

5. Water Availability – Catchment Changes

Purpose

To provide information on risks to water availability from catchment changes.

Background

There is a disproportionate relationship between reductions in rainfall and reductions in inflows and hence water availability, i.e. the reductions in runoff, and hence inflows to streams and aquifers, are greater than the reduction in rainfall. Recent experience suggests that this effect is amplified during dry and very dry conditions.

Accordingly, it is important to understand and seek to mitigate changes to catchment land use that may increase interception and further reduce inflows.

Land-use changes that impact on run-off include:

- re-growth of native vegetation on marginal lands
- plantation developments for timber production or carbon sequestration
- increased water capture and use for D&S under private rights, particularly via farm dams
- increased storm water harvesting by urban communities for nutrient management and amenity use
- more efficient on-farm irrigation systems, reducing return flows from irrigation run-off.

The effect on water availability from catchment land use change is difficult to estimate and is not expected to be as significant as other impacts on water availability.

State Governments are required to describe the potential threats and proposed mitigation as part of their implementation of the MDBA Plan.

Summary

Land use change in catchments can reduce water availability for irrigation because of impacts on inflows to streams and aquifers. While not expected to be the main contributor to reduced water availability for irrigated agriculture, it is important that potential land use changes are identified and considered in the development of GMW's strategic plan.