

# SUMMARY

The GMID's land and water use profile continues to evolve, with irrigators becoming increasingly experienced at participating in the water market and building resilience into their farming systems.

## BACKGROUND

Based on the 2021/22 irrigation season, irrigators were surveyed to help understanding of property-level irrigator decision-making and build understanding of how the Goulburn Murray Irrigation District (GMID) is changing. Flooding in October 2022 impacted responses and therefore the 2021/22 survey consisted of a smaller sample size (n=68) compared to previous years (n=134 in 2019/20; n=384 in 2015/16). A sample of irrigators were selected for each of the key land use activities (e.g. Dairy, Cropping, Horticulture and Grazing) against Water Use Licence. Care should be taken in analysing results by industry group due to the small sample size<sup>3</sup>. This fact sheet presents a summary of 2021/22 irrigator responses and compares it to 2019/20<sup>4</sup> and 2015/16 data.<sup>5</sup>

## LAND COVER

62%	of irrigators (or approximately two-thirds) grew annual pasture.
35%	of irrigators (or approximately one-third) grew perennial pasture.
40%	of irrigators grew winter grain/fodder similar to 2019/20, however with a more favourable 2021/22 season, more irrigators grew summer grain/fodder (16%) compared to 2019/20 (7%) when more grew winter grain/fodder (48%).

## IRRIGATION SYSTEMS & MODERNISATION

88%	of irrigation systems remain predominantly gravity channel fed.
10%	used micro-drip and sub-surface irrigation, mostly by the Horticulture industry. The use of centre pivots and micro drip/sub-surface irrigation (both 10%) continues to increase (3–4% in 2015/16).
90%	of irrigators had modernised delivery points, and 64% had upgraded their on-farm irrigation infrastructure, to increase productivity and water use efficiency. Dairy (92%) were most likely to have upgraded their infrastructure and Grazing (50%) the least likely.

## FARMING EXPERIENCE & OWNERSHIP

32	average years farming experience, which has decreased slightly since 2019/20 (36 years). Cropping had the most experienced farmers with an average of 34 years, with Dairy the least of 31 years.
95%	of irrigators owned (and managed, leased, share-farmed further land), while the remaining 5% managed, leased or share-farmed.
76%	of irrigators believe their property will be irrigated in 5 years' time (Dairy 100% agreeing), which has held steady since 2015/16 (78%).
63%	Demonstrates an increasing percentage of irrigators in 2021/22 compared to 50% in 2015/16 having long-term plans to pass their properties to family, particularly Grazing (73%).

1. The project area is referred to collectively as the Goulburn Murray Irrigation District (GMID), which includes the GMID (including Woorinen), Tresco and Nyah Irrigation Districts.
2. 2021/22 data is reflective of activity of the respondents at the point of survey and based on the 2021/22 irrigation season (August 2021 to May 2022).
3. Sample size is an important marker of the quality of survey research which can influence the validity and generalisability of study results. In this study, care must be exercised in drawing conclusions about subgroups of population when the number of units captured by the sample in the subgroup is very small.
4. GB CMA (2021). Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District (Technical Report), 2019/20. Goulburn Broken Catchment Management Authority, Shepparton.
5. GB CMA (2017). Regional Irrigated Land and Water Use Mapping in the Goulburn Murray Irrigation District (Technical Report), 2015/16. Goulburn Broken Catchment Management Authority, Shepparton.

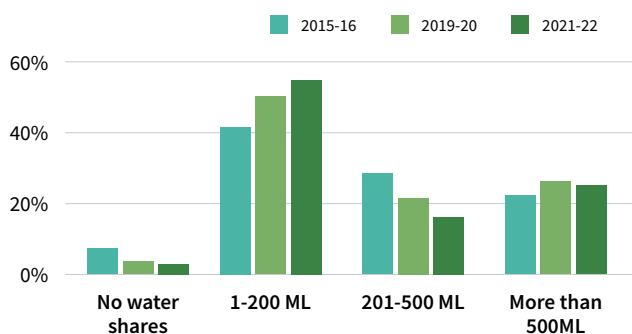
## ON-FARM IRRIGATION SYSTEM UPGRADES & BARRIERS

Less than a quarter (24%) of irrigators have undertaken infrastructure upgrades with government funding in the last ten years. More than two-thirds (68%) of irrigators had developed and were implementing a Whole Farm Plan, which shows willingness to improve on-farm water use efficiency and manage changing seasonal conditions. Significant barriers remain for irrigators to upgrade their irrigation infrastructure, particularly lack of financial resources (55%).

## WATER ALLOCATION

In 2021/22, 55% of irrigators owned 200ML or less of High Reliability Water Share (HRWS), similar to 2019/20 (50%). Dairy farmers were more likely to own larger HRWS with 54% owning >500ML compared to the average of 24%.

**Figure 1: Ownership of High Reliability Water Shares**



Although, 43% of irrigators responded that they do not have the amount of HRWS required to irrigate their properties (placing demand on allocation trade,) this has decreased since 2015/16 (64%). This is reflected in business plans with 63% using trade as part of their long-term business plan, an increase since 2015/16 (50%).

## SELLING & BUYING ALLOCATION

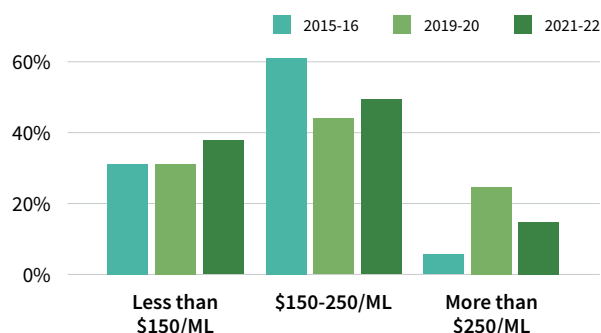
Over the past decade 45% of irrigators held their water HRWS, 40% increased and 15% decreased. In terms of allocation trade, in 2021/22, 70% of irrigators purchased allocation trade (traded-in) including Dairy (91%), Horticulture (83%) and Cropping (62%), compared to 30% of irrigators who sold water (traded-out) including Grazing (42%) and Cropping (39%). These results indicate that Dairy and Horticulture were more likely to trade-in

water and Grazing more likely to trade-out. Cropping both sold (39%) and purchased water (62%) depending on conditions.

## ALLOCATION PRICES

Two thirds (63%) of irrigators indicated they rely on the allocation market to meet their production needs. Irrigators were highly sensitive to allocation prices with 85% indicating that a price greater than \$250/ML was not viable for their business.

**Figure 2: Irrigator willingness to pay (\$/ML) for temporary water allocation**



There were three times as many irrigators in 2021/22 (15%) than in 2015/16 (5%) who were willing to pay more than \$250/ML, suggesting irrigators are adapting their business plans in response to water market variability and adapting to increasing costs.

## CARRYOVER

In 2021/22 two-thirds (63%) of irrigators planned to use carryover to manage their irrigation water for reasons such as, security for the next season, unused allocation, and as a risk management strategy. Dairy (85%) and Cropping (67%) had the highest percentage of irrigators reporting to use carryover in the 2021/22 survey. The average percentage of HRWS irrigators look to carry over annually increased from 35% in 2019/20 to 55% in 2021/22.

## LAND TRANSITION

In 2021/2022 there were a decrease in irrigators involved in land use transition in the last five years from 24.6% in 2019/20 to 20.6%. Land use transition included from one main land use to another; dairy to grazing/cropping, permanent pasture to annuals, and pasture to barns. Reasons for transition included water availability and price, age/ health factors and risk management/flexibility.

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