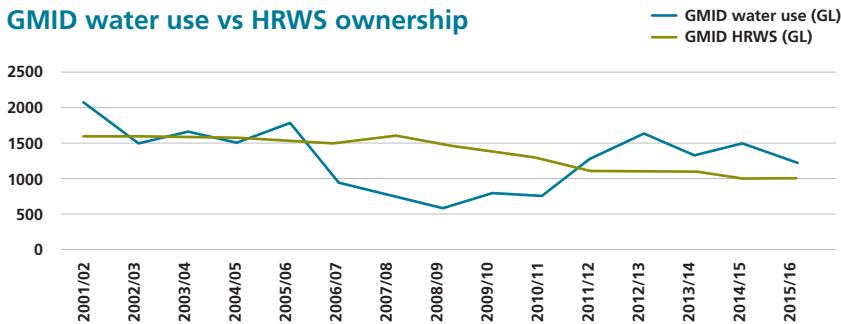


LAND & WATER USE IN THE GMID

FARM IRRIGATION SURVEY RESULTS 2015/16

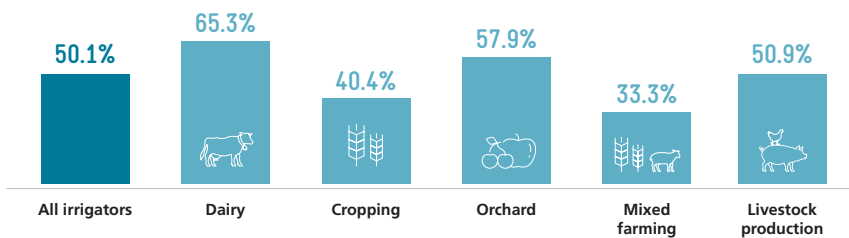
The overarching picture is that the land use and water use profile in the GMID is changing in response to seasonal fluctuations, climate change, commodity prices and changes in water and planning policy.

GMID water use vs HRWS ownership



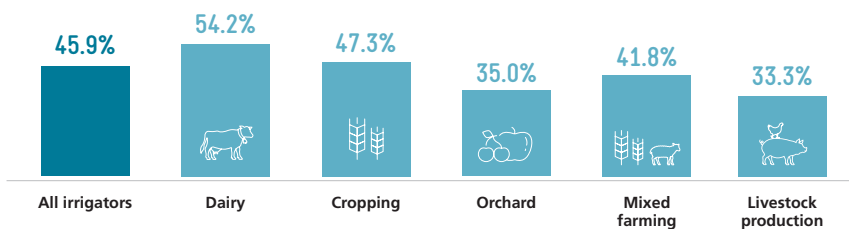
This data indicates that the amount of High Reliability Water Share (HRWS) held by irrigators (GL) was less than the amount of water used in the season of 2015/16, meaning use of the allocation trade market.

Irrigation infrastructure upgraded since last five years



This data indicates that 50% of irrigators' had upgraded their on-farm irrigation infrastructure between 2010/11 and 2015/16, with dairy farmers and orchardists' having the highest percentage of uptake.

Allocation trade forms a large part of farm water use



45.9% of irrigators said allocation trade forms a large part of their farm water use. Dairy highest (54.2%) and horticulture lowest (35%).

The top three barriers in 2015/16 to upgrading on-farm irrigation infrastructure included:

- 1 Uncertainty of water allocation (**53.9%**)
- 2 Lack of financial resources (**52.6%**)
- 3 Inadequate water availability (**46.1%**) (which increased from 19.3% in the 2004/05 survey).

49%

of irrigators reported owning less than 200ML of HRWS, including 8% owning no water share.

64%

of respondents said that they did not own enough water entitlements to meet their irrigation needs.

73.5%

of dairy respondents said that they do not have the amount of water entitlements they require.






CASE STUDY: DECISIONS ABOUT LAND USE

Bob* has owned his 250 ha irrigated cropping farm near Undera for almost 40 years. He grows a wide range of fodder and grain crops and has a small area of orchard on the property, one of three farms. The property is connected to the main channel system but due to the uncertainty around water available and pricing, he has decided against further irrigation upgrades.

Each year Bob makes decisions about what to grow depending on water and commodity prices. Depending on those decisions, Bob then uses a mixture of groundwater, HRWS and internal and trade allocations, to ensure he has the water he needs to meet his farm production needs.

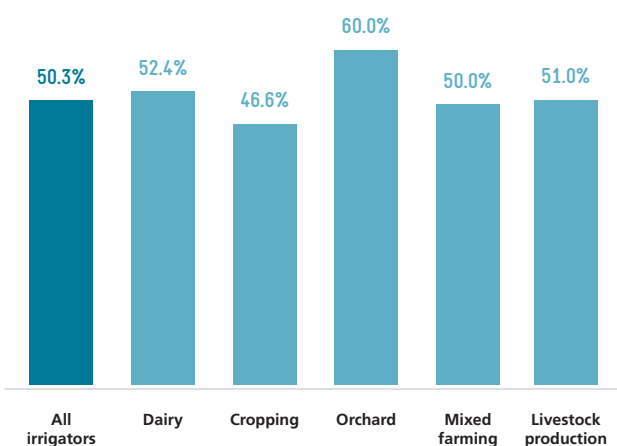
**name has been changed*

Price above which temporary water becomes unviable

Industry	Number of respondents	Less than \$150/ML	\$150-200/ML	\$201-250/ML	More than \$250/ML
 Dairy	73	26.0%	56.2%	12.3%	5.5%
 Cropping	67	41.8%	31.3%	23.9%	3.0%
 Orchard	12	8.3%	16.7%	41.7%	33.3%
 Mixed Farming	38	52.6%	36.8%	7.9%	2.6%
 Livestock production	32	21.9%	53.1%	25.0%	0.0%
All irrigators	222	33.7%	42.8%	18.5%	5.0%

Respondents were highly sensitive to allocation trade (temporary) water price, with **76.5%** of all irrigators' indicating that water prices greater than \$200/ML were not viable for their business. Victorian water trade data (2016) identified that the annual weighted average price of temporary water in the southern Basis was \$220/ML and peaked at \$250/ML in May 2016.

Succession Planning



50.3% planned to pass their property to another person in the family, highest for horticulture (**60%**) and lowest for cropping (**46.6%**). This was similar to responses in 2004/5 (**51.2%**).



For the 2015/16 irrigation season, respondents reported growing annual pasture (**53.9%**), perennial pasture (**34.4%**), winter grain/fodder (**32%**), lucerne (**27.9%**) and summer grain/fodder (**9.6%**) (multiples applied).



96.5% of respondents owned their properties (not leased). **53.5%** said that they expect to continue operating for more than 10 years, up from **45.8%** in 2004/5.



Average years irrigators' had been farming **36.2 years**, highest for cropping land use (**37.9 years**) and lowest for horticulture land use (**33 years**).

1. Data is reflective of activity at the point of survey completed and based on the 2015/16 irrigation season.

2. Dairy Combined includes all of the dairy land use categories including 'Dairy' (WUL with an active milking shed), 'Dairy Associated' (land linked to an active dairy shed WUL) and 'Dairy Agistment and Fodder' (no clear link to an active milking shed but dairy cattle present or a former active dairy farm that may be in transition).