



For those new to the Sugarshack wetland monitoring program, Welcome! Of the 8 water bodies within the Sugarshack floodplain, one lagoon is managed and is part of the community wetland-monitoring program run by the Mid Murray Local Action Planning (MidLAP) and SA Murray Darling Basin Natural Resources Management Board (SAMDBNRM) with the help from its landholders, the Mannum Aboriginal Community Association Incorporated (MACI). The information below is a brief look at what has happened in the wetland over 2008 and some goals for the upcoming year.

Figure 1; Sugarshack Managed Wetland Location



There is no doubt that 2008 has been a dry year for Sugarshack. The wetland has been dry since Summer 2006/07 and has undergone many changes since then. The plates below are from the quarterly monitored photo site 3, located at the flow control structure connecting the wetland to Yatco Creek.

Plate 1; Photo point site 3, June 2006



- Normal pool level (0.7mAHD)
- Fringing vegetation healthy and flowering.
- Some Scotch Thistle present
- Proposed site of flow control structure

Plate 2; Photo point site 3, January 2007



- Wetland bed dry and firm (some rainwater pooling)
- Fringing vegetation still healthy
- Some emergent herbs on cracking wetland bed
- Flow control structure ½ complete

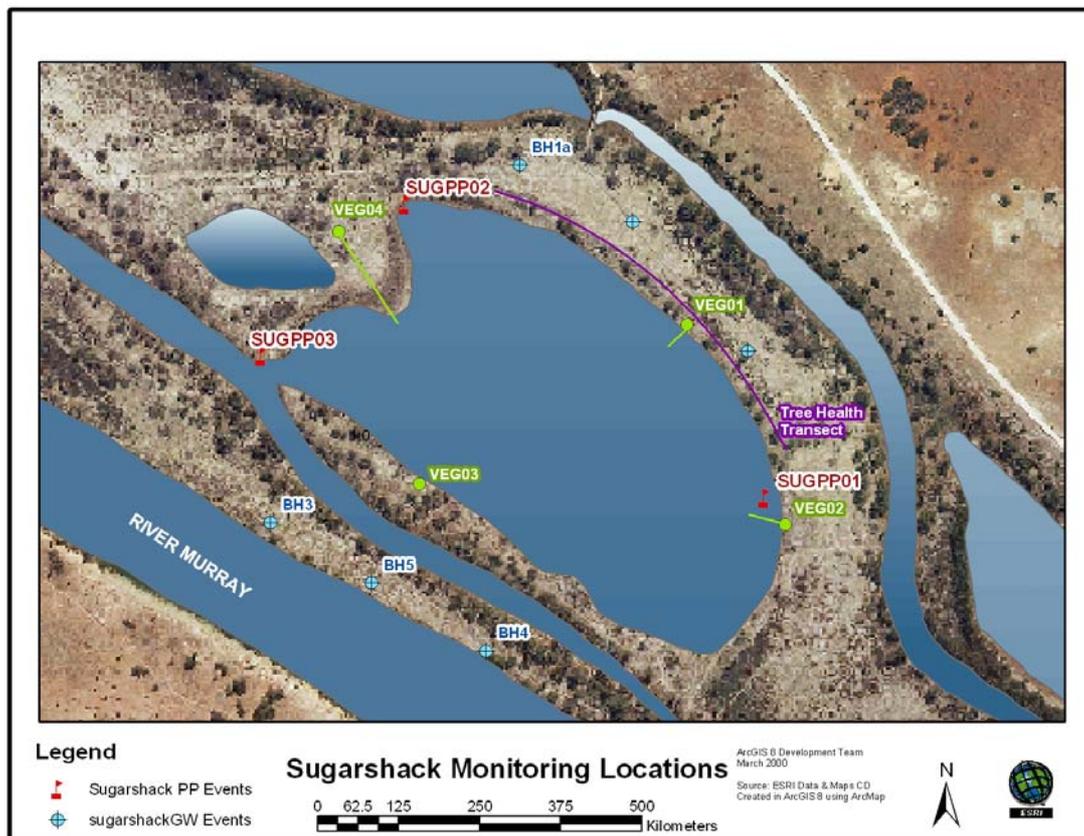
Plate 3; Photo point site 3, October 2008



- Wetland bed very dry and broken down into crumbs and fine dust due to stock access and exposure
- No new shoots from fringing vegetation
- Structure complete and fitted with carp screens

Throughout 2009, groundwater, tree health, frogs and vegetation have been monitored in set locations around the wetland (See figure 2 for monitoring locations). When water levels return, fish and water quality will also be included. 2008 monitoring was undertaken during March, June and October with the help of Sam Stewart Aimee Linke and Michele Gollan.

Figure 2; monitoring locations at Sugarshack Wetland



GROUNDWATER

Figures 3 and 4 represent the levels and salinity of the groundwater, sampled from 6 permanently located piezometers around the wetland. The groundwater salinities dramatically increased during summer 06/07 when the wetland was drying and continued to increase into summer 2008. These levels have since lowered significantly in piezometers BH2 and BH6. These piezometers are located closest to the cliff line and more readily intercept groundwater from the highland. The drying on the creek and wetland to the north of the managed lagoon would also have influenced the levels and salinity at these piezometers.

Figure 3; groundwater salinities

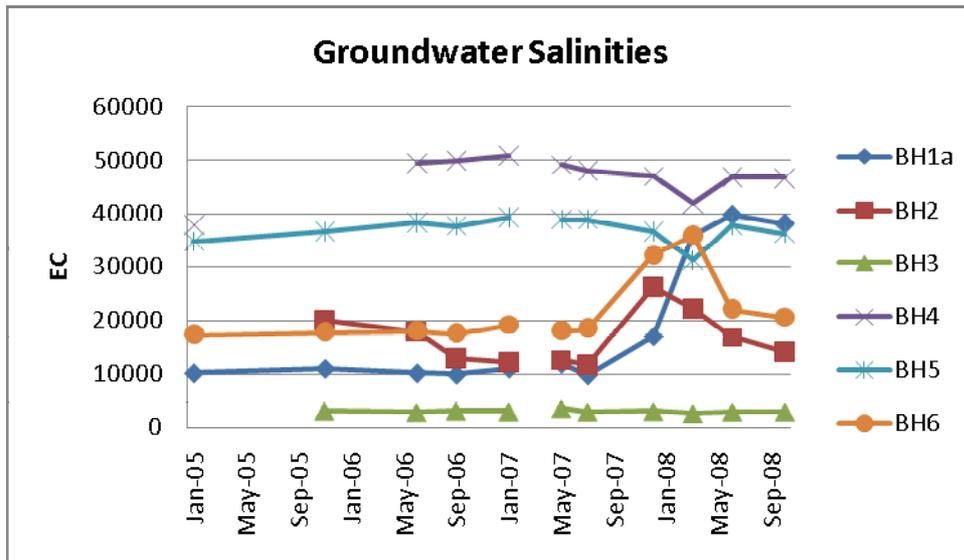
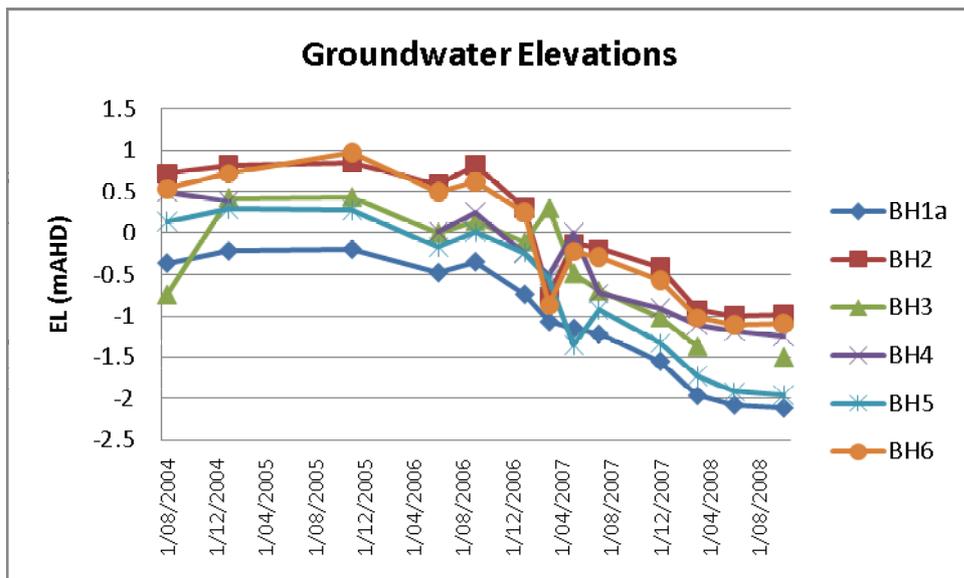


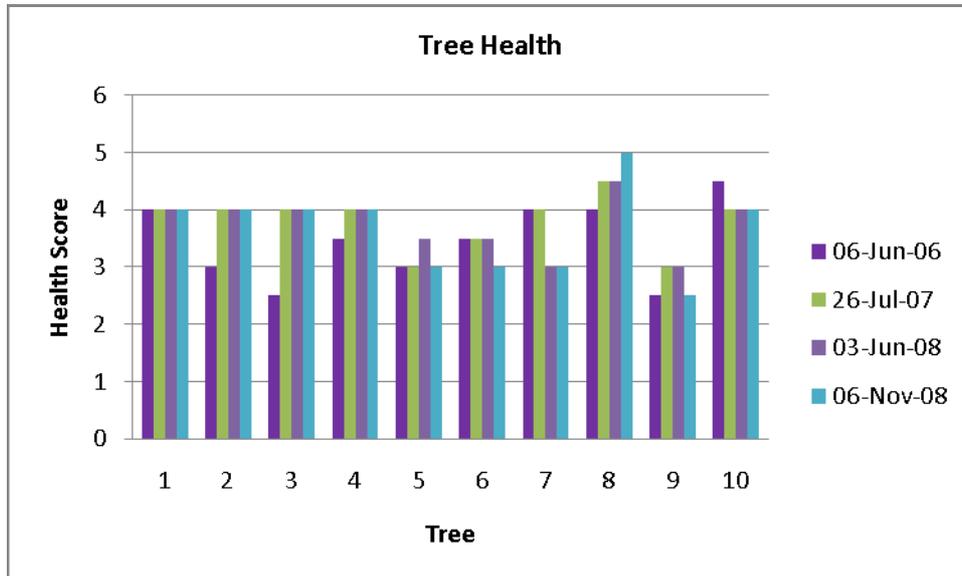
Figure 4; groundwater elevations in relation to sea level



TREE HEALTH

Ten trees are monitored within a transect on the northern side of the wetland. All trees within the transect are mature River Red Gums (*Eucalyptus Camaldulensis*) of which are photographed and given a health score. This assesses original canopy cover, dead branches/branchlets and epicormic growth. Figure 5 represents the changes in tree health within the transect since June 2006. There have been mixed responses from the changes in water level. There have been improvements observed in tree 8 yet reductions in trees 6 and 7 since drying. Young trees outside of the transect are in excellent condition.

Figure 5; Tree health monitoring 2006-2008



FROGS

No frogs were observed calling within the wetland during Spring 08. Frog monitoring is undertaken in Spring, preferably on a warm, still, damp night. Opportunistic frog surveys can be undertaken after rain when species such as the Common Froglet (*Crinia signifera*) and Eastern Banjo Frog (*Lymnodynastes dumerili*)

Plate 4; Common Froglet

Plate 5; Eastern Banjo Frog



Photos: Frogs Australia

VEGETATION

There are four permanent vegetation-monitoring sites across the wetland. Three of these consist of a transect of points following the differences in elevation on the wetland fringes. One of these is a 10m x 10m quadrat located on higher floodplain ground.

The most recent vegetation survey was undertaken on the 6th November 2008 by Aimee Linke and Kate Mason.

The wetland bed has become sparsely established with terrestrial species such as Bluebush (*Maireana* sp.), Umbrella Wattle (*Acacia ligulata*), Spiny Wattle (*Acacia nyssophylla*), Creeping Saltbush (*Atriplex semibaccata*) and Couch (*Paspalum* sp.). These species have replaced the aquatic species observed during the 2006 vegetation survey including Duckweed (*Azolla filiculoides*) and Red Water Milfoil (*Myriophyllum verrucosum*).

Plant specimens are currently being sent away for identification, more information on the vegetation survey will be included in the next update in 2009.

Plate 7: Vegetation Site 1, 2006



Plate 6: Vegetation Site 1, 2008



BIRD MONITORING

Bird monitoring as part of Sugarshack wetland monitoring began on the 6th November with the use of the MidLAP scope and a standardized bird monitoring method. This method will enable comparisons between sites and pick up responses to changes in water level/regime.

Only terrestrial species were recorded during the survey, however Regent Parrots (*Polytelis anthopeplus*) were in good numbers nesting in the mature River Red Gums around the wetland.

Other recent events @ Sugarshack

- CSIRO Soil Survey
- Repair of fence, stock excluded from wetland bed

NEXT MONITORING EVENTS

The next monitoring round will be in February 2009, dates will be sent out in January, which will include dates for all 2009 monitoring events. Contact Kate Mason on 0407793634 or kate.mason@samdbnrm.sa.gov.au or contact Aimee Linke on [85646044](tel:85646044)/midlap@internode.on.net

MERRY CHRISTMAS AND A HAPPY NEW YEAR!