

What is Surface Water and How Much Is There?

What is classified as Surface Water?

Surface water is fresh water that is visible above ground in waterholes, rivers and dams.

There are three types of surface water; permanent (perennial), semi-permanent (ephemeral) and man-made. Permanent surface waters are present throughout the year. They are usually in the form of waterholes, lagoons, springs and swamps. At times when there is little or no rain, the water level is maintained by the groundwater table.



Girraween Lagoon- Perennial Lagoon



Katherine River- Perennial River



Ewart Lagoon- Ephemeral Lagoon

Ephemeral water bodies are those that only hold water for part of the year. Surface water can also be held in man-made structures such as river dams or rain-catching dams.

Why do we need Surface Water?

The majority of surface water in the Northern Territory is found in the top end. Darwin and Katherine extract their water supplies from surface waters. Katherine draws water from the Katherine River while most of Darwin's water is supplied from Darwin River Dam.



Abandoned Sand Mining Pits, Darwin-
Man Made Wetlands



Rapid Creek - Weir used to direct
flow of water



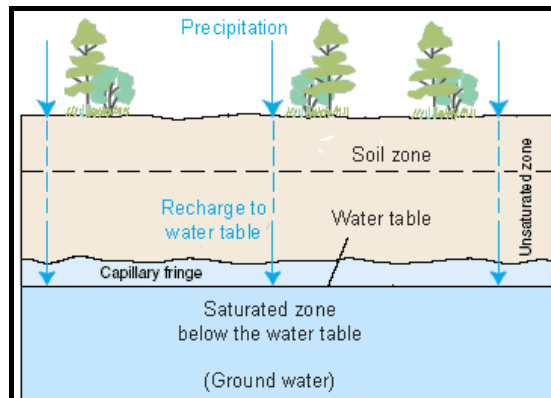
Darwin River Dam- Darwin Drinking
Water Supply

Surface water resources in central Australia are limited and are difficult to use commercially. However surface water is used to supplement pastoral water supplies (eg. small waterholes). The more arid the region, the more likely a community will obtain its water from underground sources. The water supply for Alice Springs for instance, is all from bores (the Amadeus Basin).

Surface water is vital to the survival of some of the Territory's unique ecosystems including rivers, billabongs, lakes and wetlands. Without surface water it would be impossible for us to undertake recreational activities such as fishing, swimming and other water based recreational activities. Most importantly we need to drink water to survive!!

How Does Surface Water Interact with Groundwater?

The source of groundwater (recharge) is through precipitation or surface water that percolates downward. Between 5% to 50% of annual precipitation results in groundwater recharge- this however, is dependent on climate, land use, soil type, geology and many other factors. In some areas, streams literally recharge the aquifer through stream bed infiltration. Left untouched, groundwater naturally arrives at a balance, discharging and recharging depending on hydrologic conditions.



How Groundwater Interacts with Surface Water?

One of the most commonly used forms of groundwater comes from unconfined shallow water table aquifers. These aquifers are major sources of drinking and irrigation water. They also interact closely with streams, sometimes flowing (discharging) water into a stream or lake and sometimes receiving (gaining) water from the stream or lake. An aquifer that feeds streams and rivers is said to provide its baseflow and surface streams, springs, lakes, wetlands and marshes may be considered as Groundwater Dependant Ecosystems.

For assistance, contact the Water Management Branch:

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