



Wimmera-Mallee Surface Water BDL Re-estimates

Prepared by Victoria February 2019

Wimmera-Mallee Surface Water BDL Re-estimates

Form of Take	BP 2012 Estimate (GL)	Revised Estimate (GL)	Supporting Information
Regulated rivers (excluding basic rights)	66.00	66.87	<p>Changes in estimates are based on the updated Resource Allocation Model (REALM) computer simulation model that was developed for the Wimmera–Mallee system covering all take from a regulated river (excluding basic rights).</p> <p>The method for the BDL is outlined in the <i>Hydrologic Model for Basin Plan Compliance in Wimmera-Mallee (Surface Water) Water Resource Plan Area Baseline Diversion Limit and Sustainable Diversion Limit, 2017</i> report.</p>
Watercourses (excluding basic rights)	1.00	1.30	<p>Early discussions with the MDBA identified a revised method of total entitlement volume as the method for determining the BDL. This would have increased the BDL to 5,790 ML. In late 2018 the MDBA advised that this would not be an acceptable method. Victoria proposes to use a similar method as that used to determine the Basin Cap to determine the BDL for take from a watercourse (excluding basic rights). The Basin Cap method used a proportion (1.9%) of the volume determined for take from a regulated river (excluding basic rights).</p> <p>Therefore, the BDL for take from a watercourse (excluding basic rights) is equal to 1.9% of the BDL for take from a regulated (excluding basic rights). This equates to a volume of 1,299 ML for the Wimmera-Mallee (surface water) SDL resource unit.</p> <p>Recognising there are flaws in the method, Victoria is proposing to revise the estimate within the next two years to determine a more accurate means of representing levels of take as at 2010 for this form of take.</p>
Regulated rivers under basic rights	-	1.07	<p>The volume estimate is based on the sum of:</p> <ul style="list-style-type: none"> a modelled estimate of the volume of water taken from freehold land and Crown frontage based on estimated domestic demand of 0.3 ML/house/year and stock drinking water of 0.03ML/year/per ha of land grazed. This model is explained in Stock and Domestic Water Use Modelling Resource Manager's Handbook (RMCG, 2011). The model uses the best available information to represent conditions present as at June 2009. Due to the uncertainty in domestic and stock estimates, the modelled estimate uses the upper limits. an estimate of the volume of expected water demand under section 8A of the Victorian Water Act where the Traditional Owners have a natural resource agreement under the <i>Traditional Owner Settlement Act 2010</i>
Watercourses under basic rights	-		

Wimmera-Mallee Surface Water BDL Re-estimates

Form of Take	BP 2012 Estimate (GL)	Revised Estimate (GL)	Supporting Information
Runoff dams (excluding basic rights)	61.00	13.10	<p>The volume estimate is based on entitlements extracted from Victorian Water Register as of July 2016.</p> <p>As given in section 10.4.1 of the WRP Comprehensive Report:</p> <p><i>“Data from the Victorian Water Register has been extracted as of July 2016. Due to ongoing improvements and data management within the Water Register, obtaining historical data from 2009 is currently not practical. However, current management of Section 51 licences ensures that the overall entitlement pool for section 51 licences cannot increase over time. This means that the total entitlements volume in 2016 has remained unchanged since prior to 2009. As a result, licence information from July 2016 is considered a suitable source of information for this situation.”</i></p> <p>Data extracted from the Water Register for this form of take includes all registered farm dams. It also includes all take and use licences with licence type of “extraction from an on-waterway dam” or “harvesting using an off-waterway dam”. A small number of these licenses exist in the West Wimmera zone.</p> <p>Refer to the WRP Comprehensive Report section 10.4.1 for detailed description of the method for this form of take.</p>
Runoff dams under basic rights		11.00	<p>The volume estimate is based on modelling that is described in the Interception Activities Technical Report under section heading: Method for Calculating the Long Term Average Annual Take by Runoff Dams (estimated volumes provided in Table 3 of the report). This section provides that the determination of the BDL for runoff dams under basic rights in the Wimmera Mallee using the MDBA waterbodies data prepared by Geoscience Australia in 2010 (Geoscience Australia, 2010) and GIS aerial imagery from approximately 2004/05 as the best available information at this time.</p> <p>While projections for growth in the number of dams are made in the report, these have not been used in estimating the BDL, as given in section 10.4.1 of the WRP Comprehensive report:</p> <p>The best available information on which to base estimates of take is the spatial data from approximately 2005. While this data could be adjusted to represent growth up to 2009, this is not appropriate as it would introduce additional uncertainty with little practical benefit.”</p> <p>Refer to the WRP section 10.4.1 for detailed description of the method for this form of take.</p>
Commercial plantations	1.00	5.70	<p>This estimate is based on modelling recently undertaken by Victoria, which is outlined in page 15 to 21 of the Interception Activities Technical Report. Refer to the WRP Comprehensive report section 10.4.3 for detailed description of the method for this form of take.</p> <p>The technical report provides that the BDL is estimated as the difference between the long-term average rate of evapotranspiration from plantations that were present in 2009 and from the vegetation type that was thought to be present before the plantation was established. The long-term average rate of evapotranspiration will be estimated using the SoilFlux model. This is reflective of the level of development of commercial plantations in the WM as at June 2009.</p>
Total BDL (GL)	129.00	99.04	