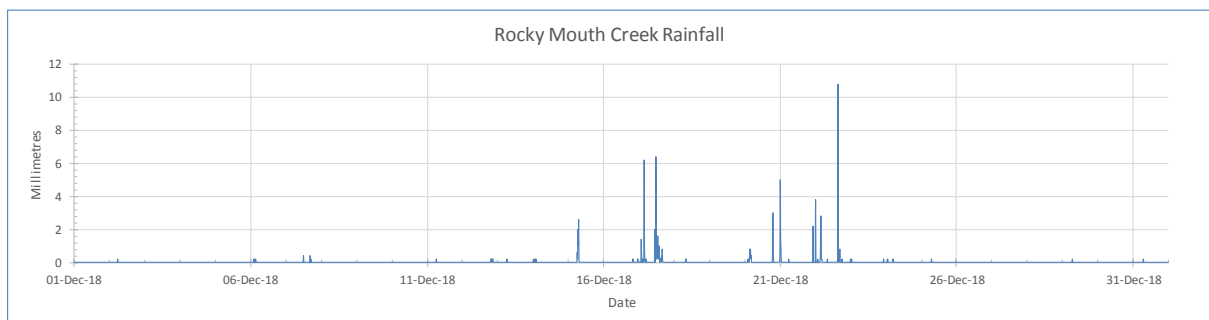
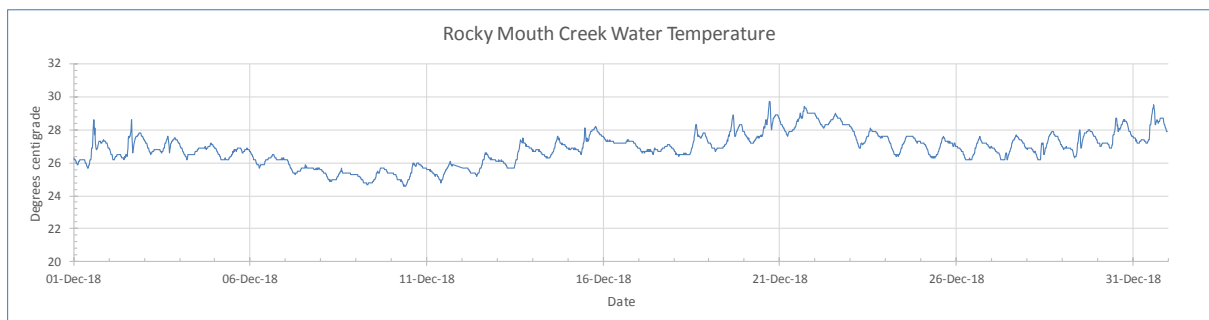
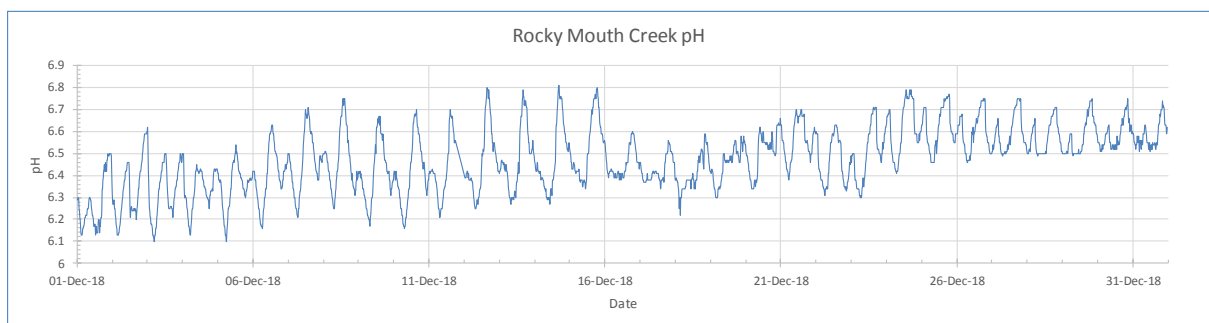
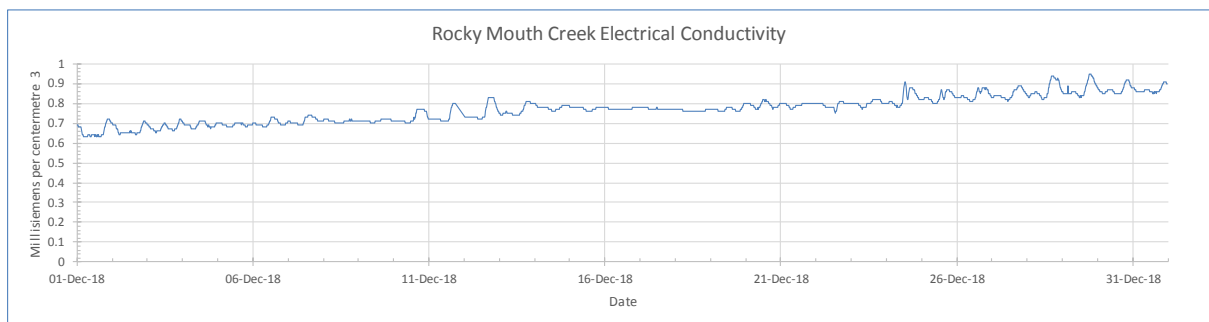
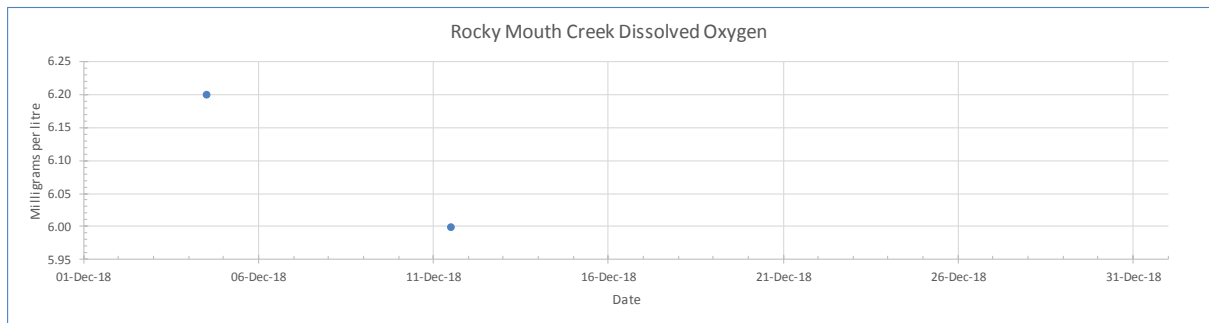


Rocky Mouth Creek (RMC) water quality – December 2018

Data logger on upstream side of floodgates



Interpretation

Note – DO readings are being substituted with manual measurements.

- **Dissolved oxygen (DO)** for December was recorded by weekly manual measurements however only two readings were available ranging between 6.0 and 6.2 milligrams per litre (mg/L) and averaging 6.1 which has risen by 0.6 when compared to the November average of 5.5. Levels below 3 mg/L are considered critical to most fish, from 3 to 6 is considered marginal and 6 to 8 optimal. DO is mainly affected by organic and inorganic loadings but is also affected by temperature, barometric pressure, salinity, wind and wave action.
- **Electrical conductivity (EC)** is measured in millisiemens per centimetre (ms/cm) and represents salinity with seawater equivalent to approximately 60 ms/cm. During December levels ranged between 0.63 and 0.93 ms/cm with an average of 0.77 ms/cm, which is considered fresh and has risen compared to the November average of 0.57 due to reducing rainfall. EC not only indicates salinity from sodium chloride, but also acid salts. Levels below 1.8 ms/cm are considered freshwater, while 1.8 to 4.8 ms/cm is considered brackish and above 4.8 saline. EC is affected by rainfall, runoff, temperature and tidal exchange.
- **pH** for December was recorded from 4.2 to 6.6 with an average of 6.5 which is 0.8 higher or 6.3 times less acidity than the November average of 5.7 due to reduced rainfall and less acid discharge from drains. pH 7 is considered neutral with acid concentration increasing on a logarithmic scale equal to ten times for every whole number below 7 while pH above 7 is considered alkaline.
- **Water temperature** recorded during December ranged between 24.6°C and 29.4°C giving a range of 4.8° with an average of 26.9°C which has increased by 1.3° from the November average of 25.6 due to seasonal change. Water temperature is influenced by season, solar radiation and degree of shading, cloud cover, tidal movement, air temperature, day/night, turbidity and rainfall.
- **Rainfall:** during December, the Rocky Mouth Creek data logger recorded 80.2 mm over 19 days which compares to the November reading of 96.0 mm over 14 days. The highest fifteen-minute rainfall for the month was 10.8 mm, which occurred on 22nd December between 3:00 pm and 3:15 pm. There were multiple dew readings of 0.2 mm during December as the site is located over water. During December the Tuckean site 4 data logger situated 19 km to the north recorded 46.2 mm over 12 days, while the Ballina AWS located 37 km to the north-east recorded 36.6 mm over 11 days.