Australian Government
Department of Infrastructure, Transport, Regional Development and Communications

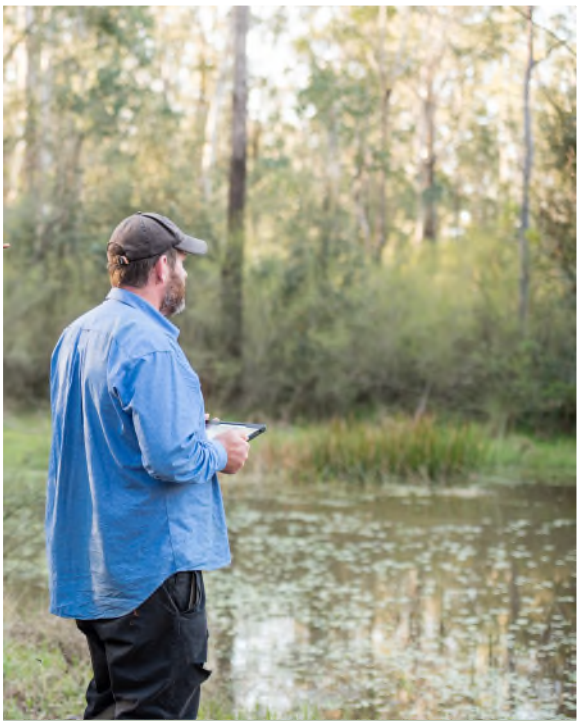
WESTERN SYDNEY
Fact Sheet

Water management at Western Sydney International Airport

Water management at Western Sydney International (Nancy-Bird Walton) Airport will protect water quality, reduce potable water use and minimise the risk of pollutants and sediment entering nearby waterways during the construction and operation on the airport site.

Water quality monitoring has been ongoing at the airport site since 2015. Findings from the monitoring program are being used in the water management systems to control the flow of surface water and improve the quality of water before it is released into waterways.

Water quality



The Western Sydney Airport Plan 2016 (Airport Plan) requires that Western Sydney Airport, the company responsible for building and operating the airport, develop Construction Environmental Management Plans (CEMPs). The Soil and Water CEMP outlines in detail how impacts are being managed and mitigated during construction, including how the airport company will meet the environmental expectations set out by the Australian Government.

This includes ongoing monitoring and management of surface water and groundwater throughout the construction and operation of the airport, in line with water quality standards.

Surface water

Development of the airport will change the water catchment and water flow on the airport site. The airport design utilises a water management system that controls the flow of surface water and reduces the amount of sediment before it is released back into the environment.

The system includes a series of water detention and bio retention basins that collect and treat flows prior to release. This helps prevent flooding and water quality impacts on surrounding waterways. Site-specific flood management measures are being implemented to avoid or mitigate risk, including minimising flood risk by storing flood-sensitive materials and infrastructure outside of the 100-year flood zone.

The groundwater contributions for surface water are expected to represent a small part of the overall surface water flows in the area.

Groundwater

Transformation of the airport site increases paved surfaces, which may result in a drop in groundwater recharge from rainwater flowing into groundwater systems in the area. The landscape is predominantly shale rocks and sandstone, with limited movement of water through the groundwater systems. The variations in depths to groundwater indicates low potential for connectivity between groundwater aquifers.

In addition, the low permeability of the clay soils at the site prevents water penetrating into groundwater systems, resulting in runoff from the site. The groundwater monitoring network is measuring the reduction in groundwater recharge and at this stage it is not expected to affect nearby groundwater dependent vegetation or watercourses. The Soil and Water CEMP includes corrective action to prevent recurring or long-term exceedance of target criteria.

Groundwater quality monitoring is being conducted to protect groundwater-dependent vegetation, sensitive creeks and watercourses. Any groundwater seepage will be managed by pumping and other suitable treatment methods. Groundwater sampling also identifies natural background conditions so that any variation can be detected early.

Drinking water

The health risk assessment undertaken for the airport's *Environmental Impact Statement 2016* (EIS) considered the risk of any potential contamination of groundwater, nearby domestic water tanks, Prospect Reservoir and Warragamba Dam as a result of the airport. The key activities assessed include spillage at the airport site, emissions from aircraft, and emergency fuel jettisoning.

The assessment found that:

- The emission of air toxics and particulate matter from aircraft, cars and trucks near surface water would represent a low risk to human health.
- Emergency fuel jettisoning is extremely rare — the EIS found that in 2014 there were only 10 instances of civilian aircraft jettisoning fuel in Australia, representing approximately 0.001% of all Australian aircraft movements. If fuel release is undertaken, Airservices Australia has strict regulations on where it can be performed. As fuel evaporates before reaching the ground, the associated health risk is low.
- Mitigation measures to minimise impacts on surface and ground water would further reduce associated health risks.

Based on available groundwater quality data, the Soil and Water CEMP concluded that the shallow groundwater in the area of the Airport site has low beneficial use potential for stock and potable purposes.

Emergency Spill Response Procedure on the airport site

An Emergency Spill Response Procedure will cover any pollution incidents that could cause actual or potential harm to the environment and/or human health. In the unlikely event that such incidents occur, these would be managed initially through the implementation of applicable Australian Standards for the storage and handling of hazardous materials.