



# How the irrigators' share of water recovered through modernising Goulburn-Murray Irrigation District (GMID) is being calculated, audited and distributed



The Goulburn Murray Water (GMW) Connections Project, the largest irrigation modernisation project in Australian history, delivered works to achieve 429 gigalitres (GL) long-term average annual yield (LTAAY) of water recovery in October 2020.

Since then, the Project has been finalising all of its work scope resulting in the project exceeding its target and a further 2 GL (LTAAY) of water recovery can be distributed.

The Acting Minister for Water recently confirmed that the additional 2 GL (LTAAY) will be distributed to GMID irrigators on top of their 75 GL LTAAY share previously committed. This brings the total volume of the irrigators' share to 77 GL LTAAY.

The Minister for Water announced in 2020 that GMID irrigators will receive their share either as water shares or financial benefit, in proportion to the volume of delivery share they hold.

- Customers with 0.25 megalitres (ML)/day or more of delivery share will be issued with water shares in October 2021, along with any water allocations that would have accrued against these entitlements since July 2021.
- Customers with less than 0.25ML/day of delivery share will receive financial benefits equal to the value of water shares as a credit on their Goulburn-Murray Water fixed charges bill in July 2022.

Melbourne's retail water corporations will receive their final share of the water recovery after irrigators, following the final water recovery audit.

The environment's share was issued in June 2019 to meet Victoria's obligations under the Murray-Darling Basin Plan and requirements for the Australian Government's funding of the Connections Project.

## Calculating water recovery

Water is recovered by making improvements to the irrigation distribution system that reduce water losses. Recovered water is then quantified and can be issued as entitlements.

Victoria's thorough method of estimating water recovery uses the [Water Savings Protocol](#) released in 2009 and updated periodically to incorporate the best current information and knowledge.

The Protocol sets transparent and repeatable rules for estimating water recovery from reduced losses.

The guidelines in the Protocol are comparable to the methods originally used by the Murray-Darling Basin Commission to audit States' compliance with the Murray-Darling Basin Cap.



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Using the Protocol to estimate and audit water recovery complies with the *Water Act 1989* and Victoria's strong management of entitlements. It makes sure that any water entitlements issued from modernisation works accurately reflect the amount and reliability of the losses recovered.

The Protocol lists the different types of losses in the distribution system such as outfalls, seepage and bank leakage, evaporation, meter error, leakage through and around service points and unmetered use.

It recognises that some types of fixed losses are similar each year, while other variable losses will vary with deliveries. This defines the type of high or low-reliability entitlements that can be created from the water recovery.

## Water recovery to water shares

### What is long-term average annual yield (LTAAY)?

Water recovery is calculated as a long-term average annual yield (LTAAY) which needs to be converted into an equivalent entitlement volume in the system to be issued as water shares.

The LTAAY is an estimate of the average annual water recovery that would have been achieved from the modernisation works over the last 115 years. This captures the variability in recovered losses because of seasonal conditions like deliveries, rainfall, water use and system operation.

The LTAAY is a common way of comparing water recovery across different water systems and is used to determine water contributions under the Basin Plan.

### What are long-term diversion limit equivalent (LTDLE) factors?

Long-term diversion limit equivalent (LTDLE) factors are used to convert LTAAY water recovery into an entitlement that can be held, like a water share of specific reliability within a system and trading zone. The LTDLE factors are specific for each water system.

The water share volume is equal to the LTAAY volume divided by the LTDLE factor.

### Why is there a difference between the Murray and Goulburn system?

Although delivery share holders will receive an equal share of long-term water recovery related to the volume of delivery share they hold, their volume of high and low-reliability water shares will be different based on the system where they hold delivery share, due to the LTDLE factors being different for the Murray and the Goulburn systems.

All water recovery from the GMW Connections Project is shared at a long-term volume. System specific LTDLE factors are used to convert the long-term water recovery into high and low-reliability water shares.

## Auditing water recovery

After the end of each financial year, the Department of Environment, Land, Water and Planning (DELWP) verifies the volume of water recovery achieved by the Connections Project.

This includes independent audits of water recovery through any entitlement purchases and water recovery from irrigation modernisation works. Auditing modernisation works includes both actual water recovery made in an irrigation season and long-term average annual water recovery.

The 2019-20 audit verified the works completed and water shares held by the Connections Project up until 30 June 2020.

It confirmed a long-term annual average water recovery of 416.74 GL, meaning the project was ahead of schedule and on track to exceed its targets.

The 2019-20 audit was the twelfth audit of the Connections Project's water recovery and again provided confidence in the accuracy of the project's systems and processes used to estimate water recovery. This indicates that the thirteenth audit is likely to verify a minimum of 429 GL of water recovery based on the project's current estimates.

The 2019-20 audit shows there is enough confirmed water recovery to issue the irrigators' 77 GL share of the Connections Project.

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## Distributing water recovery

GMID irrigators will receive their share of the 77 GL (LTAAY) either as water shares or financial benefit, in proportion to the volume of delivery share they hold.

This will be a mix of high-reliability and low-reliability water shares for irrigators and Melbourne's retail water corporations. The mix issued to the environment included unregulated entitlements that could not be provided to irrigators.

The exact make-up of the irrigators' share will be confirmed at census date, 1 October 2021, when information on delivery share ownership will be taken from the Victorian Water Register.

The table below shows the volume that eligible delivery share holders in each system can expect to receive, based on current available data, and how the system specific LTDLE factors apply.

Type of water share	Long-term water recovery per ML/day of delivery share (all trade zones)	Murray		Goulburn	
		LTDLE factor	Volume of water share per ML/day of delivery share	LTDLE factor	Volume of water share per ML/day of delivery share
HRWS	3.86 ML	0.974	3.96 ML	0.967	3.99 ML
LRWS	1.28 ML	0.543	2.36 ML	0.583	2.20 ML

Long-term water recovery per ML/day of delivery share (all trade zones) ÷ LTDLE factor for that system = **Volume of water share per ML/day of delivery share**

For example, 1 ML/day of delivery share in the Murray system would receive:

### High Reliability Water Share

3.86ML (long-term water recovery) ÷ 0.974 LTDLE factor = **3.96 ML water share**

### Low Reliability Water Share

1.28ML (long-term water recovery) ÷ 0.543 LTDLE factor = **2.36 ML water share**

Around half of all GMID delivery share holders have less than 0.25 ML/day of delivery share. The total volume of delivery share held as less than 0.25 ML/day adds up to roughly two per cent of the total delivery share volume.

These smaller water shares will be issued to GMW to sell on the open market in the latter part of 2021 and into early 2022, so that water users get the most benefit from these shares. The benefits of this sale will be pooled and credited to eligible water bills as a one-off payment in July 2022.

## Close out of the audit process

The *Water Act 1989* has strong requirements when issuing water shares to protect the integrity of Victoria's water entitlement framework and existing entitlements.

The rolling audit process continues to provide confidence that water recovery is estimated correctly, which is the high standard needed for the Minister for Water to issue entitlements.

The final independent audit will quantify the volume of long-term water recovery of the Connections Project from inception to completion. It is important to complete the final audit to verify water recovery from the whole project, including works finished since 1 July 2020 which have not yet been audited.

It will provide assurance that converting the total volume of water recovered by the project to new entitlements will not erode the reliability of existing entitlements, in keeping with the *Water Act 1989*.

The water recovered across the life of the project will be balanced to confirm the volume of water still to be issued to Melbourne's retail water corporations. They will receive their final share of recovered water following the final audit and reconciliation.

This reconciliation compares the water recovery achieved against the water entitlements to be issued and includes:

- analysing water recovery in each irrigation area or trading zone using the best available data

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- balancing water recovery across the life of the Connections Project
- confirming that the volume of water recovery issued (as entitlements) matches water recovery achieved across the entire project
- confirming the split of the total volume based on the:
  - > reliability of the recovery - high, low, unregulated
  - > trading zone
  - > irrigation system - Goulburn, Murray, Broken, Campaspe and Loddon.

Audit findings and summaries up to the 2019-20 audit are posted on DELWP's [Independent Audit of Water Recovery webpage](#).

### Background on Irrigators' Share Consultative Committee



The Irrigators' Share Consultative Committee, appointed by the Minister for Water in mid-2019, recommended a distribution approach for the irrigators' share to pass on the benefit to individual delivery share holders.

The committee worked through a range of distribution options and consulted extensively with the GMID irrigation community before making its recommendations to the Minister for Water.

The Minister accepted the [committee's recommendations](#) in October 2020

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