Department of **Water and Environmental Regulation**
Department of **Biodiversity, Conservation and Attractions**
GOVERNMENT OF WESTERN AUSTRALIA

Perth Airport North

The Perth Airport North Main Drain (also known as Limestone Creek) has its headwaters in the Darling Scarp where it is known as Poison Gully Creek. This is the largest waterway in the Perth Airport North catchment though there are other, smaller, drains which also discharge to the Upper Swan Estuary.

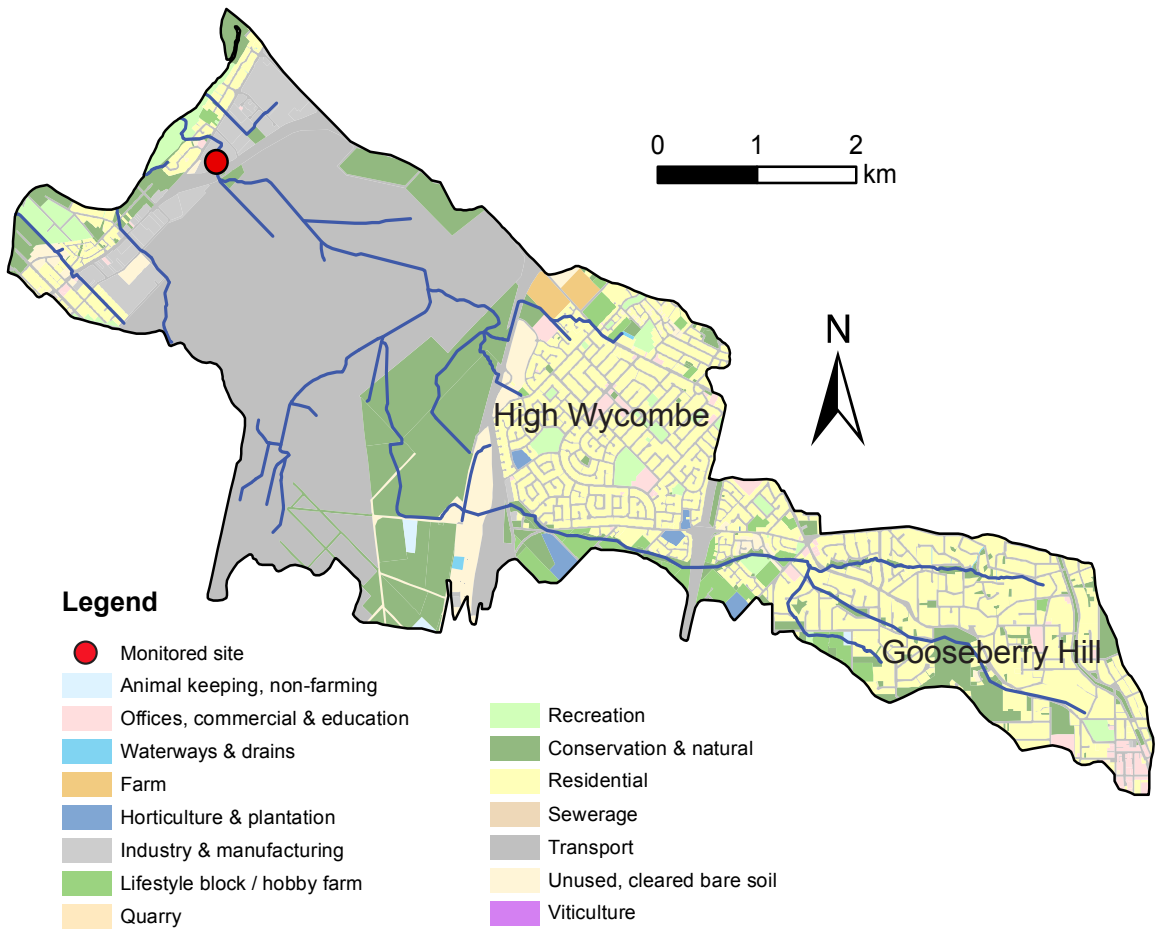
Both Munday Swamp and Poison Gully Creek have been deemed highly significant to Nyungar people and there are numerous archeological sites in the area.

European settlers used the land in the catchment for agricultural activities and stock grazing. The site for the airport itself was selected in 1938 on Dunreath golf course. Construction commenced in 1943 though the airport was initially used for military purposes only. Most of the undeveloped land at the airport is technically a wetland and has been categorised as a conservation category wetland. In 2002 to 2003, Poison Gully Creek was diverted around the Poison Gully wetlands and around Munday Swamp. At the same time, a large new drain was constructed to drain water from the airport, directly into Limestone Creek.

Landuse in the upper half of the catchment is mostly urban, while the lower half consists of bushland and a large portion of the airport, including the terminals.

The most common soil types in the catchment are Forrestfield and Guildford soils with small areas of Bassendean Sands. In the eastern portion of the catchment there is a small area of red gravels and earths and some shallow red and yellow earths along the scarp. The soils in the western portion of the catchment have poor nutrient-retention capabilities so any nutrients applied as fertiliser are quickly transported to groundwater when water is applied.

Water quality is monitored fortnightly in Limestone Creek, where it passes under the Great Eastern Highway Bypass in South Guildford. This site was chosen to give an indication of the nutrient leaving the catchment and discharging into the Upper Swan Estuary. It does not represent nutrients in upstream areas or in other drains in the catchment.



Poison Gully Creek in Maida Vale, March 2016

Limestone Creek – facts and figures

Average rainfall (2013–17)	~ 730 mm per year (Perth metro)
Catchment area	28 km^2
Per cent cleared area (2005)	90% (total catchment)
River flow	Generally flows year-round
Major land use (2005)	Transport (roads and airport) and residential (total catchment)

Nutrient Summary: concentrations, rainfall and targets

Year	Site	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Annual rainfall (mm)	009225	703.0	807.8	607.2	503.8	860.8	608.2	782.4	674.4	617.8	715.8	854.0
TN median (mg/L)	SCCIS12	0.74			0.57	0.78	0.66	0.65	0.67	0.68	0.68	0.58
TP median (mg/L)	SCCIS12	0.024			0.026	0.034	0.030	0.034	0.035	0.038	0.029	0.027

TN short term target = 2.0 mg/L TN long term target = 1.0 mg/L TP short term target = 0.2 mg/L TP long term target = 0.1 mg/L

insufficient data to test target | failing both short and long-term target | passing short but failing long-term target | passing both short and long-term target

* Best estimate using available data. # Statistical tests that account for the number of samples and large data variability are used for testing against targets on three years of winter data. Thus the annual median value can be above the target even when the site passes the target (or below the target when the site fails).

For further information please contact the
Water Science Branch, Department of Water and Environmental Regulation
catchmentnutrients@dwer.wa.gov.au

ISSN 2209-6779 (online only)
Publication date: April 2019