

# CFOC

## Sustainable Agriculture

### Mulga Graze

#### **The use of new technology for water point monitoring.**

Through the federal government CFOC programme, South West NRM are currently running a trial aimed at reducing the time that it takes to monitor watering points and storage using remote telemetry cameras that are couple to Telstra messaging. Through the installation of these cameras, the property owners involved in the CFOC Mulga graze project, will no longer have to actually physically visit the site and instead will be able to view the image via their computer or mobile phone.

South West NRM have previously funded motion activated security cameras for monitoring feral animal numbers and behaviours on their extensive properties. A problem was identified that the camera would capture and store the image on the SD card, the property owner would then have to physically visit the site and disturb the pattern of the feral animal. An alternative was suggested through the use of I.C.E cameras to monitor water points on extensive properties in South Western Queensland.

The I.C.E camera has the additional feature of being able to access the mobile phone signal through a SIM card. The SIM card is installed and programed and this allows the camera to capture the image and then send either via a Multimedia Messaging Service (MMS) or via email. The time from the camera taking the picture to when the image arrives in the property owner's inbox or mobile is approximately 3 to 5 minutes. This camera also allows the property owner to ask the camera "questions" via text message, for example: What is the signal strength, What is the Battery Strength and Take a picture and send it now. These are just a few of the "questions" the property owners is able to ask the camera. It was this last "question" which was identified to being able to monitor watering points.

The property owner believed he would be able to ask the camera to "take a picture and send it now" this real time picture would then allow him to monitor water levels in his trough, dam or storage. The image that would be transmitted would be peace of mind for the property owner that the livestock which depend on the watering point would have access to water.

This method of water point monitoring was developed and a trial was set up. The initial results were positive with the picture being emailed back and the water level of the storage tank being monitored daily.



Above. An example of the image which was sent via email to the property owners email address. Which he was then able to check on his mobile phone.

The ability to remotely check the water level via the I.C.E camera meant that it saved an hour round trip to check the water level and guarantee that there was sufficient water available for the domestic stock. It also means that when the property owner is away from his property he is able to accurately monitor the water storage level. It also allows the property owner to check the water level as often as they like or need to.

This trial exposed some flaws, the solar panel which recharges the battery was unsuitable for long term operation. The solar panel output while rated at 6 volt the peak output was around 8volts. This camera was unable to handle this peak and stopped sending pictures through. After some research a solution was suggested and 6volt charge controller was installed and the trial is working as designed.

The trial is currently set up with the following method. The camera has been programmed to take a picture and email it every hour between 10pm and 2am. This is when the mobile phone signal is the strongest in the area, the pictures are then emailed back to the office where they activate a rule on office email program depending on the name of the camera. Once this rule has been activated the image is forwarded to the property owners email address. This rule can be edited so that a number of emails can be sent, there may be

more than one owners, a manager on the property or the water storage may supply more than one property.



This is an image captured from the second trial. Please be aware that the time and date stamp down the bottom of this image is incorrect, this picture was actually taken on the 24<sup>th</sup> of May 2015 at 1:00am. This is solely due to operator error, they forgot to set the date when the camera was set up. Due to the remoteness of the site it hasn't been visited since to update the time and date stamp.

While there are a number of other remote access water monitoring operations available to property owners in the region and they do offer more features, such as start stop on the pump, flow rate and total number of litres pumped. This offers a relatively low tech easy to use trusted method of monitoring one of the most important resources on the property.

For more information on the programme and the use of such technologies, please contact Jed Sommerfield at SW NRM on 0746568500 or via email [lpo@swnrm.org.au](mailto:lpo@swnrm.org.au)