



AUSTRALIAN COMPETITION
& CONSUMER COMMISSION

Water monitoring report 2020-21: Monitoring approach and assumptions

This document accompanies the Australian Competition and Consumer Commission (ACCC) Water monitoring report 2020-21. It outlines the ACCC's data sources, approach to preparing, and assumptions used for the report's on-river Infrastructure Operator and Irrigation Infrastructure Operator typical bill analysis.

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Cover photo: Coleambally infrastructure – channels.

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Contents

List of abbreviations	iv
Glossary	vi
1. Introduction	1
1.1 Our information sources, assumptions and approach to monitoring	1
1.2 Reporting entities	1
2. On-river infrastructure operators	5
2.1 On-river infrastructure operator customer profiles	5
2.2 Inputs into on-river infrastructure operator typical bills	5
2.3 Assumptions and approach for individual on-river infrastructure operator typical bills	6
3. Irrigation infrastructure operators	10
3.1 Irrigation Infrastructure Operator customer profiles	10
3.2 Inputs into Irrigation Infrastructure Operator typical bills	11
3.3 Assumptions and approach for individual IIO typical bills	12
4. Water planning and management charges	24
4.1 ACCC approach to monitoring water planning and management activities and charges	24
4.2 Water planning and management data limitations	25

List of abbreviations

ACCC	Australian Competition and Consumer Commission
CICL	Coleambally Irrigation Cooperative Limited
CIT	Central Irrigation Trust
DELWP	Victorian Department of Environment, Land, Water and Planning
DEW	South Australian Department of Environment and Water
DPIE	New South Wales Department of Planning, Industry and Environment
DRDMW	Queensland Department of Regional Development, Manufacturing and Water
EPSDD	Australian Capital Territory Environment, Planning and Sustainable Development Directorate
ESC	Essential Services Commission (Victoria)
GL	gigalitre (one billion litres)
GMW	Goulburn–Murray Water
GS	general security
HP	high pressure
HS	high security
ICD	irrigation corporation and district
IHS	integrated horticulture supply
IIO	irrigation infrastructure operator
IO	infrastructure operator
IPART	Independent Pricing and Regulatory Tribunal (New South Wales)
IR	irrigation right
KL	kilolitres (one thousand litres)
LMW	Lower Murray Water
LP	low pressure
MDB	Murray–Darling Basin
MDBA	Murray–Darling Basin Authority
MI	Murrumbidgee Irrigation Limited
MIL	Murray Irrigation Limited
ML	megalitre (one million litres)

MP	medium pressure
NRM	Natural Resource Management
NWI	National Water Initiative
OMF	operating and Maintenance Fee
RFI	request for information
RIT	Renmark Irrigation Trust
VWR	Victorian Water Register
WAE	water access entitlement
WAMC	Water Administration Ministerial Corporation
Water Act	<i>Water Act 2007</i> (Cth)
WCIR	Water Charge (Infrastructure) Rules 2010
WCPMIR	Water Charge (Planning and Management Information) Rules 2010
WCR	Water Charge Rules 2010
WDR	Water delivery right
WMI	Western Murray Irrigation Limited
WPM	Water planning and management

Glossary

Basin Plan	A high-level framework on which the Australian Government and Basin states agreed, and that sets standards for the management of the Murray–Darling Basin’s water resources in a coordinated and sustainable way in collaboration with the community. Officially known as the Basin Plan 2012
Basin states	New South Wales, Victoria, Queensland, South Australia, or the Australian Capital Territory (ACT)
Basin state agencies	Basin state departments and water authorities
bulk water charge	A charge payable for either or both the storage of water for, or the delivery of water to: <ul style="list-style-type: none">(i) infrastructure operators(ii) other operators of reticulated water systems(iii) other persons (including private diverters and environmental water holders).
carryover	Arrangements which allow water entitlement holders to hold allocated water in storages so that it is available in subsequent years
infrastructure charge	Charges infrastructure operators impose for access to their water service infrastructure and services provided in relation to that access
infrastructure operator	Any person or entity who owns or operates infrastructure for one or more of the following purposes: <ul style="list-style-type: none">(i) the storage of water(ii) the delivery of water(iii) the drainage of water for the purpose of providing a service to someone who does not own or operate the infrastructure
irrigation infrastructure operator	An infrastructure operator who owns or operates water service infrastructure for the purpose of delivering water for the primary purpose of being used for irrigation
irrigation network	The water service infrastructure of an irrigation infrastructure operator, as defined in s. 7(4) of the Water Act 2007. In practice, an irrigation network typically constitutes a network of carriers (open channels, pipes and/or natural waterways) that convey water from a water source through customer service points to customer properties. It may be either a gravity fed network (typically using channels and/or natural waterways) or a pressurised network (using pipes)
irrigation right	A person’s right against an irrigation infrastructure operator to receive water, which is not a water access right or a water delivery right. It usually can be transformed into a water access entitlement
infrastructure service	Access, or a service provided relating to access, to water service infrastructure and includes the storage, delivery, drainage and taking of water

joint water supply scheme	Similar to cooperatives where the members form and run an organisation to deliver water to irrigators. The water access entitlement is jointly held by all customers rather than by the irrigation infrastructure operator on behalf of members
non-volumetric charge	A charge that does not reference a volume of a water right, for example, a charge which is levied per account, per outlet or per meter
off-river infrastructure service / off-river infrastructure operator	The storage, delivery and/or drainage of water diverted from a natural watercourse through a network consisting of channels and/or pipes (which can be gravity fed or pressurised) to another person. An operator providing such services is an off-river infrastructure operator
on-river infrastructure service / on-river infrastructure operator	Harvesting and storing water through infrastructure such as dams, lakes, weirs, and reservoirs located primarily on a natural watercourse, and delivering water, primarily through natural watercourses. An operator providing such services is an on-river infrastructure operator
private diverter	An irrigator that extracts water directly from a natural watercourse (either a regulated or unregulated river)
regulated water charge	A water charge to which the Water Charge Rules 2010 apply See section 91 of the Water Act 2007 for a full definition
termination	When a person terminates or surrenders the whole or part of a right of access to the operator's network, typically by terminating water delivery right
termination fee	A fee that an operator may impose when a person terminates
the Water Act	<i>Water Act 2007</i> (Cth)
tradeable water right	One of: (i) water access rights (ii) water delivery rights (iii) irrigation rights See section 4 of the Water Act for a full definition
transformation	Process by which an irrigator permanently transforms their entitlement to water under an irrigation right against an IIO into a water access entitlement held by the irrigator (or anybody else other than the IIO), thereby reducing the volume (e.g. share component) of the IIO's water access entitlement
volumetric charge	Charge imposed based on the volume of a water right or physical amount of water extracted. A fixed volumetric charge is a charge based on the volume of a water right held, while a variable volumetric charge is a charge based on the volume of the right that is utilised in a particular manner
water access entitlement (WAE)	Perpetual or ongoing entitlement, by or under a law of a state, to exclusive access to a share of the water resources of a water resource plan area
water access entitlement trade	Change of ownership and/or location of a water access entitlement (including through the establishment of a tagging arrangement)

water access right	<p>Any right conferred by or under a law of a state to hold and/or take water from a water resource, and includes:</p> <ul style="list-style-type: none"> ■ stock and domestic rights ■ riparian rights ■ a water access entitlement ■ a water allocation
water allocation	Specific volume of water allocated to water access entitlements in a given water accounting period
water allocation trade	Change of ownership and/or location of a particular volume of water allocation
watercourse	<p>A river, creek, or other natural watercourse (whether modified or not) in which water is contained or flows (whether permanently or intermittently) and includes:</p> <ul style="list-style-type: none"> (i) a dam or reservoir that collects water flowing in a watercourse (ii) a lake or wetland through which water flows (iii) a channel into which the water of a watercourse has been diverted (iv) part of a watercourse (v) an estuary through which water flows
Water Charge Rules 2010	Rules for fees and charges payable to an infrastructure operator for bulk water charges; access to the IIO's network, or services provided relating to that access; and matters specified in regulations made under section 91(1) (d) of the Water Act 2007. Also included are rules for water planning and management activities and terminating access to an IIO's irrigation network or to an infrastructure operator's water service infrastructure
Water Market Rules 2009	Rules regulating actions or omissions of an IIO that prevent or unreasonably delay transformation arrangements or trade of the resulting water access entitlement
water delivery right	Right to have water delivered by an infrastructure operator. It typically represents the holder's right of access to an irrigation network (there may also be a right to drainage), and can be terminated
water service infrastructure	<p>infrastructure used for one or more of the following purposes:</p> <ul style="list-style-type: none"> (i) the storage of water (ii) the delivery of water (iii) the drainage of water <p>for providing a service to someone who does not own or operate the infrastructure</p>

1. Introduction

Background

The ACCC has several roles in the Murray–Darling Basin, including monitoring regulated water charges, including termination fees, and transformations, and producing a report for the Minister. This document accompanies the Australian Competition and Consumer Commission (ACCC) Water monitoring report 2020–21.

The ACCC collects data from on-river infrastructure operators (IOs), off-river infrastructure operators/irrigation infrastructure operators (IIOs) and Basin states. The ACCC also uses information from reports published by Australian Government departments and agencies, academia, and industry consultants.

1.1 Our information sources, assumptions and approach to monitoring

To prepare its Water monitoring report, the ACCC collects data from on-river infrastructure operators (IOs), off-river infrastructure operators/irrigation infrastructure operators (IIOs) and Basin states. This document outlines the assumptions used and the approach to preparing the typical bill analysis in the report.

- This chapter lists reporting entities, including smaller IIOs.
- Chapter 2 sets out the methodology and assumptions used in the production of typical bills for on-river infrastructure operators.
- Chapter 3 sets out the methodology and assumptions used in the production of IIO typical bills.
- Chapter 4 provides background information and sets out the assumptions that apply to the ACCC's monitoring of water planning and management (WPM) charges.

1.2 Reporting entities

Table 1.1 below lists reporting entities for 2020–21 and the request for information (RFI) formats sent to each entity.

The ACCC collects, but largely does not report information from IIOs holding or servicing 10 GL or less. The ACCC uses this information to assess compliance with the Water Charge Rules 2010 and the Water Market Rules 2009 (collectively, the Rules). A number of these small IIOs are in New South Wales along the Murray River. They typically manage joint private works, have a small customer base, and use a mixture of fixed and variable charges to recover their costs. Table 1.2 details the characteristics of some of these smaller off-river IOs. In 2020–21 the ACCC did not receive completed responses from two small IIOs, Bullatale Private Irrigation Trust (NSW) and Goodnight Private Irrigation Trust (NSW).

Two reporting entities, Goulburn–Murray Water and Lower Murray Water, provide both off-river and on-river IOs services and / or levy charges for off-river and on-river services. When reporting on them, the ACCC distinguishes between their operation as an on-river IO and their operation as an IIO. They are asked to complete both on-river and IIO RFIs. This approach allows for comparison with other entities that are not vertically integrated but provide comparable services.

Table 1.1: Reporting entities

Reporting entity	Type of information request			
	Small IIO	IIO	On-river IO	WPM
Barossa Infrastructure Limited (SA): Barossa		✓	✓	
Bringan Private Irrigation Trust (NSW): Bringan	✓			
Buddah Lake Irrigators' Association (NSW): Buddah Lake		✓		
Bullatale Private Irrigation Trust (NSW): Bullatale	✓			
Bungunyah-Koraleigh Irrigation Trust (NSW): Bungunyah-Koraleigh	✓			
Cadell Constructions Joint Water Supply Scheme (NSW): Cadell	✓			
Central Irrigation Trust (SA): CIT		✓		
Coleambally Irrigation Co-operative Limited (NSW): CICL		✓		
Coliban Water (Vic): Coliban ¹		✓		✓
Creeks Pipeline Company Ltd (SA): Creeks	✓			
Department of Environment and Water (SA): DEW				✓
Department of Environment, Land, Water and Planning (Vic): DELWP				✓
Department of Planning, Industry and Environment: DPIE ²				✓
Department of Natural Resources, Mines and Energy (Qld): DNRME				✓
Eagle Creek Pumping Syndicate (NSW): Eagle Creek		✓		
Environment, Planning and Sustainable Development Directorate (ACT): EPSDD				✓
Glenview Private Irrigation Trust (NSW): Glenview	✓			
Goodnight Private Irrigation Trust (NSW): Goodnight	✓			
Goulburn-Murray Water (Vic): GMW		✓	✓	✓
GWMWater (Vic)			✓	✓
Hay Private Irrigation District (NSW): Hay		✓		
Jemalong Irrigation Limited (NSW): Jemalong		✓		
Lower Murray Water (Vic): LMW		✓	✓	✓
Mallawa Irrigation (Qld): Mallawa			✓	
Marthaguy Irrigation Scheme (NSW): Marthaguy		✓		
Moira Private Irrigation District (NSW): Moira		✓		

1 While Coliban Water holds a volume of water access entitlement greater than the 10 GL threshold for small operators, the majority of Coliban's customers are urban, and Coliban usually cannot give effect to transformation. For these reasons, the ACCC does not prepare a typical irrigator bill for Coliban or report on Coliban's terminations in chapter 4 of the 2020-21 Report. The RFI sent to Coliban Water seeks information on Coliban Water's one WPM charge.

2 The DPIE was established on 1 July 2019 and assumed most of the functions of the former Department of Planning and Environment and the former Department of Industry that were dissolved on the same date. The Office of Environment and Heritage were also abolished and merged into the newly formed department. See [link](#) - New South Wales Government, *Administrative Arrangements (Administrative Changes - Public Service Agencies) Order 2019*, April 2019, accessed 20 May 2022.

Reporting entity	Type of information request			
	Small IIO	IIO	On-river IO	WPM
Murray Irrigation Limited (NSW): MIL		✓		
Murrumbidgee Irrigation Limited (NSW): MI		✓		
Narromine Irrigation Board of Management (NSW): Narromine		✓		
Pomona Water (NSW): Pomona	✓			
Renmark Irrigation Trust (SA): RIT		✓		
SunWater (Qld): SunWater			✓	
Tenandra Irrigation Scheme (NSW): Tenandra		✓		
Trangie–Nevertire Irrigation Scheme (NSW): Trangie		✓		
WaterNSW (NSW): WaterNSW			✓	✓
West Cadell Private Irrigation Trust (NSW): West Cadell	✓			
West Corurgan Private Irrigation District (NSW): West Corurgan		✓		
Western Murray Irrigation (NSW): WMI		✓		
Woodlane Irrigation Trust Inc (SA): Woodlane	✓			

Note: IO = infrastructure operators; WPM = Water planning and management.

Table 1.2: Selected small operator IIO characteristics

Off-river infrastructure operator	Upgrade or restructure in 2020-21	Volume WAE held by operator (ML)	Total volume delivered by operator in 2020-21 (ML)	Total volume transformed in 2020-21 (ML)	Total volume terminated in 2020-21 (ML)
Bringan	No	HS: 1,207 GS: 2,208a	3,351	93	93
Bungunyah-Koraleigh	No	HS: 1,356 GS: 644a	1,067	58	0
Cadell	No	GS: 7,816 S&D: 319b	970	0	0
Glenview	No	GS: 569 S&D: 48	134	0	0
Pomona	No	HS: 2,237 GS: 853a	1,317	5	0
West Cadell	No	GS: 3,150 S&D: 130	402	0	0
Woodlane	No	Class 3a: 474c Class 1: 2 d	287	0	0

Source: ACCC from data provided and published by IIOs.

- Notes:
- a. General security (GS) WAE held includes both GS and stock and domestic volumes of water
 - b. S&D is Stock and Domestic water access entitlement
 - c. Class 3a is an irrigation entitlement in South Australia
 - d. Class 1 is a stock and domestic entitlement in South Australia

2. On-river infrastructure operators

Background

This chapter relates to the analysis presented in chapter 3 of the 2020–21 Water monitoring report which covers on-river infrastructure operators (on-river IOs).

On-river infrastructure services include harvesting and storing water through infrastructure such as dams, lakes, weirs, and reservoirs, and delivering water, primarily through natural watercourses, to an extraction point on a natural watercourse. An on-river IO imposes charges to recover costs associated with these services.

The ACCC produces typical bills for on-river infrastructure operators (on-river IOs) to assist in comparing regulated water charges across operators that have different charging arrangements and tariff structures.³

- Section 2.1 outlines the on-river customer profiles used by the ACCC
- Section 2.2 describes information used in preparing the on-river IO's typical bills
- Section 2.3 describes how the typical bills are constructed.

2.1 On-river infrastructure operator customer profiles

To monitor the regulated water charges of the 6 infrastructure operators that receive on-river IO RFI, the ACCC constructs 36 categories of typical bills. These typical bill categories reflect the charges paid by an on-river IO customer who is assumed to:

- hold 1,000 ML of water access entitlement (WAE)
- receive both 50% and 100% of that volume
- be either a private diverter or a bulk water customer, such as an irrigation infrastructure operator (IIO)
- be located in the on-river IO's different valleys or water resource plan areas and/or in different charging categories.

2.2 Inputs into on-river infrastructure operator typical bills

The ACCC uses responses to the ACCC's annual requests for information (RFI) and, where required, follow up discussions with the operator, to determine the charges assumed to be payable by a 'typical' on-river IO customer.

The selection of charges aims to produce bills that reflect all the regulated water charges (including charges for water planning and management activities) the on-river IO customer will pay for on-river storage and delivery of water.

Actual individual customer bills will depend on the nature of the customer's water holdings and will not necessarily correspond directly with the ACCC's typical bills. The ACCC's analysis does not account for behaviour that may alter the amount of a customer's actual bill such as trade and carryover.

³ These typical bills were called 'hypothetical bills' in previous monitoring reports.

New South Wales drought relief package affected ACCC typical bills for most NSW valleys in 2020–21

In July 2018, the New South Wales Government announced a drought relief package that included a waiver of fixed charges for general security (GS) water access licence holders, and for high security water access licence holders in some valleys, of up to \$4000. Since 2018–19, for affected valleys and licence classes, the ACCC has applied the rebate to the fixed charge component of its typical bills.

The NSW Government continued to provide the waiver in 2020–21. In 2020–21, it also extended the waiver to include stock and domestic and high security (HS) water access licence holders in those systems where regulated supplies were cut or restricted, that is, in the Border Rivers, Namoi, and Peel valleys.⁴ The ACCC applied the waiver to the relevant WaterNSW GS and HS typical bills for 2020–21.

2.3 Assumptions and approach for individual on-river infrastructure operator typical bills

2.3.1 Victoria

Goulburn–Murray Water

The ACCC prepares on-river IO typical bills for Goulburn–Murray Water (GMW) that assume one typical on-river IO customer in each charge category within each of GMW’s two systems – Goulburn and Murray (resulting in 9 on-river IO typical bills for GMW).

In the Goulburn system, the ACCC assumes one typical on-river IO customer for each of:

- Bulk – Loddon⁵
- Bulk – Bullarook
- Bulk – Campaspe
- Bulk – Goulburn
- Bulk – Broken
- Private Diverter – all basins
- Bulk – Ovens.

In the Murray system, the ACCC assumes one typical on-river IO customer for each of:

- Bulk – Murray
- Private Diverter – all basins.

The ACCC assumes that:

- a GMW bulk water customer holds 1000 ML of high reliability bulk water entitlement. Bulk water customers may include GMW’s retail arm, urban and rural water authorities, and commercial businesses
- a GMW private diverter:
 - is an irrigator who extracts water directly from a natural watercourse
 - holds 1000 ML of high reliability WAE (Victorian water share)
 - holds 10 extraction shares based on the Victorian conversion rules used at the time of unbundling⁶
 - has 2 large-sized service points.

4 Department of Planning, Industry and Environment, *Frequently asked questions, 2021*, accessed 6 July 2022.

5 ‘Bulk’ refers to a customer who holds a Victorian bulk water entitlement.

6 An extraction share is a share of the total amount of water that can be drawn from regulated rivers at a certain point over a given period. Extraction shares are used to restrict water extraction in times of high demand. Victorian Water Register, [‘Water Dictionary’](#), 2021, accessed 6 July 2022.

The 2020–21 on-river IO typical bills for GMW’s bulk water customers include a fixed charge for bulk water entitlement holders called the bulk water high reliability entitlement fee.

The 2020–21 on-river IO typical bills for GMW’s private diverters include the following fixed charges (at the rates applicable to the relevant basin or system):

- high reliability water share entitlement storage fee
- service fee
- access fee (regulated waterways)
- service point fee (large).

GMW’s on-river customers do not pay additional water planning and management (WPM) charges. However, GMW must pay 2% of its allowed revenues as its share of the Victorian Environmental Contribution (see section 6.2.3 and chapter 6 of the Water monitoring report 2018–19 for more information on the Environmental Contribution).⁷

Lower Murray Water

Lower Murray Water (LMW) is not an on-river infrastructure operator in the same manner as GMW because it does not provide on-river water delivery or storage services. However, LMW does levy bulk water charges for on-river services which are provided by GMW (in its capacity as the Northern Victorian Resource Manager). LMW levies the bulk water charges on its bulk water customers as a pass-through, and revenue from these charges is remitted back to GMW. LMW also imposes charges on private diverters, which pass through GMW’s bulk water storage and delivery charges.

For the 2020–21 water monitoring report, LMW’s private diverter bills continue to be included in chapter 3.

The ACCC’s typical bills for LMW assume a private diverter located in the Victorian River Murray.

The ACCC assumes that the private diverter:

- holds 1000 ML of high reliability WAE (Victorian water share) and an equivalent volume of annual use limit
- holds 10 extraction shares based on the Victorian conversion rules used at the time of unbundling and
- has one account with LMW, and thus incurs the service charge once.

The 2020–21 LMW on-river IO typical bill includes the following charges for private diverters, all of which are fixed charges:

- service charge
- operational fee
- entitlement storage fee (Murray Basin)
- Department of Environment, Land, Water and Planning (DELWP) water share fee.

The entitlement storage fee is an on-river infrastructure charge imposed by GMW and passed through to the customer. LMW classifies its service charge, operational fee and DELWP water share fee as WPM charges.

⁷ ACCC, *Water monitoring report 2018–19*, October 2020.

2.3.2 New South Wales

WaterNSW

WaterNSW has both private diverter customers and other bulk water customers such as IIOs and urban water authorities. The charges for a given valley and entitlement reliability do not vary based on the type of customer (that is, private diverters pay the same charges as other on-river customers).⁸ The ACCC has therefore produced one set of typical customer bills for a WaterNSW customer holding 1000 ML of WAE (New South Wales water access licence) and 50% and 100% of that water volume delivered.

The ACCC constructs typical bills for 16 WaterNSW customers – 2 per valley – with one customer holding high security WAE and the other holding general security WAE. Bills cover each New South Wales regulated river valley in the Murray–Darling Basin (MDB), namely: the Murray; Murrumbidgee; Lachlan; Macquarie; Namoi; Peel; Gwydir; and Border valleys.

The 2020–21 WaterNSW typical bill includes the following charges (except in valleys where the application of the NSW drought fee waiver to the typical bill resulted in no fixed charges being paid):

- Fixed charges:
 - WaterNSW access (entitlement) charge
 - Water Administration Ministerial Corporation (WAMC) water access (entitlement) charge. This includes the Murray–Darling Basin Authority (MDBA) and Borders Rivers Commission entitlement charges where applied.
- Variable charges:
 - WaterNSW usage fee
 - WAMC water usage fee. This includes the MDBA and Borders Rivers Commission usage charges where applicable.

The WAMC charge recovers the costs of the water planning and management related functions of the Department of Planning, Industry and Environment (DPIE).

2.3.3 Queensland

Department of Regional Development, Manufacturing and Water

The ACCC's typical bill analysis assumes one private diverter customer of the Department of Regional Development, Manufacturing and Water (DRDMW) holding 1000 ML of WAE (Queensland water allocation) located within the Dumaresq River water management area in the Border Rivers resource operations plan area.

The 2020–21 DRDMW typical bill analysis includes the following charges for customers in the Dumaresq River water management area:

- Fixed charge:
 - entitlement charge (Part A).
- Variable charge:
 - usage charge (Part B).

The charges for Dumaresq River water management area for 2020–21 is set out in schedule 14 of Queensland's Water Regulation 2016 (current as of 1 July 2020), which is made under the Water Act 2000 (Queensland).⁹

8 Certain off-river operators receive a rebate on their charges, known as the 'Irrigation Corporations and District Rebate' (ICD rebates). These are usually lump-sum rebates given by WaterNSW to certain off-river operators for activities that result in avoided costs for WaterNSW or have externalities which benefit customers outside these off-river IOs. This includes cost savings in billing and metering, and some system wide benefits of some of the environmental and licensing information collected by the ICDs as part of their business operations. This rebate is not accounted for in the ACCC's on-river typical irrigator bill analysis. However, the ICD rebate is incorporated into the off-river IO typical bills.

9 For 2020–21 (and previous years) schedule 12 of the Water Regulation 2016 were indexed annually in line with the consumer price index (CPI) and subject to Governor in Council approval. See: https://www.rdmw.qld.gov.au/__data/assets/pdf_file/0011/1561754/border-rivers-wss-schedule-fees-charges-guide.pdf

SunWater

The ACCC constructs typical bills for 8 SunWater customers who are assumed to be private diverters holding 1000 ML of WAE (Queensland water allocation), located in one of the following areas of the Queensland MDB:

- Cunnamulla
- Chinchilla Weir
- Macintyre Brook
- Maranoa River
- St George
- Upper Condamine—further divided into the following 3 pricing categories/areas:
 - North branch
 - North branch risk A
 - Sandy Creek/Condamine River.

The 2020–21 Sunwater typical bill includes the following charges:

- Fixed charge:
 - allocation charge - bulk water charge part A.
- Variable charge:
 - allocation water - bulk water charge part B.

2.3.4 South Australian Murray private diverter, South Australia

South Australian water users within the MDB are not charged for on-river infrastructure services by an on-river IO located in South Australia. However, private diverters along the Murray River in South Australia are required to pay WPM charges and these form the basis for the ACCC's SA Murray typical bills.

The South Australian Government replaced the *Natural Resources Management Act 2001 (South Australia)* with the *Landscape South Australia 2019 (South Australia)* on 21 November 2019.¹⁰ This new Act transferred responsibility for WPM activities and charges from the former natural resource management boards to 8 new regional landscape boards. The relevant landscape board is the Murraylands and Riverland Landscape Board.¹¹

A water levy is collected by the South Australian Department for Environment and Water (DEW) and provided to each Landscape Board. The water levy is charged based on the volume of each class of water access entitlement held, making it a fixed volumetric water access right charge, but it also includes a minimum charge, giving it a non-volumetric component.

The 2020–21 SA Murray private diverter typical bill analysis includes the water levy for the River Murray - All Purpose Consumptive Pool (Class 3, 3a, 4, 5, 7) which is charged at a rate in cents per kilolitre. This class best represents the levy paid by licence holders.

10 Department for Environment and Water (SA), *Natural resources management - Changing NRM in South Australia*, 2020, accessed 6 July 2022.

11 Landscape South Australia Murraylands and Riverland, *About the water levy*, 2021, accessed 6 July 2022.

3. Irrigation infrastructure operators

Background

This chapter relates to the analysis presented in chapter 4 of the 2020–21 Water monitoring report for irrigation infrastructure operators (IIOs).

IIOs typically provide the transportation and delivery of irrigation water from the natural watercourse through a network consisting of channels and/or pipes to a customer's extraction points. The IIO is responsible for off-river delivery and maintaining the irrigation network but can also provide other services such as managing water access rights on behalf of customers. An IIO imposes infrastructure charges to recover the costs associated with providing customers with infrastructure services.

An IIO's network can be gravity-fed (consisting of channels and/or pipes) or pressurised (piped networks only). Pressurised networks generally have higher operating costs compared to gravity-fed networks due to the higher energy costs required to pump water around the network.

The chapter reports on the data used and the methodologies applied in developing typical bills for irrigation infrastructure operators (IIOs):

- section 3.1 presents information on the ACCC's IIO typical bills customer profiles
- section 3.2 describes IIO typical bill inputs, including the implications of the New South Wales emergency drought relief fee waiver for the ACCC's IIO typical bills
- section 3.3 describes the assumptions and approach to constructing individual IIO typical bills.

3.1 Irrigation Infrastructure Operator customer profiles

The ACCC constructs typical bills for IIOs holding over 10 GL of water access entitlement (WAE).¹² In 2020–21, the ACCC prepared 72 IIO typical bills across 36 customer profiles for 19 IIOs (including LMW and GMW, as the two IIOs who also levy on-river charges).

To develop its 'typical IIO customer' profiles, the ACCC draws on responses to the annual request for information (RFI) and discussions with each IIO. The ACCC categorises IIO customers by the network they use and/or their water access entitlement (WAE)/irrigation right (IR) category. Several of the larger IIOs have tariff structures in which charges differ based on the network and/or the customer's WAE/IR category. For each IIO, the ACCC constructs typical bills, reflecting:

- 3 different volumes of WAEs (or IR for relevant South Australia and New South Wales customers) and a corresponding volume of water delivery right (WDR) of 50 ML, 250 ML, and 1000 ML
- 2 different levels of water delivery – either 50% or 100% of entitlement.

The results presented in the Water monitoring report 2020–21 largely relate to an irrigator holding 250 ML of WAE at either 50% or 100% water delivery.

¹² The ACCC consulted IIOs before deciding which charges to include in typical irrigator customer bills.

3.2 Inputs into Irrigation Infrastructure Operator typical bills

The IIO typical bills include charges identified by the IIO as being payable by the 'typical' irrigator, including all charges listed on an IIO's schedule of charges (SOC) that relate to water planning and management (WPM) and any bulk water / on-river infrastructure charges which are incurred by the operator and passed through to its customers.¹³

Actual bills for individual customers located off-river will depend on the nature of their water holdings and network access and will not necessarily correspond directly with the ACCC's IIO typical bills. Further, the ACCC's analysis does not account for irrigator behaviour that may alter the amount of the bill, for example, allocation trade, casual user arrangements, carryover decisions and the timing of water delivery.

Treatment of pass-through charges

Historically, many IIOs listed a single 'government charge' on their SOC which included both WPM and on-river infrastructure charges. Changes to the Water Charge Rules 2010 (WCR) have altered how these charges must be presented on the SOC. The ACCC has prepared additional guidance for operators to explain the WCR schedule of charges requirements for pass-through charges. Some IIOs continue to list a single charge on their SOC. Where this is the case, the ACCC has separated out the components attributable to on-river infrastructure charges and the components attributable to WPM charges following discussion with the relevant IIO.¹⁴ The IIO-specific assumptions and calculations used to separate the on-river infrastructure and WPM charge components are described below.

New South Wales emergency drought relief package

As described in section 2.2, the New South Wales (NSW) Government's Drought Relief Package included waiving the fixed charge component of general security licence holders' charges up to \$4,000. The waiver, which began in 2018 and ceased at the end of 2020-21, applied to GS entitlement holders and was expanded in 2020-21 to include high security licence holders in the Border, Peel, Namoi, and Macquarie regulated river water sources.

Accordingly, where specified, the ACCC has calculated typical bills for affected operators and entitlement classes to exclude:

- WaterNSW fixed charges for general security licence holders and for high security licence holders in the NSW Border Rivers, Peel and Lower Namoi valleys
- Water Administration Ministerial Corporation fixed charges
- Murray-Darling Basin Authority (MDBA) / Border River Commission (BRC) fixed charges.

¹³ Bulk water and off-river infrastructure charges are levied directly on customers by the off-river infrastructure operator when the infrastructure operator provides both on-river and off-river infrastructure services (for example, GMW). Bulk water infrastructure charges are passed onto the customer when an off-river infrastructure operator is not also the relevant on-river infrastructure operator.

¹⁴ The ACCC is currently assessing the compliance of different charging approaches across smaller IIOs against the Water Charge Rules.

3.3 Assumptions and approach for individual IIO typical bills

3.3.1 Central Irrigation Trust, South Australian Murray

The ACCC typical bill analysis for Central Irrigation Trust (CIT) assumes an irrigator located in one of the CIT districts other than Golden Heights or Sunlands and receiving either:¹⁵

- a high pressure service
- a medium pressure service, or
- a low pressure service.¹⁶

Further, each CIT typical bill assumes that the irrigator:

- has an irrigation connection on the property—meaning no drainage charge applies (as this charge is only levied on customers that do not have an irrigation connection) and
- is supplied with irrigation water at a proportion of 65% at off-peak times and 35% at peak times.

The 2020–21 CIT typical bill analysis includes the following charges for each of the 3 types of services, as listed on CIT’s schedule of charges (SOC):

- Fixed charges:
 - irrigation service charge (levied per ML of WDR held)
 - Natural resources management (NRM) water levy (levied per ML of IR held).
- Variable charges:
 - water consumption charge (peak), high, medium, and low pressure depending on the service (levied per ML of water delivered in peak period)
 - water consumption charge (off-peak), high, medium, and low pressure depending on the network (levied per ML of water delivered in off-peak period).

CIT’s new SOC was released and effective for all of 2020–21. Prior to 2020–21, CIT typically released two SOCs covering the period from July to September and the other from October to the end of the financial year. The IIO typical bills were calculated on a weighting of 25% for the first schedule and 75% for the second.

The NRM water levy is a WPM charge. CIT’s irrigation customers do not pay any bulk water infrastructure charges as there is no bulk water supplier in South Australia.

3.3.2 Renmark Irrigation Trust, South Australian Murray

The ACCC’s typical bill analysis for Renmark Irrigation Trust’s (RIT) network assumes one irrigator who:

- has an equivalent farm size—5.38 hectares (50 ML), 26.94 hectares (250 ML) or 107.76 hectares (1000 ML), respectively for each of the notional volumes of IR held
- has one irrigation connection on their farm (as such, drainage charges do not apply).

The analysis applies the conversion of IR to an equivalent farm size because RIT levies its access charge based on farm size in hectares. The conversion rule is 9.28 ML per hectare.¹⁷

15 CIT operates the following irrigation districts: Berri, Cadell, Chaffey, Cobdogla, Golden Heights, Kingston, Loxton, Lyrup, Moorook, Mypolonga, Sunlands and Waikerie. CIT’s tariff structure applies one set of charges for districts other than Golden Heights and Sunlands (although variable charges do depend on whether low, medium, or high-pressure services are received), and individual charges for each of the Golden Heights and Sunlands districts, due to unique circumstances in those districts.

16 The low-pressure network service relates to Berri, Chaffey Cobdogla, Kingston, Lyrup, Moorook & Waikerie. The medium pressure network service relates to Cadell and Mypolonga. The high-pressure network service relates to Chaffey (Cooltong) & Loxton. Typical irrigator bills are not calculated for irrigators using the high lift high pressure irrigation service.

17 This conversion rule is assumed after consultation between the ACCC and RIT.

The 2020–21 RIT typical bill analysis includes the following charges listed on RIT’s SOC There is a schedule for July–December 2020 and one for January–June 2021, but the charges were the same in each schedule.

- Fixed charges:
 - Irrigation access charge (levied per rated hectare per half year)¹⁸
 - NRM water levy (levied per kilolitre (KL) of ‘entitlement’ (IR) held).
- Variable charge:
 - Water delivery charge (levied per KL of water delivered).¹⁹

RIT irrigation customers do not pay any on-river infrastructure charges as there is no bulk water supplier in South Australia and the NRM water levy serves as a WPM charge.

3.3.3 Goulburn–Murray Water, Victoria

The IIO typical bill analysis for Goulburn–Murray Water (GMW) assumes 9 irrigators, one in each of GMW’s off-river networks. Three of these networks are pressurised and 6 are gravity-fed.

The 3 pressurised networks are: Nyah; Woorinen; and Tresco.

The 6 gravity-fed networks are: Central Goulburn; Loddon Valley;²⁰ Murray Valley; Rochester; Shepparton; and Torrumbarry.

The analysis assumes for the 270-day irrigation season that an irrigator in the pressurised and gravity-fed networks:

- holds high reliability water shares (HRWS) with a volume of 250 ML
- holds a volume of water delivery shares (in ML/day) equal to 1/100 of the water share volume (2.5 ML/day).

In November 2019, GMW submitted its charging proposal to the Essential Services Commission of Victoria (ESC) covering the regulatory period July 2020 to June 2024. The ESC released its final decision in March 2020. The ESC approved revenue of \$439.5 million over the period, representing a reduction of \$65 million compared to the previous four-year pricing period. The decrease was achieved through cost efficiencies arising from infrastructure modernization and GMW’s business transformation program and resulted in some changes to GMW’s charges.^{21&22} On average GMW’s charges and prices were predicted to fall by around 10% in 2020–21 and by 1% per annum for the remaining three years.

Some revisions had already been applied to GMW’s 2019–20 typical bills. To reflect additional changes for 2020–21, the ACCC liaised with GMW. Changes made to GMW’s typical bill assumptions included the following:

GMW’s pressurised networks

- phasing out additional service point charges (usually multiplied by 5)
- phasing out casual use fees in typical bill calculations

18 This charge is levied per half year. For the typical irrigator bill construction, it is converted to a single, yearly charge.

19 This charge is levied in cents per kilolitre and is converted to dollars per ML for the typical irrigator bill construction.

20 This was previously known as Pyramid-Boort.

21 Most infrastructure modernisation at Goulburn–Murray Water (GMW) occurred under the umbrella of the Connections Project which was previously called the Northern Victoria Irrigation Project. Funding for this project was provided by the Victorian and Australian governments and the aim was to modernise irrigation systems in the network. This included automating regulators, changing customer service points, and remediating and decommissioning channels. GMW, *Corporate Plan 2019–20 to 2023–24*, 2020, p 41, viewed 25 July 2022.

22 The GMW Transformation Working Plan was adopted in February 2019 in response to the recommendations of a strategic advisory board (SAP). The SAP reported that GMW’s business operations needed an urgent and significant transformation. Recommendations to streamline GMW’s organisation and business included reducing operating and capital costs, strengthening its financial position, improving asset management, and renewing customer engagement. This made 30 recommendations for GMW to transform its core business over the short, medium, and long term. A 2021 Audit confirmed all 30 of these recommendations had been addressed. Department of Environment, Land, Water and Planning (Victoria), *Goulburn Murray Water Transformation Process Achievements Snapshot 2017–20, 2021*, pp 2 & 4, viewed 3 February 2022.

- introducing service point charges for 'stock and domestic' and also for 'local read'
- for the Woorinen network, phasing out the 'service point remote operate' charge.

GMW's gravity-fed networks

- phasing out additional service point charges
- introducing service point charges for 'local read', 'remote read', stock and domestic and 'remote operate'.

For all GMW networks, the 2020-21 IIO typical bills include the following charges:

- Fixed charges:
 - infrastructure access (levied per delivery share held)
 - service (levied per account held)
 - high reliability water share entitlement storage fee (levied per ML of high reliability water share held)
 - drainage charges (see below)
 - service point charges (pressurised networks have stock and domestic and 'local read'; gravity fed networks include those in pressurised networks and 'remote read' and 'remote operate').
- Variable charges:
 - infrastructure use (levied per ML of water delivered)
 - drainage charges (see below).

The HRWS entitlement storage fee is the bulk water charge passed through to customers located off-river. GMW's off-river customers do not pay a specific WPM charge.²³

Drainage charges

Drainage charges are also levied on customers in all GMW networks. For GMW's pressurised networks, the typical bill assumes:

- an irrigator has one property
- drainage volume is consistent with the WAE ('water share') held.

For GMW's pressurised networks, typical bills include the following drainage charges:

- Nyah:
 - subsurface drainage service fee (levied per account)
 - subsurface drainage water use (levied per ML of water delivered).
- Woorinen:
 - subsurface drainage service fee (levied per account)
 - subsurface drainage area fee (levied per hectare) – using information provided by GMW in 2013-14, the ACCC assumes a hectare to ML conversion ratio of 0.155 hectares to 1 ML
 - subsurface drainage water use (levied per ML of water delivered).
- Tresco:
 - subsurface drainage service fee (levied per account)
 - subsurface drainage fee (levied per ML of water delivered).

For GMW's gravity fed networks, typical bills include the following drainage charges:

- surface drainage service fee (levied per account)
- surface drainage water use fee (levied per ML of water delivered)

²³ 2% of GMW's total revenue collected from off-river infrastructure charges imposed on customers is used to recover costs associated with the Victorian Environmental Contribution (see chapter 6 of the 2020-21 Water monitoring report for more information on the Environmental Contribution).

- surface drainage area fee (levied per hectare) – for 2020–21, GMW advised the ACCC that the hectare to ML ratio was 0.3 to 1 ML for all gravity fed networks.²⁴

3.3.4 Lower Murray Water, Victoria

The ACCC's typical bills for Lower Murray Water (LMW) assume one irrigator in the Robinvale pressurised network, and one in each of the following 3 gravity-fed networks of LMW:

- Merbein
- Red Cliffs
- First Mildura Irrigation District.

The analysis assumes that each of these 4 irrigators:

- holds high reliability water shares
- holds an equivalent number of water delivery shares—respectively 6 (50 ML), 30 (250 ML) or 120 (1000 ML) delivery shares (based on 0.12 times the amount of water share)
- has one 'assessment' with LMW (meaning that the service charge is incurred once)
- is provided with a full drainage service.

The 2020–21 LMW typical bill for each network includes the following charges:

- Fixed charges:
 - service charge (levied per 'assessment')
 - delivery share fee (levied per 'delivery share' (WDR) held)
 - property drainage fee (levied per 'delivery share' (WDR) held)²⁵
 - entitlement storage fee – Murray Basin – high reliability (levied per ML of water share held). This is a bulk water charge imposed by GMW on LMW and passed through to its customers
 - DELWP water share fee (levied per water share held on the Victorian Water Register).
- Variable charge:
 - metered water usage fee (levied per ML of water delivered).

3.3.5 West Corugan Private Irrigation District, New South Wales Murray

The ACCC's typical bill for West Corugan Private Irrigation District (West Corugan) normally includes the following charges, as listed on West Corugan's SOC.

- Fixed charges:
 - network access fee – levied per ML of 'delivery entitlement' (WDR) held
 - fixed government fee – levied per ML of 'water entitlement' (IR) held – for 2020–21, the ACCC did not include the Government fixed charges.
- Variable charge:
 - water consumption fee – levied per ML of water delivered and paid monthly – recovers costs including variable network operation costs and the Government usage charges paid by West Corugan in relation to its WAE, including for water used to cover West Corugan's conveyance losses.²⁶

24 In past years, the ACCC applied a different hectare to ML ratio for each gravity-fed network, as the drainage area fee was previously different for each network, ranging from 0.2 at Rochester to 0.419 at Torrumbarry.

25 For Robinvale, Red Cliffs and Merbein this is Property drainage fee Division 1.

26 West Corugan does not hold a separate WAE to cover conveyance losses, rather it uses some of the water allocated to its general security water access licence to cover losses.

The West Corugan typical bill uses a formula to separate components of West Corugan's water consumption fee (to separate out the Government usage charges):

- West Corugan component = water consumption fee less WAMC component less WaterNSW component less MDBA component.

3.3.6 Moira Private Irrigation District, New South Wales Murray

The ACCC's typical bill for Moira Private Irrigation District (Moira) normally includes the following charges, as listed on its SOC.

- Fixed charges:
 - administration: operating costs (levied per ML of WDR held).
- Variable charges:
 - Moira delivery fee (levied per ML of water delivered)
 - government usage charges (levied per ML of water delivered)
 - losses factor (levied per ML of water delivered).

The 'administration operating costs' charge recovers some of Moira's own off-river costs as well as the WaterNSW, MDBA and WAMC fixed charges.²⁷

For 2020–21, the ACCC:

- subtracted the NSW Government fixed charges from Moira's administration operating costs charge and used the difference as Moira's fixed off-river infrastructure charge (at \$14.32/ML)
- separated the Government usage charge into WaterNSW, WAMC and MDBA components and adjusted Moira's variable delivery fee by \$0.08 to accurately reflect Government usage charges for the Murray valley.

3.3.7 Murray Irrigation Limited, New South Wales Murray

The ACCC's typical bill for Murray Irrigation Limited (MIL) generally includes the following charges, as listed on MIL's SOC:

- Fixed charges:
 - account administration fee – maximum (levied per account)
 - water entitlement fee Class C general security (levied per ML of 'water entitlement' (IR) held)
 - landholding access fee (levied per landholding)
 - large irrigation outlet fee (levied per large irrigation outlet)
 - delivery entitlement fee (levied per ML of 'delivery entitlement' (WDR) held).
- Variable charges:
 - standard water usage fee – Government charges recovery – tier 1 variable fee (levied per ML of water delivered in tier)
 - standard water usage fee – Government charges recovery – tier 2 variable fee (as above)
 - standard water usage fee – Government charges recovery – tier 3 variable fee (as above)
 - standard water usage fee – MIL tier 1 variable fee (as above)
 - standard water usage fee – MIL tier 2 variable fee (as above)
 - standard water usage fee – MIL tier 3 variable fee (as above)
 - drainage variable fee (levied per ML of water delivered).

For 2020–21, the ACCC excluded Government fixed charges from MIL's typical bills due to the NSW drought fee waiver (see section 3.1) and used the difference between the sum of the WaterNSW, MDBA and WAMC fixed charges, and the water entitlement Class C charge when calculating typical bills.

²⁷ The presentation of these charges on Moira's SOC for 2020–21 did not comply with the requirements of the WCR and has been the subject of follow-up discussions between Moira and the ACCC.

The ACCC's typical bills account for the way in which MIL levies charges by assuming:

- each irrigator operates a single property, incurring the landholding access fee once
- each irrigator has one account, incurring the account administration fee once
- irrigators with 50 ML and 250 ML of WDR have one large irrigation outlet, incurring the large irrigation outlet fee once
- irrigators with 1000 ML of WDR have 2 large irrigation outlets, incurring the large irrigation outlet fee twice.

MIL applies declining tiers to its own variable charges, with the following structure:

- tier 1: 0–5 ML
- tier 2: 6–100 ML
- tier 3: >100 ML.

For example, an irrigator with 250 ML of irrigation right who has 100% water delivered would pay for 5 ML at tier 1 charges, 95 ML at tier 2 charges and the remaining 150 ML at tier 3 charges.

3.3.8 Eagle Creek Pumping Syndicate, New South Wales Murray

Eagle Creek Pumping Syndicate (Eagle Creek) is a joint water supply scheme, where customers jointly hold a HS and a GS WAE (rather than the operator holding the entitlement and customers holding IRs). The ACCC's typical bill reflects charges for Eagle Creek's GS customers and generally includes the following charges, as listed on Eagle Creek's SOC.

- Fixed charges:
 - Eagle Creek fixed charge, general security (levied per ML of share of WAE or WDR held)²⁸
 - Government fixed charge, general security (levied per ML of share of WAE or WDR held).
- Variable charges:
 - Eagle Creek usage charge (levied per ML of water delivered)
 - Government usage charge (levied per ML of water delivered).

For 2020–21, the ACCC made the following assumptions to separate the government charges components and to account for the NSW Government's drought relief fee waiver.

- Government fixed charges:
 - general security fixed charges were not passed through to Eagle Creek's customers
 - WaterNSW provided an Irrigation Corporation District (ICD) rebate to Eagle Creek The rebate accounts for WaterNSW avoided costs of the metering and other services provided by the IIOs. The ICD rebate for Eagle Creek was \$25.32. The WaterNSW fixed charge used in the typical bill is the difference between WaterNSW Murray GS entitlement charge minus the \$/ML ICD rebate.
- Government usage charges:
 - the Eagle Creek government usage charge (\$4.77/ML) was equal to sum of the WaterNSW (\$2.06/ML) and WAMC (\$1.10) and the MDBA (\$1.61/ML) charges for the New South Wales Murray valley. The analysis divides the Eagle Creek government usage charge into these 3 components.

²⁸ Eagle Creek's schedule of charges does not clearly specify whether its fixed charges are in relation to ML of water delivery right held or ML of (share of) WAE held. However, since the typical irrigator bill analysis assumes that the irrigator holds an equivalent amount of water delivery right and (share of) WAE, this distinction is not material to the analysis.

3.3.9 Western Murray Irrigation, New South Wales Murray

The ACCC's typical bill for Western Murray Irrigation (WMI) assumes one irrigator in each of WMI's 3 networks:

- Buronga
- Coomealla
- Curlwaa.

It is also assumed the irrigator does not incur meter reading or administration charges.

WMI's typical bills generally include the following charges, at the rates listed on WMI's SOC, unless otherwise specified.

- Fixed charges:
 - access fee for delivery entitlement (per ML of 'delivery entitlement' (WDR) held)
 - asset replacement fund (per ML of 'delivery entitlement' (WDR) held)
 - joint venture repayment (Coomealla only) (per ML of 'delivery entitlement' (WDR) held)
 - infrastructure loan repayment (Buronga only) (per ML of 'delivery entitlement' (WDR) held)
 - fixed government charge (for general security entitlements) (per ML of 'water entitlement' (IR) held) - for 2020–21, the ACCC did not include the Government fixed charges.
 - membership levy (per ML of 'water entitlement' (IR) held).
- Variable charges:
 - water usage above access fee allowance (per ML of water delivered above 'access fee allowance' (see below)
 - variable government charges (per ML of water delivered).

WMI does not levy its usage charge if water usage is below or equal to the customer's 'access fee allowance', which is set as a specified percentage of delivery entitlements. For each network in 2020–21, this allowance is:

- 60% for Buronga
- 45% for Coomealla
- 60% for Curlwaa.

An irrigator that uses water above the allowance percentage incurs the 'water usage above access fee allowance', for each ML above the allowance.

3.3.10 Coleambally Irrigation Cooperative Limited, New South Wales Murrumbidgee

The ACCC's typical bill for Coleambally Irrigation Cooperative Limited (CICL) assumes one irrigator in CICL's network who is connected through one large common irrigation outlet and generally includes the following charges listed on CICL's SOC.

- Fixed charges:
 - CICL access fee (levied per ML of 'delivery entitlement' (WDR) held)
 - compliance fee (levied per ML of 'delivery entitlement' (WDR) held)
 - Coleambally Irrigation Mutual Co-operative Limited (CIMCL) Levy infrastructure (levied per ML of 'delivery entitlement' (WDR) held)
 - large outlet charge - common irrigation outlet (levied per large outlet)
 - peak flow charge - large flume 12 to 30 ML/day (levied per ML of nominated peak flow for each outlet)
 - government water charges - access fee (levied per ML of general security 'water entitlement' (IR) held) - for 2020–21, the ACCC did not include the Government fixed charges.

- Variable charge:
 - government water charges – usage fee (levied per ML of water delivered).

The peak flow charge is levied based on the maximum flow capacity. For a large common irrigation outlet, the flow ranges from 12 ML to 30 ML per day. The irrigator nominates their maximum flow within this range. CICL has advised the ACCC that irrigators typically nominate a peak flow of 15 ML and that most irrigators hold a ‘water entitlement’ (IR) of at least 1000 ML.

The 2020–21 typical bills assume that in the 1000 ML scenario, the irrigator has a maximum peak flow of 15 ML per day; and in the 50 ML and 250ML scenarios, the irrigator has a maximum peak flow of 6 ML per day.

3.3.11 Murrumbidgee Irrigation Limited, New South Wales Murrumbidgee

The ACCC assumes one irrigator in each of MI’s networks:²⁹

- Murrumbidgee gravity-fed network
 - high security IR holder
 - general security IR holder.
- IHS-pressurised network
 - high security IR holder.

The ACCC’s typical bills for Murrumbidgee Irrigation (MI) generally include the following charges, as listed on MI’s SOC:

- Fixed charges:
 - access charge (per connection/meter type small to extra-large)
 - customer account (one per account and only applied to the gravity fed networks and the IHS network)
 - delivery entitlement charge (charged per delivery entitlement)
 - government bulk water recovery charge – fixed (levied per ML of ‘delivery entitlement’ (WDR) held) – for 2020–21, the ACCC did not include the Government fixed charges.
- Variable charges:
 - usage charge – normal usage (levied per ML of water delivered)
 - government bulk water recovery charge – usage (levied per ML of water delivered)
 - IHS energy charges (IHS only) (levied per ML of water delivered).

MI’s IHS customers are required to pay 75% of the electricity charges that MI is charged. The remaining 25% is shared among remaining MI customers. Electricity usage charges depend on several factors, including the level of water pressure and the time-period of electricity use (peak/off peak periods). The electricity charge calculated for 2020–21 IIO typical bill analysis is a weighted average of peak, shoulder, and off-peak times across all IHS pump stations.

Further assumptions made in calculating MI’s typical bills include:³⁰

- general security and high security entitlement holders in gravity fed networks have one medium meter and pay this charge once
- integrated horticulture supply (IHS) customer groups have one small meter outlet connected and thus pay the outlet charge once.

29 Previously Murrumbidgee Irrigation’s typical irrigator bill were calculated for 6 pricing groups. The gravity fed groupings were split between small area (high and general security) and large area (high and general security) to reflect the pricing differences on the size of landholdings and location.

30 The ACCC liaised with Murrumbidgee Irrigation during 2018 regarding the assumptions used in the calculation of the revised typical irrigator bills.

3.3.12 Hay Private Irrigation District, Murrumbidgee New South Wales

The ACCC's typical bill for Hay Private Irrigation District (Hay) assumes one irrigator in the Hay network who:

- has a property over 4 hectares and incurs an administration fee for that property size
- has one 12 ML outlet connected to its farm.

The ACCC generally includes the following charges, as listed on Hay's SOC.

- Fixed charges:
 - delivery charge access fee – general (levied per ML of WDR held)
 - outlet charge – 12 ML outlet (levied per outlet)
 - administration charge large holding – (>1ML/day outlet size) (levied per property)
 - government bulk water recovery charge – fixed (levied per ML of 'delivery entitlement' (WDR) held) – for 2020–21, the ACCC did not include the Government bulk water recovery charge.
- Variable charge:
 - irrigation usage charge – levied per ML of water delivered.

Hay produced 3 versions of its SOC during 2020–21. The first version released on 30 May 2020 listed Government fixed charges in a combined amount which was \$0.11 less than the actual total. Subsequent SOCs provided correct amounts for both fixed and variable charges including listing each charge individually. The ACCC used these later SOCs to create Hay's typical bills and no adjustments were required for government charges.

3.3.13 Jemalong Irrigation Limited, New South Wales Lachlan

The ACCC's typical bill for Jemalong Irrigation Limited (Jemalong) generally includes the following charges, as listed on its SOC.

- Fixed charges:
 - fixed access charge (levied per ML of 'delivery entitlement' (WDR) held)
 - government fixed conveyance charge (levied per ML of 'delivery entitlement' (WDR) held).
 - government bulk water recovery charge – fixed (levied per ML of 'delivery entitlement' (WDR) held) – for 2020–21, the ACCC did not include the Government bulk water recovery charge.

The ACCC separated the components of Jemalong's conveyance fixed charge (\$0.95) using a ratio of the actual WaterNSW and WAMC fixed charges. The WaterNSW component of the conveyance fixed charge was \$0.64/ML and the WAMC component was \$0.31/ML.

- Variable charges:
 - usage charge (levied per ML of water delivered)
 - government usage conveyance charge (levied per ML of 'delivery entitlement' (WDR) held).
 - government usage charge (levied per ML of water delivered).

Jemalong Irrigation Limited (Jemalong) released 2 charge schedules during 2020–21. The difference between the SOCs was the itemisation of each government charge in the second SOC. Jemalong also advised the ACCC that it had a restructure of its charging for 2020–21. This included a substantial decrease to its fixed access charge and introduced two new charges including charges entity (per account) and a WMO outlet charge (450 mm) – with four sizes commencing at 450 mm to 900 mm piped outlet.

3.3.14 Narromine Irrigation Board of Management, New South Wales Macquarie

The ACCC's typical bill for Narromine Irrigation Board of Management (Narromine) generally includes the following charges, as listed on its SOC.

- Fixed charges:
 - Narromine access fee (levied per ML of 'delivery water entitlements' (WDR) held)
 - metering charge (levied per property)
 - administration charge (levied per account)
 - government bulk water recovery charge – fixed (levied per ML of 'delivery entitlement' (WDR) held) – for 2020–21, the ACCC did not include the Government bulk water recovery charge.
- Variable charges:
 - Narromine variable charge (levied per ML of water delivered)
 - government bulk water recovery charge – usage (levied per ML of water delivered).

The ACCC assumes that the irrigator:

- operates one property, incurring the metering charge once
- operates one account, incurring the administration charge once.

Narromine's SOC presents individual charges on a quarterly basis. All charges were multiplied by 4 to represent fees for the full year, 2020–21.

3.3.15 Buddah Lake Irrigators' Association, New South Wales Macquarie

Buddah Lake Irrigators' Association (Buddah Lake) is a joint water supply scheme. The ACCC's typical bill for Buddah Lake assumes one irrigator who generally incurs the following charges.

- Fixed charges:
 - operating and maintenance fee (OMF) (levied per 1250 ML WDR per month, see below) – includes the Government fixed charges imposed on Buddah Lake, as well as costs incurred by Buddah Lake in running its off-river operations.
- Variable charge:
 - water charge (levied per ML of water delivered) – fee includes the variable Government charges imposed on Buddah Lake.

Buddah Lake does not yet separately list government charges as pass-through charges on its SOC. The ACCC made the following assumptions to separate the WaterNSW and WAMC charge components.

- Government fixed charges:
 - The ACCC assumes that the actual WaterNSW (\$3.07/ML) and WAMC fixed charges (\$1.71/ML) for the Macquarie valley would ordinarily be fully passed through to Buddah Lake customers as part of the OMF. However, for 2020–21, the ACCC did not include the Government fixed charges in typical bill calculations and assumed that the difference between the sum of the government fixed charges (\$4.78/ML), and the OMF per ML (\$11.52/ML) was Buddah Lake's fixed off-river infrastructure charge (\$6.74/ML).
- Government usage charges:
 - The ACCC assumed the WaterNSW (\$14.84/ML) and WAMC (\$1.85/ML) usage charges were fully passed through to Buddah Lake's customers. These charges were deducted from Buddah Lake's variable water charge of \$40/ML, which was assumed to be \$23.31/ML for the typical bill.

3.3.16 Trangie-Nevertire Irrigation Scheme, New South Wales Macquarie

Trangie-Nevertire Irrigation Scheme (TNIS) is a joint water supply scheme. The ACCC's typical bill assumes one irrigator in the TNIS who does not incur supplementary water or contract pumping surcharges.

The TNIS typical bill generally includes the following charges, as listed on the SOC.

- Fixed charges:
 - Operating and maintenance (levied per ML of 'delivery entitlement' (WDR) held)
 - Government (WaterNSW & WAMC) fixed charge (levied per ML of water access licence share held) – for 2020–21, the ACCC did not include the Government fixed charges in typical bill calculations.
- Variable charges:
 - TNIS pumping charge (levied per ML of water delivered 'at farm gate')³¹
 - Government (WaterNSW and WAMC) usage charge (levied per ML of water delivered at the farm gate).

For 2020–21, the ACCC assumed a TNIS pumping charge 'at farm gate' of \$23.14/ML. The TNIS SOC listed a government usage charge \$1.17 above the approved charge for the Macquarie Valley. The ACCC added the \$1.17 to the TNIS pumping charge (\$24.31/ML) while the remainder for a division of the usage charge at farm gate (\$23.14/ML) into WaterNSW and WAMC components. These are based on the regulated charges for WaterNSW (\$14.84/ML) and for WAMC (\$1.85/ML).

3.3.17 Tenandra Irrigation Scheme, New South Wales Macquarie

Tenandra Irrigation Scheme (Tenandra) is a joint water supply scheme. The ACCC liaised with Tenandra in 2022 about the charges to be included in its typical bills, as Tenandra advised that it no longer applied the variable outlet charge.

For 2020–21, the revised Tenandra typical bill includes:

- Fixed charges:
 - the infrastructure access fee – bottom scheme (levied per ML of scheme delivery capacity)
 - outlet fee (levied per outlet)
 - NSW Irrigators Council Pass Through charge (\$0.09/ML WAE) – this is a new charge added to Tenandra's typical bill
 - Macquarie River Food Fibre pass through charge (\$0.50/ML WAE) – this is a new charge added to Tenandra's typical bill
 - The typical bill did not include the Government (WaterNSW & WAMC) fixed charge (usually levied per ML of water access licence share held) in 2020–21 due to the NSW drought fee waiver.
- Variable charges:
 - delivery fee (levied per ML of water delivered)
 - Tenandra Scheme Pass-through (recovery of WaterNSW conveyance licence) (\$1.40/ML WAE) 1 January 2016
 - government bulk water recovery charge – usage (levied per ML of water delivered).

3.3.18 Marthaguy Irrigation Scheme, New South Wales Macquarie

Marthaguy Irrigation Scheme (Marthaguy) is a joint water supply scheme. The ACCC's typical bill for Marthaguy generally includes the following charges:

- Fixed charges:
 - operating and maintenance fee (levied per ML of WDR held)³²
 - Macquarie River Food and Fibre (levied per ML of share of WAE held)

31 Trangie-Nevertire's schedule of charges specifies variable charges both 'at river', and 'at farm gate'. The farm gate charges include an additional amount to recover costs associated with assumed average off-river conveyance losses of 17% relative to volumes delivered.

32 Marthaguy's schedule of charges does not specify units for charges. The ACCC has assumed that WPM and on-river infrastructure fixed charges are passed through based on customers' share of the jointly held water access entitlement (WAE), while off-river infrastructure fixed charges are levied based on customers' water delivery rights. However, since the typical irrigator bill analysis assumes customers hold an equivalent amount of water delivery right and share of the jointly held WAE, this assumption has no effect on typical irrigator bills.

- New South Wales Irrigators' Council (levied per ML of share of WAE held)
- WaterNSW & WAMC fixed charge (levied per ML of water access licence share held) – for 2020–21 the ACCC did not include these charges because of the NSW drought fee waiver.
- Variable charge:
 - Marthaguy pumping charge (levied per ML of water delivered).
 - variable government charge (per ML of water delivered).

Marthaguy unbundled the fixed government charges (including WaterNSW and WAMC charges) but did not unbundle the variable charge on its 2020–21 SOC.

For the typical bill the WaterNSW and WAMC variable charges were deducted from Marthaguy's pumping charge of \$32/ML. The Marthaguy variable charge was calculated to be \$15.31/ML.

3.3.19 Mallawa Irrigation Limited Sunwater Queensland

Mallawa Irrigation limited (Mallawa) is a member owned public company. The ownership and management of Sunwater's St George Water Supply Scheme was transferred from the Queensland Government owned corporation to Mallawa on 1 July 2018.

The ACCC converts assumed irrigation rights held to an equivalent farm size because Mallawa levies its drainage charge based on farm size in hectares.³³

For 2020–21, the ACCC's typical bill for Mallawa includes the following charges listed on Sunwater's SOC:

- Fixed charge:
 - drainage charge (levied per hectare of irrigation land).
 - Sunwater bulk water charge part A (levied per ML of water delivery right held).
- Variable charges:
 - allocation water – channel distribution – part D (levied per ML of water delivered)
 - Sunwater bulk water charge part B (levied per ML of water delivery right held).

³³ The ACCC has assumed 0.4 hectares per ML, following consultation with Mallawa and SunWater.

4. Water planning and management charges

Background

This chapter relates to the analysis presented in chapter 6 of the Water monitoring report 2020–21 which covers charges for water planning and management activities (WPM) imposed on water users by Basin state departments and water authorities.

Basin state departments and water authorities undertake WPM activities to plan for and manage water resource sustainability. They are important because they:

- promote the long-term sustainability of the resource, and maintain the health of natural ecosystems by minimising the impacts of water extraction
- are necessary to manage the impacts of past, current, and future patterns of water extraction
- protect the integrity of the entitlement system and the security of users' authorised access to water.

This chapter sets out the assumptions and background information for chapter 6 of the Water monitoring report 2020–21:

- Section 4.1 describes the ACCC's approach to monitoring Water Planning and Management (WPM) activities and regulated WPM charges.
- Section 4.2 provides information on the limitations affecting the collection and reporting of WPM data in the Murray–Darling Basin.

4.1 ACCC approach to monitoring water planning and management activities and charges

The ACCC sent annual requests for information (RFIs) to 5 Basin state and territory departments and 4 water authorities responsible for publishing information under the Water Charge Rules 2010.

These RFIs seek information on the regulated water planning and management (WPM) charges imposed on water users and the revenues collected from each charge, as well as the WPM activities undertaken and the associated costs of each activity. The ACCC also collects information on WPM charges from information published by Basin state departments and water authorities where this was publicly available to reduce the regulatory burden on these entities.

The ACCC requested the following information from the Basin state departments and water authorities:

- the quantity (either the number of times or volume) on which the charge was imposed, and the revenue raised from all WPM charges
- cost data and related categories for all WPM activities undertaken in Victoria, South Australia and New South Wales and the Australian Capital Territory.

Using RFI responses, the ACCC classifies each WPM charge according to the following definitions: transaction charge, water access right charge (either variable volumetric, fixed volumetric or non-volumetric), or broad-based levy. These charge definitions are explained in the glossary.

For WPM activities, the ACCC asks respondents to categorise each WPM activity into one of the 7 categories specified in the National Water Initiative (NWI).³⁴ While individual activities do not always

³⁴ The WPM activity categories in the NWI are water reform strategy and policy, water planning, water management, water monitoring and evaluation, information management and reporting, water administration and regulation and water industry regulation. See *National Water Initiative Pricing Principles*, 2004, appendix B, pp. 19–21, accessed 25 July 2022.

fit neatly into just one of these categories, the ACCC asks respondents to classify each activity into only the category that fits best to avoid duplication and ensure consistency. Reporting agencies also provide a breakdown of their WPM expenditure by capital, operating and corporate costs. The Australian Capital Territory is unable to break down costs by these cost types.

The ACCC maintains records of the data collected from RFI responses over time so that trends and changes between years can be identified, assessed, and detailed in the report. Where notable shifts are identified, the ACCC seeks further information from the relevant agencies to clarify or explain the changes. Spending and revenue data from previous years is converted to real 2020–21 dollars.

Information is used to report on WPM spending, revenue and, where possible, the extent of cost recovery for WPM activities in the MDB. Due to data limitations (section 6.2), the ACCC was not able to provide estimates of the rate of WPM cost recovery for Victoria and Queensland.

Under section 91(2) and 91(3) of the Water Act 2007 (the Water Act), regulated water charges are those charges that relate to MDB resources, infrastructure carrying MDB water resources or water access rights, irrigation rights or water delivery rights in relation to MDB water resources. However, the definition does not extend to charges for urban water supply activities beyond the point at which the water has been removed from a Basin water resource.³⁵ As such, the Water Act does not regulate water resources that are either outside the MDB or which relate to urban water supply and the Water Charge Rules 2010 do not apply in these circumstances.

4.2 Water planning and management data limitations

The WPM data provided to the ACCC by reporting authorities faces several limitations, such as several agencies reporting WPM data that is not strictly based on MDB boundaries.

NSW Department of Planning, Industry and Environment (DPIE) reported that its reported costs for each activity are provided to IPART for review as well as what proportion is to be recovered from users through WAMC charges. IPART then makes a determination on the proportion which is to be recovered from users with the remaining percentage funded by the New South Wales government.

Victoria's Department of Environment, Land, Water and Planning (DELWP) has reported it is unable to disaggregate data for expenditure on WPM activities incurred specifically within the MDB, and so supplies state-wide WPM spending data. The Queensland Department of Natural Resources, Mining and Energy (DNRME) has informed the ACCC that it is unable to provide cost data as the MDB forms only a small proportion of Queensland's total water and it cannot separate MDB specific data from state-wide data.

DELWP has reported that while most of its WPM revenue can be allocated to the MDB, it is unable to accurately specify revenue from its largest charge, the Environmental Contribution levy, to users in the MDB. DELWP provided the ACCC with the total amount paid towards this levy by all Victorian water corporations operating at least partly in the MDB, but because some of these corporations also operate outside the MDB, the figures may be overstated.

For New South Wales WPM revenue data, the ACCC has where possible, limited charge revenue to just that collected from within the MDB. However, this is not possible for several charges (such as water application fees and metering charges). Additionally, based on the data provided, the ACCC is not able to separate MDB specific data for most charges before 2015–16.

New South Wales also reported that inconsistent handover and reporting processes associated with the division of WPM responsibilities between DPIE and WaterNSW (explained in the Water monitoring report 2016–17) may affect the accuracy of WPM cost and revenue data for 2016–17 and 2017–18.

35 Water Act 2007, section 91(3).



AUSTRALIAN COMPETITION
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