Trade under the Murray-Darling Basin Plan

Under the Murray-Darling Basin Plan (the Basin Plan) groundwater trade is prohibited unless it can be demonstrated that certain matters are satisfied prior to approval of a trade.

This is different from surface water trade, where the aim is to facilitate trade wherever possible, while minimising negative impacts on other users and the environment.

Circumstances for groundwater trade

The Basin Plan requires that groundwater trade only be approved if the following conditions are satisfied:

- there is sufficient hydraulic connectivity between the extraction points subject to the trade
- the trade is within the consumptive limit for extraction from the resource – for different consumptive limits in Victoria see https://www.water.vic.gov.au/groundwater/managing-groundwater
- a mechanism is in place to account for trade such as the Victorian Water Register
- the characteristics of the entitlement are maintained (such as volume, timing and conditions), subject to conversion rates
- measures are in place to address third party impacts

Victoria’s Water Resource Plans (WRPs) set out the circumstances in which those conditions will be satisfied and where trade may be permitted or approved in Victoria’s WRP areas. The considerations required by the Basin Plan for setting circumstances in which trade can be approved align with the considerations under section 40 of the Victorian Water Act.

Figure 1 below illustrates how trade of groundwater takes and use licences can occur (see page 3 for image).

Sufficient hydraulic connectivity

Trade of groundwater is subject to considerations of connectivity between the relevant extraction points. Trade could occur within the same aquifer, between aquifers or between groundwater and surface water. Under Basin Plan, Victoria must consider whether there is “sufficient hydraulic connectivity” to support the trade.

Sufficient hydraulic connectivity relates to the ability for water to pass between the two points of extraction to allow for recharge and discharge.

Under the Basin Plan, groundwater in northern Victoria is defined by geological basin areas, termed ‘SDL resource units’. Sufficient hydraulic connectivity has not been established across all of Victoria’s SDL resource units. In northern Victoria, for example, there is sufficient hydraulic connectivity under the Basin Plan between the following SDL resource units:

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Goulburn-Murray: Sedimentary Plain</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Goulburn-Murray: Highlands</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Goulburn-Murray: deep</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Goulburn-Murray: Shepparton Irrigation Region</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

For more information see Chapter 7 of the Wimmera-Mallee and Victoria’s North and Murray Comprehensive Reports.

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Conversion rates

There are no conversion rates applied to groundwater in Victoria except in the Upper Ovens River Water Supply Protection Area where groundwater licences in alluvial sediments and surface water have the same trade arrangements, reflecting the high connectivity. A 20% reduction of volume available under the entitlement on downstream transfers (trades) from an all year licence in Zone 1. The reduction accounts for evaporation, seepage and other losses which would occur in the system between the upstream extraction point and the downstream extraction point.

For the purposes of Basin Plan this is considered a conversion rate on the transfer of the take and use licence. This conversion rate is only applied in the Upper Ovens River Water Supply Protection Area.

Alignment with Victoria’s framework

Figure 2 sets out how the Basin Plan, WRP and Victorian Water Act requirements align to ensure groundwater trade is consistent with the Basin Plan (see page 4 for image).

Accessibility

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Figure 1: Determining transfer (trade) of groundwater
## CONSIDERATIONS BEFORE APPROVING GROUNDWATER TRADE

<table>
<thead>
<tr>
<th>BASIS PLAN</th>
<th>WATER RESOURCE PLAN</th>
<th>VICTORIAN WATER ACT</th>
</tr>
</thead>
</table>
| sufficient hydraulic connectivity 12.24(a), 12.25(a), 12.26(c) BP | sufficient hydraulic connectivity must be demonstrated in:  
- a hydrogeological resource assessment for 10.38 BP  
- a statutory management plan approved under s.32A of the Victorian Water Act for 10.38 BP | for each trade hydrogeological resource assessment considers:  
- topography  
- aquifers / aquitards  
- groundwater levels (current, long term, seasonal and aquifer interactions)  
- groundwater flow  
- surrounding environmental features (waterways and groundwater dependent ecosystems)  
- groundwater quality  
- impacts of proposed pumping  
this assessment may be supported by any hydrogeological investigation undertaken by proponent to support application |
| Resource Condition Limit 12.24(b), 12.25(b), 12.26(b) BP | relevant permissible consumptive volume declared under section 22A of the Victorian Water Act must not be exceeded | matters to be taken into account include:  
- existing and projected availability of water (section 40(1)(b))  
- the relevant permissible consumptive volume declared under section 22A of the Victorian Water Act (section 40(1)(b)a) |
| must account for trade 12.25(c), 12.26(c) BP | trade is recorded on the Victorian Water Register | all trades must be recorded on the Victorian Water Register |
| maintain characteristics of the water access right 12.24(c), 12.25(d), 12.26(d) BP | the volume to be traded must be specified, noting that in Victoria measures are in place to ensure that the water access right to be traded will maintain its characteristics of timing, reliability and volume | The Victorian Water Act provides for a groundwater trade (whether temporary or permanent) to be made by a transfer of the licence. It requires traded licences to maintain their essential characteristics such as volume, term and conditions (noting that groundwater licences do not have the characteristic of high or low reliability). |
| measures to address impact on water availability to third party water access right holders 12.24(d), 12.25(e), 12.26(e) BP | where regard has been had to any adverse effect that the trade is likely to have on existing authorised users of water, measures are in place to address any adverse effect | matters to be taken into account include:  
- impacts on other users (including the environment and waterways) (section 40(1)(d)(j))  
- the needs of other potential applicants (section 40(1)(m)) |

Figure 2 Alignment between Basin Plan, WRPs and Victoria’s Framework