The Department of Water will undertake an Airborne Electromagnetic (AEM) survey in the Fitzroy River catchments commencing in August 2015 which will run for up to 10 weeks.

A helicopter will fly at approximately 90 metres above the ground over the survey area (see map overleaf) with a coil slung 60 metres beneath.

Why are we doing this work?

AEM surveys are required to identify groundwater availability at the landscape scale.

AEM surveys have been used successfully in this region in the past to define aquifer geometry and extent, as well as define the position of the saltwater interface and surface-water groundwater interactions.

The proposed new surveys will inform locations where more detailed assessments are required - through the drilling and monitoring of bores.

The airborne survey will:

- Identify and assess groundwater resources for development of future irrigated agriculture.
- Provide regional-scale hydrogeological information to support development in the region.
- Identify potential groundwater development constraints, including the saltwater interface and Groundwater Dependent Ecosystems (GDEs).

What will be the impact on you?

AEM surveys are carried out all over the world and are considered safe. The electrical current in the coil is significantly less than what you would find in households and much less than carried by overhead power lines.

The coil beneath the helicopter sends an electromagnetic pulse into the ground and the equipment in the helicopter records the return signal.

The information received from the survey provides information on the groundwater system including the geology, depth to the groundwater table, the salinity of the groundwater, and the boundaries of the groundwater system.

Notification of the survey will be advertised in local community newspapers prior to the commencement of flying.
How will this survey help manage our water?

The West Kimberley water investigation is part of the broader $40 million Water for Food program, which is accelerating groundwater investigations across the State.

AEM surveys, along with drilling programs and the establishment of monitoring bores is part of a rigorous, science-based water resource investigation to map the extent and salinity of alluvial aquifers, and provide greater knowledge of deeper geological structures.

The information obtained from this investigation will be made publically available and will assist pastoral stations in the region, along with potential investors, who may want to access groundwater to establish irrigated grazing nodes or mosaic agriculture.

Increased knowledge regarding available groundwater will guide future economic expansion and agricultural growth in the region, as well as help protect the integrity of the Fitzroy River and other West Kimberley river systems.

While the AEM survey will be flying along the lower Fitzroy River, this work is not being used to consider a dam on the Fitzroy River.

This work will build on a previous hydrogeological assessments of the Fitzroy alluvial sediments and also provide data at a landscape scale around the May and Meda River system near Derby. The program will help inform decisions on future groundwater allocations in the study area.

The Water for Food program works closely with a range of State Government agencies, including the Environmental Protection Authority and the Department of Environment Regulation to ensure future irrigation proponents attain all approvals and adhere to rigorous monitoring conditions.

For further information please contact

Alastair Hoare / Senior Hydrogeologist
phone: (08) 6364 6550
email: alastair.hoare@water.wa.gov.au

Robert Cossart / Project Manager, Water for Food - West Kimberley
phone: (08) 9192 1623
email: robert.cossart@water.wa.gov.au