

The State of Health of the Mount Lofty Ranges Catchments from a water quality perspective

Sources of water pollution in the Mount Lofty Ranges

Point sources

The Environment Protection Authority licenses activities with the potential for significant environmental impact under the *Environment Protection Act 1993* as a means of reducing or eliminating the threat of environmental harm. Licences have been issued to 84 such activities in the Mount Lofty Ranges, including recycling depots, wastewater treatment plants, septic tank effluent disposal (STED) systems, wineries, composting works, extractive industries, and abattoirs.

Smaller operations are not licensed but can be significant point sources of pollution, as can the following systems.

Stormwater drains

Runoff can bring pollutants into stormwater, including heavy metals such as zinc and lead from roads, oil and grease, detergents, green waste such as lawn clippings, pesticide residues and fertilisers, animal faeces, sediment, and sewage from poorly maintained systems.

An estimated 4.5 tonnes of phosphorus, 83 tonnes of nitrogen and 800 tonnes of sediment discharges from the River Torrens to the sea annually.



A milking shed and yard—a source of nutrients (EPA).



A potential point source of pollution: landfills. All these activities are licensed by the Environment Protection Authority to ensure best management practices and to prevent scenes such as those on the left (EPA).

Domestic wastewater management systems

There are two types of common septic tank systems:

- Effluent discharged from the tank is connected to a STED system, which is usually run by the local council and treats the effluent in lagoons before disposal. Septic tanks connected to a STED system are not considered to be an issue, although the STED system itself can be.
- Effluent is disposed on-site through a soakage trench or through an aerobic wastewater treatment system.

Septic tanks using soakage trenches to dispose of effluent are a significant source of nutrients and pathogens. Many fail because of inadequate capacity and/or poor maintenance, and the polluted effluent can run off into our water supply.

New septic tanks are required to comply with the Waste Control Regulations issued

under the *Public and Environmental Health Act 1987* but the regulations do not specify maintenance practices. Old septic tanks, which are the main problem, may not comply with the waste control regulations.

- Approximately 88,000 people live in the Mount Lofty Ranges.
- Three-quarters of Adelaide Hills allotments have septic wastewater treatment systems, but 65% (about 5000) of them do not comply with waste control regulations and many leak raw sewage.
- The effluent is often left to run (or in some instances, is deliberately piped) into stormwater drains and waterways, and contributes to algal blooms in reservoirs and water-borne parasites in streams.
- About 1500 households in the townships of Stirling, Aldgate and Bridgewater can be connected to the mains sewer.

Current improvements:

- **Existing systems are being audited.**
- **Failing systems will be required to comply with waste control regulations.**
- **Education and awareness programmes will be undertaken on the proper care and maintenance of these systems.**
- **The use of environmentally friendly treatment systems will be encouraged.**
- **SA Water is accelerating its programme to sewer Stirling, Aldgate and Bridgewater.**

Effluent pooling in a creek after leaking from a septic tank (EPA).



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A heavily grazed pasture in the Mount Lofty Ranges (EPA).



Diffuse sources

Nutrient and sediment loads from catchments dominated by intensive horticulture in particular and, to a lesser extent, grazing, mixed agriculture and the urban environment, are much higher than those from catchments dominated by native vegetation.

Among the dominant landuses in the Mount Lofty Ranges are dairying, livestock grazing, potato crops, orchards, vineyards, forestry and market gardens. There are also significant urbanised areas. Patches of native vegetation exist on the steepest slopes and within the immediate vicinity of reservoirs.

Poor water quality is the legacy of degradation of riparian vegetation and direct water pollution from inappropriate land management practices.

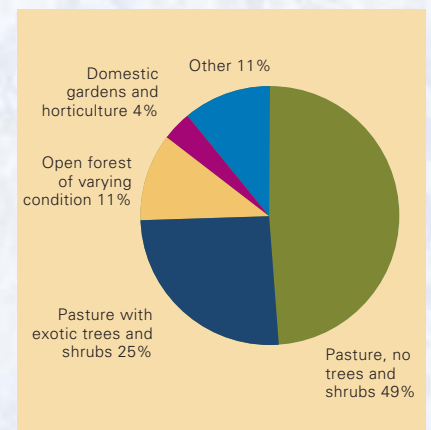
Past removal of native riparian vegetation is causing the continued erosion of waterways. Exotic plants, such as blackberry, gorse, broom and willow, block waterways, exacerbate bank erosion and provide poor habitat for aquatic animals. Only 11% of the length of all streams in the upper Onkaparinga catchment has remnant native vegetation.

It is estimated that, in the Mount Lofty Ranges, only 1% of riparian vegetation is healthy.

This comprehensive change in riparian habitats has significant implications for both the ecological health and water quality of the watercourses.

Current improvements:

- With support from landowners, organisations like catchment water management boards have already undertaken extensive riparian improvement works. The Mount Lofty Ranges Catchment Programme also helps landholders develop environmentally sustainable property management plans.
- Riparian improvement programmes will be accelerated.
- The Myponga Creek catchment is a priority area and additional funds will be provided for fencing and riparian rehabilitation works.
- Education programmes on the importance of the riparian zone will be implemented.



Riparian vegetation types in the Onkaparinga catchment (source: EPA).

EAN IMPROVED WATER QUALITY IN THE MOUNT LOFTY RANGES...

An aerial view of Mount Bold reservoir, surrounded by a patchwork of different landuses (EPA).



The Mount Lofty Ranges Watershed Protection Office

The Environment Protection Agency, operating under the *Environment Protection Act 1993*, and in partnership with other State and local government agencies and community organisations, will coordinate a five-year strategy to address pollution impacts in the Mount Lofty Ranges watershed.

The Mount Lofty Ranges need a programme of on-ground work, clearly defined management structures and responsibilities, strong planning controls, accountability, and an enforceable legislative framework to protect and improve water quality in the catchments.

The EPA's Mount Lofty Ranges Watershed Protection Office will be working in close collaboration with landholders and other organisations—catchment water management boards, the Mount Lofty Ranges Catchment Programme, local government, soil boards, Landcare groups, and other State Government agencies—to provide natural resource management support, technical advice, education for local action planning groups, and on-ground land and watercourse management projects.

Contact the Mount Lofty Ranges Watershed Protection Office at:

Telephone 1300 134 810

Suite 2, 85 Mount Barker Road, Stirling, South Australia 5152

Check out the EPA website: www.environment.sa.gov.au/epa/water