

Conclusion

Overall the Statewide bore-monitoring network continues to record the impact of drought conditions on groundwater levels. Many of the key bores in the selected CMA regions are currently recording the lowest levels since monitoring commenced. This decline in levels has most commonly commenced since 1996 or 1997. Some upper landscape bores have recorded the most significant change in level, with declines of up to 10 metres (eg. bore 4215 in the Corangamite CMA) but most commonly 5 to 6 metres statewide (eg. bore 163 in the Wimmera CMA). Drought conditions have had less of an impact on groundwater levels in the Mallee, Port Phillip and West Gippsland CMAs.

Decline in groundwater levels have been recorded in discharge areas of up to 4 metres with declines commonly in the order of one to two metres. Although many discharge monitoring bores (eg. Bore 9003 in the Goulburn broken CMA) continue to exhibit large seasonal fluctuations, with groundwater levels remaining between surface and 2 metres below surface.

There are a few bores (bore 8 and bore 76 in the North – Central Catchment) which have maintained a continuous rising trend until very recently. These may be showing a few aquifers that are either continuing to be recharged, or are showing considerable time lag between climate and groundwater response.

Discharge areas are observed to be mainly reducing in size, or at least stable, although little remapping of salinity discharge areas has occurred to confirm this. Communications with farmers and extension staff suggest salinity in Victoria is currently in remission. Where remapping has occurred (Clarke and Harvey 2007) the general conclusion is that salinity discharge area has reduced overall, although some sites are either stable, or slightly larger. A small amount of new salinity mapping has occurred in some CMAs, most which is probably salinity discharge missed during previous surveying and mapping. The reduction of salinity expression is mainly attributed to drought conditions, however some improvement in condition can be attributed to appropriate management interventions both at the recharge and discharge zones (eg Burkes Flat, North – Central Catchment).

Out of the 74 hydrographs plotted here, 6 have ceased monitoring for sufficiently long to exclude them from this overall trends assessment presented below. Of the 68 bores reviewed, only 7 have a rising trend. 18 are relatively stable (especially in recent years), and 43 have a falling trend. Of the 43 falling trend bores, 32 of them now are showing lowest water levels on record.