



Northern Gnangara airborne electromagnetic survey

Outline

The Northern Gnangara groundwater system is vital in supporting the horticultural, agricultural and industrial activities, unique ecological systems and growing urban development in the Gingin, Gnangara, Wanneroo and Yanchep groundwater areas. Effective management of groundwater resources is essential to ensure strong regional growth, without reducing reliability to existing users or damaging groundwater-dependent ecosystems.

The current situation

Groundwater in the region is currently abstracted from the Superficial, Leederville, and Yarragadee aquifers. Climate predictions indicate decreasing rainfall for the region. Groundwater levels in some parts of the region are already showing declining trends.

To improve groundwater management, the Department of Water has identified the need for more information on the Superficial aquifer, particularly on the distribution of soils within the top 50 m.

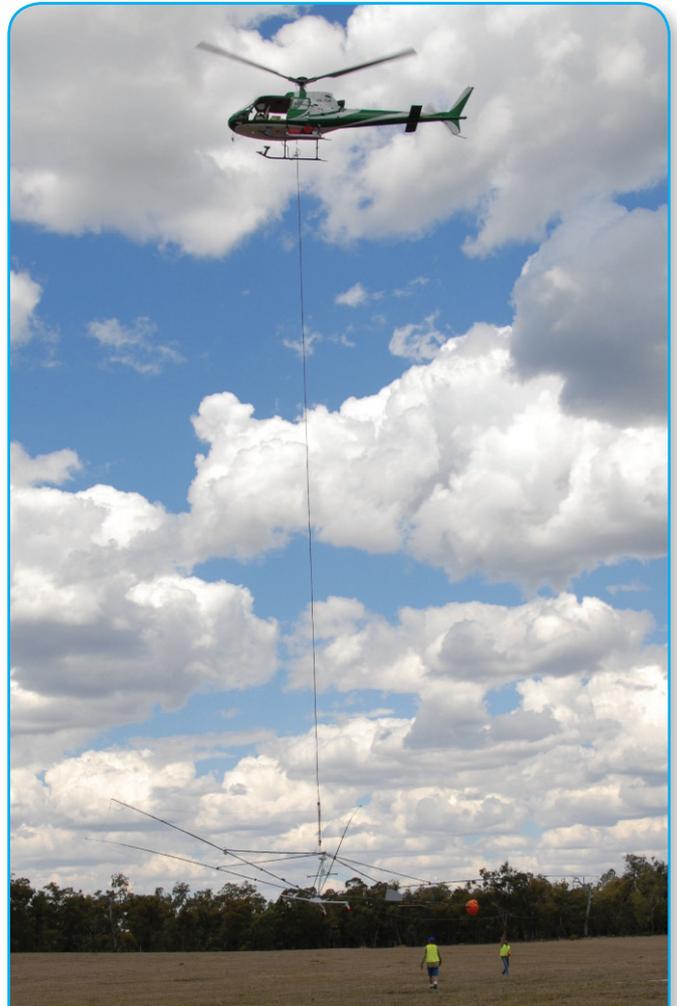
Previous drilling investigations have identified high spatial variability of water retentive layers indicating it is unrealistic to investigate by further drilling. Geophysical surveys are seen as a viable alternative to map these variations.

What will the survey be doing?

The survey will be conducted using a fixed-wing aircraft and helicopter to survey the areas shown on the map on the back of the fact sheet.

The objectives of the survey are to:

- determine the distribution of water retentive layers in the Superficial aquifer
- map the contact between the Superficial and the underlying Leederville and Yarragadee aquifers and
- define the water table surface.

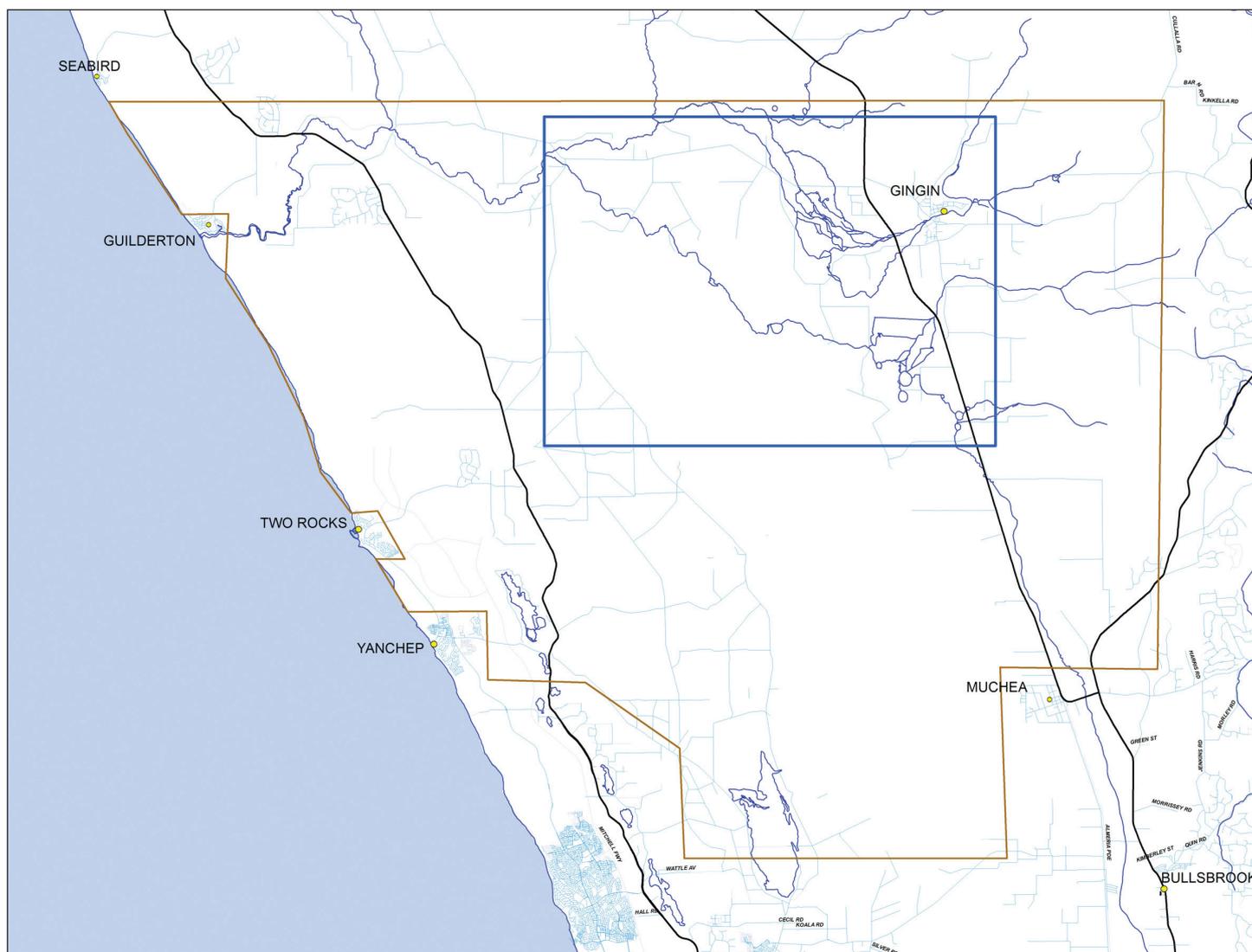


Helicopter lifting off at a test site near Chittering with towed device designed for electromagnetic surveying. (Photo courtesy of GPX Surveys)

Flying the survey

The fixed-wing aircraft will survey along lines at 400 m spacing at a typical height of 100-120 m. Heights will be increased to 300 m over urban areas and 150 m over built up rural areas. The helicopter will be flying at a height of 30 m over a smaller area at 200 m spacing.

Notification of the survey will be advertised in local community newspapers and radio prior to flying. Community liaison officers will be provided by the companies undertaking the survey. Information phone services will be provided just prior and during the flying of the survey.



Map showing areas being flown by the helicopter (blue box) and fixed-wing aircraft (brown outline).

For further information, please contact

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