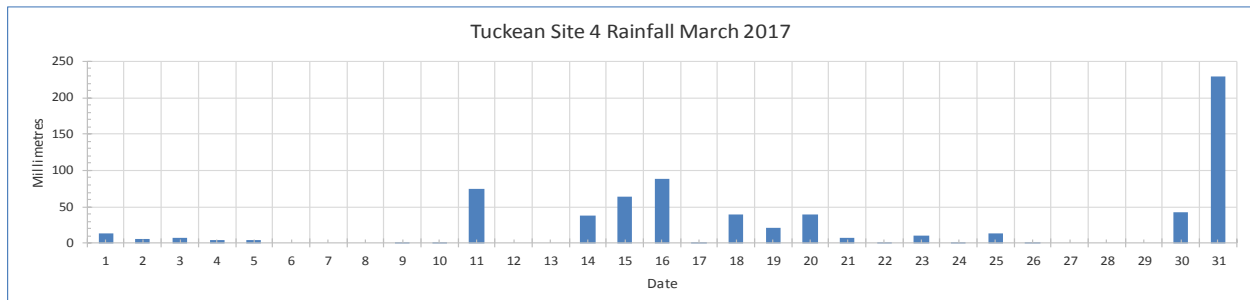
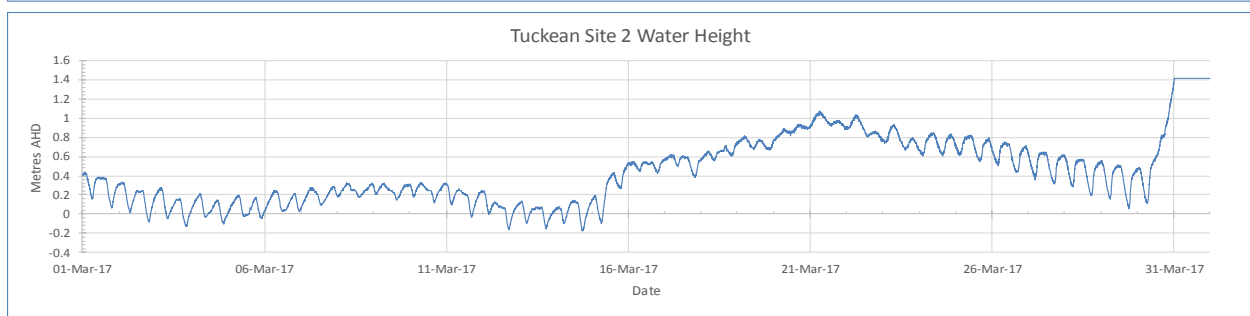
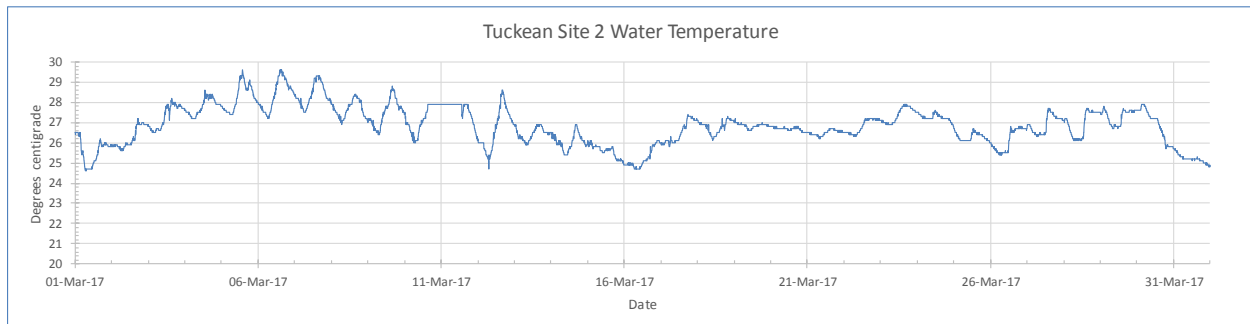
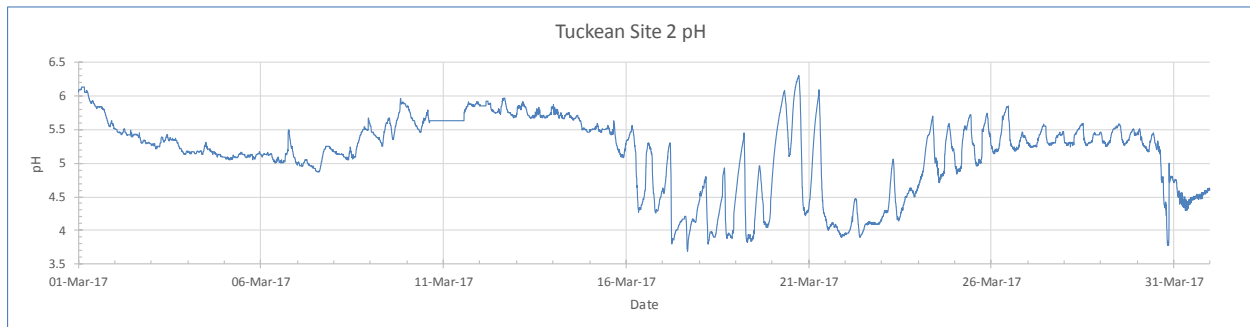
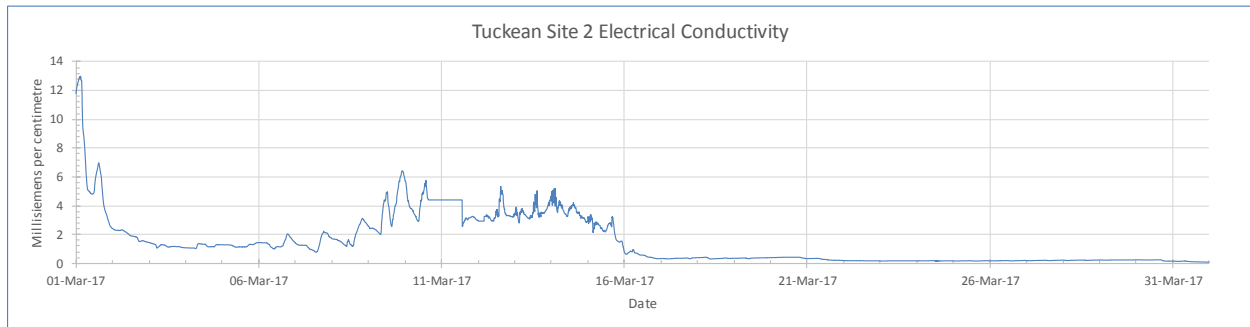


## Tuckean site 2 water quality – March 2017

Data logger located upstream of Bagotville Barrage, Tuckean Swamp, NSW



## Interpretation

- **Electrical conductivity (EC)** is related to salinity with EC at site 2 during March ranging between 0.1 millisiemens per centimetre (ms/cm) and 12.9 ms/cm and averaging 1.5 ms/cm, which is considered fresh and has decreased from the February saline water average of 8.7 ms/cm due to high rainfall and decreased tidal exchange. Water is considered fresh if below 1.8 ms/cm, brackish from 1.8 – 4.8 and saline above 4.8 with seawater approximately 60 ms/cm.
- **pH** in March was recorded between 3.7 and 6.3 and averaged 5.2, which is 1.0 units lower or ten times the acidity than the February average of 6.2 due to high rainfall and runoff from the swamp and decreased tidal exchange. On the pH scale neutral is at pH 7 and for every consecutive whole number below 7 acidity increases by ten times on a logarithmic scale. pH is affected by surface and groundwater level, drainage, rainfall, runoff and tidal exchange.
- **Water temperature** for March ranged between 24.7°C and 29.5°C giving a range of 4.8°C and averaging 26.9°C, which is 3.4°C lower than the February average of 30.3°C due to cooler weather and heavy rain during the second half of the month. Water temperature normally peaks in the late afternoon as air temperature and solar radiation decreases. Temperature variations can be caused by a combination of factors including solar radiation, air temperature, tidal exchange, day /night, shade, turbidity and rainfall.
- **Water level** was recorded between -0.18 and exceeding +1.42 m AHD for March giving a range of over 1.6 m and averaging +0.44 m AHD, which is 0.38 higher than the February average of +0.06 m AHD and 0.11 m higher than the site 1 January average of +0.33m due to high rainfall. Water height at site 2 fluctuates with tides, degree of sluice gate opening, river height, rainfall in the catchment and to a lesser extent temperature, wind and barometric pressure.
- **Rainfall** during March at the site 4 data logger situated 4 km to the north failed to record after 11<sup>th</sup> February, however a nearby station recorded 710.5 mm over 23 days, which compares to the February reading of 143.4 mm over 9 days. Peak daily rainfall of 229 mm was recorded between 9:00 am on 30<sup>th</sup> and 9:00 am on the 31<sup>st</sup> February. During February, the Rocky Mouth Creek data logger located 19 km to the SSW recorded 702.4 mm over 28 days, while Ballina AWS located 19 km to the NE recorded 432.2 mm over 20 days.