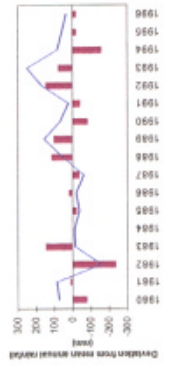


# SELECTED HYDROGRAPHS FROM KEY SALINITY BORES IN THE LODDON PLAINS REGION

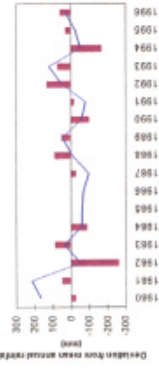
## Groundwater trend update

**GROUNDWATER HYDROGRAPHS**  
A graph of groundwater levels against time is usually referred to as a hydrograph. The pattern of water level variation in a hydrograph is dependent upon the nature of the groundwater system. As well as indicating long term trends, the hydrograph often also fluctuates according to the seasons. A peak is commonly observed in winter/spring as a result of recharge during this period. Where there is minimal seasonal fluctuation, only minor recharge to the water table is suggested, though soil waterlogging may then be the significant issue.

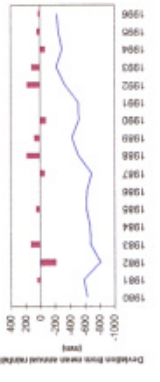
**RAINFALL TRENDS 1980**  
LEAGHUR



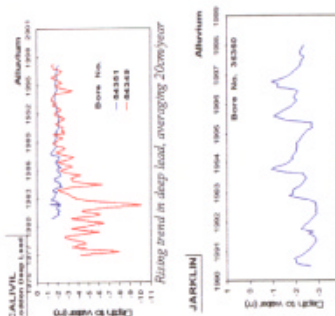
TANDARRA



YARRAWALLA SOUTH



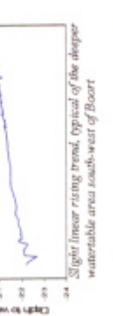
**RAINFALL GRAPHS**  
The bar graphs in the above rainfall charts indicate deviation of annual rainfall from the long term average for each station. The accompanying line graphs indicate the cumulative deviation. This suggests the cumulative deviation across much of southeastern Australia has been rising since the mid-1940's (i.e. most of these years have been above average). Over the groundwater monitoring period, the cumulative deviation has continued to rise between 1982 and 1993, before dropping with the onset of a relatively drier period.



RAISING trend in deep lead, averaging 20cm/year



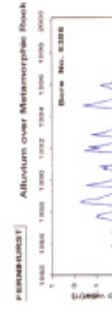
Strong correlation to rainfall pattern, but underlying trend of 1.5cm/year



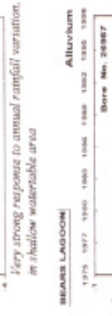
Slight linear rising trend, typical of the deeper water table area south-west of Boort



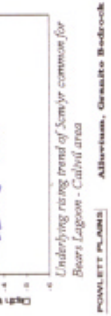
Linear rising trend (averaging 1.7cm/year) typical of Korong Creek catchment



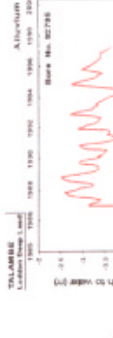
Very strong response to annual rainfall variation, in shallow water table area



Underlying rising trend of 5cm/year common for Bears Lagoon - Calivil area



Linear rising trend of 6cm/year in deep aquifer beneath Powellt Plains



Fluctuating hydrograph which correlates with annual rainfall variation



Long term rising trend averaging 4cm/year. Lateral accumulation rather than vertical recharge



Underlying slight rising trend of 3cm/year



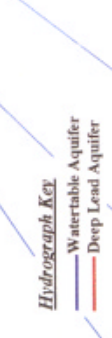
Continuous rising water table despite drop in deep lead pressures from 1994



Overall rising water levels a common observation in Benligo Creek flood plains



Strong linear rising trend, the result of excessive recharge on the lower cleared slopes



Gradual fall in deep lead pressures due to local groundwater pumping



Strong correlation with annual rainfall, typical between Bridgewater and Jarlhin



**Hydrograph Key**

- Water table Aquifer
- Deep Lead Aquifer

**LEGEND**

- SKM managed bore
- NRE / Community managed bore
- Water bores
- Loddon Catchment Land Management Units
- Mallee & Cropped Sedimentary Rises
- Northern Granites & Metamorphic Ridges
- Riverine Plain
- Volcanic Plains
- Crooked River Ranges
- Southern Granites & Metamorphic Ridges
- Northern Granites
- Sedimentary Hills
- Sedimentary Rises
- Alluvial Plain

**LAND MANAGEMENT UNITS**  
The key bores here overlay Land Management Units (LMUs). LMUs are zones of similar geology, soils, landscape type and climate. By definition, a particular LMU would be expected to respond in a consistent manner with respect to salinity treatment.

**KEY BORES**  
56 representative or key bores have been selected across the Loddon Plains Region to assist in the analysis and reporting of groundwater trends. These have been selected on the basis of representative trends within a monitoring network, geographic distribution, quality and length of record. Trends from the key bores are reported on a 2-yearly basis.