




# **Catchment Statement for Central Gippsland and Moe Groundwater Catchments**

Version 4

May 2021

## Version Control

Version	Change summary	Authorised by
2	Sale LMP – update Clydebank Restricted Trading Zone	 Acting GMG&R
3	Moe LMP – update Moe GMA re: new allocation Sale LMP - amend depth boundary.	(draft only, changes incorporated into version 4)
4	Amend wording to update entitlement volumes and confirm where no licences are being issued	Acting Manager G&R

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## Purpose of this document

Victoria has introduced Groundwater Catchments to capture the full extent of connected groundwater resources.

The catchment statement is the first step toward ensuring users and the community have a complete picture of the current management of groundwater in the Central Gippsland and Moe Groundwater Catchments. The objective is, over time, to simplify management of groundwater throughout the catchment and enable users to get access to water for future development. The Central Gippsland Groundwater Catchment boundary is available at the state government's Central Plan Office (document reference LEGL./12-056). The Moe Groundwater Catchment boundary is also available at the Central Plan Office (document reference LEGL./12-058).

This document brings together all the plans affecting the licensed use of groundwater in the Central Gippsland and Moe Groundwater Catchments. Water Supply Protection Areas and Groundwater Management Areas exist within the catchments. Statutory management plans apply in some Water Supply Protection Areas and Local Management Plans apply in all other areas.

Management plans included in this statement will be reviewed on an as needs basis. The aim of future reviews will be to improve existing management and potentially reduce the number of management areas within the catchments. This will make management less complex, while ensuring equitable sharing and long term sustainability of the resource.



ANGUS RAMSAY

Acting Manager Groundwater & Rivers

25 May 2021

## Definitions

### Carryover

Allows entitlement holders to retain ownership of unused water allocated or purchased from the current season into the following season in accordance with rules specified in a Ministerial Order made under section 62A of the *Water Act 1989*.

### Entitlements

Water entitlements referred to in this report refer to entitlements issued under section 51 of the *Water Act, 1989*.

### Groundwater basins

One or more groundwater catchments within a geological basin. The basin may extend off-shore or across State boundaries. In some cases, a basin may be broken into one or more sub-basins to reflect administrative management boundaries.

### Groundwater catchments

An area containing a connected groundwater resource(s), bringing together the input (recharge) areas, use (demand) areas and discharge areas.

### Groundwater Management Area (GMA)

A Groundwater Management Area (GMA) is a discrete area where groundwater of a suitable quality for irrigation, commercial or domestic and stock use is available or expected to be available.

### Groundwater Management Plan (GMP)

The object of a management plan is to make sure that the water resources of the relevant Water Supply Protection Area are managed in an equitable manner and so as to ensure the long-term sustainability of those resources (s32(A)(1), *Water Act 1989*).

### Groundwater Management Unit (GMU)

Either a groundwater management area or a water supply protection area.

### Local Management Plans

Local Management Plans describe the resource, management objectives and specific rules such as restrictions, carryover (if applicable) and trade within a specified area. Local management plans cannot amend licence conditions.

### Permissible Consumptive Volume (PCV)

The total volume of water that can be taken in an area or water system over a period of time. (section 22(A)(1), *Water Act 1989*)

### Victorian Water Accounts

The Victorian Water Accounts document main water resource management issues and provides an overview of water availability and use across Victoria.

### Water Supply Protection Area (WSPA)

A Water Supply Protection Area (WSPA) is an area declared under section 27 of the *Water Act 1989* to protect the groundwater or surface water resources through the development of a management plan which aims for equitable management and long-term sustainability.

## Central Gippsland and Moe Groundwater Catchments

The Central Gippsland and Moe Groundwater Catchments are located in the Gippsland Basin in eastern Victoria (Figure 1). The groundwater catchments encapsulate the major river systems and catchments of the Gippsland Lakes. The basin extends offshore beneath Bass Strait. The Central Gippsland Groundwater Catchment map is lodged with the Central Plan Office, reference number: LEGL./12-056 CENTRAL GIPPSLAND GROUNDWATER CATCHMENT. The Moe Groundwater Catchment map is also lodged with the Central Plan Office, reference number: LEGL./12-058 MOE GROUNDWATER CATCHMENT. Local Management Plans for sub-areas of the catchment form the basis for groundwater management.

The Local Management Plans do not replace Permissible Consumptive Volumes, approved groundwater management plans or place any additional requirements on the use of groundwater for stock and domestic purposes.

The local management plan details can be found in the appendices.

<b>Local Management Plan Area</b>	<b>Plan Details</b>
Denison Water Supply Protection Area	Appendix 1
Rosedale Groundwater Management Area	Appendix 2
Sale Water Supply Protection Area	Appendix 3
Stratford Groundwater Management Area	Appendix 4
Wa De Lock Water Supply Protection Area	Appendix 5
Wy-Yung Groundwater Management Area	Appendix 6
Moe Groundwater Management Area	Appendix 7
Yarram Water Supply Protection Area (part only)	See Seaspray Groundwater Catchment Statement
All remaining areas (includes Shady Creek and Moe Swamp Basin, Lindenow and Lake Wellington trading zones)	Appendix 8

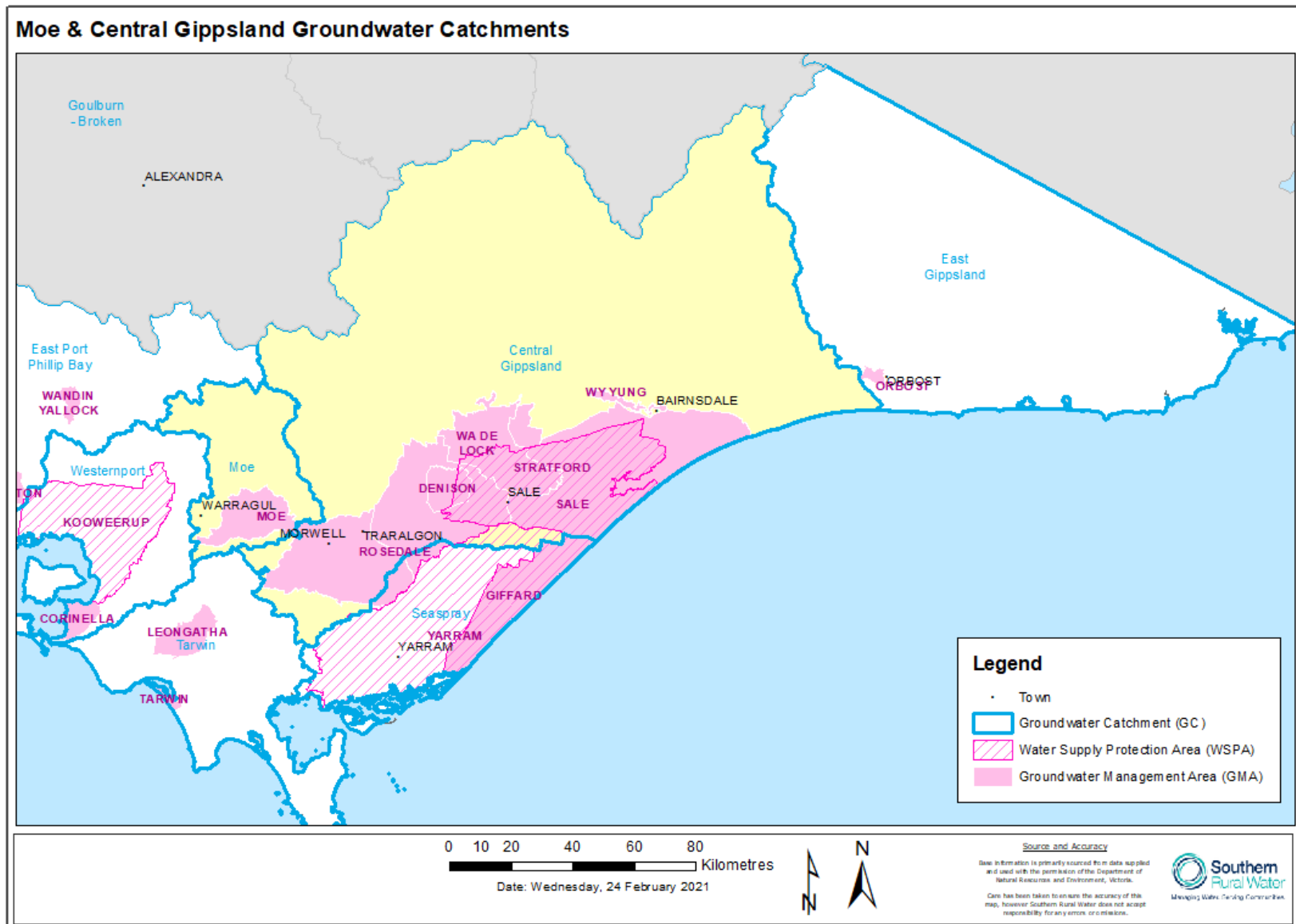


Figure 1 - Central Gippsland and Moe groundwater catchments and the GMA/WSPAs in these and other neighbouring catchments.

Local Management Plans may (from Policy 3.5, *Gippsland Regional Sustainable Water Strategy*, p43):

- document management objectives for the system;
- explain to licence holders (and the broader community) the specific management objectives and arrangements for their water resource and the rules that apply to them as users of that resource;
- be based on existing operational rules, recognising the rights of existing licence holders;
- be consistent with the *Policies for Managing Section 51 Take and Use Licences*;
- document any limits, including water use caps, Permissible Consumptive Volumes (PCVs) or extraction limits that apply to the Groundwater Management Units (GMUs);
- include trading zones and rules;
- clarify water sharing arrangements for all users and the environment, including environmental flow requirements;
- document monitoring and reporting requirements;
- be periodically reviewed to incorporate new knowledge.

## Aquifers in the Central Gippsland and Moe Groundwater Catchments

Groundwater is found in aquifers. An aquifer is a layer of fractured rock, gravel, sand or limestone below the ground that is porous enough to hold groundwater and allow it to flow. An aquitard is a layer of rock or clay that may hold some groundwater but is not porous enough to allow it to flow significantly.

The Gippsland Groundwater Atlas (SRW 2012) identifies and clearly describes the resources across the Gippsland groundwater catchment. The catchments can be broadly subdivided into three layers; the upper, middle and lower aquifers. The aquifer layers are generally separated from one another by aquitards. A cross section showing the relative position of the aquifer layers is provided in Figure 2.

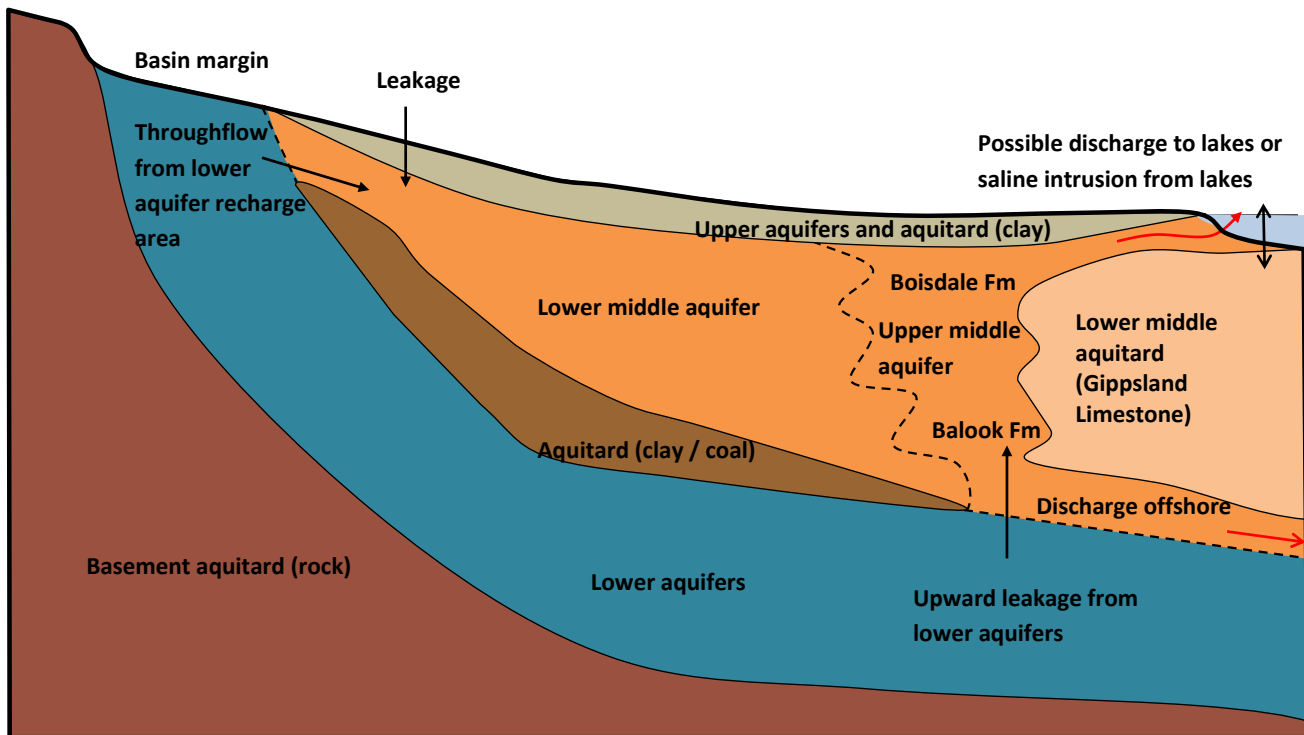


Figure 2 –Cross-section showing the relative position of the aquifer layers (taken from the “Gippsland Groundwater Atlas”, p45, SRW, 2012)

The Local Management Plans describe the rules for management of all or part of an aquifer (upper, middle or lower). The aquifers comprise layers that have both hydrogeological names (as described in the Victorian Aquifer Framework, DSE, 2012) and primary geological names. The principal aquifer managed by each local management plan area and the associated hydrogeological and geological names are summarised in Table 1.



**Table 1 – Principal aquifer resource managed by the Local Management Plan Area 1**

Principal Local Management Plan for the layer (or part layer)	Aquifer layer	Hydrogeological layers (Victorian Aquifer Framework, DSE, 2012)	Geological Layers
Wa De Lock, Denison, Wy Yung	Upper	QA Quaternary	Various aeolian deposits, various fluvial, lacustrine, alluvial and colluvial sediments, Curlip gravels
Moe		UTQA Upper Tertiary Quaternary Aquifer	Haunted Hill Formation, Eagle Point Sand
		UTQD Upper Tertiary Quaternary Aquitard	Boisdale Formation (Nuntin Clay), Sale Group, Jemmys Point Formation
Sale, Giffard		UTAF Upper Tertiary Aquifer (Fluvial)	Boisdale Formation (Wurruk Sand)
		UTD Upper Tertiary Aquitard	Hazelwood Formation, Yallourn Formation
Moe, Rosedale	Middle	UMTA Upper Mid Tertiary Aquifer	Balook Formation, LVG: Yarragon Formation, LVG: Morwell Formation M1-2 aquifers, Alberton Formation, Cobia Subgroup, Gurnard Formation, Turrum Formation
		UMTD Upper Mid Tertiary Aquitard	Gippsland Limestone, Seaspray Group, Lakes Entrance Formation, Tambo River Formation, Giffard Sandstone Member
		LMTA Lower Mid-Tertiary Aquifer	LVG: Morwell Formation M2C aquifer, Seaspray sands.
		LMTD Lower Mid Tertiary Aquitard	Flounder Formation
Moe	Lower	LTB Lower Tertiary	Thorpdale Volcanics
Moe, Stratford, Yarram WSPA		LTA Lower Tertiary Aquifer	Childers Formation, M2/M2C aquifer (when basal aquifer), Latrobe Group, Traralgon Formation, Burong Formation, Honeysuckle Gravels, Yarram Formation
		LTB Lower Tertiary	Carrajung Volcanics, Older Volcanic Group (Phase 1)
	Basement	BSE Mesozoic and Palaeozoic Bedrock	Strzelecki Group, all Palaeozoic basement rock

Descriptions from Gippsland Groundwater Atlas (SRW, 2012), Groundwater Resources Online (DSE 2012) and Victorian Aquifer Framework (DSE 2012).

Note 1: The areas are often defined by a depth from surface that may incorporate parts of other aquifers and aquitards. The principal aquifer is the primary target for management of groundwater extraction. Any rules, however, apply to the entire defined area (see Appendices).

Note 2: All other aquifer layers not covered by the local management plans above are covered in the "All remaining areas" Local Management Plan (Appendix 8).

## Water management arrangements

### Overarching responsibilities

Groundwater management falls within the jurisdiction of both Southern Rural Water (SRW) and the Department of Environment, Land, Water and Planning (DELWP) in ensuring the delivery of government policy on water and the environment. They are jointly responsible for implementing the Gippsland Region Sustainable Water Strategy. The groundwater catchment statements, of which the Central Gippsland and Moe GCS is one, are part of the implementation of this strategy.

DELWP is the department responsible for administration of the *Water Act 1989*, and oversees the management of water resources in Victoria, including the setting of overall entitlement limits (Permissible Consumptive Volumes), through

The licensing authority for groundwater within the Central Gippsland and Moe Groundwater Catchments is SRW. SRW is responsible for issuing bore construction licences (section 67, *Water Act 1989*) and licensing groundwater extractions under “take and use” licences under section 51 of the Act. See the SRW website ([www.srw.gov.au](http://www.srw.gov.au)) or the Victorian Water Register ([waterregister.vic.gov.au](http://waterregister.vic.gov.au)) for more information about these.

SRW is also responsible for the development and implementation of Local Management Plans, and statutory water management plans (in Water Supply Protection Areas). These plans define how groundwater and surface water is managed

Sustainable Water Strategies (SWS) and local water management plans enable DELWP and SRW to ensure the long term sustainability of those resources, and that they are managed equitably.

Monitoring of the groundwater resources (quality and levels) forms a substantive component of this by providing the information to assess the health and availability of the resource. SRW and DELWP undertake monitoring of groundwater in the Central Gippsland and Moe catchments.

### Water accounting

Information on the management and use of groundwater within these groundwater catchments is included in the Victorian Water Accounts which are published annually by the DELWP.

Annual reports are also produced by SRW for the Yarram WSPA Groundwater Management Plan each year, including tabulating usage, allocations and entitlements.

Groundwater entitlements are listed on the Victorian Water Register and are publicly available on the web ([waterregister.vic.gov.au](http://waterregister.vic.gov.au)).

## Review

DELWP may review and evaluate progress on management of groundwater at any time, in collaboration with SRW.

SRW may independently review Local Management Plans. Administrative changes or clarifications may be made without consultation. SRW will consult licence holders and stakeholders on any change that affects their rights.

## Access to information

More information on groundwater can be obtained from the websites listed below. This includes information on groundwater levels, the Gippsland Groundwater Atlas and groundwater resource reports.

Southern Rural Water: [www.srw.com.au](http://www.srw.com.au)

Gippsland Groundwater Atlas (SRW, 2012):

[http://www.srw.com.au/wp-content/uploads/2016/03/GGA\\_SmallSize-1.pdf](http://www.srw.com.au/wp-content/uploads/2016/03/GGA_SmallSize-1.pdf)

SRW Local Water Reports:

<http://www.srw.com.au/publications>

Department of Environment, Land Water and Planning:

<https://www.water.vic.gov.au/https://www.water.vic.gov.au/groundwater/understanding-groundwater>

Victorian Water Register: [waterregister.vic.gov.au](http://waterregister.vic.gov.au)

Groundwater Resource Reports (DSE, 2012):

<https://www.water.vic.gov.au/groundwater/groundwater-resource-reports>

Victorian Aquifer Framework (DSE, 2012):

<https://www.water.vic.gov.au/groundwater/victorias-groundwater-resources/victorian-aquifer-framework>

## Appendix 1 Denison Local Management Plan

### Objective of the Local Management Plan

The objective of the local management plan is to make sure that the groundwater resources in the Denison Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description

Denison GMA is shown below. The plan is lodged with the Central Plan Office, reference number LEGL./01-87.

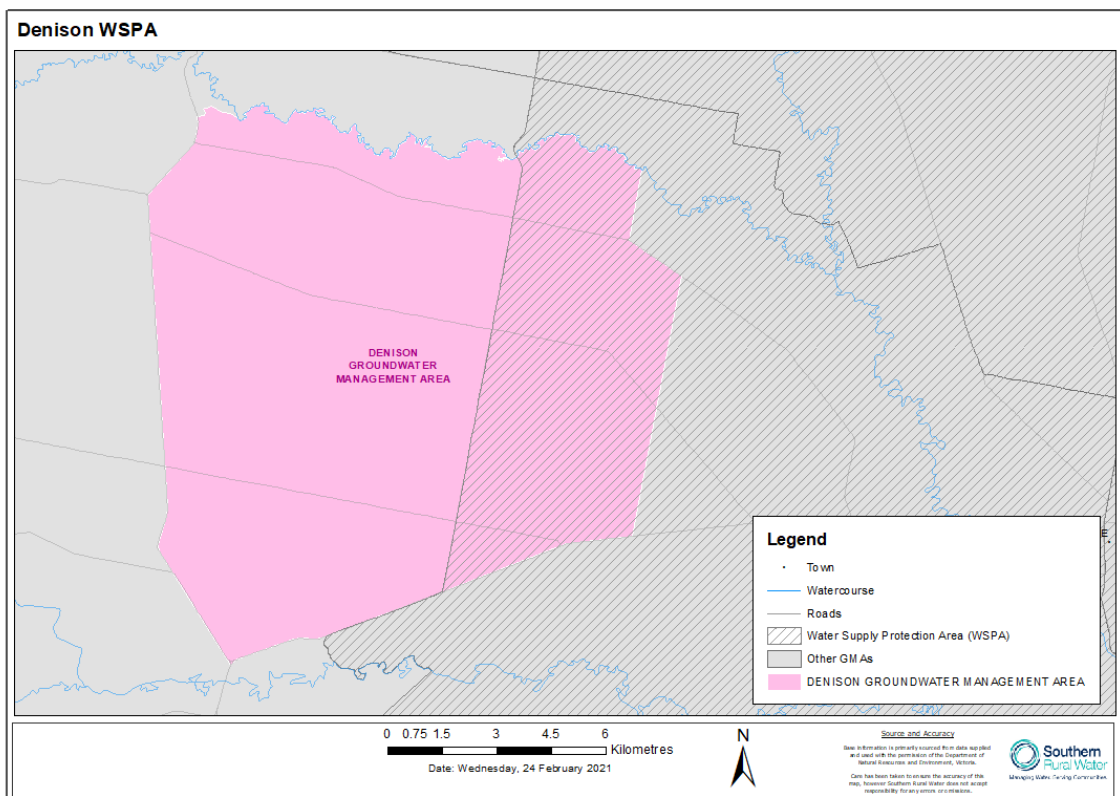


Figure A1-1: Map of Denison Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Denison GMA. The PCV is a cap on the amount of groundwater allocated in this management unit. The PCV for Denison GMA is 18,502 ML/yr.

The PCV applies to the area covered in Figure A1-1, for all formations from the surface to 25 metres below the surface.

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

The majority of groundwater licensed in the Denison GMA is for irrigation purposes. Groundwater is also used in dairies for cooling and wash-down. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions. Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Denison GMA; however, the local management plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New Licences

New groundwater licences (additional entitlement) will not be issued in the Denison GMA because this may adversely impact on the sustainability of the local groundwater and surface water resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence (temporarily or permanently), SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If

interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

In the Denison GMA:

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

## **Metering**

Southern Rural Water meters new and existing licensed water users<sup>1</sup>. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume.

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed on an as needs basis.

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<sup>1</sup> Some small volume licences (<10ML) may be exempt from metering

## Appendix 2 Rosedale Local Management Plan

### Objective of the Local Management Plan

The objective of the Local Management Plan is to make sure that the groundwater resources in the Rosedale Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description and sub zones

Rosedale GMA is comprised of three zones. The plan is lodged with the Central Plan Office, reference number LEGL./04-157.

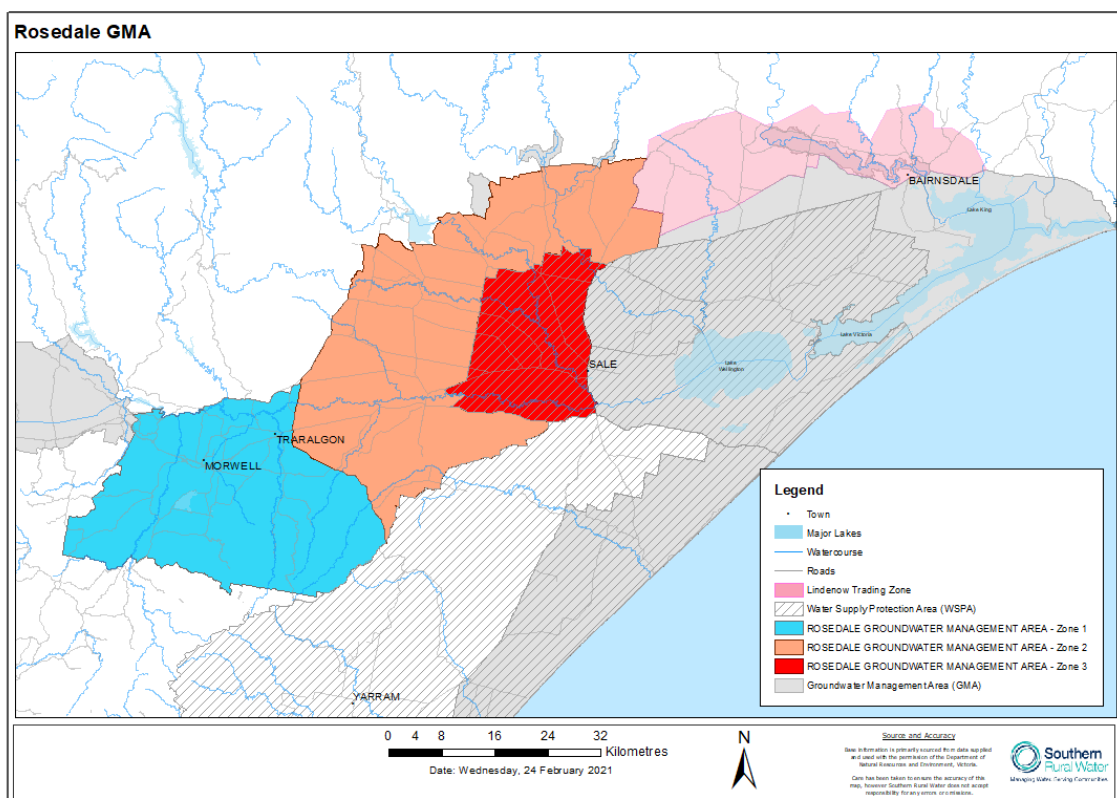


Figure A2-1: Map of Rosedale Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Rosedale GMA. The PCV is a cap on the amount of groundwater allocated in this management unit.

The PCV applies to the area covered in Figure A2-1 and includes three subzones:

- Zone 1 – All formations from 50 metres to 150 meters below the surface; and
- Zone 2 – All formations from 25 metres to 350 metres below the surface; and
- Zone 3 – All formations from 200 metres to 300 metres below the surface.



The PCV collectively for the three subzones of the Rosedale GMA is 22,372 ML/yr.

## Water use and entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

Approximately half of the groundwater licensed in the Rosedale GMA is for irrigation purposes. Groundwater is also used by power generators in the Latrobe Valley. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions.

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Rosedale GMA; however, the Local Management Plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New licences

New groundwater licences (additional entitlement) will not be issued in the Rosedale GMA because this may adversely impact on the sustainability of the groundwater resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence (temporarily or permanently), SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application, SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

In the Rosedale GMA:

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

Transfers are permitted from the Rosedale GMA into the Lindenow area (refer to Appendix 8).

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed on an as needs basis.

## Appendix 3 Sale Local Management Plan

### Statutory Management Plan

There is no statutory management plan for groundwater resources in this area.

### Objective of the Local Management Plan

The objective of the Local Management Plan is to make sure that the groundwater resources in the Sale Water Supply Protection Area (WSPA) are managed in an equitable and sustainable manner.

### Area description and sub zones

Sale WSPA includes a sub zone referred to as the Clydebank Restricted Trading Zone. The Sale WSPA plan is lodged with the Central Plan Office, reference number LEGL/01-88.

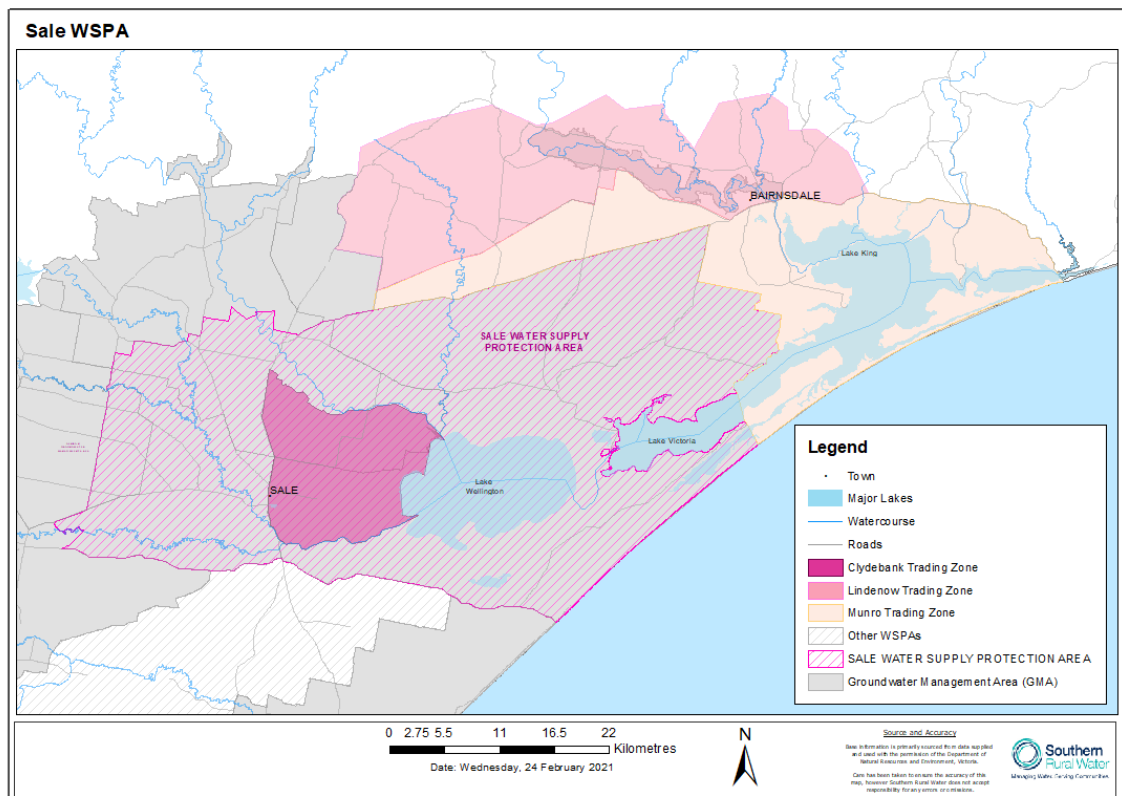


Figure A3-1: Map of the Sale Water Supply Protection Area

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Sale WSPA. The PCV is a cap on the amount of groundwater allocated in this management unit. The PCV applies to the area covered in Figure A3-1 and includes all formations from 25 metres to 200 metres below the surface. The PCV is set at 21,238 ML/yr.

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

The majority of groundwater licensed in the Sale WSPA is for irrigation purposes. Groundwater is also used by Gippsland Water to supply Sale township. Metered groundwater use is less than the total groundwater entitlements and varies each year according to the seasonal conditions.

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Sale WSPA; however, the Local Management Plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New licences

New groundwater licences (additional entitlement) will not be issued in the Sale WSPA because this may adversely impact on the sustainability of the groundwater resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence (temporarily or permanently), SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application, SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the WSPA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

In the Sale WSPA:

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

Due to the threat of saline intrusion from the Gippsland Lakes, SRW currently restricts any groundwater trading in the Clydebank area. This area is identified as the Clydebank Restricted Trading Zone. The Clydebank Restricted Trading Zone is shown in Figure A3-1 and refers to the area bounded by Lake Wellington in the east, the Avon and Nuntin Creek to the north, the Princes Highway to Sale, the South Gippsland Highway from Sale in the west to where it crosses the Latrobe River, and from the Latrobe River to Lake Wellington. The following rules apply:

- Groundwater cannot be transferred into the Clydebank Restricted Trading Zone
- Groundwater can be transferred out of the Clydebank Restricted Trading Zone to elsewhere in the Sale WSPA. Transfers are permitted from the Sale WSPA (including the Clydebank Restricted Trading Zone) into the Lindenow area (refer to Appendix 8).

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed on an as needs basis.

## Appendix 4 Stratford Local Management Plan

### Objective of the Local Management Plan

The objective of the local management plan is to make sure that the groundwater resources in the Stratford Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description and sub zones

Stratford GMA is comprised of two zones. The Stratford GMA plan is lodged with the Central Plan Office, reference number LEGL./04-158.

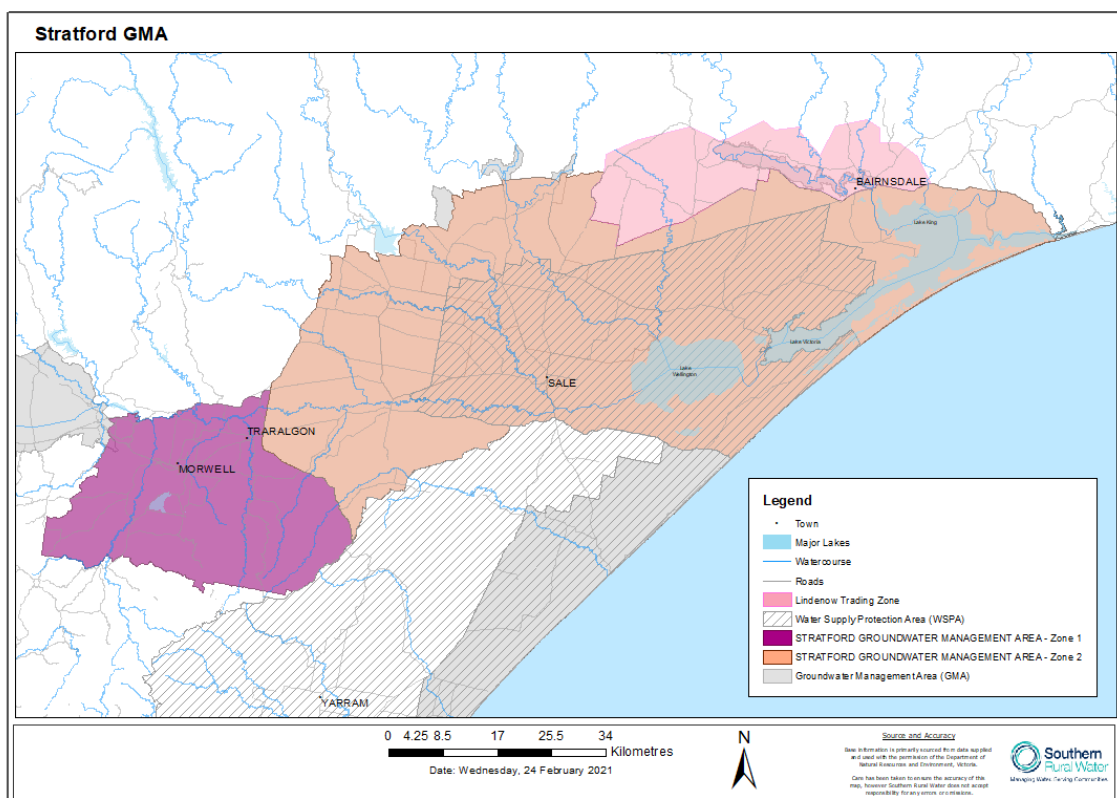


Figure A4-1: Map of Stratford Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Stratford GMA. The PCV is a cap on the amount of groundwater allocated in this management unit.

The PCV applies to the area covered in Figure A4-1 and includes two subzones:

- Zone 1 – All formations below 150 metres from the surface; and
- Zone 2 – All formations below 350 metres from the surface.

The PCV collectively for the two subzones is 27,645 ML/yr.

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

Approximately 3% of groundwater licensed in the Stratford GMA is for irrigation purposes. The majority of groundwater entitlement is used by power generators in the Latrobe Valley. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions.

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Stratford GMA; however, the local management plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New licences

New groundwater licences (additional entitlement) will not be issued in the Stratford GMA because this may adversely impact on the sustainability of the groundwater resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence temporarily or permanently, SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

Transfers are permitted from the Stratford GMA into the Lindenow area (refer to Appendix 8).

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed on an as needs basis.



## Appendix 5 Wa De Lock Local Management Plan

### Objective of the Local Management Plan

The objective of the local management plan is to make sure that the groundwater resources in the Wa De Lock Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description and sub zones

Wa De Lock GMA is comprised of three zones. The Wa De Lock GMA plan is lodged with the Central Plan Office with reference numbers LEGL./04-160, LEGL./04-161 & LEGL./04-162 respectively for Zones 1, 2 and 3.

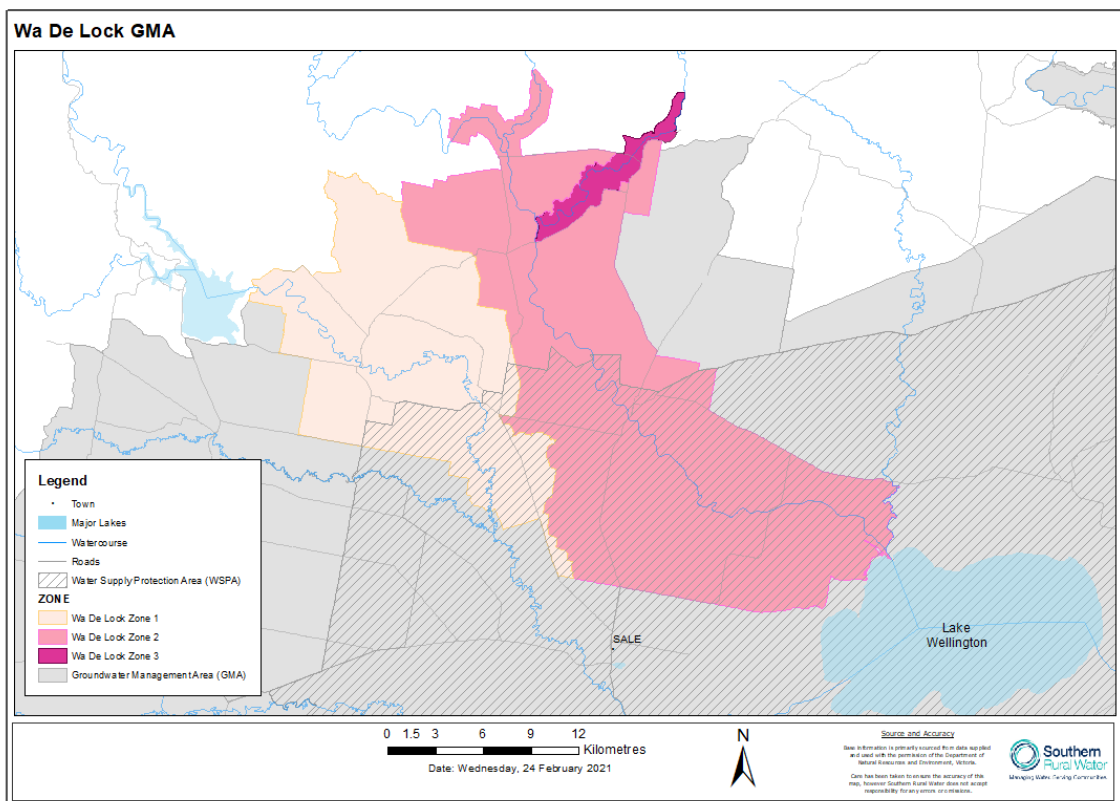


Figure A5-1: Map of Wa De Lock Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Wa De Lock GMA. The PCV is a cap on the amount of groundwater allocated in this management unit

The PCV applies to the area covered in Figure A5-1:

- Zone 1 – All formations from the surface to 25 metres below the surface
- Zone 2 – All formations from surface to 25 metres below the surface

- Zone 3 – All formations from surface to 25 metres below the surface

The PCVs for these three subzones are:

- Zone 1 – 12,595 ML/yr
- Zone 2 – 17,000 ML/yr
- Zone 3 – 1,200 ML/yr

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

The majority of groundwater licensed in the Wa De Lock GMA is for irrigation purposes. Groundwater is also used by Gippsland Water to supply water to Briagalong and Boisdale townships. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Wa De Lock GMA; however, the local management plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New licences

New groundwater licences (additional entitlement) will not be issued in the Wa De Lock GMA because this may adversely impact on the sustainability of the groundwater resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence (temporarily or permanently), SRW must to undertake a thorough assessment of the application. An application to transfer a licence is

not automatically approved. In deciding whether or not to approve an application SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

Transfers can only occur within zones. Groundwater cannot be transferred from one zone to another.

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed every 5 years, unless an update is required sooner.

## Appendix 6 Wy Yung Local Management Plan

### Objective of the Local Management Plan

The objective of the Local Management Plan is to make sure that the groundwater resources in the Wy Yung Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description and sub zones

Wy Yung GMA is comprised of three zones. The Wy Yung GMA plan is lodged with the Central Plan Office with reference number LEGL./01-49.

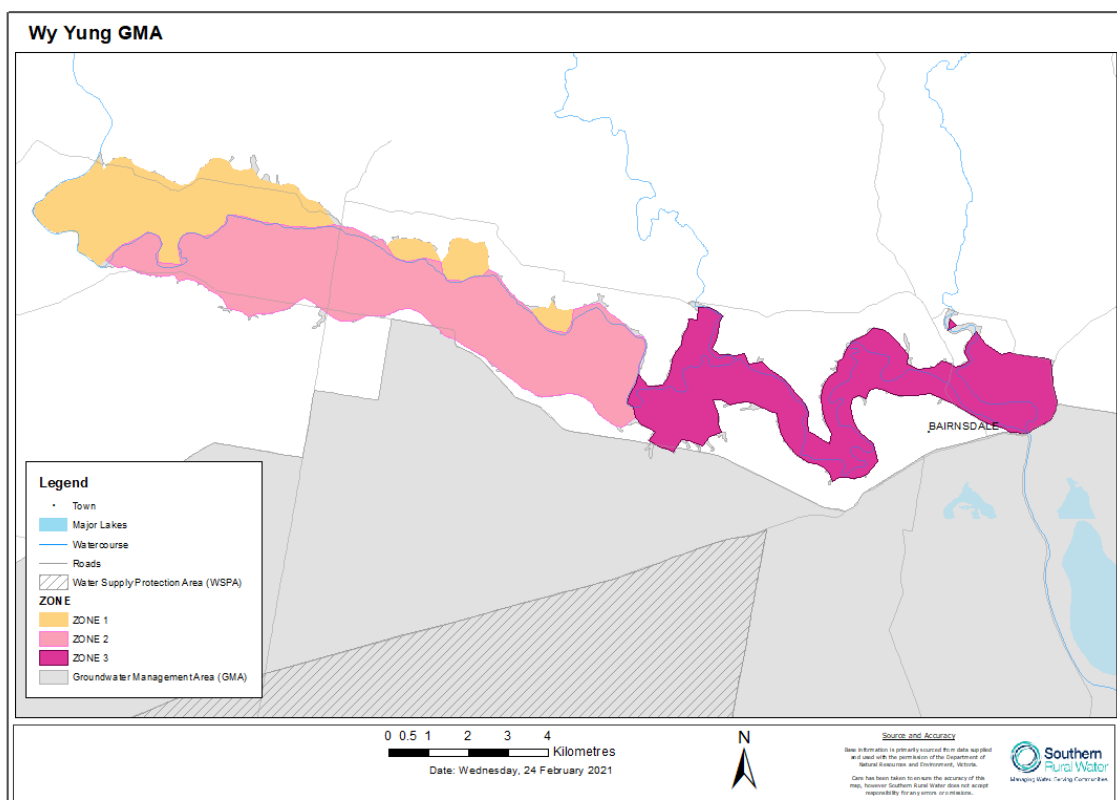


Figure A6-1: Map of Wy Yung Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Wy Yung GMA. The PCV is a cap on the amount of groundwater allocated in this management unit.

The PCV applies to the area covered in Figure A6-1, for all formations from the surface to 25 metres below the surface.

The PCV applies to the area covered in these subzones:

- Zone 1 – All formations from the surface to 25 metres below the surface

- Zone 2 – All formations from surface to 25 metres below the surface
- Zone 3 – All formations from surface to 25 metres below the surface

The PCV set for each of these subzones is:

- Zone 1 – 691 ML/yr
- Zone 2 – 5,342 ML/yr
- Zone 3 – 1,430 ML/yr

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

All of the groundwater licensed in the Wy Yung GMA is for irrigation purposes. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions.

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Wy Yung GMA; however, the local management plan does not place specific restrictions on taking groundwater.

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## New licences

New groundwater licences (additional entitlement) will not be issued in the Wy Yung GMA because this may adversely impact on the sustainability of the groundwater and surface water resource, however temporary or permanent trade of existing entitlement is allowed.

## Trading

In considering an application to transfer a licence temporarily or permanently, SRW must undertake a thorough assessment of the application. An application to transfer a licence is

not automatically approved. In deciding whether or not to approve an application, SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

In the Wy Yung GMA:

- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years
- Transfers are permitted within zones
- Transfers are permitted between zones up to the PCV for each zone

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed on an as needs basis.

## Appendix 7 – Moe Local Management Plan

### Objective of the Local Management Plan

The objective of the local management plan is to make sure that the groundwater resources in the Moe Groundwater Management Area (GMA) are managed in an equitable and sustainable manner.

### Area description

Moe GMA is shown below. The plan is lodged with the Central Plan Office, reference number LEGL./04-146. The Thorpdale Volcanics and Childers Formation aquifer is part of the Lower Tertiary Aquifer (see Table 1).

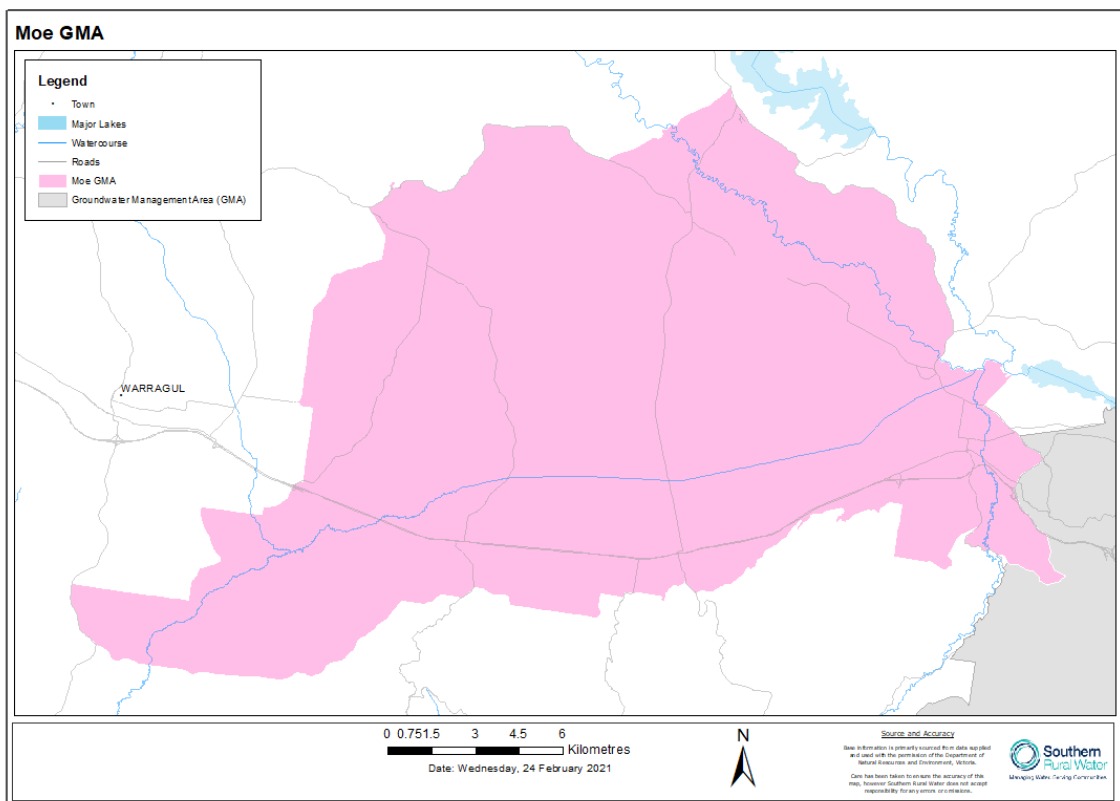


Figure A7-1: Map of Moe Groundwater Management Area.

### Permissible Consumptive Volume

A Permissible Consumptive Volume (PCV) currently applies to the Moe GMA. The PCV is a cap on the amount of groundwater allocated in this management unit. The PCV for Moe GMA is 8,200 ML/yr.

The PCV applies to the area covered in Figure A7-1, for all formations below 25m from the surface.

## Water entitlements

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have rights to take groundwater for domestic and stock use without a groundwater licence.

Over 70% of groundwater licensed in the Moe GMA is for irrigation purposes. Groundwater is also used in dairies for cooling and wash-down. Metered groundwater use is less than the total groundwater entitlements, and varies each year according to the seasonal conditions.

Annual summary information on licence numbers, total entitlement volume and groundwater levels can be found in the relevant SRW Local Water Report on the SRW website.

Licence holders must not take more than their annual licence volumes.

## Restrictions

The PCV determines the maximum volume of water that can be extracted from the Moe GMA. Additionally, the local management plan may place specific limits on groundwater entitlement in certain areas, such as within the Shady Creek and Moe Swamp Basin zones (see Appendix 8).

If necessary, SRW is able to temporarily qualify rights to groundwater under section 33AAA of the *Water Act 1989* if a water shortage occurs - for example, if regional drawdown is affecting access to groundwater by users.

Groundwater licences also allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

## Trading

In considering an application to transfer a licence temporarily or permanently, SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application, SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the GMA.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

In the Moe GMA:



- Permanent transfers are permitted
- Temporary transfers are permitted for a period of up to five years

Additional rules have been developed for trading due to the development of some “hot spots” where bore interference has occurred and the effects that pumping may have on stream flows. These relate to the Thorpdale Volcanics aquifer and the unconfined aquifers within and adjacent to the Moe GMA. Two zones have been created to manage these impacts: the Shady Creek Zone and the Moe Swamp Basin Zone. See Appendix 8 for rules which apply in these zones.

## **New licences**

New licences can be issued up to the PCV.

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed every 5 years, unless an update is required sooner.

## **Appendix 8 Central Gippsland and Moe Groundwater Catchments (Areas outside of GMUs) Local Management Plan**

### **Area description**

The remaining region of the Central Gippsland and Moe Groundwater Catchments comprises all areas excluding:

Denison Groundwater Management Area	Appendix 1
Rosedale Groundwater Management Area	Appendix 2
Sale Water Supply Protection Area	Appendix 3
Stratford Groundwater Management Area	Appendix 4
Wa De Lock Groundwater Management Area	Appendix 5
Wy-Yung Groundwater Management Area	Appendix 6
Moe Groundwater Management Area	Appendix 7
Permissible Consumptive Volume (PCV)	

There are no PCVs that currently apply to this area or its zones.

### **Water use and entitlements**

The extraction of groundwater for purposes other than domestic and stock use is authorised under a groundwater licence. People have the right to take groundwater for domestic and stock use without a groundwater licence. This applies for the entire area and all zones.

Guidelines on the rights to take and use groundwater under section 51 of the Act are available on the water register site ([www.waterregister.vic.gov.au](http://www.waterregister.vic.gov.au)).

### **Restrictions**

Groundwater licences do allow SRW to restrict extraction if required - for example, to minimise the effect of extraction from specific sites if there is a significant impact on nearby users or the aquifer. If restrictions are necessary, SRW will notify licence holders in advance.

### **New licences**

New groundwater licences can be issued within this local management plan area with exception of the Lindenow, Lake Wellington, Moe Swamp Basin and Shady Creek Trading Zones (see below). In considering an application for a groundwater licence SRW must undertake a thorough assessment. An application is not automatically approved. In deciding whether or not to approve an application SRW must consider a range of matters including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set conditions to minimise interference, or it may refuse the application. Approval of an application may be subject to technical assessments to determine water availability, bore interference and impact on surface water bodies.

Within the Lindenow Trading Zone, no new entitlement is allowed.

Within the Shady Creek Trading Zone, no new entitlement is allowed.

Within the Moe Swamp Basin Zone, no new entitlement is allowed.

Within the Lake Wellington Trading Zone, the aquifer of concern is within the Haunted Hills Formation. It consists of shallow sands and gravels that interact directly and indirectly with local streams. The streams in the lower Latrobe, Thomson and Avon River systems are capped from further allocation of water. The following rules apply:

- No new entitlement can be issued in the Haunted Hills Formation within the Lake Wellington Trading Zone (trade of existing entitlement is required)

These rules do not take precedence over Permissible Consumptive Volumes (PCVs) and Water Supply Protection Areas (WSPAs).

## **Groundwater trade**

There are no trading rules in the area outside of the existing GMAs, with the exception of the Lindenow, Lake Wellington, Shady Creek and Moe Swamp Basin Trading Zones.

In considering an application to transfer a licence temporarily or permanently, SRW must undertake a thorough assessment of the application. An application to transfer a licence is not automatically approved. In deciding whether or not to approve an application, SRW must consider section 40 of the Act, including:

- Availability of water now and in the future;
- Adverse effects that an approval may have on existing users, on waterways and aquifers and on the environment; and
- Existing and projected water quality in the area.

When an application is made, SRW will assess whether groundwater extractions at the new site will cause adverse and material interference to any nearby groundwater user. If interference is likely, SRW may set transfer conditions to minimise interference, or it may

refuse the application. Approval of an application to transfer may be subject to technical assessments to determine bore interference and impact on surface water bodies.

## Shady Creek and Moe Swamp Basin Trading Zones

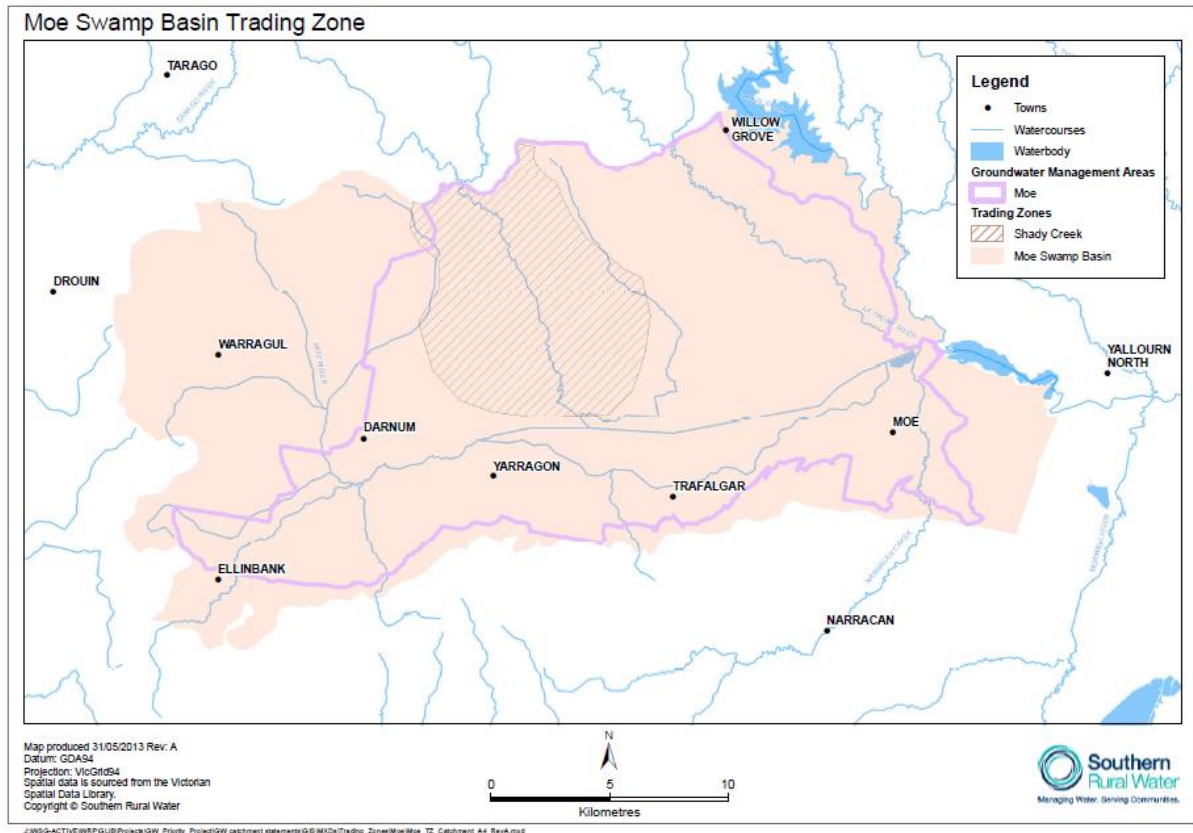


Figure A8-2. Shady Creek and Moe Swamp Basin Trading Zones

The following transfer rules apply to these two zones covering the Moe GMA and the unconfined and confined aquifers within the Moe Swamp Basin trading zone, and Shady Creek Trading Zone.

- Transfers are permitted from the Shady Creek Trading Zone into the Moe Swamp Basin Trading Zone
- No transfers are permitted into the Shady Creek Trading Zone
- Transfers are permitted from the unconfined aquifer in the Moe Swamp Basin zone into the confined aquifers of the Moe GMA, excepting the Shady Creek Trading Zone

## Lindenow Trading Zone

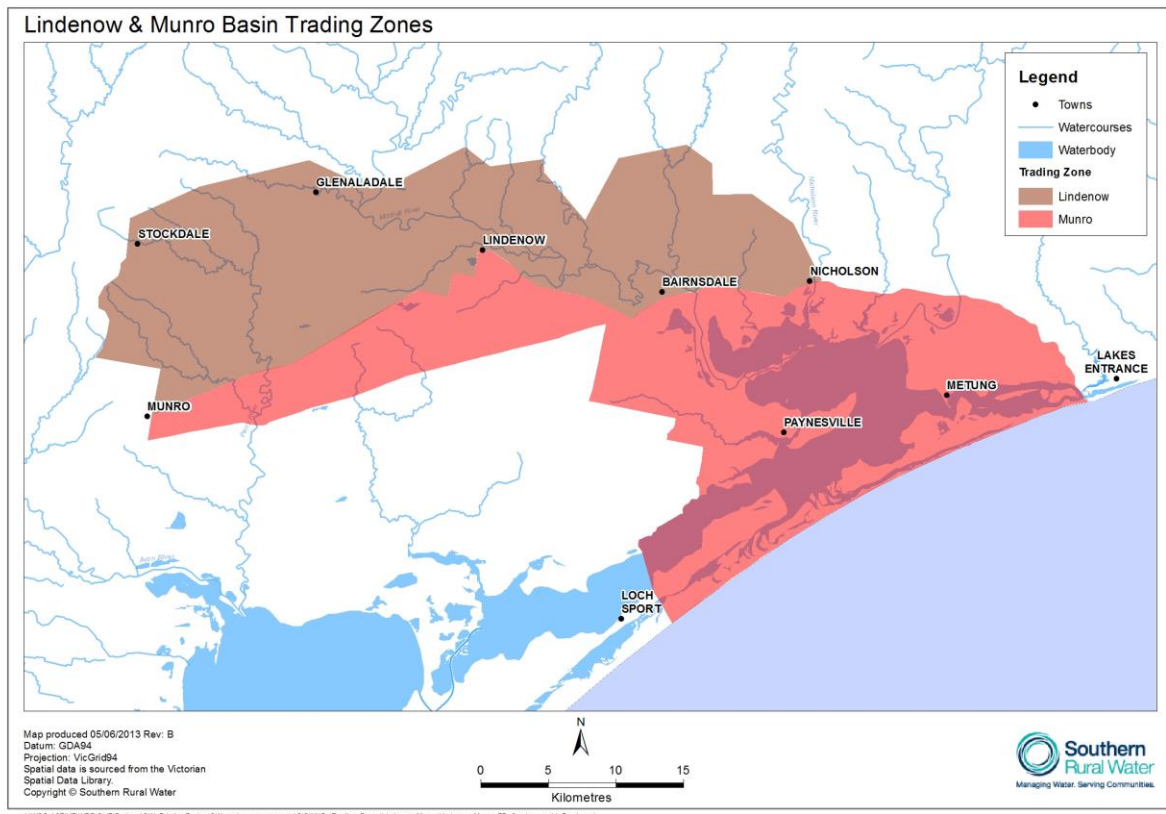


Figure A8-3. Map of Lindenow Trading Zone.

There are groundwater transfer rules that apply to the Lindenow trading zone. These include:

- Transfers from the Rosedale GMA, Sale WSPA and Stratford GMA are permitted into the Lindenow Trading Zone
- Transfers within the Lindenow Trading Zone are permitted
- Transfers from the Lindenow Trading Zone to capped GMAs and WSPAs are not permitted
- A limit of 1,900ML of entitlement applies to the Lindenow Trading Zone within the surface boundary of the Wy Yung WSPA.
- Transfers from the Wy Yung WSPA into Lindenow Trading Zone are not permitted
- Transfers from Sale WSPA into the Munro area immediately to the north, shallower than the Stratford GMA and south of Wy Yung WSPA, are permitted
- Transfers within Munro area are permitted
- Transfers from the Munro area are permitted to the Lindenow trading zone
- Transfers from the Munro area into capped GMAs and WSPAs are not permitted

- All areas are effectively capped either formally by PCVs or informally to manage the concentration of licences

## Lake Wellington Trading Zone

The Lake Wellington trading zone is comprised of six sub zones.

These zones apply to the shallow groundwater resources on the zone (the Haunted Hills Formation and associated aquifers). The trading rules should be read in conjunction with the PCVs for Denison and Wa De Lock, and where there is any conflict then the PCVs and associated zonal caps will take priority.

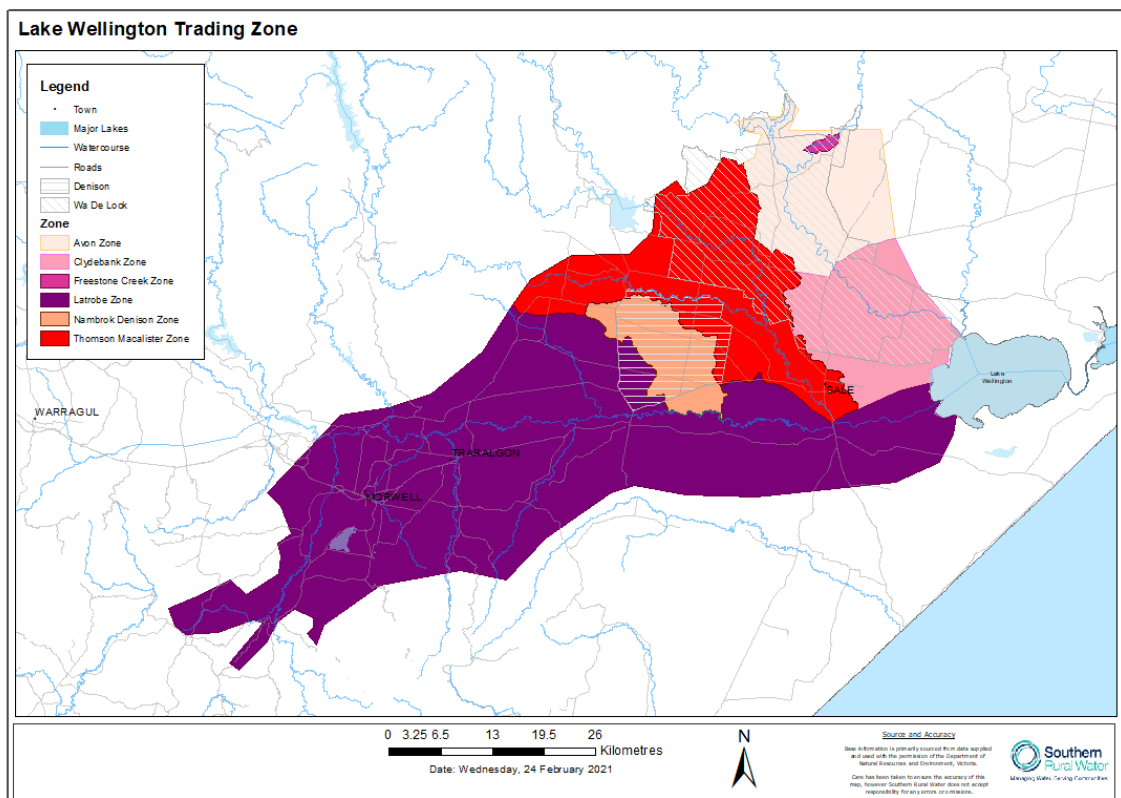


Figure A8-4. Map of Lake Wellington trading zone.

There are groundwater transfer rules that apply to the Lake Wellington trading zone. These include:

- Transfers may occur within and into the Latrobe zone
- Transfers may occur within but should not occur into the Nambrook Denison zone
- Transfers may occur within but should not occur into the Thomson Macalister zone
- Transfers may occur within but should not occur into the Avon zone
- Transfers may occur within but should not occur into the Freestone Creek zone

- Transfers may occur between surface water and groundwater in the Freestone Creek zone
- Transfers may occur within and into the Clydebank zone
- Dewatering for salinity control is not capped in the Clydebank zone
- Transfers are subject to section 40 assessments including Permissible Consumptive Volumes

## **Metering**

Southern Rural Water meters new and existing licensed water users. This allows SRW to keep track of how much water is being used and enables licence holders to keep within their allocated volume. This means:

1. All new licences for irrigation or commercial purposes require a meter
2. Existing licences of 10ML or greater require a meter

The meters are supplied by SRW, and the licence holder will be responsible for paying the full cost of the meter and initial installation. The meter remains the property of SRW. SRW is responsible for maintenance and replacement.

Meters are read at least twice per year.

## **Consultation**

SRW will consult with licence holders and relevant stakeholders before making changes to the Local Management Plan, other than administrative changes or clarifications.

The Local Management Plan will be reviewed every 5 years, unless an update is required sooner.