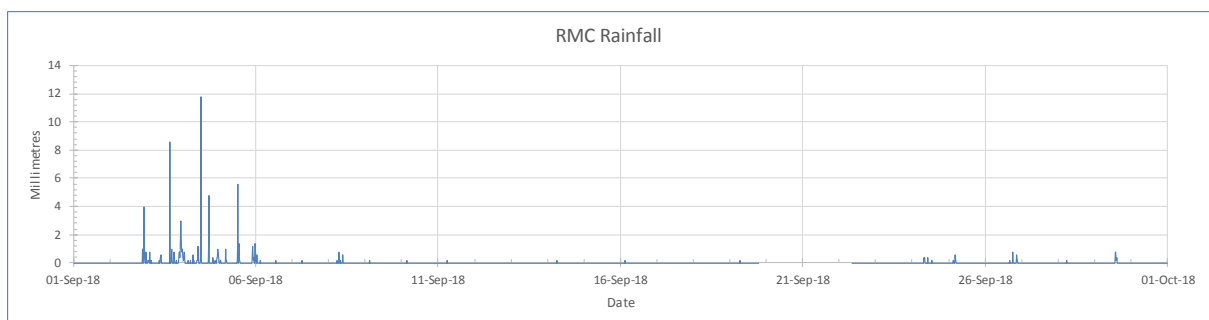
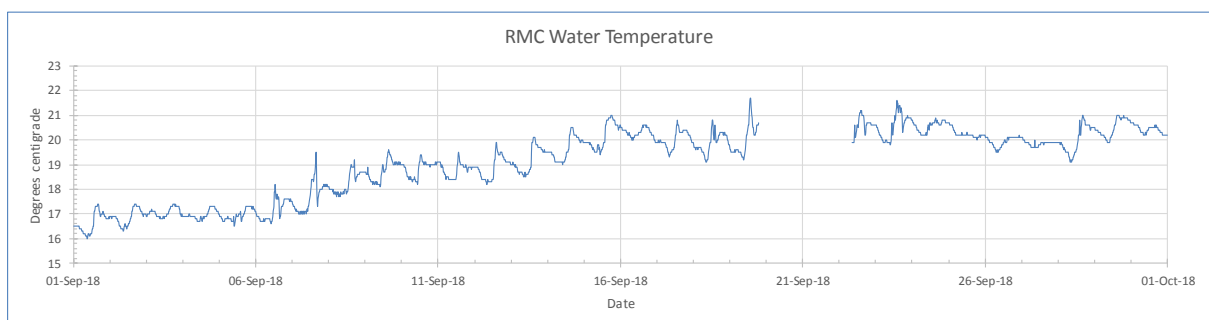
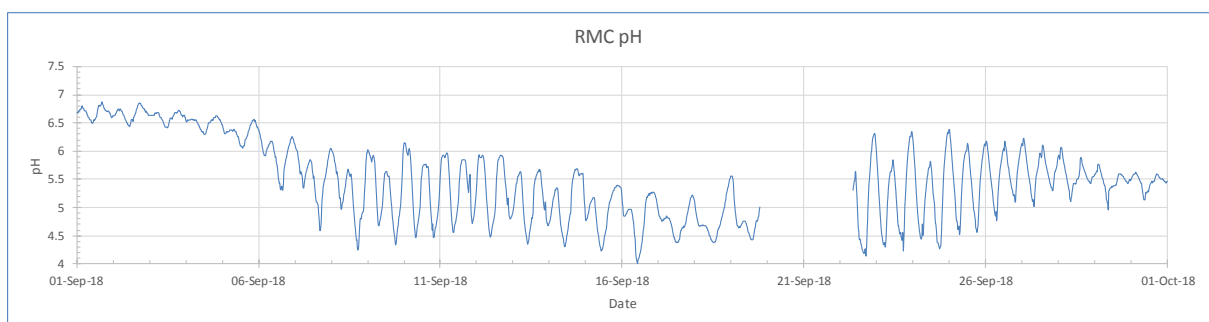
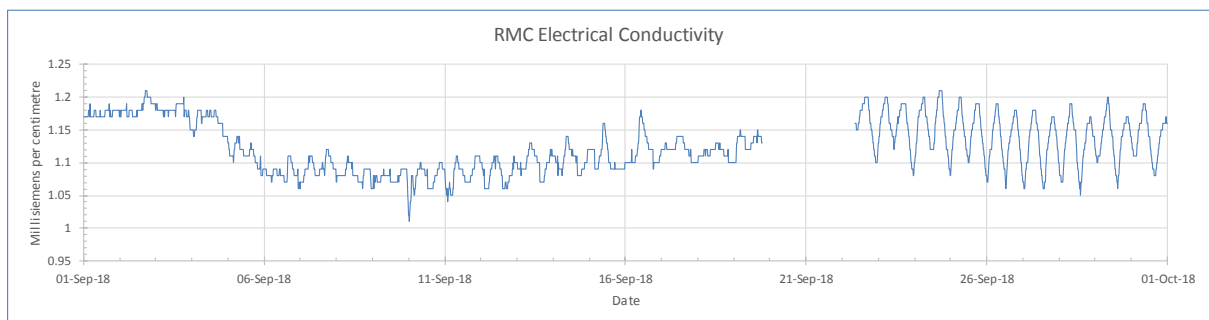
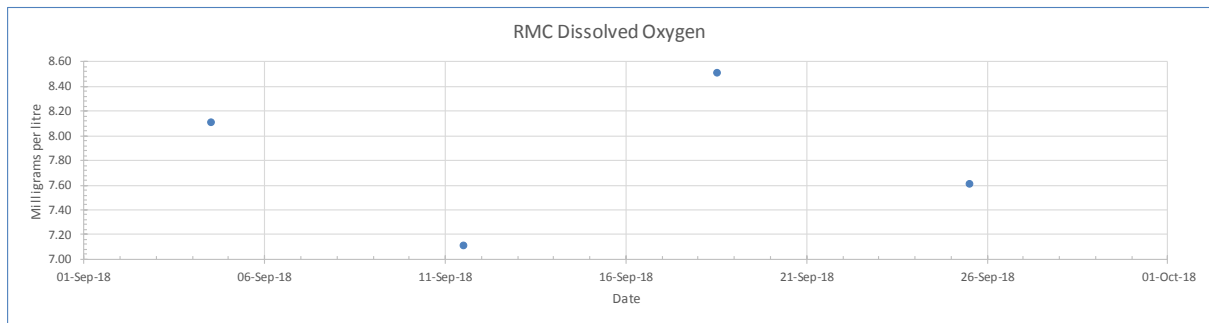


Rocky Mouth Creek (RMC) water quality – September 2018

Data logger on upstream side of floodgates



Interpretation

Note – DO readings are being substituted with manual measurements. The international cloud server went down between 19th and 27th and data was lost between the 19th and 22nd.

- **Dissolved oxygen (DO)** for September was recorded by weekly manual measurements between 7.1 and 8.5 milligrams per litre (mg/L) averaging 7.8 which has fallen by 0.8 when compared to the August average of 8.6 due to increased rainfall. 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 September levels ranged between 1.0 and 1.21 ms/cm with an average of 1.12 ms/cm, which is considered fresh and is the same as the August average of 1.12. 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. EC is affected by rainfall, runoff, temperature and tidal exchange.
- **pH** for September was recorded from 4.0 to 6.8 with an average of 5.5 which is 1.0 lower or ten times more acid than the August average of 6.5 due to increased rainfall and 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 above 7 it is considered alkaline.
- **Water temperature** recorded during September ranged between 16.0°C and 21.4°C giving a range of 5.4° with an average of 19.1°C which has increased from the August average of 15.3 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 September, the Rocky Mouth Creek data logger recorded 97.0 mm over 18 days which compares to the August reading of 29.0 mm over 12 days. The highest fifteen-minute rainfall for the month was 11.8 mm, which occurred on 4th September between 11:30 am and 11:45 am. There were multiple dew readings of 0.2 mm during September as the site is located over water. During September the Tuckean site 4 data logger situated 19 km to the north recorded 105.5 mm over 15 days, while the Ballina AWS located 37 km to the north-east recorded 281 mm over 11 days.