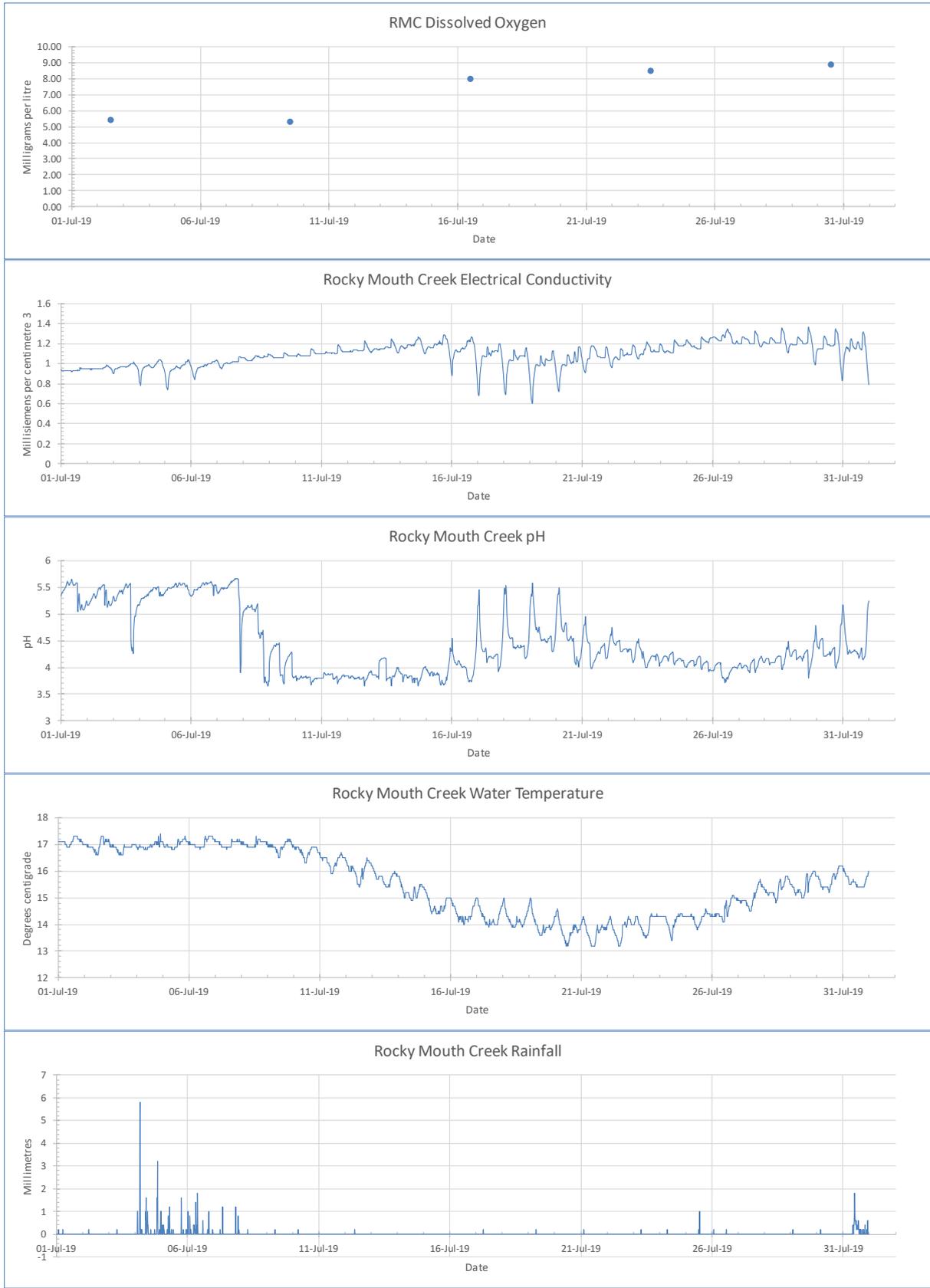


Rocky Mouth Creek (RMC) water quality – July 2019

Data logger on upstream side of floodgates



Interpretation

Note – DO readings are being substituted with weekly manual measurements. The site was cleaned and calibrated on 8th July.

- **Dissolved oxygen (DO)** for July was recorded by weekly manual measurements ranging between 5.4 and 8.98 milligrams per litre (mg/L) and averaging 6.9, which has decreased by 0.3 when compared to the June average of 7.2, although reading can vary between tides. 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 cubic centimetre (ms/cm³) and represents salinity with seawater equivalent to approximately 60 ms/cm³. During July levels ranged between 0.6 and 1.35 ms/cm³ with an average of 1.1 ms/cm³, which is considered freshwater and has fallen by 1.0 compared to the June brackish average of 2.1 due to rainfall and runoff. 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 July was recorded from 3.7 to 5.7 with an average of 4.5 which is 2.0 lower, or 100 times increased acidity when compared to the June average of 6.5. pH fell as a response to rainfall generating runoff from acid 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 July ranged between 13.2°C and 17.3°C giving a range of 4.1° with an average of 15.5°C which has decreased by 0.9° from the June average of 16.4 due to decreasing air temperature and 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 July, the Rocky Mouth Creek data logger recorded 69.8 mm over 21 days which compares to the June reading of 191.0 mm over 24 days. A number of readings were from dew as the site is located over water, while the highest fifteen-minute rainfall for the month was 5.8 mm, which occurred on 4th July between 4:15 am and 4:30 am. During July the Tuckean site 4 data logger situated 19 km to the north recorded 92.6 mm over 18 days, while the Ballina AWS located 37 km to the north-east recorded 74.8 mm over 14 days.