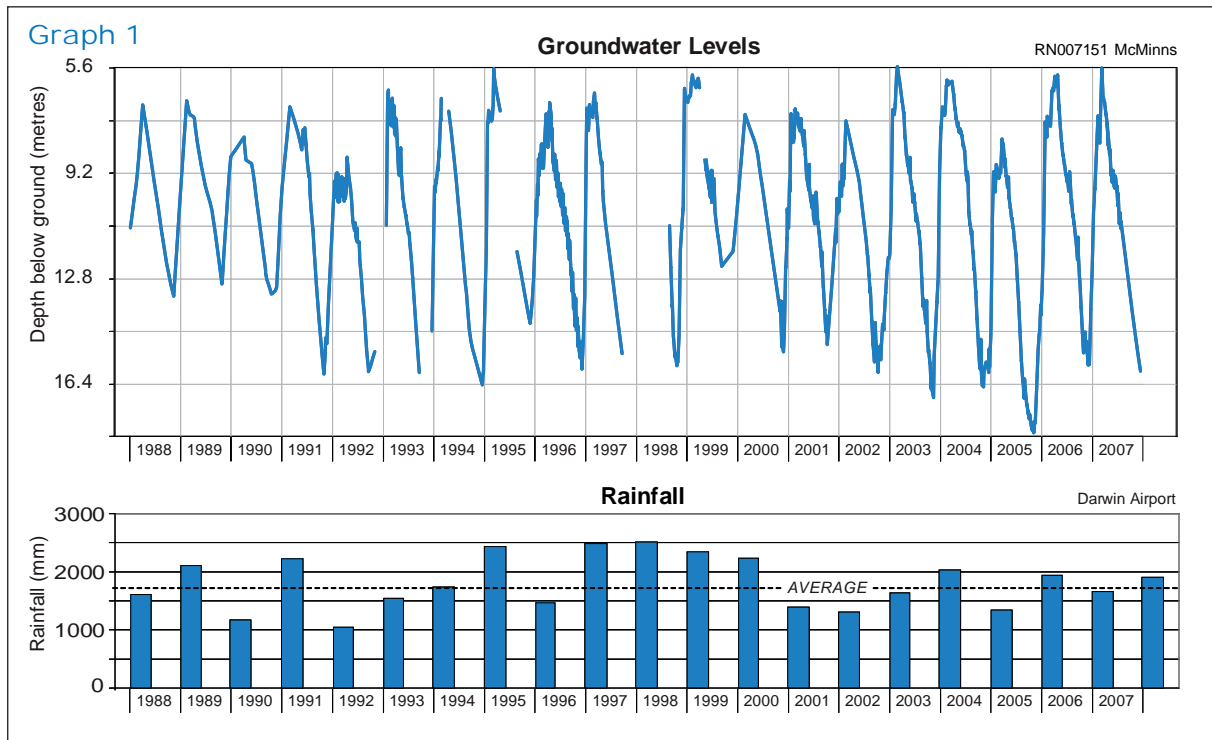


Groundwater levels in the Darwin rural area rising or falling?



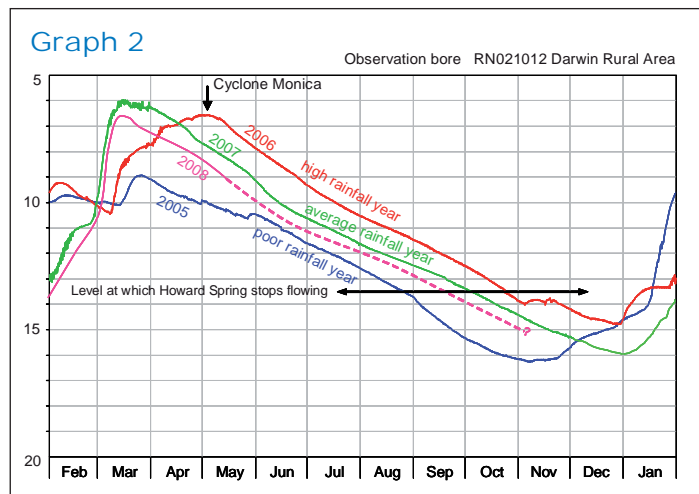
Graph 1 shows the water levels in a monitoring bore near Girraween Lagoon, measured since 1988. This is typical of the water level fluctuations experienced in the rural area. Several features are apparent:

- There is a regular seasonal rise and fall corresponding to aquifers being recharged in the wet and then draining during the dry. The amount of rise depends on the amount of rain that fell during the wet.
- In recent years the end of Dry season water levels have been getting progressively deeper. It does not mean that the aquifer is drying up. The water level will steady off at a new level that is in balance with the increased number of bores and use. Very shallow or poorly performing bores may be adversely affected in low rainfall years (see over page).
- The end of Wet season water levels generally recover to about the same height except in years with well below average rainfall (e.g. 2004/2005 wet season).

What is happening this Dry season?

Graph 2 compares the previous three years with this year to date. The dashed line shows the likely trend of the water levels up until the Wet season. Note that:

- As soon as the Wet season stops, water levels start declining. This is due to natural drainage from the aquifer and to pumping from bores.
- The decline in water level during the dry continues until the first major rains start



Problems with bores

A small number of bores experience problems such as declining pumping rates or in extreme cases pumping air and pump failure. Common causes are:

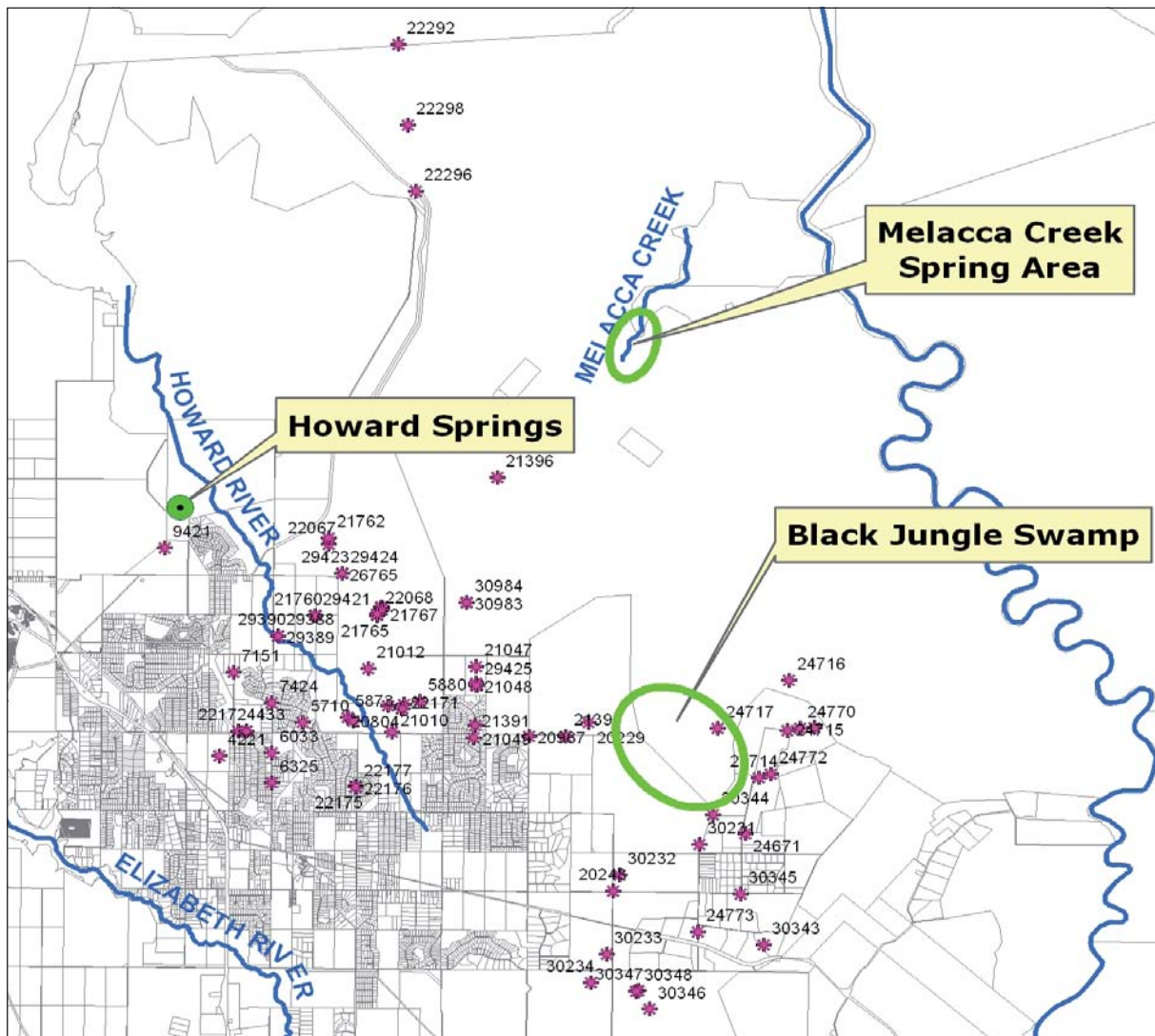
- The bore was not drilled deep enough.
- The slots in the bore casing are partially blocked with sediment, rust or scale.
- The aquifer is a poor producer. For a given pumping rate the water level in the bore is drawn down to a greater depth compared to that in a good aquifer.
- Inappropriate bore construction.

Deeper than normal Dry season water levels can aggravate all of these problems. Possible solutions include:

- Reduce the pumping rate.
- Have the bore rehabilitated by a driller or pump supplier.
- Deepen the bore.

Monitoring water levels in the rural area

The Department of Natural Resources, Environment and The Arts (NRETA) measures groundwater levels in a network of monitoring bores throughout the rural area. Purple stars represent monitored bores and green circles represent major spring areas in the map below.



For more information contact NRETA on 8999 3678 www.nt.gov.au/water