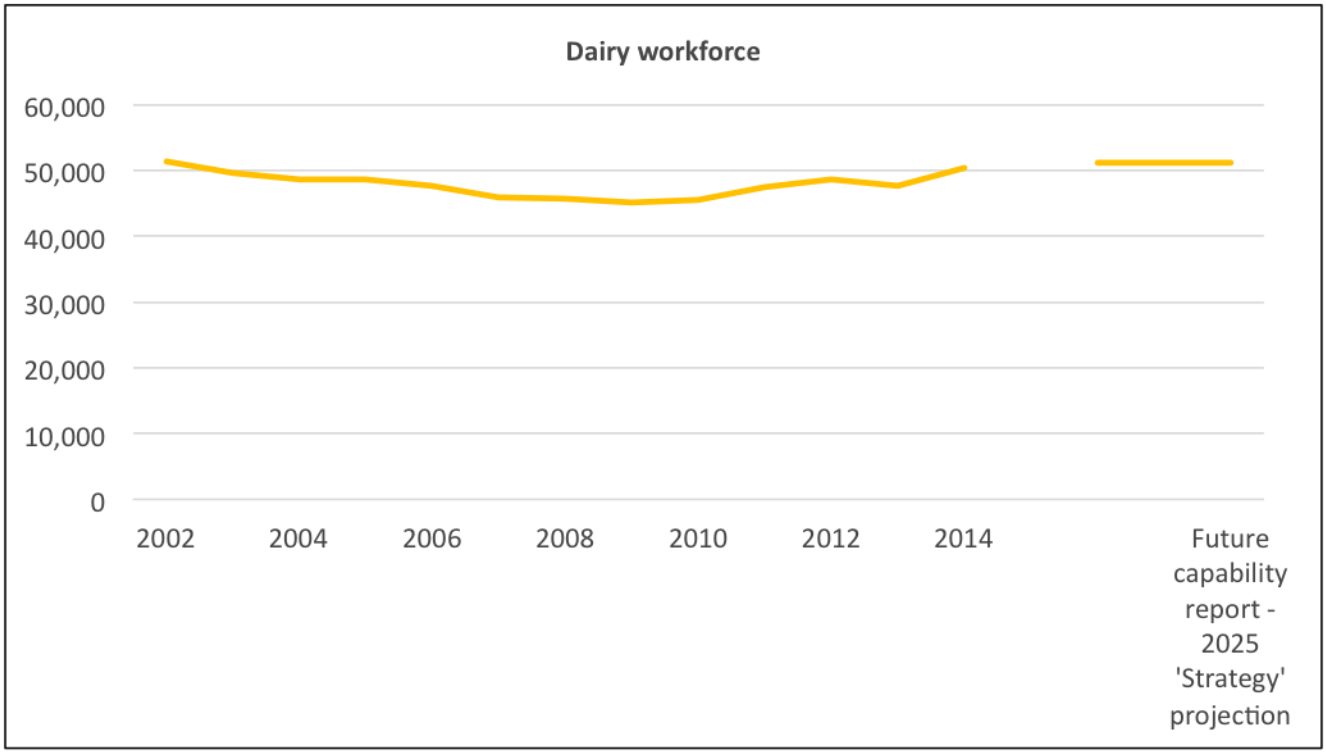


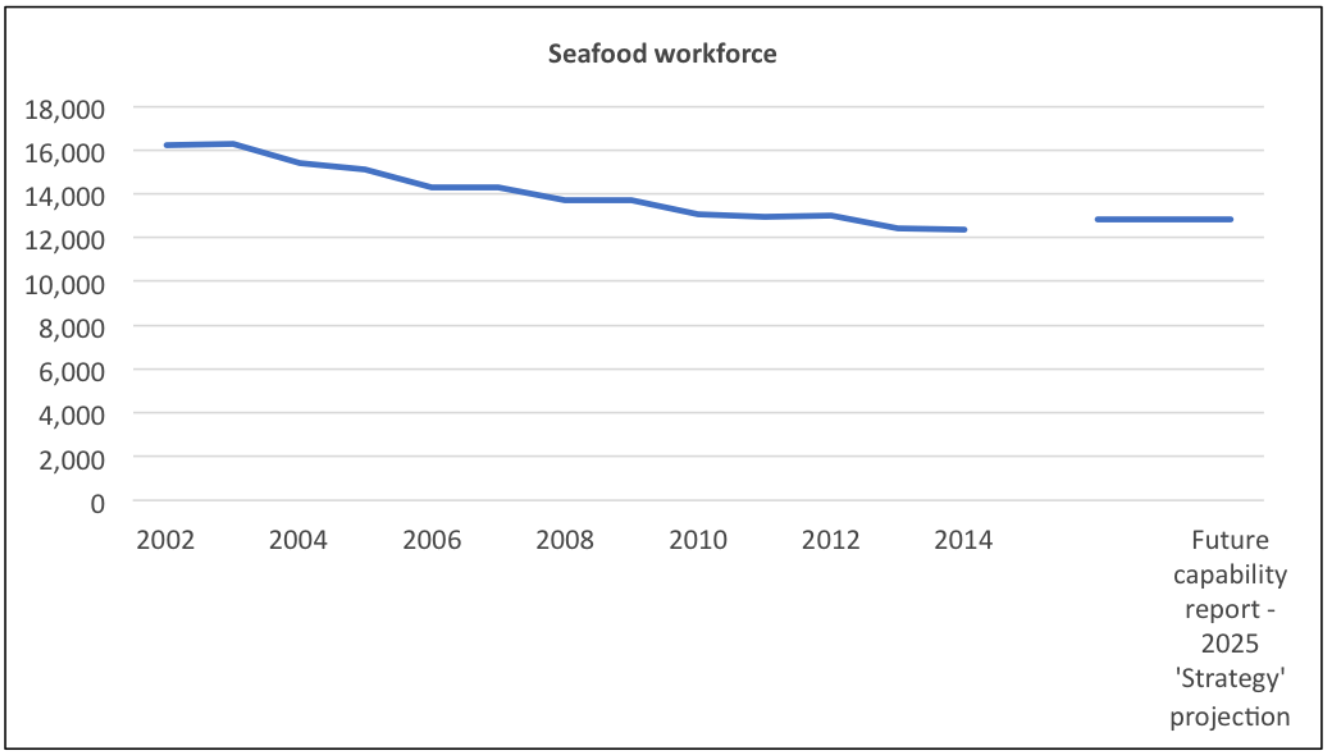
Workforce size by sector (continued)



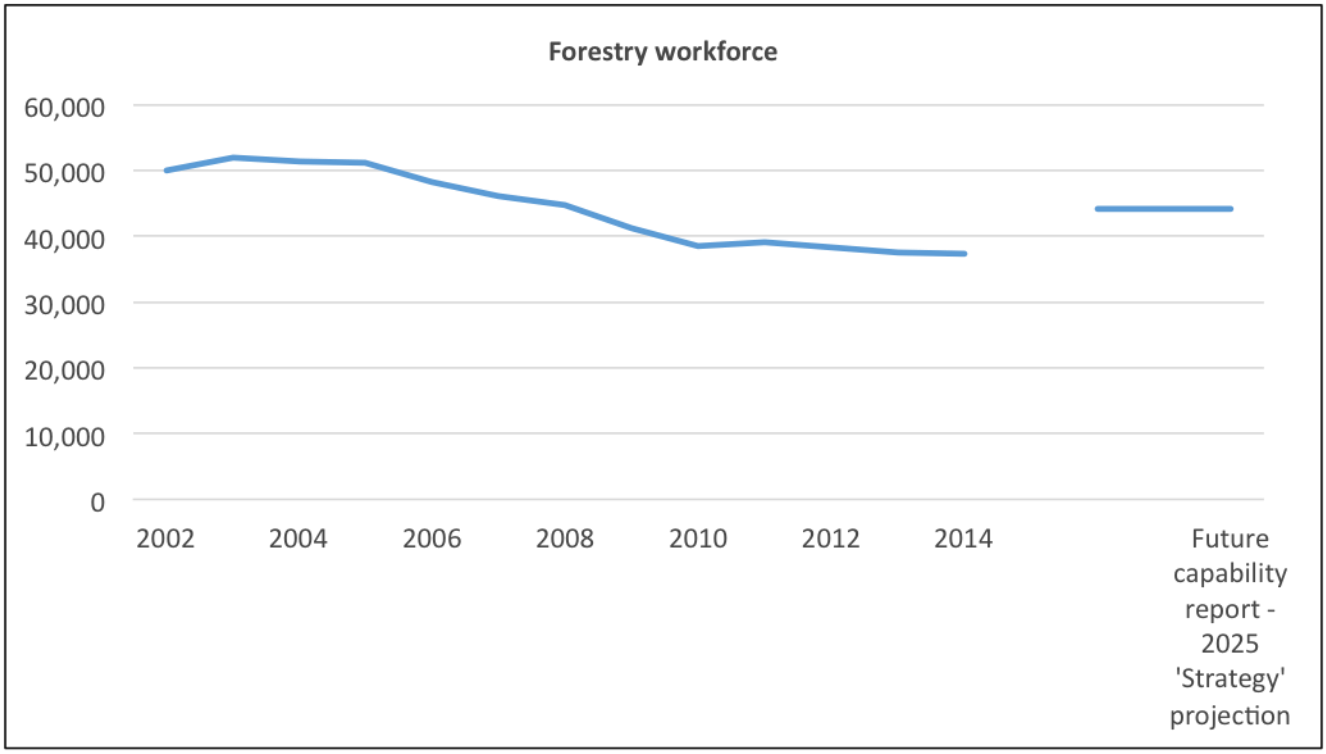


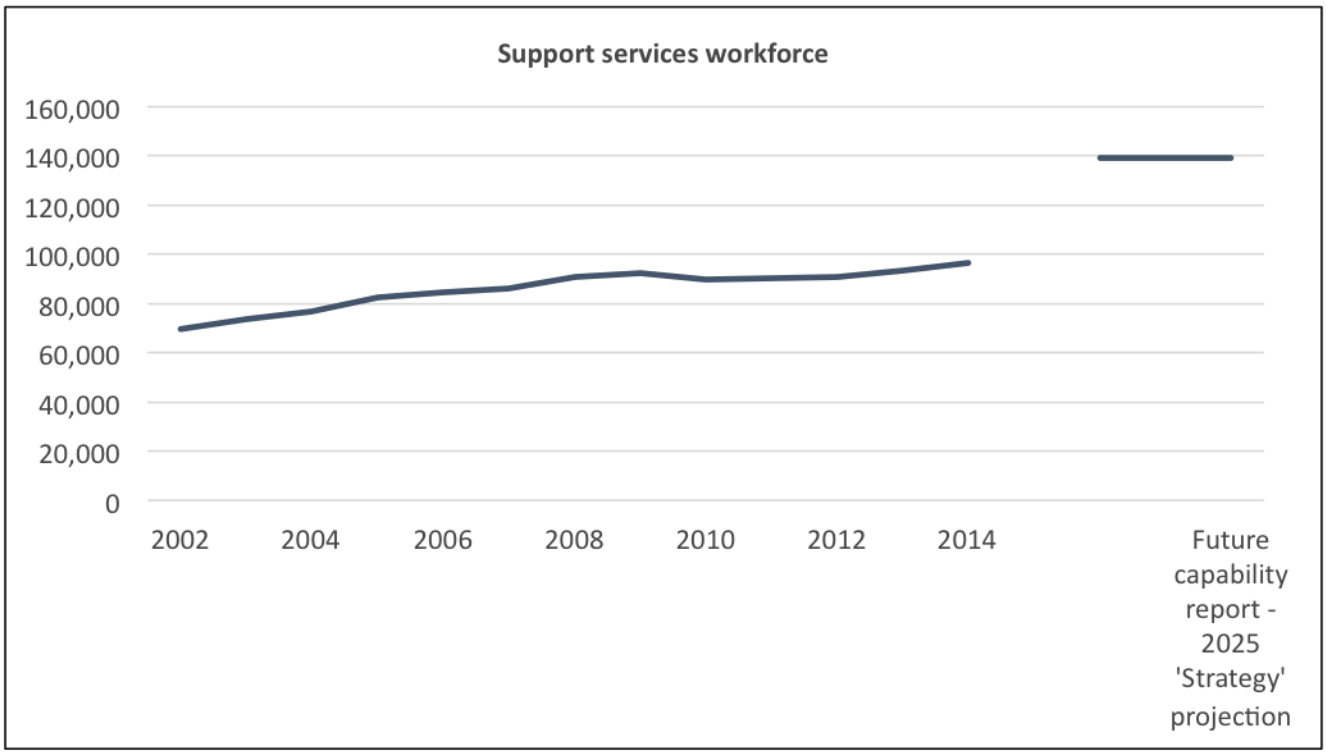
Workforce size by sector (continued)





Workforce size by sector (continued)





Overview of workforce capability scorecards

Approach

Individual's skills, experience and innate ability contribute to their individual competencies. These are impacted by training, retention and recruiting respectively.

The workforce capability scorecards contains a set of measures that characterise skills/ training, experience/retention and attraction. These are combined by developing KPIs and aggregating these using weighting factors. The choice of measures, and the weighting put on KPIs, have been informed using a workforce model that simulates the impact of changing training, recruitment and retention over time.

The scorecards includes 11 KPIs for each sector, four of which are shown as examples. These are aggregated across all sectors into three indices: attraction, growth, and retention. An overall index is derived from the average of these indices.

Definition

The scorecards utilise targets that correspond to a definition for a *competent farm team*. While the latter is subjective, a valuable starting point is the Dairy Industry Standard Roles (for dairy farming) and the Sheep, Beef & Deer Farm Role Descriptions (for red meat farming). These set out a standard for individual competency, by farm role, for experience and training. This framework is supplemented by judgements about the impact of innate ability. Using this as a starting point, a framework has been developed to judge the trade-off between skills, experience and innate ability. The framework developed for these pastoral sectors can then be extended to other industries.

Sources

This scorecard draws from a range of sources including Ministry of Education & Primary ITO qualification completion data and Statistics New Zealand.

Limitations

The definition of a competent team is necessarily a simplification of the complex range of factors that contribute to farm team performance. A further limitation is imposed by data availability; 'proxy indicators' are used in the place of ideal measures in some cases. These limitations mean that the absolute value of the scorecard index – a value that can be compared to the 90% in the industry target – is somewhat arbitrary. However, the changes in the scorecard will provide a reasonable marker of progress over time.

Data from the Ministry of Education, and many of the data from Statistics New Zealand, are only available ~12 months after the end of the year analysed. For example, as at May 2016, qualification data are available to the end of 2014. This requires that some data series are projected.

Key Findings

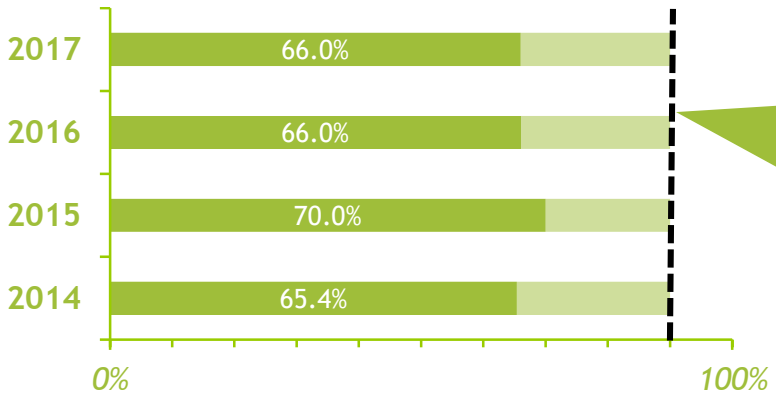
The *projected* 2017 value of overall workforce capability scorecard index is 66.0%. This value has not changed much over the past three years, and compares to the industry target of 90%.

As the impact of training, retention and attraction happens over many years (potentially an entire working lifetime), the scorecard index will only increase slowly even if industry efforts to increase training volumes, retain workers longer and attract better new entrants occur more quickly. Alternative indicators may be needed to provide additional measures to monitor the impact of specific GrowingNZ's initiatives on workforce capability.

Overall workforce capability scorecard

STRATEGIC OBJECTIVE:

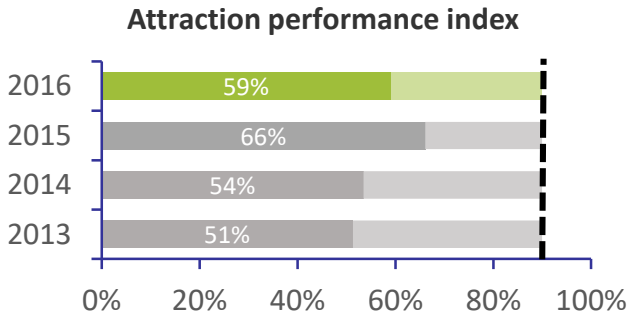
Attract, grow and retain highly skilled and motivated people throughout the industry.



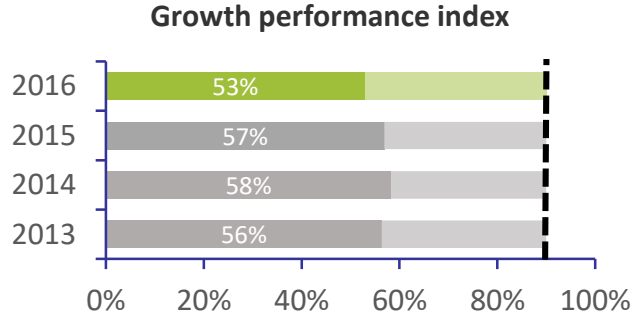
TARGET

By 2020, the three sectors achieve the attraction, growth and retention targets.

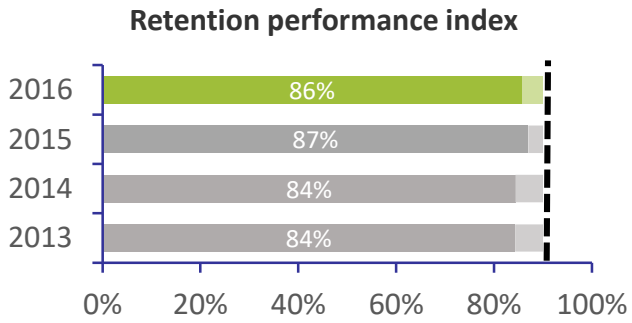
ATTRACT



GROW



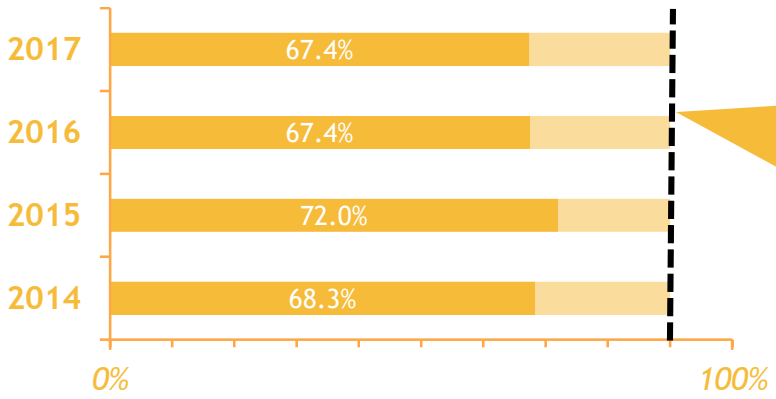
RETAIN



Dairy farming workforce capability scorecard

STRATEGIC OBJECTIVE:

Attract, grow and retain highly skilled and motivated people throughout the industry.

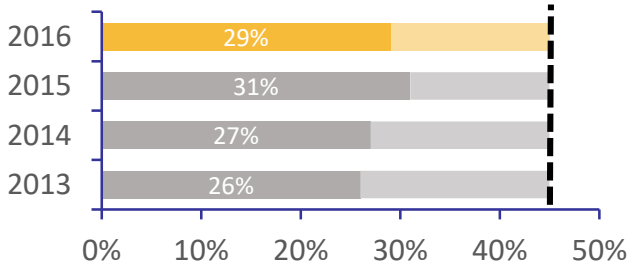


TARGET

By 2020, 90% of dairy farm businesses achieve the attraction, growth and retention targets.

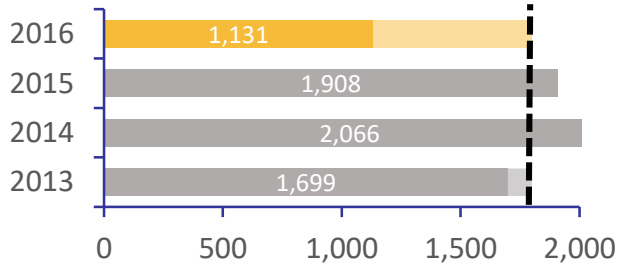
ATTRACT

% of new young recruits with NCEA L2 Excellence or Merit endorsement



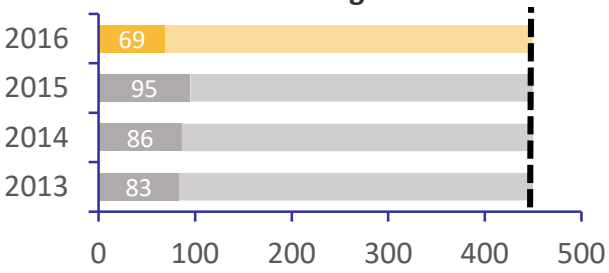
GROW I

Number of qualifications awarded at Farm Assistant level



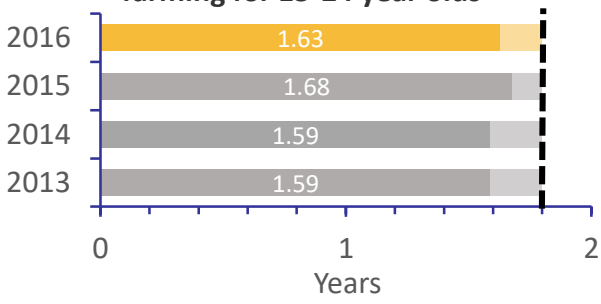
GROW II

Number of qualifications awarded at Business Manager level



RETAIN

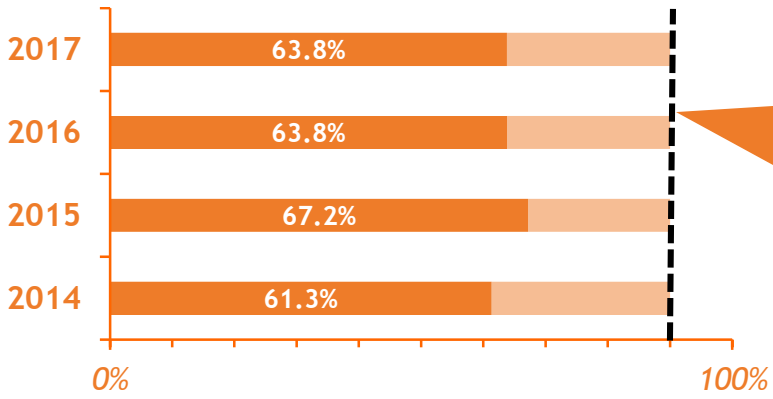
Average time working in dairy farming for 15-24 year olds



Red meat farming workforce capability scorecard

STRATEGIC OBJECTIVE:

Attract, grow and retain highly skilled and motivated people throughout the industry.

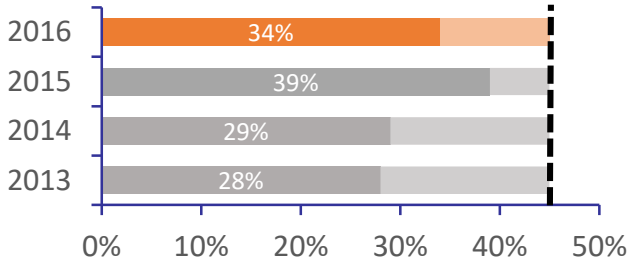


TARGET

By 2020, 90% of beef & sheep farm businesses achieve the attraction, growth and retention targets.

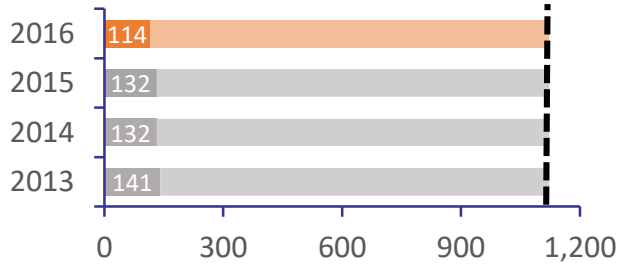
ATTRACT

% of new young recruits with NCEA L2 Excellence or Merit endorsement



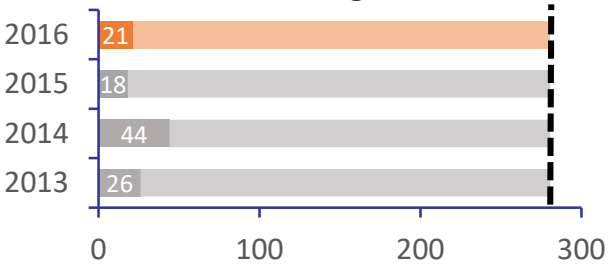
GROW I

Number of qualifications awarded at Farm Hand level



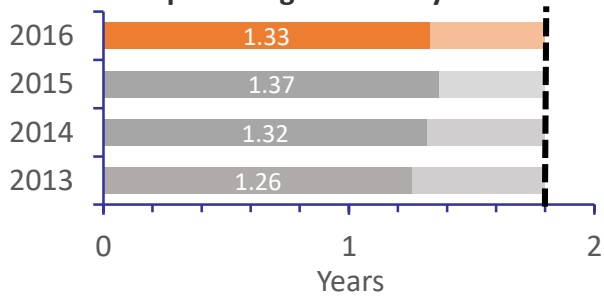
GROW II

Number of qualifications awarded at Business Manager level



RETAIN

Average time working in beef & sheep farming for 15-24 year olds

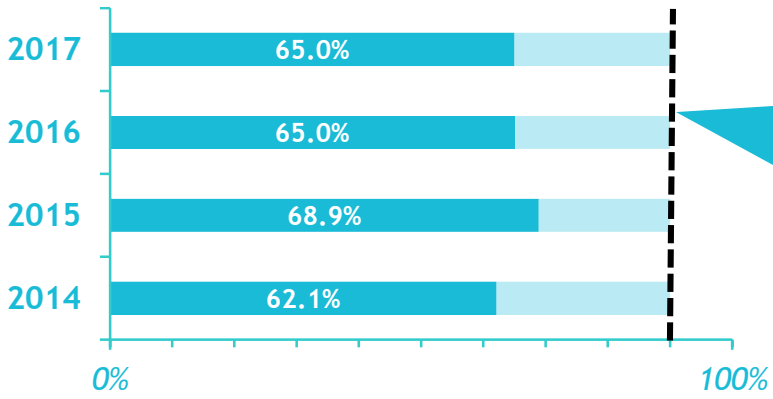


* Grow is calculated without ITO data, therefore measures are underestimated.

Forestry workforce capability scorecard

STRATEGIC OBJECTIVE:

Attract, grow and retain highly skilled and motivated people throughout the industry.

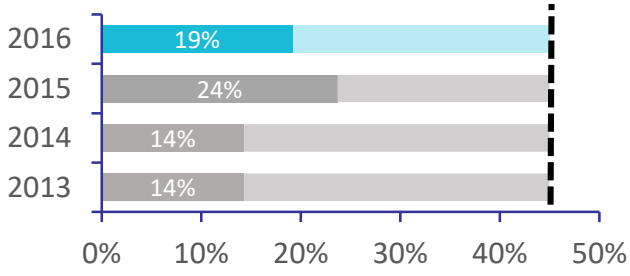


TARGET

By 2020, 90% of forestry businesses achieve the attraction, growth and retention targets.

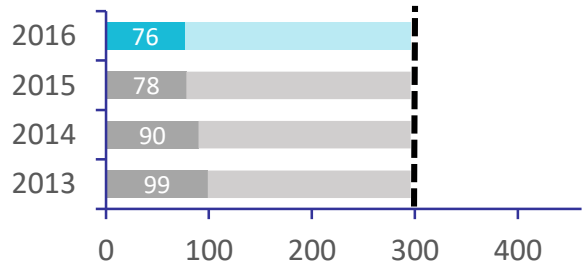
ATTRACT

% of new young recruits with NCEA L2 Excellence or Merit endorsement



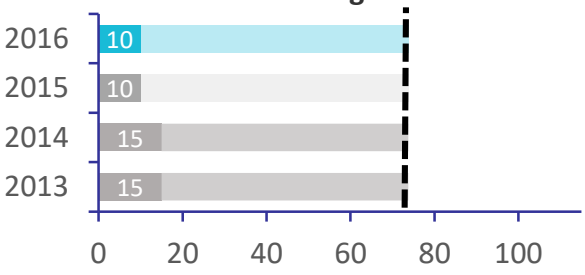
GROW I

Number of qualifications awarded at Assistant level



GROW II

Number of qualifications awarded at Business Manager level



RETAIN

Average time working in forestry for 15-24 year olds