

FARMERS IN THE TATIARA ARE GETTING INNOVATIVE WITH LEAK DETECTION SYSTEMS

Approximately one million hectares or two thirds of the Coorong District and one third of the Tatiara landholders located on the western side of the Duke's Highway between Tailem Bend and Keith rely solely on mains water for their stock and domestic needs, due to saline groundwater.

The increasing cost of mains water in recent years, more than doubling from \$1.50/Kilolitre to \$3.73/Kilolitre and rising has significantly contributed to on farm operating costs and the need for landholders to become water wise and monitor water flows on a daily basis. A number of landholders in the Coorong and Tatiara have been utilising Leak detection systems to monitor water flows and notify them of unwanted leaks. Frequent monitoring of water flows enables landholders to almost instantly detect when a leak occurs. Preventing excess water usage and frightful water bills every three months, commonly caused by water leaks from damaged or eroded pipelines, troughs and stock. High water flows overnight and early morning typically indicated a leak in the system. Having this information at landholder's finger tips not only enables a quick response time, minimize water losses, and avoid large unwanted water bills. It provides them with peace of mind and the ability to be accountable for their water use.

Frank & Carole Burden

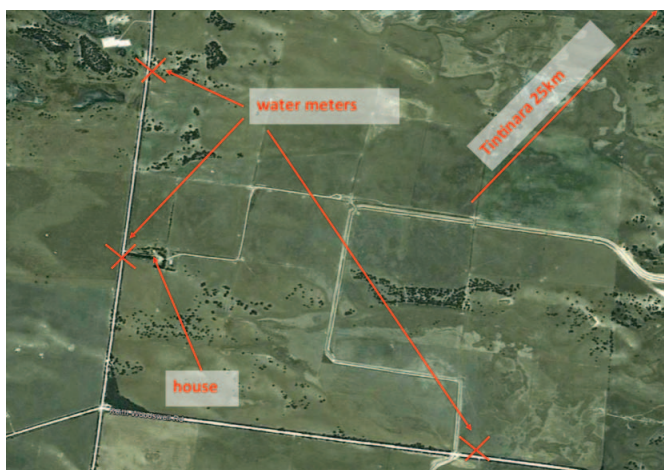
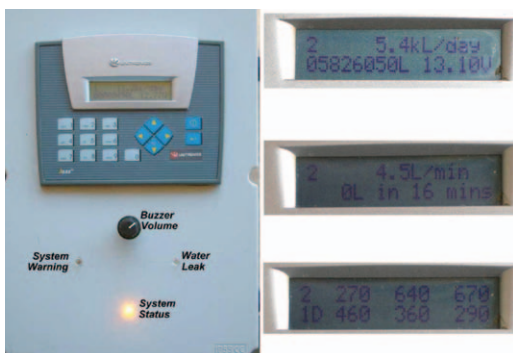
Frank & Carole Burden, purchased Graffoe Limousin stud, 870 ha, 14 years ago. Today they run approximately 150 – 200 Limousin stud stock.

All water, including homestead and stock water is 100% supplied by mains water. For the past four years they have been trialling a pilot water leak detection system initiated by the Coorong / Tatiara LAP to monitor and detect excess water use. Frank, previously a defence systems scientist has made a number of modifications to the original leak detection system. Frank is able to monitor the three water meters on his property via a base station located at the homestead.

The leak detection system has been invaluable for Carole and myself, alerting us to a number of leaks caused by blown out pipes or leaking troughs within hours, which may have gone un-noticed for days. The peace of mind and response time is priceless; we couldn't imagine running our stud without it... - Frank Burden

Recently Frank's water flow had exceeded 2KL during two consecutive hours, signaling a major leak and a red flashing light on line one, section one of the base station. This immediately alerted Frank and Carole to a

major leak in section one of the property. Frank within a matter of minutes was able to identify the area where the leak was occurring, allowing him to isolate the leak and stop the water flow to this section without effecting other areas. Within two hours Frank was able to check all 15 troughs in section one, to find a broken float in a trough, damaged by stock. Due to the leak detection system and its alarm Frank and Carole lost about 2.5KL of water costing approximately \$9 as opposed to a possible 90KL totaling about \$330 if it had run for three days before being detected. Multiply this by a typical 10 – 15 leaks detected early and the annual savings are enormous.



The leak detection system and base station enables Frank and Carole to track and record the hourly, daily and monthly water flows and most importantly detect any water leaks or excessive usage. Frank has programmed the base station's warning system to alert them of excessive flows via a flashing light at the homestead. Warning categories include:

- Major Leak: >2KL total during two consecutive hours
- Minor Leak: >Flow fails to drop to below 25L/hr or less between 6am-6pm

BENEFITS

- 24/7 monitoring, detects leaks as they happen
- Fast response time
- Leak detection levels
 - > Rapid warning of significant leaks
 - > Detection of gradual / continuous leaks often associated with pipes.
- Significant water savings
- Effective time & record management, ability to update 15mins, hourly, daily
- Water accountability
- Ability to track water usage and stock movements
- Low maintenance, low ongoing costs

POSSIBLE ENHANCEMENTS

- Add warning for intermediate leaks
- Mapping of leaks, historical, frequent / savings
- Improve flow rate and detection. Ability to monitor minimal-almost zero flows.
- Improved pipe infrastructure and troughs

OTHER METHODS TO HELP REDUCE WATER LOSS

- Check your meters regularly, daily if possible
- Understand, monitor your monthly, seasonal water usage
- Harvesting rainwater
- Shandyng
- Desalination

Julian and Adam Desmazures

“Newton”, 1400 ha property with 2000 ewes, 800 wethers in a feed lot, 300 hectares of dry land Lucerne, more than 100 hectares of pasture establishment and 40 cows.

All water, including domestic use for the homestead is 100% supplied by mains water, by one meter. Given the diverse farming enterprise and seasonal nature, water usage is very variable. It can only take a slight leak undetected for a few days before you are faced with further unexpected water usage and run the risk of stock without water.

The Desmazures decided to install a Sentek MULTI flow monitoring system, supplied by Alpha Group in November 2011 and saw immediate benefits. The Sentek MULTI has a logging and data transmission system that captures a range of on farm information. The system monitors and records flows from the SA water meters every 15 minutes and provides daily water alerts / meter readings via SMS and email. Adam and Julian receive a daily SMS at 7:30am with

the meter readings they can also track via Alpha Groups website. This enables them to monitor their daily water usage and identify any excessive flows that may have occurred.

Graphs of the daily, monthly and yearly water usage can be viewed via Alpha Group website 24 hours a day.

With the average landholder in the Coorong / Tatiara District paying approximately \$16,000 in water bills per year, and larger grazing properties encountering water bills in excess of \$100,000 per year. It is no surprise daily monitoring of water flows and accounting for on farm water activities is becoming increasingly important for landholders. Not only does it affect their operating costs, it affects their ability to improve or maintain sustainable farm practices. If nothing else, read your meters regularly, so you can get a handle on what you are using. For further information regarding water detection systems contact:

The Coorong Tatiara Local Action Plan

Officers: Telephone (08) 85 723 611

or Alpha Consulting, Shane Oster:

Telephone 0419 400 461

The Sentek system provided by Alpha Group Consulting is undoubtedly a very useful tool for us. It allows us to monitor water and account for it instead of getting a nasty bill every three months. The system is also very helpful for tracking and understanding stock movements and spraying activities. In two years the system has detected over 20 minor and five major leaks. It paid for itself after the first detection and continues to add value daily to our on farm activities - Adam Desmazures

