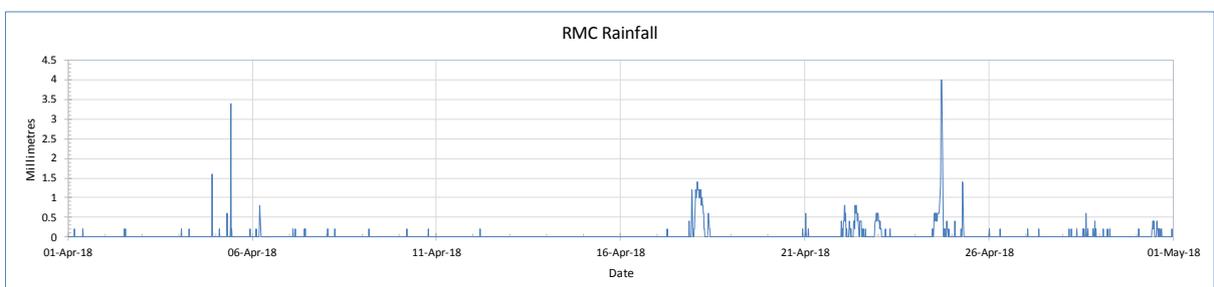
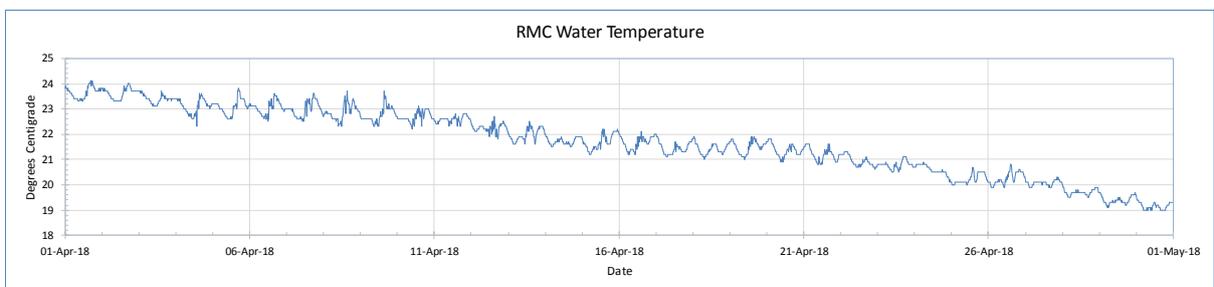
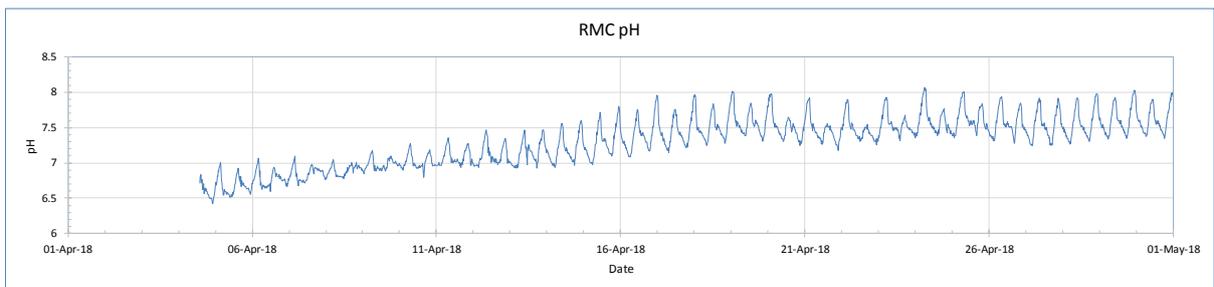
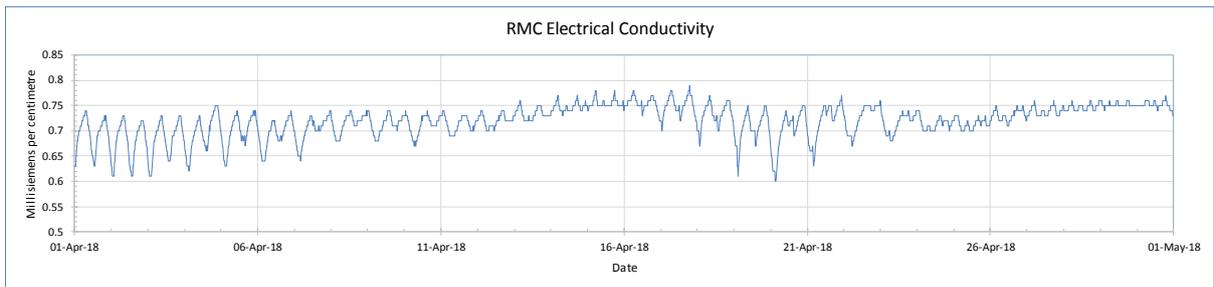
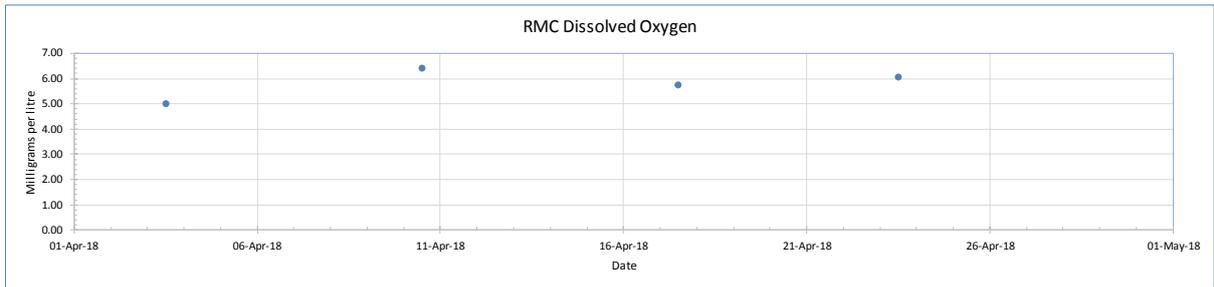


Rocky Mouth Creek (RMC) water quality – April 2018

Data logger on upstream side of floodgates



Interpretation

Note – EC, temperature and pH sensors require a new floating sensor housing fitted to raise them out of the sediment and prevent damage. The DO sensor failed and will be substituted with manual measurements until a replacement is fitted.

- **Dissolved oxygen (DO)** for April was not recorded by the data logger, however weekly manual measurements were recorded between 5.0 and 6.5 mg/L averaging 5.8 which has risen by 1.2 when compared to the March average of 4.6. 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 0.60 and 0.79 ms/cm with an average of 0.72 ms/cm, which is considered fresh and compares to the March average of 0.71. 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** during April was recorded between 6.4 and 8.0 with an average of 7.3 however sediment fouling of the pH sensor and sheath damage due to abrasion appears to be causing the levels to be drifting upwards. pH 7 is considered neutral with acid concentration increasing on a logarithmic scale equal to ten times for every whole number below 7.
- **Water temperature** recorded for April ranged between 19.0°C and 24.0°C giving a range of 5.0° with an average of 21.7°C which compares to the March average of 23.7. 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 114.6 over 23 days which compares to the March reading of 178.8 mm over 28 days. The highest fifteen-minute rainfall for the month was 4.0 mm, which occurred on 24th April between 6:45 pm and 7:00 pm. During March the site 4 data logger situated 19 km to the NNE failed to record, however a nearby station recorded 142.4 mm over 19 days, while the Ballina AWS located 37 km to the NE recorded 248.4 mm over 20 days.