



Samson North Drain

The Samson Brook catchment starts in the Dwellingup State Forest on the Darling Plateau and drains west to the Harvey River. Samson Brook is dammed at Lake Kabbanup (Samson Brook Dam) which is used to supply the Waroona Irrigation District. Seven kilometres downstream of the Samson Brook Dam is the Samson Brook Pipehead Dam. Originally a pipehead weir constructed in 1962, it was upgraded to a dam in 2003 and feeds water into the state water supply grid.

Land use classification (2006)	Area	
	(km ²)	(%)
Cattle for beef (predominantly)	45	23
Cattle for dairy	1.8	0.91
Conservation and natural	125	64
Horticulture	2.7	1.4
Industry, manufacturing and transport	17	8.8
Lifestyle block	0.87	0.45
Mixed grazing	0.97	0.50
Offices, commercial and education	0.01	<0.01
Plantation	0.39	0.20
Residential	0.16	0.08
Total	195	100

Downstream of the dams, engineering works divert Samson Brook into Samson South and Samson North drains. Excessive flows may go north towards Waroona but are prevented from flowing into Waroona Drain. Samson North Drain flows through the north-west of the catchment and drains into Samson South Drain which in turn drains into the Harvey River downstream of Logue Brook.

The catchment's monitoring site is on Samson North Drain at Somers Road (613014). The drain has been monitored for nutrients since 1990 while flow was measured from 1978 to 1999 and again between 2005 and early 2008. Samson North Drain flows year round.



Samson North Drain gauging station at Somers Road
- March 2005

Only 2% of the Samson Brook catchment is subject to seasonal inundation while 8% of the catchment has a high or very high risk of phosphorus leaching to waterways.

To the east of the Darling Scarp the catchment remains relatively undisturbed. West of the scarp, the land has been cleared, mostly for agriculture including stock grazing, cattle for dairy and horticulture. Nearly 9% of the catchment has industrial land uses.

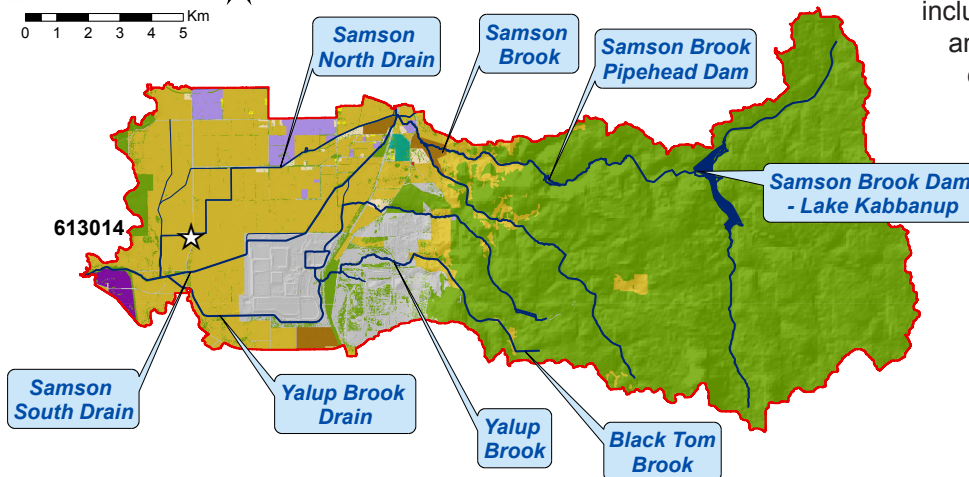
ALCOA's Wagerup refinery has been in operation since 1984 and was expanded in 2006. It uses water from the brooks and drains that flow through or are adjacent to its holding. The alumina refinery processes bauxite from the nearby Willowdale bauxite mine.

Legend

- ☆ Gauging station and sampling point
- Catchment boundary

0 1 2 3 4 5 Km

Samson Brook catchment



Nutrient summary: median concentrations, loads and status classification at 613014

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Annual flow (GL)	-	-	5.6*	2.3	4.7*	-	-	-	-	-	-	-	-	-
TN median (mg/L)	1.9	1.8	1.2	2.9	1.9	1.5	1.9	1.0	1.4	1.3	1.9	1.5	1.6	2.8
TP median (mg/L)	0.23	0.24	0.11	0.53	0.16	0.14	0.22	0.13	0.18	0.23	0.18	0.18	0.23	0.18
TN load (t/year)	-	-	14*	5.4	14*	-	-	-	-	-	-	-	-	-
TP load (t/year)	-	-	1.7*	0.82	1.4*	-	-	-	-	-	-	-	-	-

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

Status reported for three-year period end (i.e. 2012-14 reported in 2014)

TN = total nitrogen TP = total phosphorus

* Best estimate using available data (- not applicable)