



# Middle Murray River

The middle Murray River starts on the Darling Plateau south of Dwellingup and flows towards Pinjarra. The Marrinup and Oakley brooks also start on the plateau north of Dwellingup, both flowing west to join the Murray River.

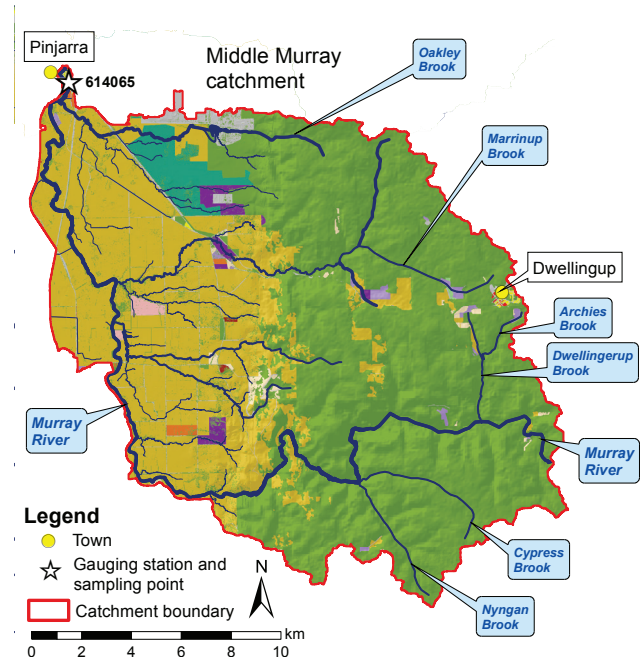
The sampling site on the Murray River at Pinjarra Road (614065) is one of three long-term monitoring sites within the Peel-Harvey catchment. Nutrients have been monitored at the site since 1983 (except for 1994 and 1995) and flow since 1992. The Murray River flows year-round with river height varying by more than 4 m in some years (e.g. 2009).



Flooding at Pinjarra, highest flow for the year – August 2009

Much of the catchment lies on the Darling Plateau where the soils are mostly ironstone gravel with hard acidic red or yellow soils, although to the west, sandy acidic yellow mottled soils dominate. The catchment is not subject to seasonal inundation and only a small percentage has a high or very high risk of phosphorus leaching to waterways (7.5%).

To the east of the Darling Scarp the catchment is relatively undisturbed. West of the scarp the land has been cleared, mostly for agriculture such as stock grazing, as well as for plantations). Industrial land uses within the catchment include roads, railways and the southern end of Alcoa's alumina refinery. Most of the refinery is located in the lower Murray catchment to the north.



Land use classification (2006)	Area	
	(km <sup>2</sup> )	(%)
Animal keeping – non-farming (horses)	0.76	0.26
Cattle for beef (predominantly)	94	32
Cattle for dairy	0.01	0.01
Conservation and natural	177	60
Cropping	0.10	0.03
Horticulture	1.5	0.52
Industry, manufacturing and transport	6.2	2.1
Intensive animal use	0.14	0.05
Lifestyle block	1.6	0.56
Mixed grazing	2.6	0.89
Offices, commercial and education	0.10	0.03
Plantation	7.0	2.4
Recreation	0.05	0.02
Residential	0.33	0.11
Viticulture	0.92	0.31
<b>Total</b>	<b>293</b>	<b>100</b>

**In 2015 the Murray River had the lowest median TN and TP concentrations of all the 13 sites sampled in the Peel-Harvey catchment.**

## Nutrient summary: median concentrations, loads and status classification at 614065

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Annual flow (GL)	184	293	244	334	85	226	237	314	61	189	109	173	153	41
TN median (mg/L)	0.45	0.51	0.32	0.39	0.35	0.67	0.53	0.49	0.54	0.74	0.49	0.59	0.57	0.40
TP median (mg/L)	0.021	0.017	0.017	0.019	0.014	0.015	0.019	0.014	0.016	0.022	0.009	0.010	0.014	0.013
TN load (t/year)	161	308	255	347	57	229	261	389	34	196	75	159	130	19
TP load (t/year)	4.0	7.5	5.9	8.6	1.4	5.5	6.3	9.1	0.93	4.5	1.8	3.8	3.1	0.60

Status classification: Low (Green), Moderate (Yellow), High (Orange), Very high (Purple)

Status reported for three-year period end (i.e. 2012–14 reported in 2014)  
TN = total nitrogen TP = total phosphorus