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

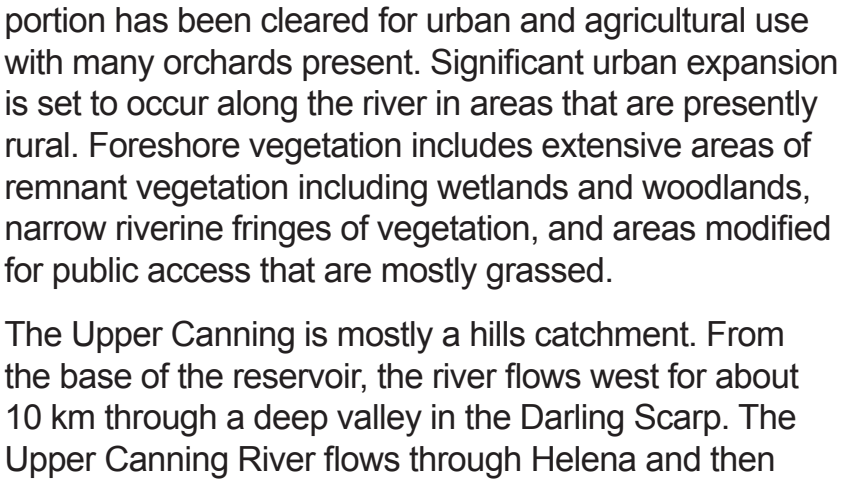
Upper Canning River

The Upper Canning River is a permanent, natural river system that only ceases to flow after a series of low rainfall years. The river is dammed on the Darling Scarp and this has produced an artificial flow regime. The Upper Canning catchment drains the area below the Canning Reservoir wall to the junction with Southern River in Gosnells. It contributes the second-largest inflow to the Canning Estuary.

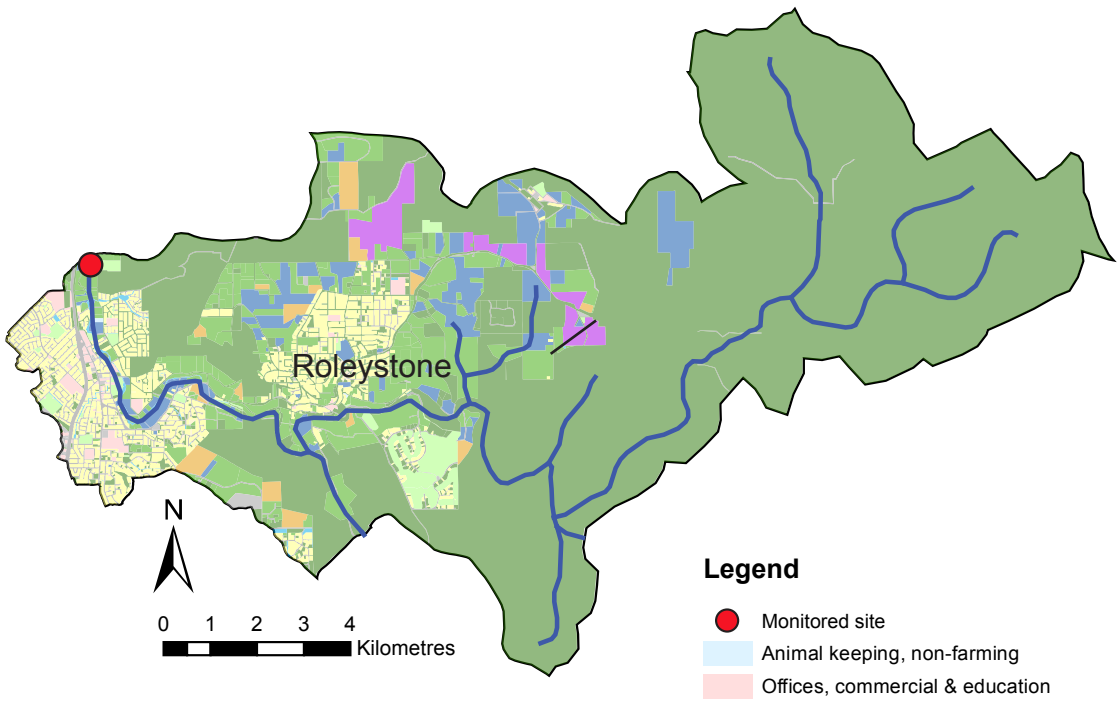
Much of the catchment remains uncleared and is classified as state forest. The catchment's western portion has been cleared for urban and agricultural use with many orchards present. Significant urban expansion is set to occur along the river in areas that are presently rural. Foreshore vegetation includes extensive areas of remnant vegetation including wetlands and woodlands, narrow riverine fringes of vegetation, and areas modified for public access that are mostly grassed.

The Upper Canning is mostly a hills catchment. From the base of the reservoir, the river flows west for about 10 km through a deep valley in the Darling Scarp. The Upper Canning River flows through Helena and then Dwellingup soils as it passes over the scarp. It then passes through a small portion of Southern River sands and Forrestfield soils before it becomes the Lower Canning River. Most of the flow in the Upper Canning results from surface water rather than groundwater.

Water quality is monitored fortnightly at the Seaforth gauging station near the lower end of the Upper Canning River. This site was chosen to estimate the nutrient concentrations leaving the catchment, so the data may not accurately represent nutrient concentrations in upstream tributaries.



The spillway at Churchman Brook dam which is just upstream of the Upper Canning catchment, August 2017.



The Canning River in Kelmscott, August 2016.

Upper Canning River – facts and figures

Average rainfall (2014–18)	~ 720 mm per year (Perth metro)
Catchment area	147 km^2
Per cent cleared area (2005)	25%
River flow	Permanent, only ceases to flow after a series of low rainfall years Canning Dam is on the Canning River
Average annual flow	~ 7.4 GL per year (2014–18 average)
Main land uses (2005)	Conservation and natural, farms and rural residential (bush blocks)

Nutrient summary: concentrations, estimated loads and targets

Year	Site	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Annual flow (GL)	616027	10.0*	10.5*	3.2	8.4*	5.5	8.8	9.1*	5.1*	6.8*	6.3*	9.7*
TN median (mg/L)	616027	0.36	0.38	0.30	0.46	0.33	0.38	0.31	0.32	0.51	0.37	0.34
TP median (mg/L)	616027	0.017	0.016	0.017	0.021	0.012	0.012	0.013	0.012	0.017	0.017	0.016
TN load (t/yr)	616027	8.36*	9.24*	1.65	7.14*	3.09	7.70	7.21*	3.26*	5.14*	4.75*	7.86*
TP load (t/yr)	616027	0.26*	0.31*	0.05	0.24*	0.10	0.26	0.22*	0.10*	0.16*	0.16*	0.29*

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).

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