MALLEE CATCHMENT facts

Monitoring groundwater bores in the Mallee

Above: Example of a roadside bore. Photo: Mallee CMA.

Right: Equipment used for monitoring. Photo: Mallee CMA.

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This fact sheet outlines the Mallee Catchment Management Authority's (CMA) groundwater bore monitoring program, which aims to provide information on the current salinity levels and depth-to-groundwater levels across the Mallee catchment.

Groundwater levels change over time as a result of a combination of the weather (climate), land use patterns and management activities. Regular review and updating of trends and projected groundwater levels is needed to assess the threat posed by shallow groundwater across the Mallee.

Salinity occurs naturally in the Mallee region. However, salinity has been exacerbated by influencing factors such as the historical clearing of land for agriculture and irrigation activities. Shallow saline groundwater can directly affect the health of both native vegetation and agricultural land and also results in increased salinity within surface water bodies such as the Murray River and the regions wetlands.

Groundwater bore monitoring is conducted to measure the depth to water table; trends of the water table and salinity; and the effectiveness of

At a glance

- Groundwater monitoring provides an update on the depth-to-groundwater and salinity across the Mallee region;
- Monitoring is conducted on an annual basis to detect any changes in the groundwater.

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salinity management options. Monitoring is conducted to better inform ongoing management strategies of irrigation, dryland and floodplain areas throughout the Mallee.

Monitoring is conducted on an annual basis to monitor the water and salinity levels of groundwater aquifers in the region, to obtain data that will inform the Mallee CMA on the success of intervention works and program activities, and to assist with program planning in the future.

Monitoring is being undertaken to provide an update on groundwater levels and salinity across the region and the condition of bores monitored to determine their suitability for inclusion into a regional groundwater monitoring network.

Implementation

The Mallee Groundwater Monitoring Network will be used as the basis for which the monitoring will be undertaken. A tender process is conducted each year to find a suitable contractor to conduct the monitoring run.

This project is a continuation of previous groundwater monitoring activities undertaken to collect the data to evaluate the extent of salinity and the impact that salinity is having on regional assets in irrigated, dryland and floodplain areas.

Monitoring commences in May each year and can take approximately six to eight weeks to complete.

Method

All groundwater samples and groundwater level measurements are undertaken in accordance with the State Observation Bore Network (SOBN) groundwater bore monitoring guidelines.

Above: A bore that has been opened for monitoring. Photo: Mallee CMA.

Groundwater bore data collected includes water levels, salinity (expressed as electrical conductivity) and temperature.

Groundwater depth is recorded by measuring the Standing Water Level (SWL) which is a measure of the depth of the groundwater from the ground surface.

Electrical conductivity is used to measure salinity levels. Salty water conducts electricity more readily than purer water and as such electrical conductivity provides an indication of the salt content of the water.

Depending on each individual bore, data may be collected using low flow or purging methods. Any water pumped from the bore is disposed of with land owner/permit conditions.

Each bore is located using GPS coordinates. All bores within the monitoring network are located in roadside reserves, or are near to bush tracks. A condition assessment is also made of selected bores. Photos of each bore are taken at 100m, 10m and 1m. Details on whether a bore is dry, inaccessible or unable to be found are also recorded.

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Further information

For further information or a copy of the 2011 project results please contact the Mallee CMA on (03) 5051 4377.

Project Partners

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