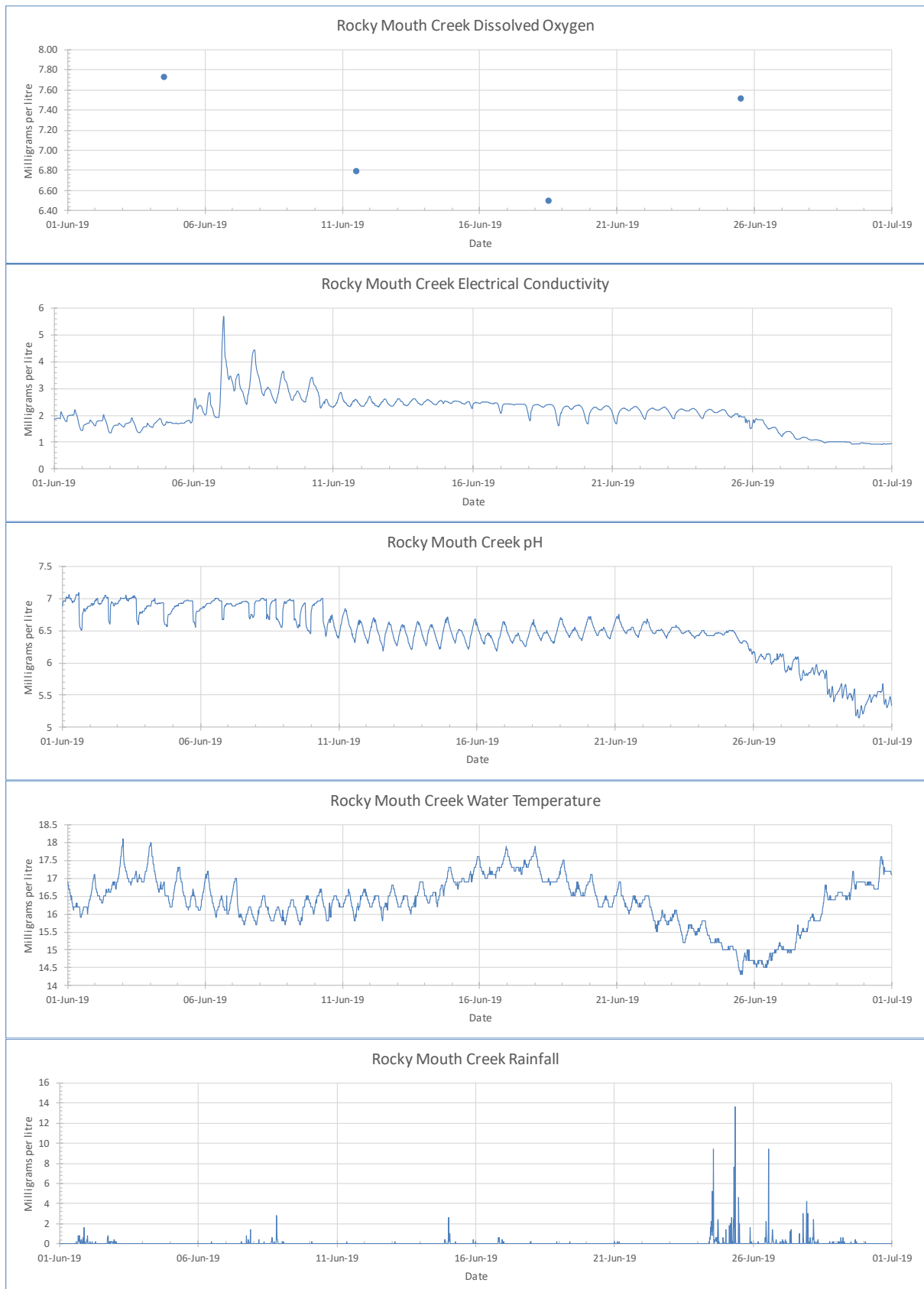


## Rocky Mouth Creek (RMC) water quality – June 2019

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 10<sup>th</sup> June.

- **Dissolved oxygen (DO)** for June was recorded by weekly manual measurements ranging between 6.52 and 7.75 milligrams per litre (mg/L) and averaging 7.2, which has increased by 1.0 when compared to the May average of 6.2, 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/cm<sup>3</sup>) and represents salinity with seawater equivalent to approximately 60 ms/cm<sup>3</sup>. During June levels ranged between 0.9 and 5.7 ms/cm<sup>3</sup> with an average of 2.1 ms/cm<sup>3</sup>, which is considered brackish and has fallen by 0.3 compared to the May brackish average of 2.4. EC fell towards the end of the month 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 June was recorded from 5.1 to 7.1 with an average of 6.5 which is 0.1 higher, or 1.26 times decreased acidity when compared to the May average of 6.4. pH fell at the end of the month as rainfall generated 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 June ranged between 14.4°C and 18.1°C giving a range of 3.7° with an average of 16.4°C which has decreased by 3.4° from the May average of 19.8 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 June, the Rocky Mouth Creek data logger recorded 191.0 mm over 24 days which compares to the May reading of 49.0 mm over 23 days. A number of readings were from dew or light rain while the highest fifteen-minute rainfall for the month was 13.6 mm, which occurred on 25<sup>th</sup> June between 8:00 am and 8:15 am. During June the Tuckean site 4 data logger situated 19 km to the north recorded 214.4 mm over 21 days, while the Ballina AWS located 37 km to the north-east recorded 268.2 mm over 15 days.