

## Section 2.2: Farm Dams

### WHAT IS THE ISSUE?

Farm dams are designed to pool and retain water and have long been the strategy for ensuring farms have enough water to exist and operate including irrigation, stock watering and household purposes. With more than 13,000 farm dams in the Western Mount Lofty Ranges alone, they reduce or prevent water flow downstream. Dams are important because they provide water security, but they have changed the pattern and amount of water flowing through the Mt Lofty Ranges. Low flows which can generally be described as the small trickles that soak into watercourses during summer and autumn have been largely impeded and parts of some catchments go without flow for several years. This has led to a general decline in the health of watercourses and threatens the ecosystems that depend on them. There is also significant concern and evidence that the system is over-allocated – there are too many dams in the system and not enough rainfall to reliably fill them every year.

The Western Mount Lofty Ranges Prescribed Water Resources Area (WMLR PWRA) extends from Gawler in the north, to Middleton and across to Cape Jervis on the south coast, and includes four watercourses across the Adelaide Plains (the Gawler, Little Para, Torrens and Onkaparinga rivers).

To help address these issues, a Water Allocation Plan (WAP) for the WMLR PWRA was adopted on 17 September 2013. The existing WAP will be reviewed by 2023 by the Hills and Fleurieu Landscape Board to ensure it is still meeting the needs of the environment and community.

The WAP outlines how water will be managed to protect the environmental, social and economic wellbeing of this Prescribed Area for future generations. It is guided by the *Landscape SA Act 2019*, which provides the legal framework for sustainably managing South Australia's water resources for the benefit of all water users. To do

this, the plan is based on scientific investigations and considers the sustainable, long-term balance between all users– the general community, industry and our natural environment. It aims to manage water use by ensuring that new allocations are within sustainable limits and minimises the risks of new use on existing users.

The science investigations undertaken to develop the WAP showed that many local catchments were heavily impacted by the collection of water in dams. This highlighted the need to provide water for the environment as well as protect the water security of existing users of water. In most areas this has meant limiting the number of dams that can be built, or increasing the capacity of dams in the Western Mount Lofty Ranges. Without this management impacts could include reduced flows to downstream users; changes to the volume and timing of flows to ecosystems that depend on particular flow conditions; erosion and/or sedimentation; and increased salinity. This has already been experienced in some sub-catchments.

This plan has been developed together with the local community and industry to ensure all needs, including the needs of the environment, are met. The plan protects existing users by minimising the risk of new dams having negative impacts on existing dams or downstream environmental assets. Under the plan, no new dams within the catchment of a reservoir can be built for any purpose, unless there is an equivalent reduction in capacity elsewhere in the catchment.

The WAP has led to restrictions on dam construction and debate over resource ownership (riparian rights) and environmentally sustainable flows. Water in the Mount Lofty Ranges is a shared resource. Downstream water users often share water which originates from upstream neighbours. The combined impact of dams and water diversions across catchments has significantly altered the natural pattern and amount of flow, contributing to a decline in waterway health. Securing essential environmental flows will require

all water users to work together to ensure the long-term health and function of catchments on which they rely.

The Securing Low Flows project in the Mt Lofty Ranges region focuses on how water is stored and diverted from watercourses for use on farms. Under the program low flows below certain threshold flow rates are diverted to pass downstream of some dams and maintain stream health. Contact the program via your Landscape SA Board office for further information and determine whether your dam would be good candidate for low-flow bypass.

From an ecological perspective dams have replaced wetlands and billabongs as permanent or semi-permanent sources of water. As a finite resource farm dams should be maintained to provide water for both our needs and those of native species.

## HOW DOES IT AFFECT YOU AND YOUR CATCHMENT?

A moratorium on new farms dams is in place. Generally, modifications resulting in more water being held in a farm dam will not be permitted. Any type of development within streams or dams may require the application of a Water Affecting Permit (WAA) via your Landscape SA Board Office or Development approval via your local council. If your property is in the Western Mount Lofty Ranges, you are not likely to be permitted to construct a new dam.

Climate change may result in less rainfall and runoff further reducing the viability of farm dams for water security into the future. Efficiency in farm water usage should remain a high priority.

In general, more water is stored underground than is found on the surface. Ensuring that groundwater reserves are recharged may provide a future source of potable water for longer than the use of surface storage.

Keeping the environment sustainable whilst maintaining productivity is a balancing act that can be achieved by allowing water to flow downstream at the right times, and in the right amounts. This can be done in a way that maintains water allocations and will benefit both water users and catchment health.

[Farm dams, water supplies](#) and waterways are at risk of [contamination](#) after a bushfire event. Building a sediment fence to protect farm water after a bushfire event may be an appropriate action prior to a heavy rainfall to prevent organic matter, manure and sediment entering.

Protecting farm dams and water supply after a bushfire so livestock have access to unpolluted water is important before a heavy rainfall event to reduce organic material entering. As you can see from Figure 1, a farm dam can be at risk of contamination and decrease in water quality after a fire event



**Figure 1. A polluted farm dam at Charleston, a result of water run-off after the Cudlee Creek Bushfire in December 2020.** Image source: NR AMLR field day – Managing soil erosion and water quality, March 2020.

For information about Water Allocations, Licensing and Water Affecting Activities contact the Department for Environment and Water.

## MANAGEMENT OPTIONS

- Observe Local and State Government regulations when managing a farm dam. Refer to the criteria's for determining which Act your proposed dam works falls under are if the WAA requires a permit. See Farm Dam for Stock, Wildlife and Improved Water Quality datasheet (Section 2.2).
- Stay on top of dam maintenance. If cracks and erosion appear, have it seen to by a suitably qualified engineer and contact your local Landscape SA Board Office to check whether a WAA permit is required to undertake repairs.
- Ensure that the run-off and stream water entering the dam and flowing out through the overflow is filtered through perennial vegetation. This will minimise the impact on downstream aquatic environments also.
- Treat dams like other watercourses and control livestock access to the dam reserve to minimise erosion and pollution.
- A wide variety of local plant species in and around the dam will improve its health. Do not plant on the dam wall as it may destabilise the wall.
- Protect farm dams and water supply after a bushfire - build a sediment fence, deploy silt traps, vegetation, netting or fencing or surface earth works, remove organic material. Have your water quality tested if concerned – Contact your local Landscape SA Board office

## FURTHER RESOURCES

### [Landscape SA Board – Offices](#)

Agriculture Victoria website – [Farm recovery after a bushfire](#)

Department of Primary Industries and Regional Development (WA) website – [Contaminated farm dams](#)

EPA, DEW and PIRSA – [post-bushfire water quality in farm dams and creeks \(with respect to livestock\)](#)

### [Landscape South Australia Act 2019](#)

Landscape SA Hills and Fleurieu

- [Water Affecting Activities](#)

- [Bushfire recovery, erosion and water supply](#), Factsheet 2020.

### **Datasheet provided:**

*Farm Dams for Stock, Wildlife and Improved Water Quality*