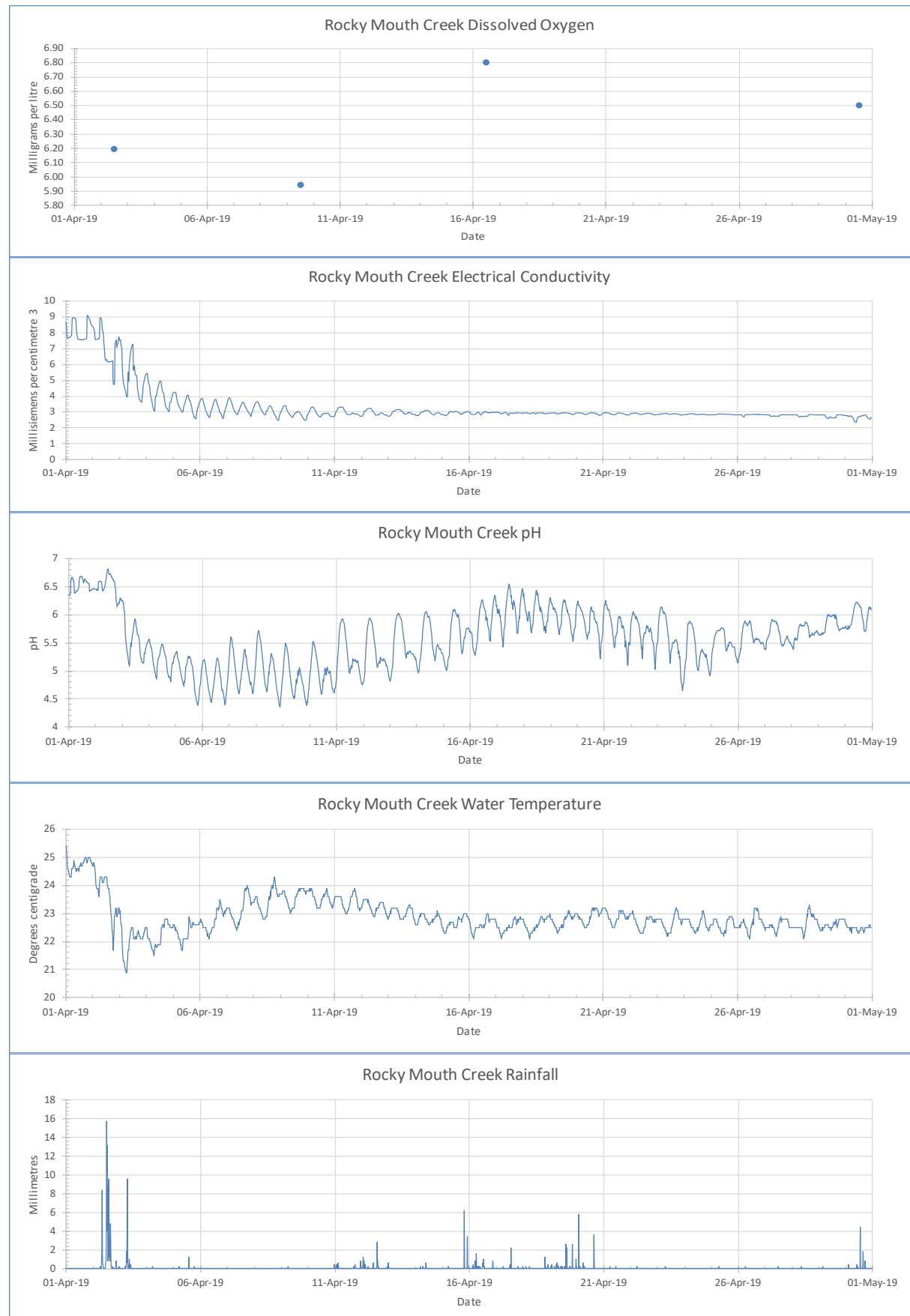


Rocky Mouth Creek (RMC) water quality – April 2019

Data logger on upstream side of floodgates



Interpretation

Note – DO readings are being substituted with manual measurements. The site was cleaned and calibrated on 16th April.

- **Dissolved oxygen (DO)** for April was recorded by weekly manual measurements ranging between 5.94 and 6.8 milligrams per litre (mg/L) and averaging 6.4, which has increased by 0.5 when compared to the March average of 5.9 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 centimetre (ms/cm) and represents salinity with seawater equivalent to approximately 60 ms/cm. During April levels ranged between 2.4 and 8.9 ms/cm with an average of 3.4 ms/cm, which is considered brackish and has fallen compared to the March saline average of 10.9. EC fell from the start of the month 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 and above 4.8 saline. EC is affected by rainfall, runoff, temperature and tidal exchange.
- **pH** for April was recorded from 4.4 to 6.8 with an average of 5.6 which is 1.0 lower, or 10-times increased acidity when compared to the March average of 6.6 due to increasing rainfall and runoff during April. 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 April ranged between 20.9°C and 25.4°C giving a range of 4.5° with an average of 22.9°C which has decreased by 4.0° from the March average of 26.9 due to increased cloud cover 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 April, the Rocky Mouth Creek data logger recorded 211.8 mm over 23 days which compares to the March reading of 184.2 mm over 20 days. The highest fifteen-minute rainfall for the month was 15.8 mm, which occurred on 2nd April between 12:00 pm and 12:15 pm. During April the Tuckean site 4 data logger situated 19 km to the north recorded 164.6 mm over 23 days, while the Ballina AWS located 37 km to the north-east recorded 158.8 mm over 21 days.