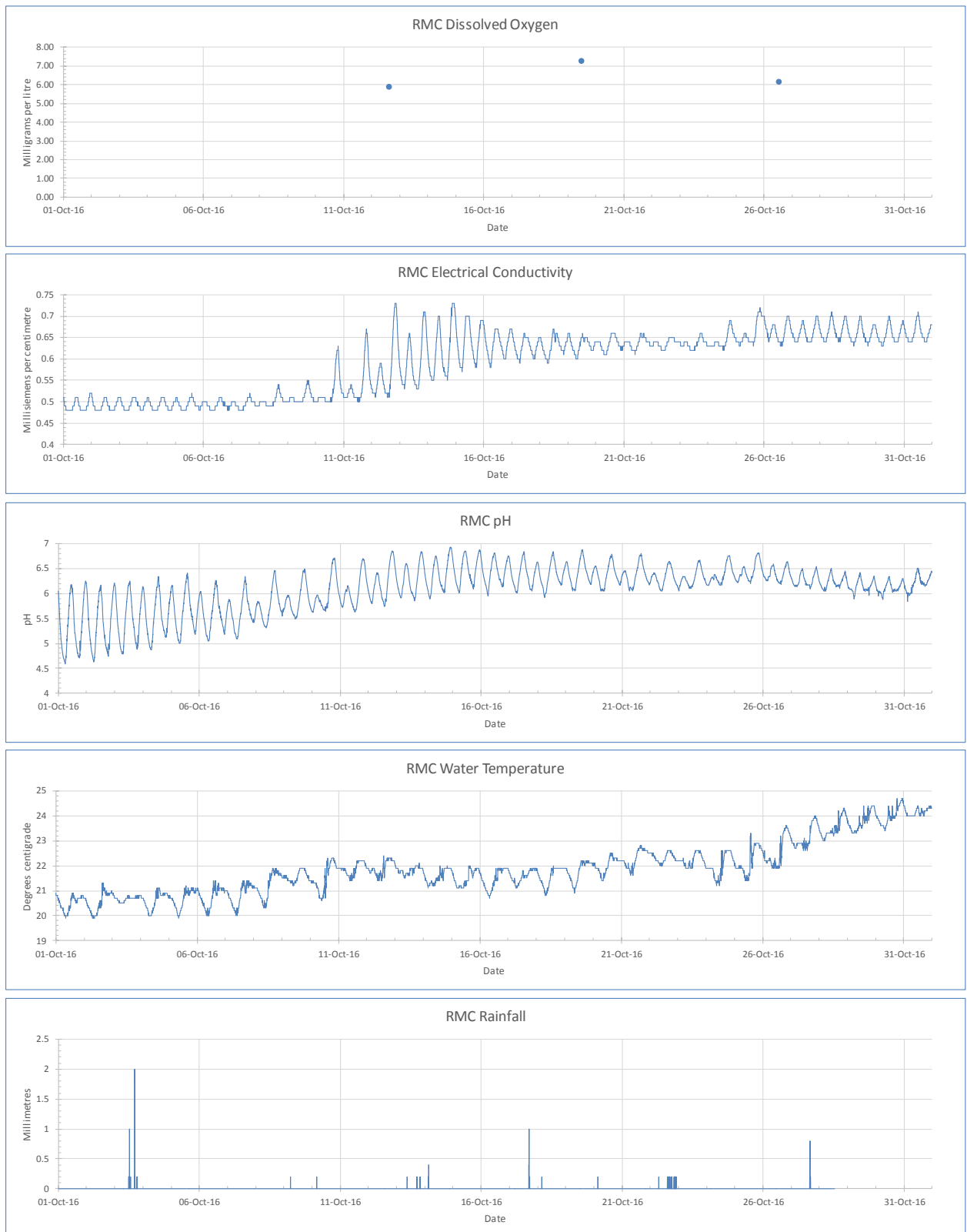


Rocky Mouth Creek (RMC) water quality – October 2016

Data logger on upstream side of floodgates



Interpretation

Note –The DO sensor failed for the whole of October and was substituted with manual measurements.

- **Dissolved oxygen (DO)** for October was not recorded by the data logger, however weekly manual measurements were recorded between 6.0 and 7.4 mg/L averaging 6.5, which compares to last month's 4.35. Increased DO levels are due to reduced rainfall and runoff and increased exchange of river water. 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 0.48 and 0.73 ms/cm with an average of 0.59 ms/cm, which is considered fresh and has risen by 0.13 compared to last month's average of 0.46. Low rainfall during the month caused reduced runoff and allowed river water to dominate. Electrical conductivity not only responds to salinity from sodium chloride but also to acid salts. Levels below 1.8 ms/cm are considered freshwater while 1.8 to 4.8 ms/cm is considered brackish. Electrical conductivity is affected by rainfall, runoff, temperature and tidal exchange.
- **pH** during October was recorded between 4.6 and 6.9 and averaged 6.1, which is 1.9 pH units higher or 79.4 times less acid than last month's average of 4.2. pH rose from last month due to low rainfall and increased tidal pulsing of river water. pH 7 is considered neutral with acid concentration increasing 10 times for every whole number below 7.
- **Water temperature** recorded for October ranged between 19.9°C and 24.7°C giving a range of 4.8° with an average of 21.9°C which is 1.6°C warmer than the September average of 20.3°C 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 38.8 mm over 12 days, however most recordings were from dew. This compares to the September total of 27.4 mm of rain recorded over 24 days. The highest five minute rainfall for the month of 2.0 mm occurred on 3 October between 4:55 pm and 5:00 pm. During October the site 4 data logger situated 19 km to the NNE recorded 30.0 mm over 13 days, while the Ballina AWS located 37 km to the NE recorded 11.4 mm over 9 days.