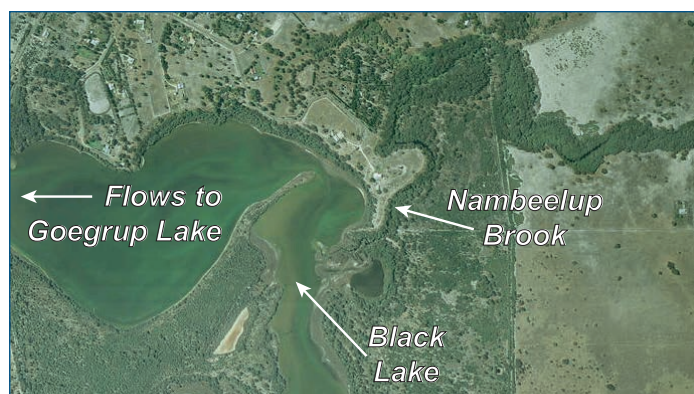




Nambeelup Brook

All of the Nambeelup Brook catchment is on the Swan Coastal Plain. The brook drains into Black Lake which feeds into Goegrup Lake (one of the Serpentine Lakes) and hence the Serpentine River. The Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 lists Black Lake as having high conservation significance.



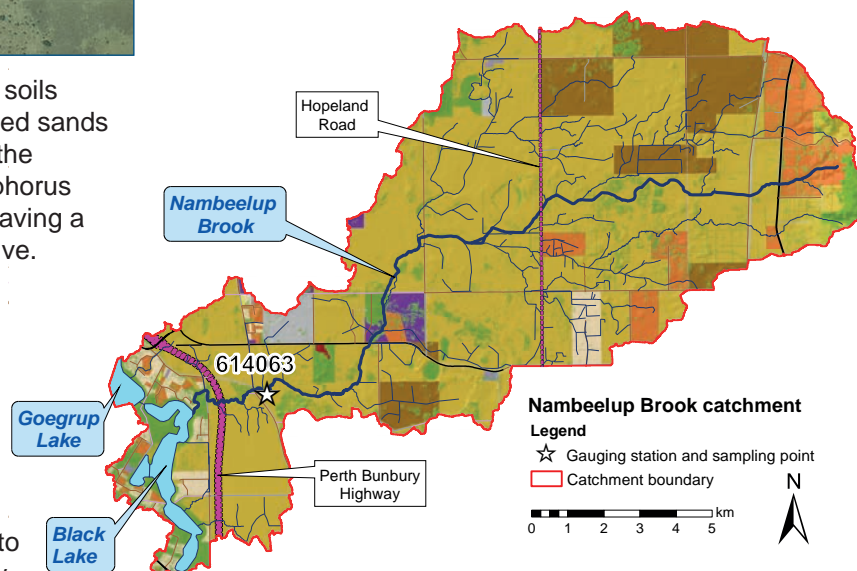
To the west of Hopeland Road the catchment's soils consist of sandy and clayey swamps and leached sands with nearly 20% subject to inundation. Most of the catchment has a high or very high risk of phosphorus loss to waterways with 83% of the catchment having a phosphorus retention index (PRI) of less than five.

Water quality is monitored near the catchment outlet, at the gauging station at Kielman (614063), to the west of Paterson Road.

Flow was measured at the gauging station between May 1990 and September 1998 after which time the station was closed. It was reopened in February 2005. Nambeelup Brook flows year-round during wet years, but ceases to flow in dry years from around November to May.

The Nambeelup Brook catchment had the second-greatest percentage of land used for agriculture ('cattle for beef and dairy') within the Peel-Harvey catchment. It had the least natural vegetation coverage (km² and %) of the catchments draining to the Serpentine River, and the second-lowest percentage within the Peel-Harvey catchment.

| Land use classification (2006) | Area | |
|---------------------------------------|--------------------|------------|
| | (km ²) | (%) |
| Animal keeping – non-farming (horses) | 9.0 | 6.3 |
| Cattle for beef (predominantly) | 89 | 62 |
| Cattle for dairy | 14 | 10 |
| Conservation and natural | 21 | 15 |
| Horticulture | 0.20 | 0.14 |
| Industry, manufacturing and transport | 4.2 | 2.9 |
| Intensive animal use | 0.09 | 0.06 |
| Lifestyle block | 4.1 | 2.8 |
| Mixed grazing | 1.3 | 0.88 |
| Offices, commercial and education | 0.01 | <0.01 |
| Recreation | 0.01 | <0.01 |
| Residential | 0.04 | 0.03 |
| Total | 143 | 100 |



In 2012 Nambeelup Brook had the second-highest median TN and TP concentrations of the 13 sites sampled in the Peel-Harvey catchment.

Nutrient summary: median concentrations, loads and status classification at 614063

| Year | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Annual flow (GL) | | | | | | | 21* | 3.7 | 12 | 15 | 16 | 1.5 | 9.8 | 6.1 |
| TN median (mg/L) | 2.2 | 2.0 | 2.6 | 2.6 | 2.8 | 2.8 | 2.7 | 2.4 | 3.1 | 3.0 | 3.1 | 3.0 | 3.4 | 3.4 |
| TP median (mg/L) | 0.55 | 0.45 | 0.66 | 0.63 | 0.73 | 0.69 | 0.60 | 0.61 | 0.59 | 0.58 | 0.46 | 0.49 | 0.61 | 0.51 |
| TN load (t/year) | | | | | | | 67* | 12 | 39 | 41 | 44 | 4.9 | 31 | 19 |
| TP load (t/year) | | | | | | | 14* | 2.4 | 7.7 | 8.7 | 7.6 | 0.87 | 6.1 | 3.8 |

Status classification: ■ Low ■ Moderate ■ High ■ Very high

Status reported for three-year period end (i.e. 2010–12 reported in 2012)
TN = total nitrogen TP = total phosphorus

* best estimate using available data