

Dairy in the Basin

DELIVERING
for DAIRY

For more information about the
Murray-Darling Basin, visit the
Dairy Australia website.

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Introduction

Dairy businesses – both farms and processing – are the backbone of communities and the economy in many regions of the Murray-Darling Basin.

These communities have faced challenges in recent decades from a myriad of factors, but shown themselves to be innovative and resilient, maintaining confidence and positivity. This document provides an overview of the Australian dairy industry operating in the Murray-Darling Basin, providing data on its size and economic contribution, as well as contribution to food security. It also describes the transition underway in many dairy farming businesses to adapt to a changing climate and increase efficiency of water use.

The dairy industry in the Murray-Darling Basin

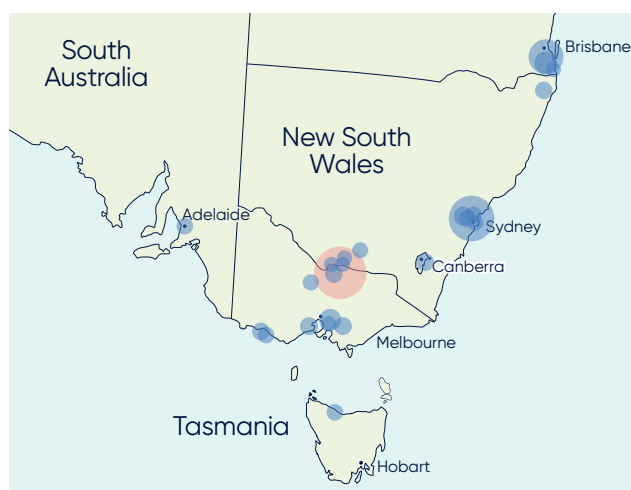
The Murray-Darling Basin (the Basin) contains several important dairying regions – including areas of northern Victoria, southern New South Wales and smaller numbers of farms around Forbes and Wagga Wagga in New South Wales, Toowoomba and Warwick in Queensland, and Murray Bridge in South Australia. **Dairy in the Basin utilises irrigation schemes to produce high quality and consistent feed which underpins reliable milk supply.** This is in contrast to many other dairy regions which rely on rainfall and can be more exposed to seasonal variability and drought conditions.

Multiple factors underpin the success of dairying in the Basin, including affordable land prices, modernised infrastructure, excellent herd genetics, and the extensive skills and capability developed by people working in the region. The long growing season also provides the industry with an ability to grow and access a variety of forages for dairy production.

Dairying in the Basin underpins Australia's food security, producing one fifth of Australia's milk, which is a key source of nutrition in the Australian diet, benefiting all Australians. The region is also strategically important for the national industry. It is critically located for both export and domestic markets, with efficient connectivity through road, port, and telecommunications infrastructure.

Logistics access to Melbourne, Sydney and Brisbane has become increasingly important in recent years as seasonal variation, land use change, and adverse conditions such as drought impact milk production elsewhere.¹ The Murray Dairy region in Northern Victoria, is a key region supporting food security. Data from just one of several major transport companies operating in the region showed that for 2021/22, at least 97 million litres of milk was delivered to NSW, and 62 million litres of milk went to Queensland, much of this to be bottled for the retail market. This represents 15 per cent of the total liquid milk consumed in NSW and 11 per cent of liquid milk consumed in Qld.² The overall total when other transport companies are included is anticipated to be much higher.

Figure 1 Milk movement from the MDB region to other areas of Australia



Dairy farm businesses have adapted to a changing climate and reductions in available irrigation water. This has led to many businesses investing in irrigation technology and infrastructure to improve water use efficiency, as well as improving risk management options for future droughts and floods by accessing feed from surrounding grain and cropping areas. This has also enabled year-round milk production in the Basin and addressed critical shortages in southern Victoria and Tasmania, allowing for more efficient use of milk processing infrastructure and securing milk for domestic markets across Australia.

1 Marsden Jacobs and Associates (2019), Dairy in Northern Victoria Prepared for the Independent Murray-Darling Basin Social and Economic Assessment Panel

2 Booth's Transport Data, used with permission

Milk produced in the Basin is processed through 42 dairy processing facilities predominately located in northern Victoria. This supports an extensive number of local jobs both directly and in supporting businesses, attracts a highly skilled workforce, and puts economic benefits right back into Basin communities. Beyond producing essential nutrition for the population, irrigated dairy farm businesses play an important role in the Basin water infrastructure landscape and complement rather than just compete with other irrigation users, buying and selling inputs with local businesses. Water authorities report that dairy farms are an important component of maintaining the viability of irrigation infrastructure for all irrigators. Indeed, agricultural diversity (diverse consumptive water uses) is key to resilience and prosperity in Basin communities and regional economies.^{3 4}

Figure 2 Murray Dairy region across NSW and Victoria

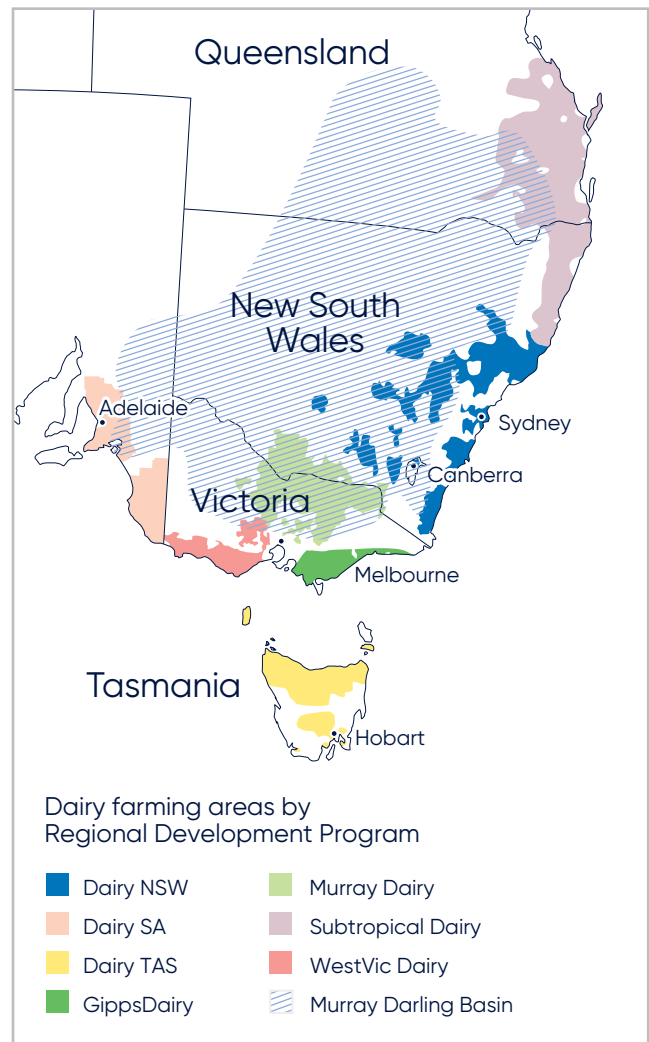
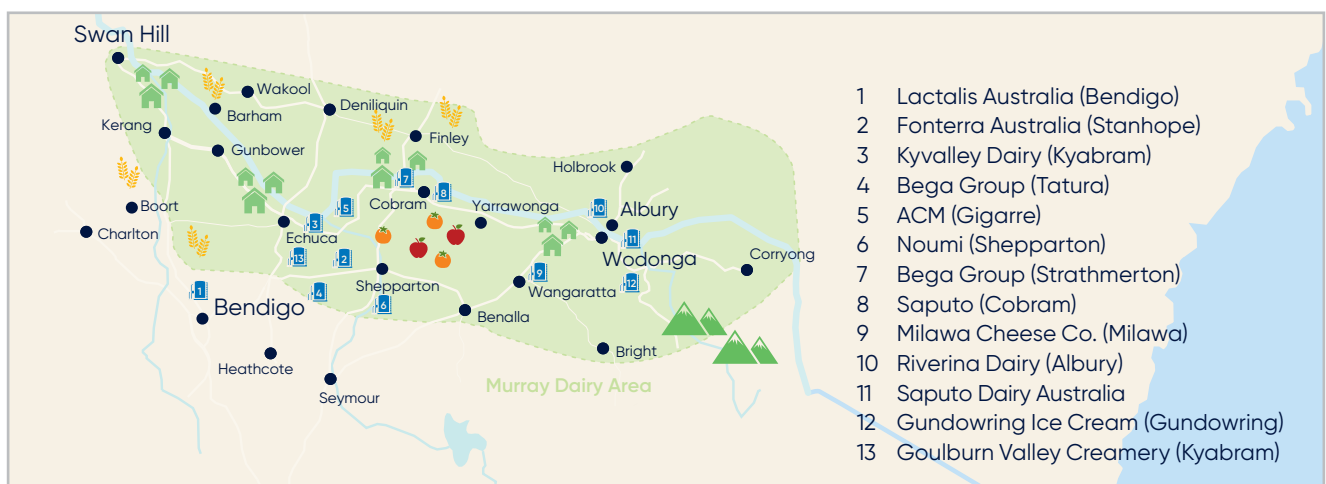


Figure 3 Milk Processing locations in the Murray Dairy Region



3 Independent Assessment of Social and Economic Conditions in the Basin (2020), Final Report: Independent assessment of social and economic conditions in the Murray–Darling Basin
 4 Regional Development Victoria (2020), Goulburn Murray Resilience Strategy: ADAPT TRANSFORM THRIVE

SNAPSHOT OF DAIRY IN THE MURRAY DARLING BASIN FY2022–23*

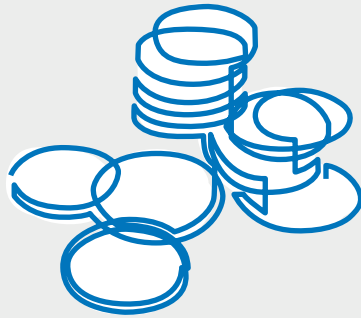
Farmgate value of

\$1.14
billion

resulting in

\$1.96
billion

of value to the local community.



6,862

Total employment

2,848

Direct employment
(farm and processing)

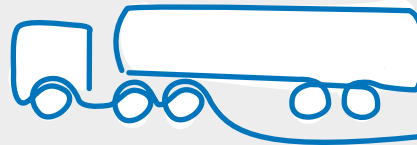
4,014

Flow-on employment



42

dairy processing companies operating in the Basin.



912

dairy farms across four states

78%

of which are in Victoria

22%

split between South Australia, New South Wales and Queensland.

1.53
billion

litres of milk produced, representing

19%

of the total national volume.

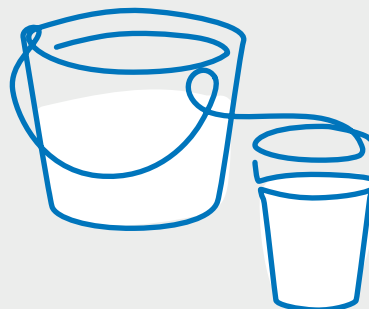


47%

reduction in dairy farm numbers and a

35%

reduction in total milk production since the Basin Plan began in 2012.



The highest number of farms relying on irrigation are in the Southern Basin region, which includes Southern NSW, Northern Victoria and South Australia. Very few Queensland dairy farms rely on irrigation.



Anecdotally, water entitlements make up approximately

25%

of capital assets for dairy farm businesses in the Basin.

Many dairy farms are now needing to purchase

60%

of all the water they need on the temporary market, leaving them exposed to significant water market risk.

* Dairy Australia, multiple sources.

** Farmgate value and employment numbers are based on estimations applying 2021/22 output against 2019/20 economic multipliers from the BDO economic contribution report.

Challenges

Australian average temperatures have increased by about 1°C since 1950⁵ and median annual inflow to the Basin over the past 20 years is approximately half that of the preceding century, with the frequency of drier years increasing.⁶ Recent decades have also seen a changing trend in seasonality of inflows, driven by lower average winter season rainfall in the southwest and southeast of Australia.⁷ **Climate change is an ongoing challenge to farm productivity in the Basin.**

Water cost and changing water ownership profiles have been major contributors to shrinking margins for dairy businesses. Competition for water shares has increased, in particular with the growth of the horticulture sector in Victoria. Dairy currently uses 45 per cent of irrigation water annually in the GMID⁸.

Water ownership amongst dairy businesses has changed significantly in the last 10–15 years, following participation in previous Commonwealth water buyback programs. These programs were one of the major initiatives undertaken to achieve the Basin Plan’s water recovery targets, and targeted HRWS. The price of HRWS has risen to historic levels and is still trending upwards, making their re-purchase unviable for many dairy businesses.



The result is that dairy farms are now much more reliant on purchasing from the temporary market to fulfill their water requirements. In 2021/22, 91 per cent of dairy farmers in the GMID purchased water from temporary allocations, with 46 per cent of dairy farmers reporting they were highly reliant on allocation trades⁹.

In addition to individual water ownership challenges, previous water recovery has overall resulted in less irrigation including 50 per cent less water use in the Goulburn Murray Irrigation District (GMID) in northern Victoria/southern NSW. This has put the viability of major irrigation districts and the industries and communities they support under pressure.¹⁰

5 Bureau of Meteorology and CSIRO (2018), State of the climate report 2018.

6 Inspector General of the MDB Water Resources (2020), Impact of lower inflows on state shares under the Murray–Darling Basin Agreement.

7 Huges, N, Galeano, D and Hatfield-Dodds, S (2019). The effects of drought and climate variability on Australian farms. ABARES Insights, Issue 6, Dec 2019.

8 Goulburn Broken Catchment Management Authority, Fact Sheet 6/6 Farm Irrigation Survey GMID 2021/22 Your Levy at Work Land Use Transition, 2023

9 Goulburn Broken Catchment Management Authority, Fact Sheet 6/6 Farm Irrigation Survey GMID 2021/22 Your Levy at Work Land Use Transition, 2023.

10 water.vic.gov.au/our-programs/murray-darling-basin/social-and-economic-impacts-of-the-basin-plan-in-victoria

A Resilient Industry

While the key competitive advantages of dairy in the region remain, it's through the ongoing support and investment in adaptation and evolution that the industry will continue to meet and overcome challenges.

The dairy industry in the region has demonstrated great capacity to adapt in response to industry challenges, recognising that adaptation, change, and innovation are fundamental to improving agricultural productivity, maintaining Australia's competitiveness in world markets, and providing attractive and financially sustainable opportunities for farm households.¹¹

Since the Millennium drought, dairy farms and milk processors have continued to consolidate. This is consistent with national trends toward fewer but larger and more efficient dairy farms and increasing milk yields per cow. Dairy farm systems in irrigation districts are also diversifying away from a historical reliance on intensively irrigated pastures.

Dairy farmers, particularly those in the irrigation areas of the Goulburn Murray Irrigation District (GMID) and southern Riverina continue to invest in farming systems to meet the challenges brought by reduced water availability and climate change. It has also seen the increase in infrastructure and equipment investment to support these types of systems, including feed-pads and other feeding infrastructure, housing, shade and shelter.

92 percent of dairy irrigators in the GMID, where dairy uses 45 per cent of the irrigation water, have upgraded their infrastructure to improve productivity and efficiency of water use.¹² Further opportunity to achieve water savings through on farm efficiency upgrades will be very limited.

This has corresponded with the introduction of a whole range of efficient forage innovations which significantly increase water use efficiency and reduce reliance on irrigation when water is scarce or expensive. A key quality of these systems is the ability to grow and conserve large quantities of high-quality water efficient crops including winter cereals and summer forages such as maize and sorghum when seasonal conditions and irrigation access is good. This feed is then stored and fed out as hay or silage during dry periods and other events that impact feed production.

Dairy businesses in the Murray Darling Basin are an integral part of local communities, the regional economy and the health and food security of the Australian population. Dairy farmers are efficient water users, achieving significant gains in water use efficiency and widespread adoption of innovative irrigation technology. They have a high level of 'water literacy' opting in and out of the irrigation market depending on water availability and price and using a wide range of water products to manage risk. They have demonstrated innovation and resilience in the face of significant uncertainty and change across the Basin since 2012.

This resilience however is not limitless, and future changes brought through Plan implementation require serious consideration of community needs and support to ensure that Basin dairy communities and their connected economies can continue to produce the fresh, nutritious products that Australians enjoy into the future.

11 Huges, N, Galeano, D and Hatfield-Dodds, S (2019). The effects of drought and climate variability on Australian farms. ABARES Insights, Issue 6, Dec 2019
12 Goulburn Broken Catchment Management Authority, Fact Sheet 6/6 Farm Irrigation Survey GMID 2021/22 Your Levy at Work Land Use Transition, 2023



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