

Sugarshack Wetland Monitoring Update

February 2007

Introduction

The last monitoring day took place on the 23rd of January 2007- thanks to Tumi, Louise and Craig who helped out Adrienne. Sugarshack wetland is now completely dry. Although work on the structure is still to be completed, the earthen banks have successfully held back water so that the wetland can be dried.

The remains of a large number of dead carp were seen on the wetland bed- many more were likely taken by foxes. Numbers are estimated to be in the hundreds. Many billabong mussels (*Velusunio* sp.) were left stranded on the dry wetland bed. Frog foam nests were also evident in the cracks in the clay, presumably relying on the remaining moisture deep in the wetland bed. Frogs were still heard calling in late January at the wetland (especially the Spotted Grass Frog) even though the wetland is dry. This is likely due to recent rainfall in the area.



Vegetation

A number of dry wetland bed species have germinated on the cracking clay. These include:

- *Sporobolus mitchelli* (Rat's tail couch- a native grass)



- *Mimulus repens* (Creeping monkey flower- a native herb)



- *Centipeda cunninghamii* (Common sneezeweed- native)



- *Alteranthera denticulata* (Lesser joyweed- native)



These species will provide valuable habitat for fish and macroinvertebrates once water can be returned to the wetland. Photopoint monitoring will track the expansion of these dry wetland bed plants over the dry period, as well as the health of the fringing vegetation such as reeds, sedges, rushes and lignum.

Groundwater

Groundwater monitoring continues at the piezometers installed during the 2004 Baseline Survey Project at Sugarshack.

Groundwater elevation has dropped significantly since drying the wetland (Fig. 1). For the first recorded time, all piezometers have recorded groundwater elevations lower than 0.4mAHD, which is the elevation of the wetland bed. This indicates that it is unlikely that saline groundwater is intruding into the wetland, a most encouraging sign during the drying phase. The piezometer with the highest groundwater

elevation, BH2, is situated in the SE corner of the wetland. It may be this area that is most at risk from groundwater intrusion, and this area should be closely monitored over the drying period for evidence of salt scalds.

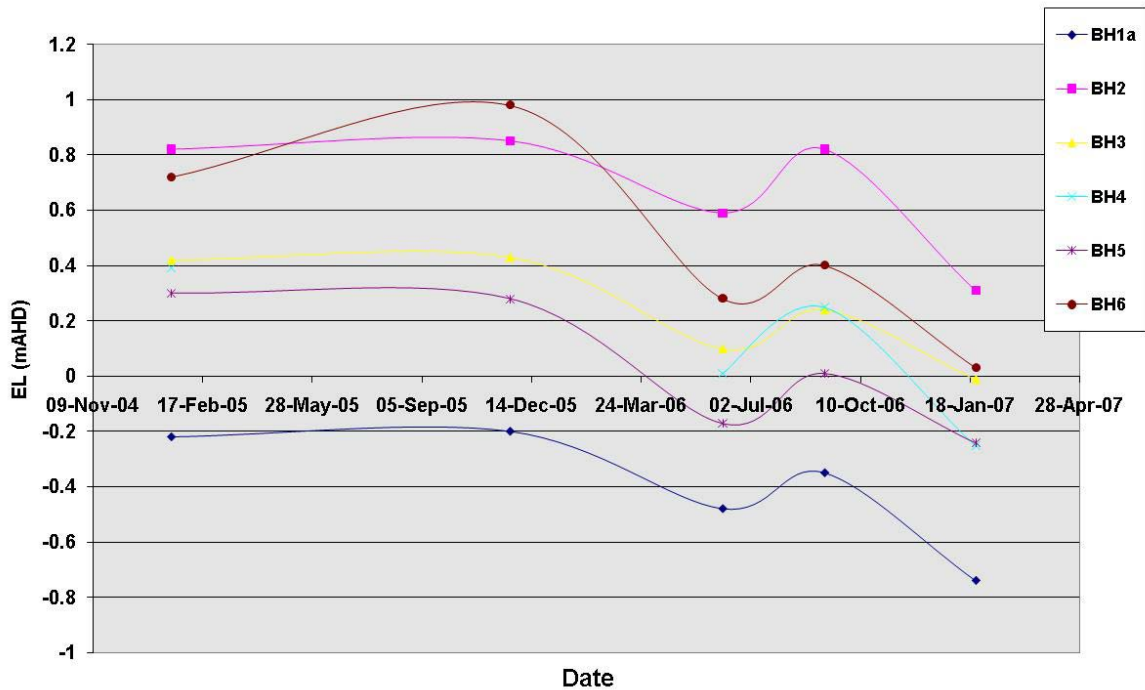


Fig. 1. Groundwater elevation (mAHd) over time at piezometers at Sugarshack wetland, River Murray

Groundwater salinity rose slightly in all wells (Fig. 2), the exception being BH2, which remained almost the same as when last monitored. Piezometer BH4, located between the River Murray and Yactko Creek, recorded the highest salinity, with a reading of over 50,000EC (more than seawater which is ~45,000EC). The likely rise in salinity levels is due to a lack of freshening from the wetland surface water. It is expected that groundwater salinity levels will continue to gradually rise over the dry period.

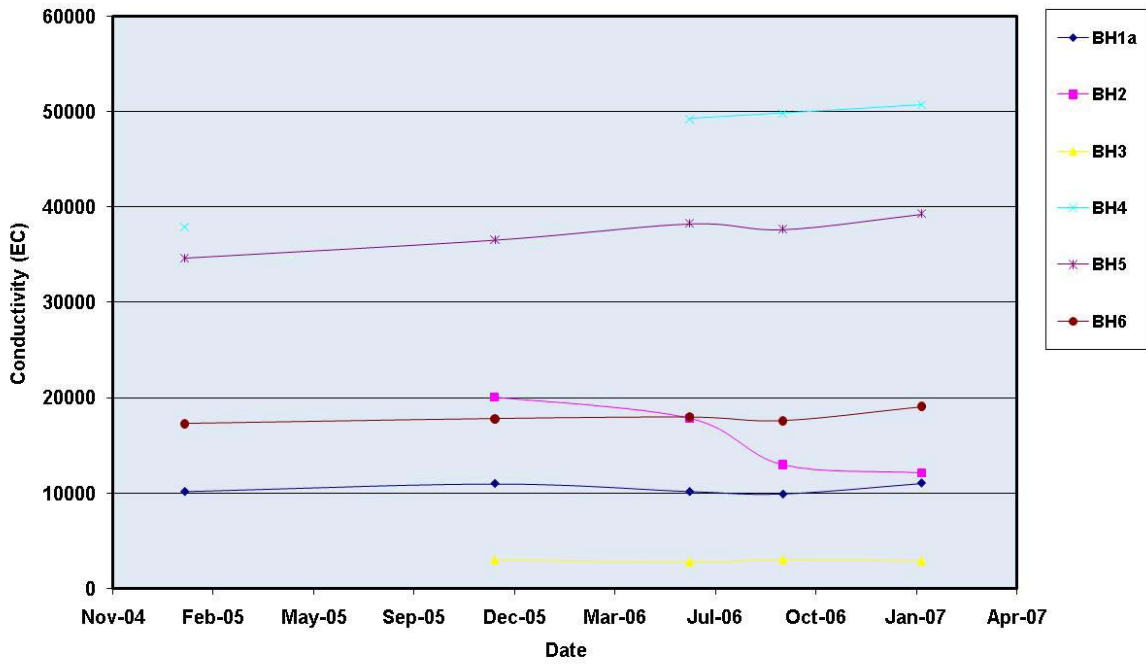


Fig. 2: Groundwater conductivity (EC) over time at piezometers at Sugarshack wetland, River Murray