

## ON FARM SOIL SALINITY TRIAL MURTHO AND PIKE

### AIMS of the Trial

The on-farm trial will be a joint project between the Renmark to Border LAP and the Irrigated Crop Management Service (ICMS). It will measure irrigated soil salinities across 4 different crop types (almonds, vines, citrus and stonefruit) with 2 different irrigation systems for each crop type.

The project will also link deep drainage derived from soil solution extractors, soil water monitoring devices and IRES, with results interpreted to advance knowledge of on farm drainage at trial sites and help build links between on farm drainage figures and regionally modelled drainage estimates.

Custom Crop Coefficient (Kc) valves will also be developed from soil solution extractors, soil water monitoring devices and IRES linking historical data giving accurate daily Kc values.

Soil solute analysis will also be tested via water samples collected from soil solution extractors.

Soil samples for EC and Nutrient levels will also be taken at trial sites once they have been selected.

All properties have been selected with Soil Solution Extractors installed, initial soil sampling completed and sent off for testing. Growers have started collecting samples already, with Jayme from the LAP to collect samples fortnightly to send off to ICMS for testing

### OUTCOMES

- Salinity trends within crop rootzones
- Estimated leaching fractions from salinity
- The development of custom Kc valves for calculating crop water requirements
- Quantify drainage via application of custom Kc valves
- Increased knowledge for irrigators of salinity issues
- Nutrient movement and uptake when fertilizing

A website will be set up where results will be posted during the length of the trial so information will be assessable to everyone. More information about the Website will be available once it is set up.

**The Murtho committee meet the first Wednesday of every month**



### LAP CONTACT DETAILS

#### IMPLEMENTATION OFFICER

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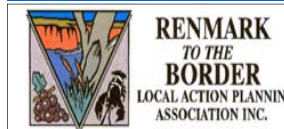
- On Farm Soil Salinity Trial
- Meeting times, Committee and LAP Officers contact details

## SALT INTERCEPTION SCHEME UPDATE

- Stu Martin has been asked by the Project team to represent the Murtho Road Irrigators Association and community at the Cabinet and Public Works Committee Approval Submission at Parliament House in Adelaide on the 6<sup>th</sup> of August
- Native Title approval still needs to be acquired from DEH and discussions are currently underway
- The drilling of 80mm scout holes 90 to 100 meters deep have been completed then silted off, samples have been taken every meter then classifying into layers. Having seen what the layers are they can now pump tests called production wells. When they pumping these production wells they need to monitor what happens over 100 meters away
- There will be 5 to 6 weeks of drilling for pump testing which is currently underway with the analysis to be completed at the end of August
- Bore Drilling Contract Tender closed 15th February 08 currently under normal SA Water tender review process. Anticipated award late May and to commence primarily stage 2 activities within weeks of award
- The full report on using Disher Creek as a disposal basin will go back to stakeholders for comment when complete in late August
- The construction team will be consulting with landholders, stakeholders and the Renmark to Paringa Council and endeavoring to leave the smallest footprint on landholders properties during the installation of pipelines, spurlines and bores



DRILLING WORKS UNDERTAKEN ON ROD PATTERSON'S PROPERTY MURTHO



## SIS UPDATE - CONT

- A landholder who's property the pipeline river crossing was to be installed across does not want the pipeline to go through his property. There have been alternative routes mapped out by the investigation team.
- Test pits have been done every 500meters in the pipeline route giving indications on soil types etc as well as bore holes on either side of the river to determine soil types
- Preliminary Cultural Heritage, Native Vegetation and Geotechnical Investigations have taken place along the proposed disposal pipeline route with small changes to take place because of Native Veg

Preliminary negotiations with Department of Environment & Heritage for Native Title Approvals are underway

## IRRIGATION TOUR

The Renmark to Border LAP will once again be holding an irrigation information tour this year. The tour will be heading to Torrumbarry Weir then onto Echuca to have a look at the Choke. Then the tour will head to Deniliquin to have a look at some rice and cotton farms.

The tour will be held on the 25th 26th and 27th of August. For more information about the tour contact or to book a place on the trip contact Jayme at the LAP

## AIRBOURNE SALINITY MAPING PROJECT

### IS IT A BIRD? IS IT A PLANE?

No. It's an Airborne Salinity Mapping Project for Calprum Station, Murtho, Pike and Bookpurnong between mid July and early August 2008.

A survey using an airborne electromagnetic (AEM) mapping system will be conducted across the Pike floodplain as part of a bigger scale project also incorporating Calprum Station, Murtho floodplain and Bookpurnong floodplain.

AEM is an airborne geophysical technology that was developed for use in the mining industry to locate and map conductive ore bodies. It works by measuring variations in the electrical conductivity (EC) of the ground. In this project, electrical conductivity will be measured using a **helicopter carrying a torpedo shaped 'bird'** which houses an electromagnetic transmitter and receiver system.

The transmitter sends out electromagnetic signals to the ground. The signals returned by the receiver indicate the electrical conductivity of the ground. Variations in the strength of the signal can be interpreted to identify salt stores (in conjunction with knowledge of an area's hydrogeology) and other underground geological features.

AEM is particularly good for mapping variations in salinity in groundwater. Saline water conducts electricity and its capacity to conduct electricity increases as the proportion of salt in the water increases.

The helicopter will be travelling at approximately 110km per hour, at about 60 metres above the ground, with the 'bird' about 30 metres above the ground.

## AIRBOURNE SALINITY MAPING PROJECT—CONT

### When will the survey results be available?

Data collected will go through several stages of processing. It will be some months after collection of the data before products are available for land management planning. Initial products will start to become available by October with public workshops organised as part of the Pike Implementation Plan process to discuss and review the results of the survey.

### Is it safe technology?

AEM is used throughout the world in mineral exploration and in the management of natural resources. In Australia, AEM surveys are flown by specialist contractors who have many decades of experience collecting AEM data in a range of environments.

### Landowners with livestock and horses

The technology causes no ill effects to livestock or horses, but because a low flying helicopter is involved, there is the potential for livestock to be alarmed, including during horse riding activity. To minimise the likelihood of disturbance to livestock, landholders and riders are asked to phone 02 6272 3988 to advise on any special situation or circumstance that may require careful scheduling of data collection.

### How does this effect Murtho?

The Pike Implementation Plan (PIP) project was key in persuading the Federal Bureau of Rural Sciences to extend their AEM survey of Calprum Station to the Pike Floodplain. Successful funding was sort from the Commonwealth and State Governments to undertake the AEM survey, which will inform both the salinity and floodplain management aspects of the Pike and Murtho Floodplain which will give a vital tool in the development of a Murtho Floodplain Management Plan in the future.

Representatives from the PIP project will be working with the Federal Bureau of Rural Sciences to implement the project over the next 10 months, therefore if you have any queries or concerns please contact Frances Simes on 8595 2223 or Renee Webster on 8595 2235 or Jayme at the LAP

**This project is jointly funded by the Australian Government and South Australian Government.**



**Australian Government**



**Government  
of South Australia**

