

Mills Street Main Drain

Mills Street Main Drain is an artificial drainage network with numerous lined and unlined segments. The drain is deeply incised and flows year-round (though it did stop flowing in the summer of 2010–11 after a very dry winter). It discharges into the Wilson Wetland, which then drains into the Canning Estuary below the Kent Street Weir in Cannington.

The catchment is almost entirely cleared for industrial, commercial and residential use. Wilson Wetland is a small pocket of remnant vegetation and is part of the Canning River Regional Park. The park has a high conservation value as it contains the best-condition estuarine vegetation in the Swan-Canning river system.

The predominant soils in the Mills Street Main Drain catchment

are highly permeable Bassendean sands. Groundwater is very close to the surface (approximately 2–3 m) and flows towards the river. The combination of permeable soils and a high water table means a high risk of groundwater contamination exists. Any surface chemical or nutrient spill can leach rapidly to the groundwater and travel to the drains and river.

Water quality is monitored at the catchment's lower end near Palm Place. This site was chosen to estimate the nutrients leaving the catchment and entering the Canning River, so the data do not represent nutrient concentrations in upstream areas. The Water Corporation operated a flow gauging station at this site until mid 2012 when data collection ceased.

Mills St Main Drain – facts and figures

Length	~ 4.9 km (main drain only); ~ 20.3 km (total Water Corporation drainage length)
Average rainfall (2011–15)	~ 709 mm per year (Perth metro)
Gauging station near monitored site	Site number 616043
Catchment area	12 km ² (total) 11 km ² (monitored)
River flow	Permanent No major water supply dams in catchment
Average annual flow	Not able to calculate
Main land uses	Light industry, commercial and urban areas



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Nutrient Summary: concentrations, loads and targets

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Annual flow (GL)	3.6	2.7	4.3	1.9	2.8	4.3	3.2	2.2*	3.6				
TN median (mg/L)	1.40	1.20	1.45	1.25	1.40	1.40	1.05	0.99 [#]	1.00 [#]	0.97 [#]	0.97 [#]	0.86 [#]	0.99 [#]
TP median (mg/L)	0.130	0.135	0.140	0.110	0.130	0.135	0.120	0.088 [#]	0.095 [#]	0.097 [#]	0.100 [#]	0.085	0.098
TN load (t/yr)	4.76	3.65	5.37	2.61	3.66	5.44	4.06	2.78*	4.50				
TP load (t/yr)	0.51	0.38	0.58	0.27	0.39	0.59	0.44	0.30*	0.48				

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).