

Salinity refers to the movement and concentration of salt through the landscape., and is also called Electrical Conductivity (EC).

Salinity is a natural component of our soils and water tables due to the natural weathering of rocks by rainfall and as a result of inland seas that retreated 10 million years ago, leaving sediments containing large quantities of salt. In a healthy catchment, salinity does not often become a problem.



Why monitor salinity?

Plants and animals need low levels of salt to help them grow but all organisms have set tolerance levels for salinity. When salinity levels change, they affect the variety and number of species found. Salinity can affect many other areas of everyday life in both rural and urban areas. Salinity problems are increasing in severity.

What causes salinity to change?

Salinity occurs when deep-rooted vegetation is removed from the landscape, allowing larger volumes of rainfall to reach the water table below. This rain collects salt particles from the soil profile as it seeps down, adding saline water to the water table. As groundwater rises it carries large amounts of salt that were previously stored underground. Higher rainfall and irrigation can exacerbate the problem, causing salt to rise to the surface and enter waterways.

What are the environmental impacts?

High levels of salinity can severely limit the growth and diversity of vegetation, reduce the capacity and productivity of the land, degrade habitats, decrease fauna health and diversity, affect water quality, reduce the value of water, and contribute to erosion and damage infrastructure.

Managing salinity levels

Planting deep-rooted native trees in high recharge areas (where rainfall is entering groundwater) can help to lower the water table. Improved land management practices, efficient watering, monitoring salinity levels in the ground and from surface water, can all also manage salinity effectively.

How to measure salinity?

Salty water conducts electricity and is measured using an Electrical Conductivity (EC) meter which measures electricity flow between two electrodes. Many different units can be used to report salinity, however micro-Siemens per centimetre ($\mu\text{s}/\text{cm}$) is most widely used and accepted.

Generally an acceptable level of salinity in freshwater to ensure the health of aquatic plants and animals is less than 500 $\mu\text{s}/\text{cm}$.