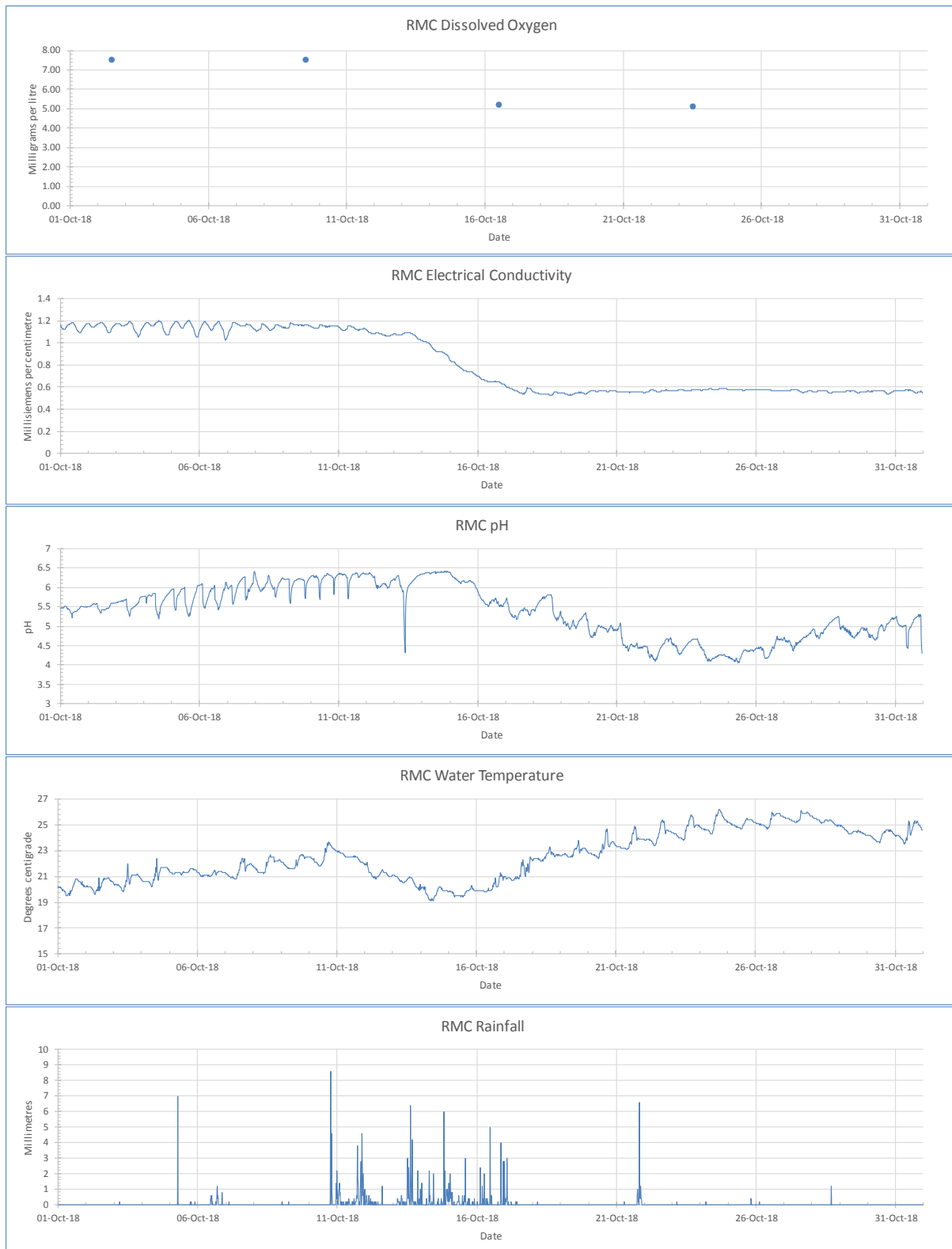


## Rocky Mouth Creek (RMC) water quality – October 2018

Data logger on upstream side of floodgates



## Interpretation

Note – DO readings are being substituted with manual measurements.

- **Dissolved oxygen (DO)** for October was recorded by weekly manual measurements between 5.2 and 7.6 milligrams per litre (mg/L) averaging 6.4 which has fallen by 1.4 when compared to the September average of 7.8 due to increased rainfall and runoff. 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 October levels ranged between 0.56 and 1.19 ms/cm with an average of 0.82 ms/cm, which is considered fresh and has fallen compared to the September average of 1.12 due to increased 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. EC is affected by rainfall, runoff, temperature and tidal exchange.
- **pH** for October was recorded from 4.1 to 6.4 with an average of 5.4 which is 0.1 lower or 1.26 times more acid than the September average of 5.5 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 October ranged between 19.1°C and 26.1°C giving a range of 7.0° with an average of 22.6°C which has increased from the September average of 19.1 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 October, the Rocky Mouth Creek data logger recorded 239.0 mm over 20 days which compares to the September reading of 97.0 mm over 18 days. The highest fifteen-minute rainfall for the month was 8.6 mm, which occurred on 10<sup>th</sup> October between 6:15 pm and 6:30 pm. There were multiple dew readings of 0.2 mm during October as the site is located over water. During October the Tuckean site 4 data logger situated 19 km to the north recorded 243.8 mm over 20 days, while the Ballina AWS located 37 km to the north-east recorded 218.4 mm over 15 days.