Weekly River Monitoring Report

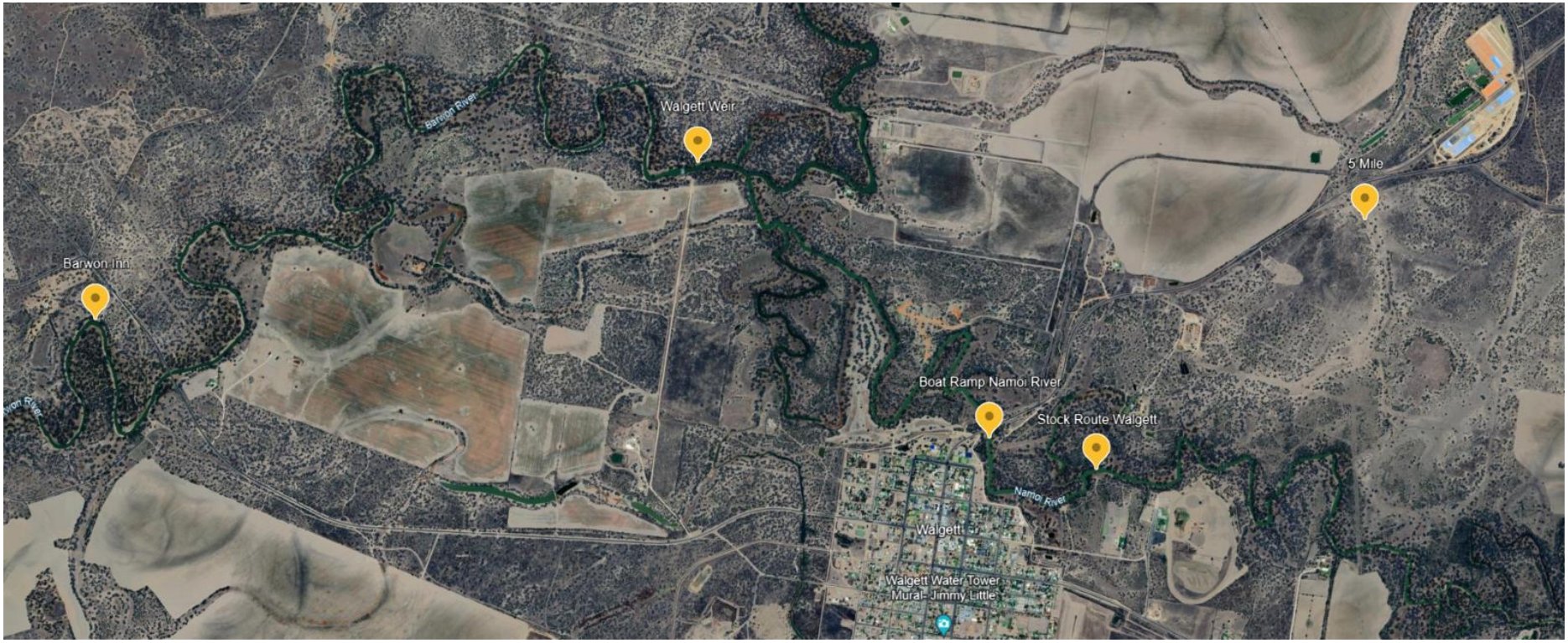
7th March 2024

Introduction

This data was collected on Thursday 7th March between 11am and 3pm on the Ngamaay (Namoi) and Baawan (Barwon) River.

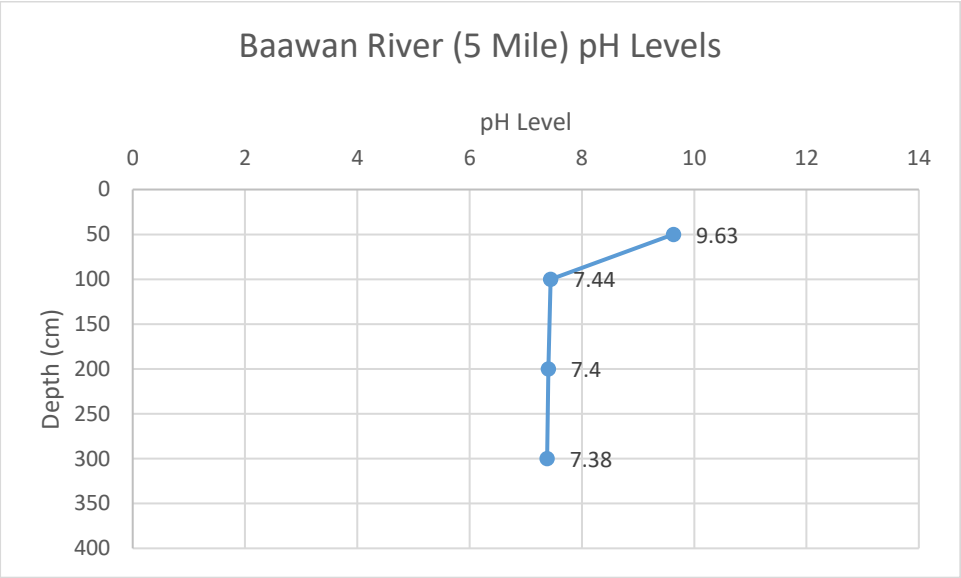
The Dharriwaa Elders Group River Rangers are conducting weekly water quality testing, measuring a range of factors that affect the quality of the river water. Different results affect the health of native animals and plants, and the health of the people that rely on the river for food and water.

Picture: Map of the Baawan (Barwon) River and Ngamaay (Namoi) River where the DEG River Rangers do their water quality monitoring.



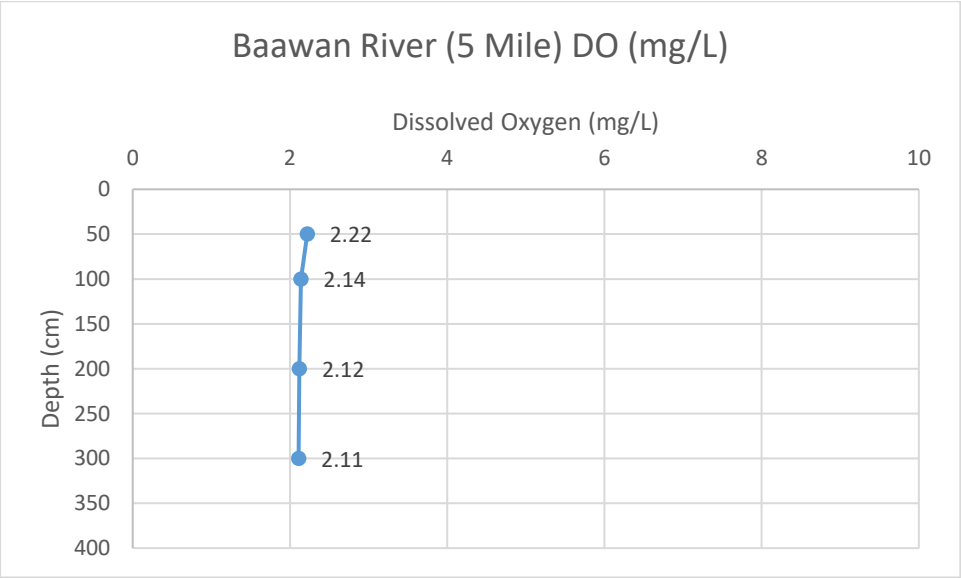
Baawan River (5 Mile)

pH Levels



The first pH reading at site one is within the alkaline range. All the readings after the first one are within a good neutral range. The pH levels at site one are not too acidic or too alkaline.

Dissolved Oxygen

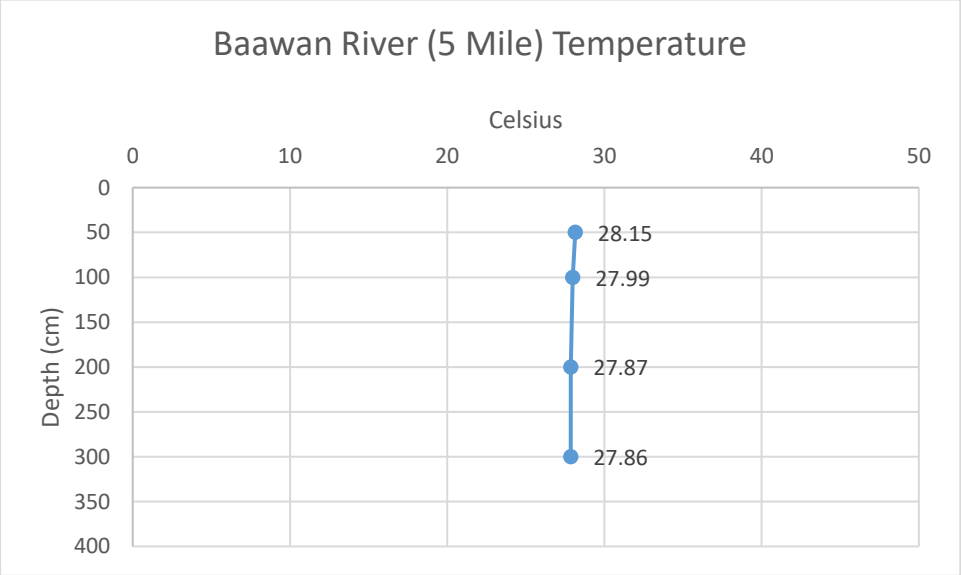


The dissolved oxygen at all depths measured on the Baawan River at site one is still at a dangerously low level. When the dissolved oxygen level is below 3mg/L fish may struggle and may be in a stressful state.

Electrical Conductivity

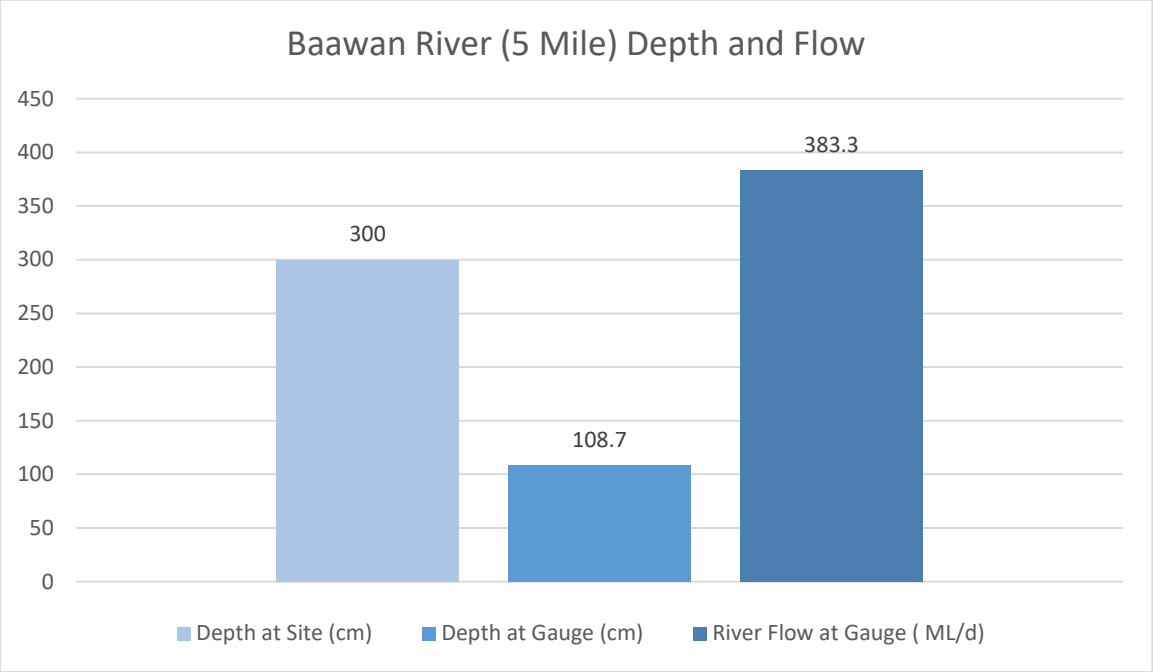
The electrical conductivity is a measurement of salinity. The salinity at site one on the Baawan River is within a good range. This is good for freshwater fish. The EC limits for freshwater fish are between 125 - 2200 uS/cm.

Temperature



The temperature measured at the first depth is high but the following readings are within a good range. The temperatures are within a good range for freshwater fish. There are no extreme differences between the temperatures at each depth which means that there is no danger to the fish.

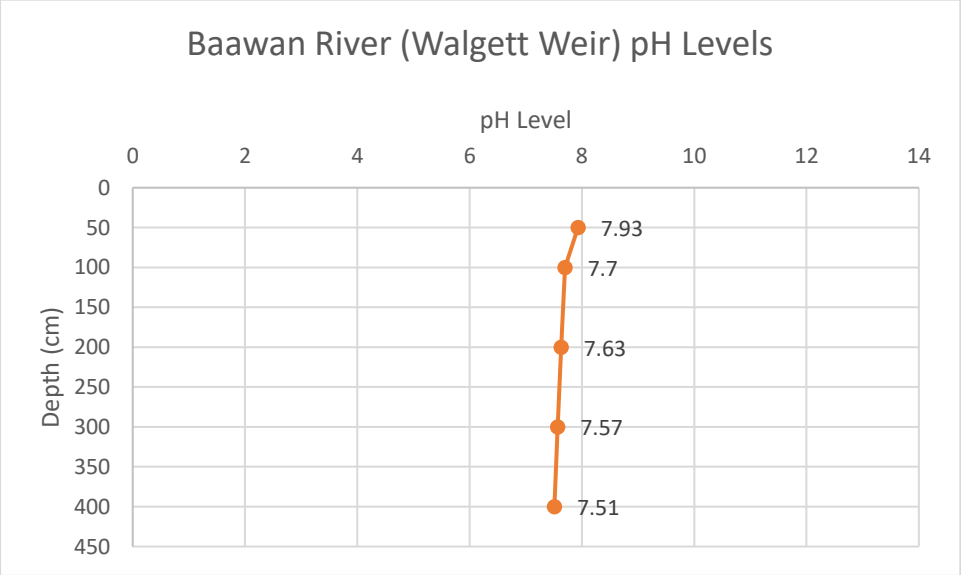
River Depth and Flow



The river depth at both the site and the nearest working gauge (Barwon@Collarenebri 422003) is good for small, medium and large fish. Native fish prefer flowing water and the flow at the gauge shows that there is a good flow for the fish.

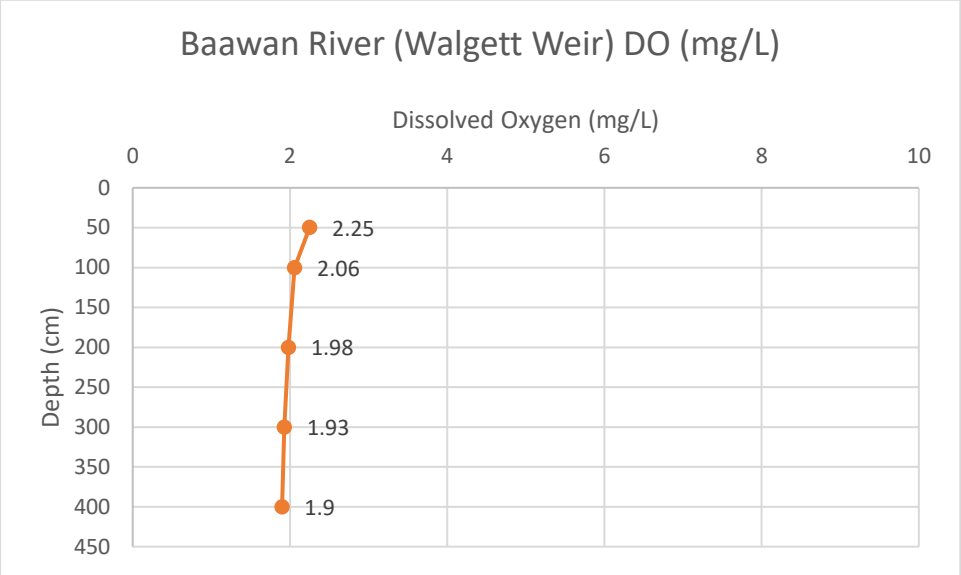
Baawan River (Walgett Weir)

pH Levels



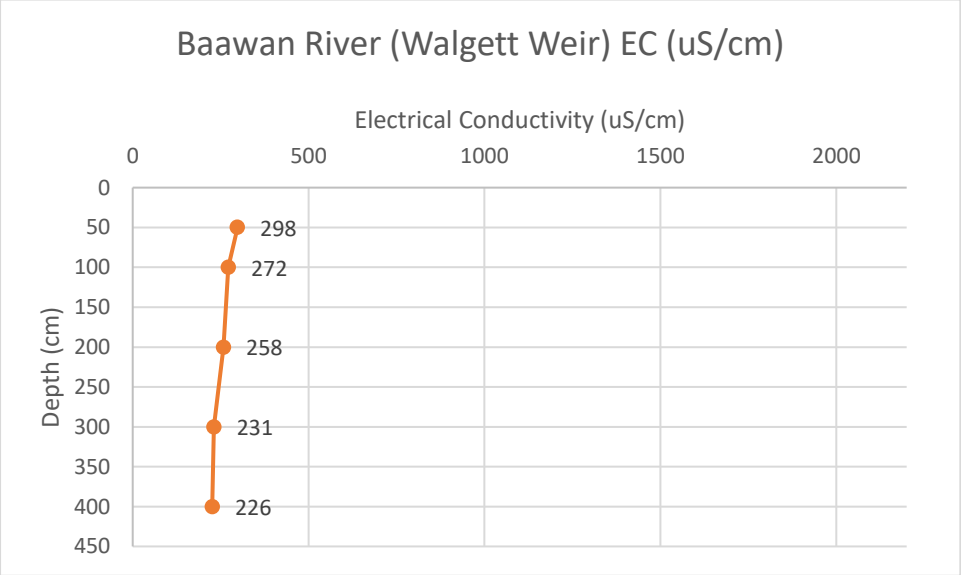
The pH level readings measured at site two on the Baawan River are within a neutral range. This means that the water is not too acidic or too alkaline.

Dissolved Oxygen



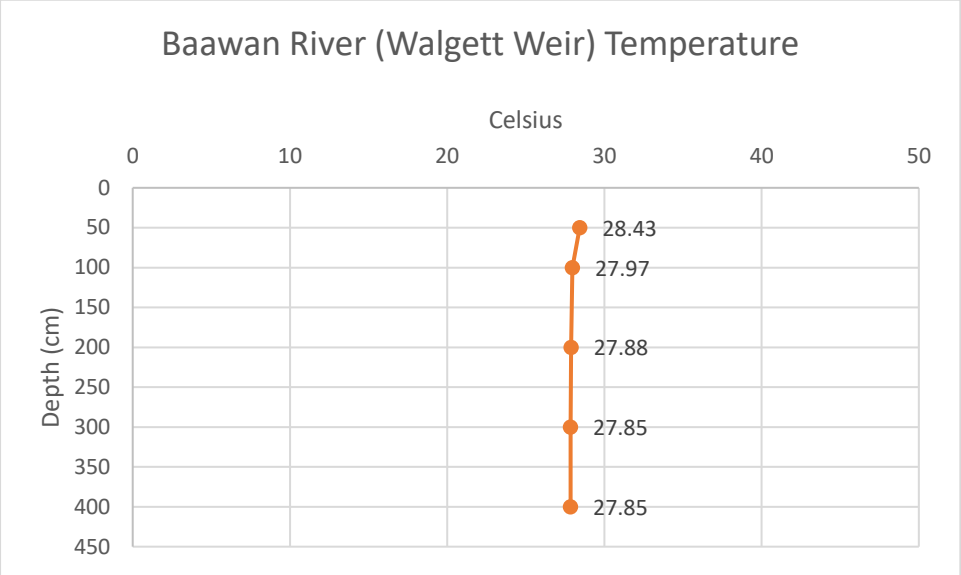
The dissolved oxygen at all depths measured on the Baawan River at site two are still at a dangerously low level. When the dissolved oxygen level is below 3mg/L fish may struggle and may be in a stressful state.

Electrical Conductivity



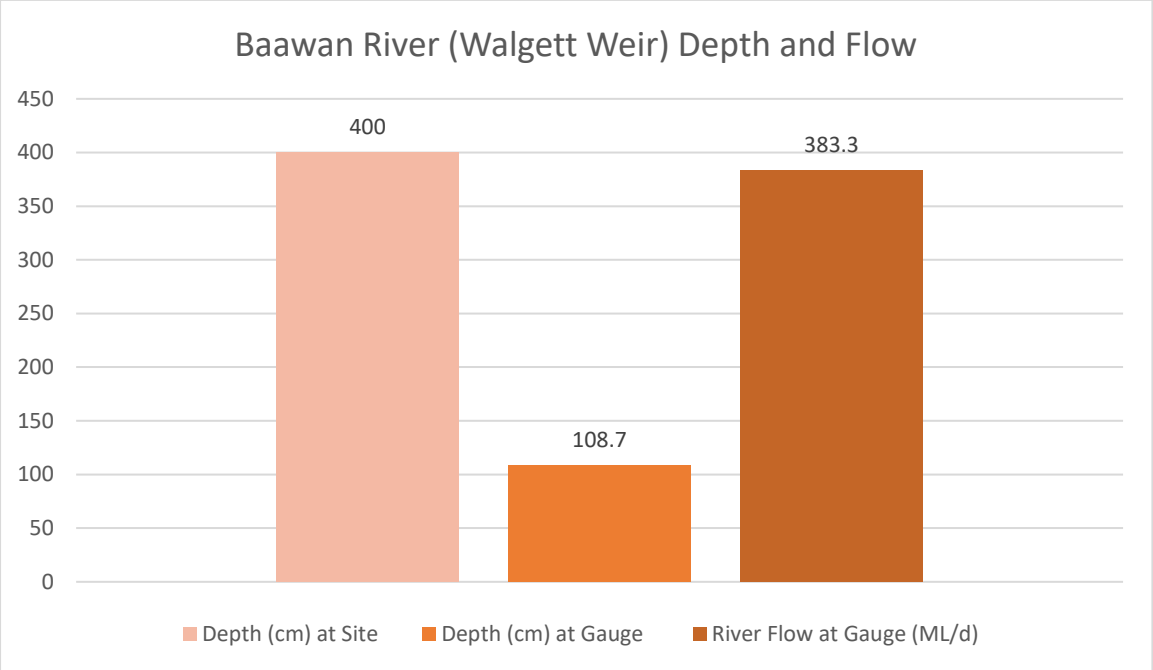
The electrical conductivity is a measurement of salinity. The salinity at site two on the Baawan River is within a good range. This is good for freshwater fish. The EC limits for freshwater fish are between 125 - 2200 uS/cm.

Temperature



The temperature measured at the first depth is high but the following readings are within a good range. The temperature is within a good range for freshwater fish. There are no extreme differences between the temperatures at each depth which means that there is no danger to the fish.

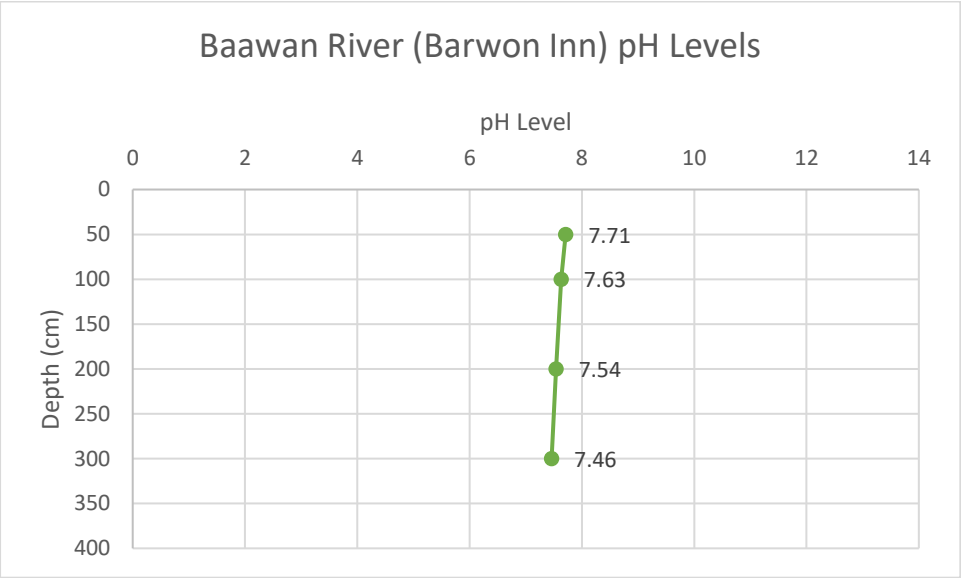
River Flow and Depth



The river depth at both the site and the nearest working gauge (Barwon@Collarenebri 422003) is good for small, medium and large fish. Native fish prefer flowing water. The flow at the gauge shows that there is a good flow for the fish.

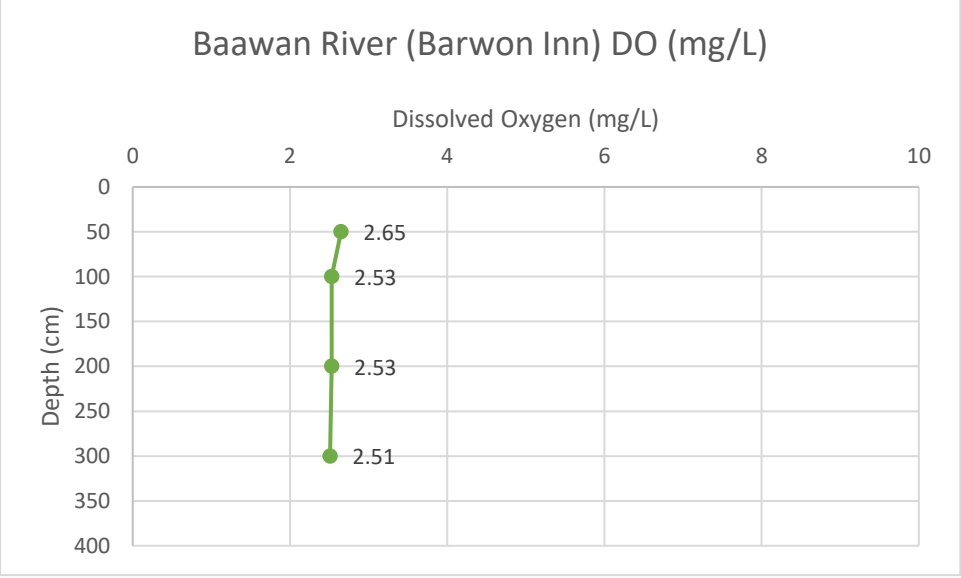
Baawan River (Barwon Inn)

pH Levels



All pH readings at site three on the Baawan is within the neutral range. The pH levels at site three are not too acidic or too alkaline.

Dissolved Oxygen

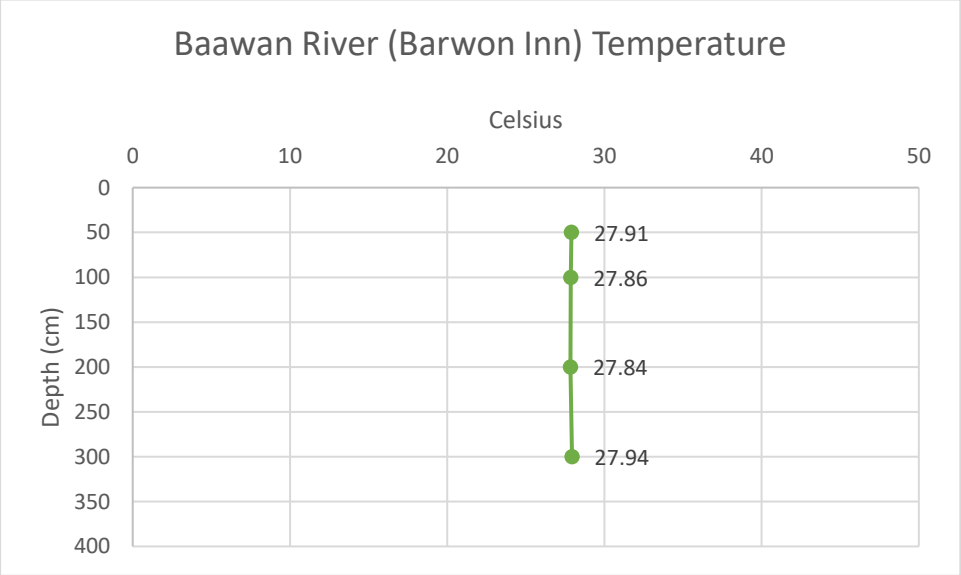


The dissolved oxygen at all depths measured on the Baawan River at site three are still at a dangerously low level. When the dissolved oxygen level is below 3mg/L fish may struggle and may be in a stressful state.

Electrical Conductivity

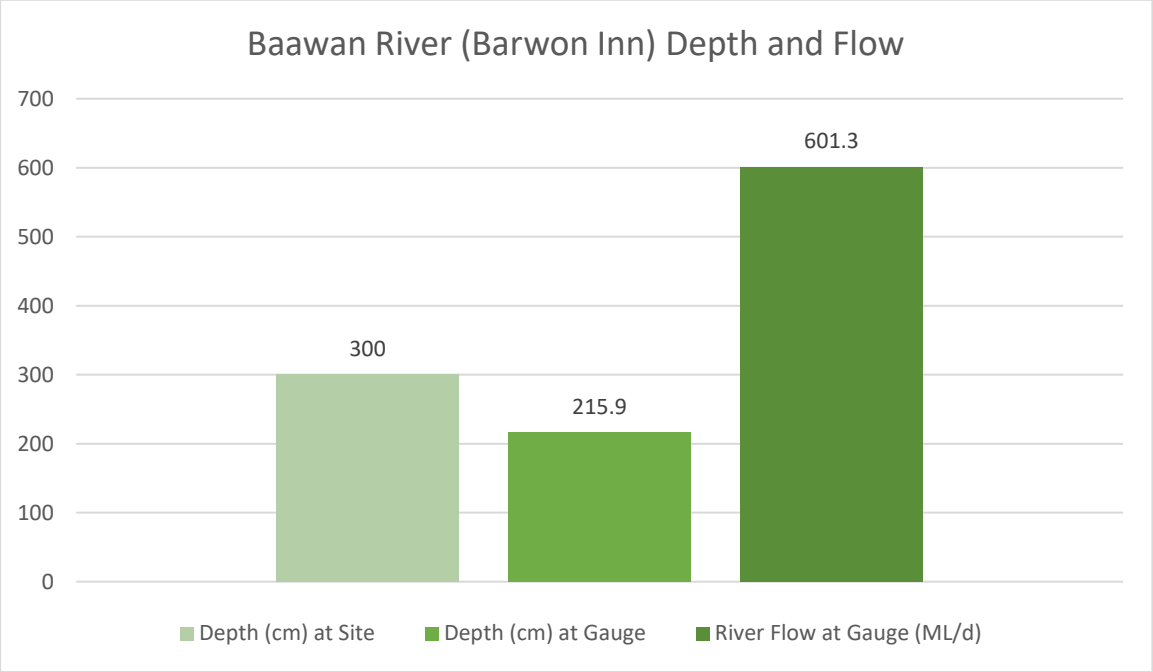
The electrical conductivity is a measurement of salinity. The salinity at site three on the Baawan River is within a good range. This is good for freshwater fish. The EC limits for freshwater fish are between 125 - 2200 uS/cm.

Temperature



The temperature measured at all depths are within a good range. This is good for freshwater fish. There are no extreme differences between the temperatures at each depth which means that there is no danger to the fish.

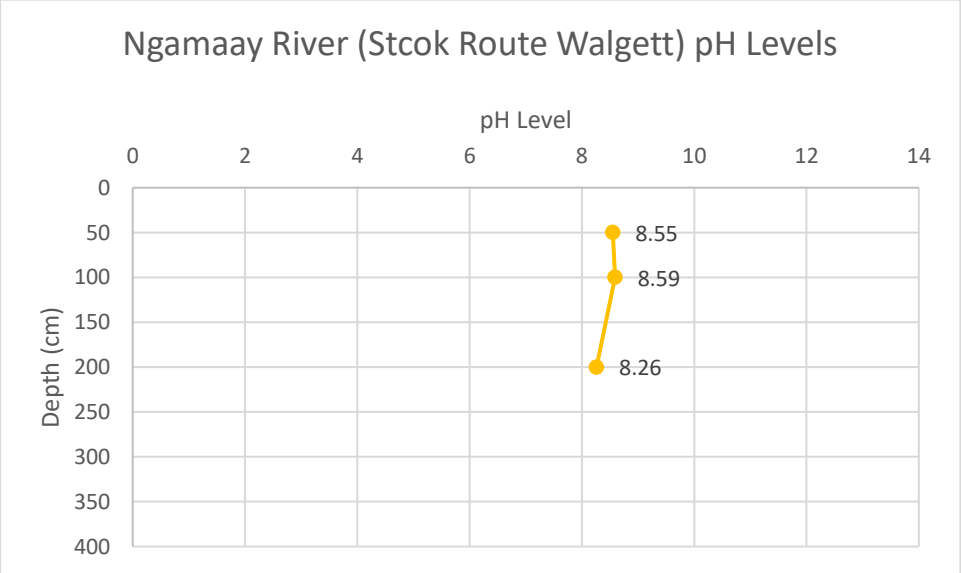
River Depth and Flow



The river depth at both the site and the nearest working gauge (Barwon@Dangar Bridge 422001) is good for small, medium and large fish. Native fish prefer flowing water. The flow at the gauge shows that there is a good flow for the fish.

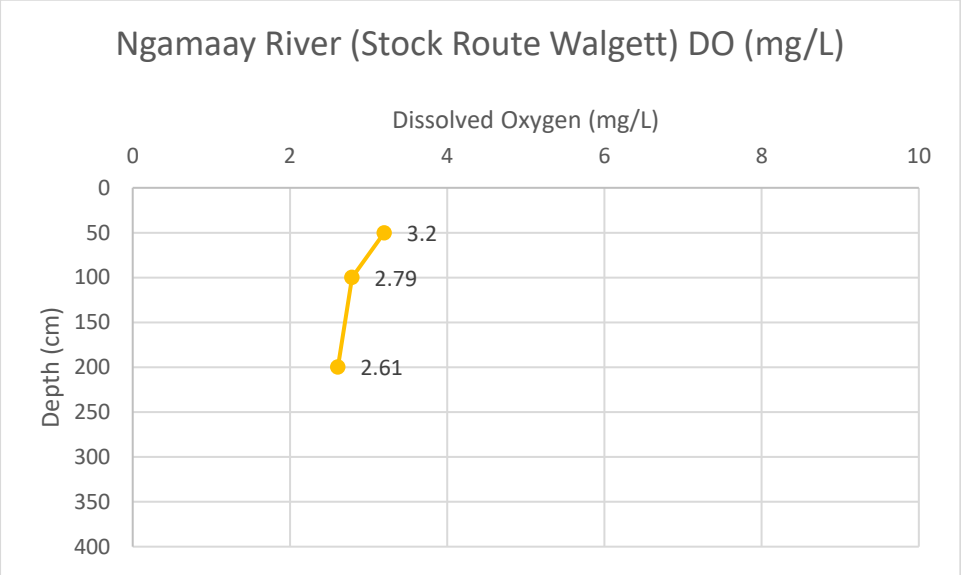
Ngamaay River (Stock Route Walgett)

pH Level



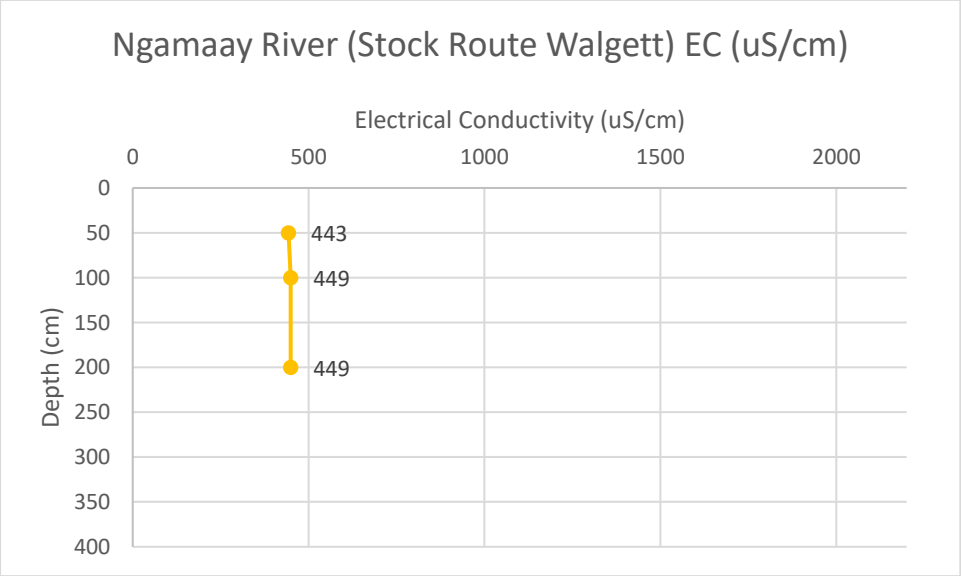
The pH level readings at site four on the Ngamaay River are all within an alkaline range but the readings show that it is not too alkaline.

Dissolved Oxygen



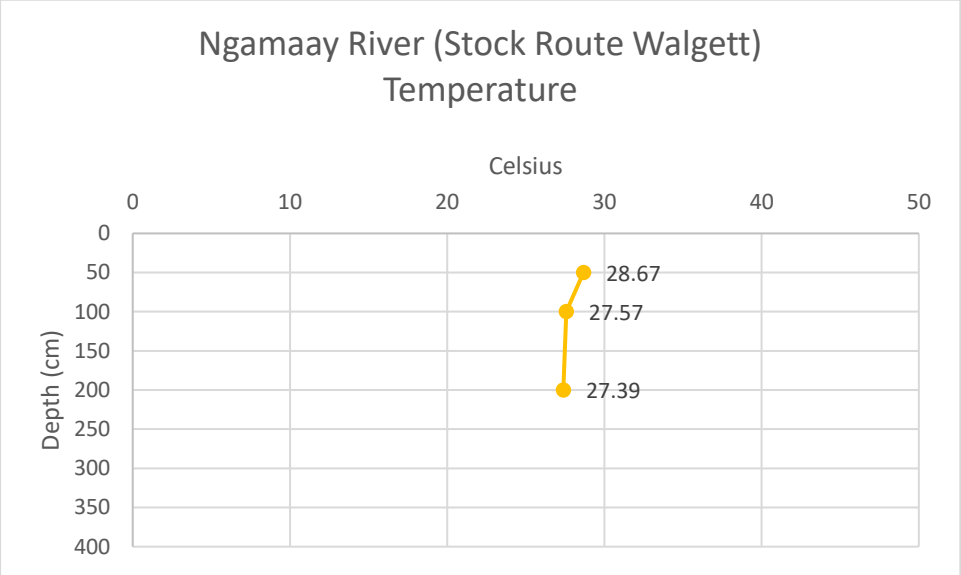
The first dissolved oxygen reading is within a poor range. As we measure deeper into the river the dissolved oxygen measures at a dangerously low level. When the dissolved oxygen level is below 3mg/L fish may struggle and may be in a stressful state.

Electrical Conductivity



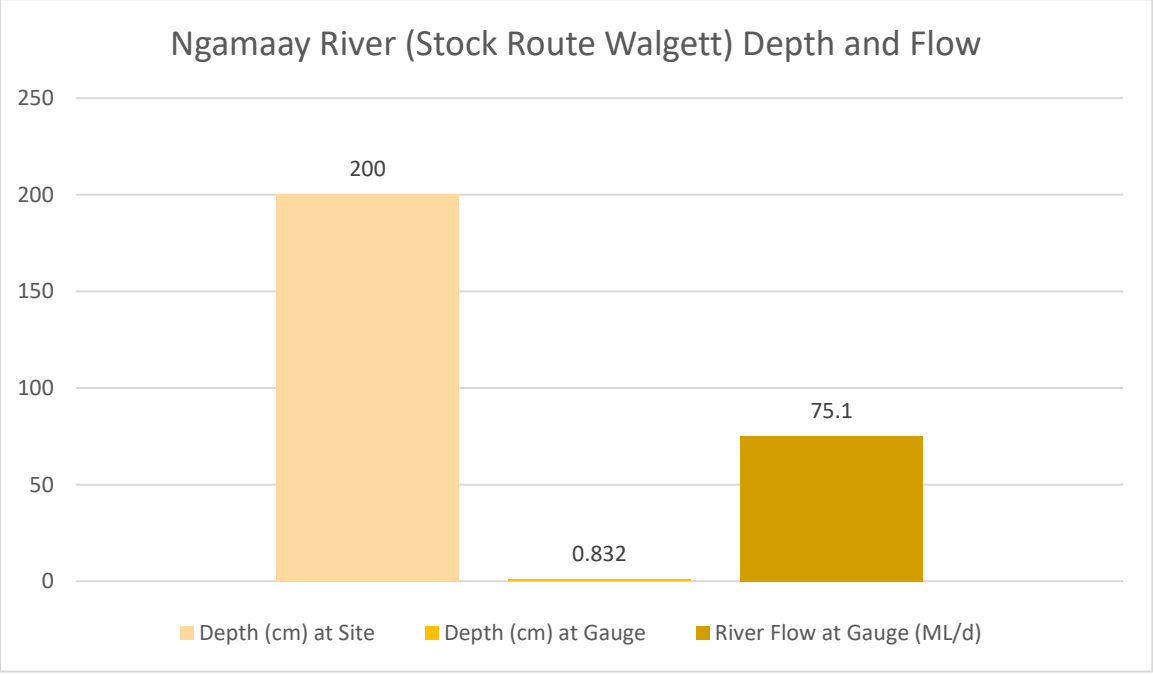
The electrical conductivity is a measurement of salinity. The salinity at site four on the Ngamaay River is within a good range. This is good for freshwater fish. The EC limits for freshwater fish are between 125 - 2200 uS/cm.

Temperature



The temperature measured at the first depth is high but is typical for this time of year. The following readings are within a good range. The temperature is within a good range for freshwater fish. There are no extreme differences between the temperatures at each depth which means that there is no danger to the fish.

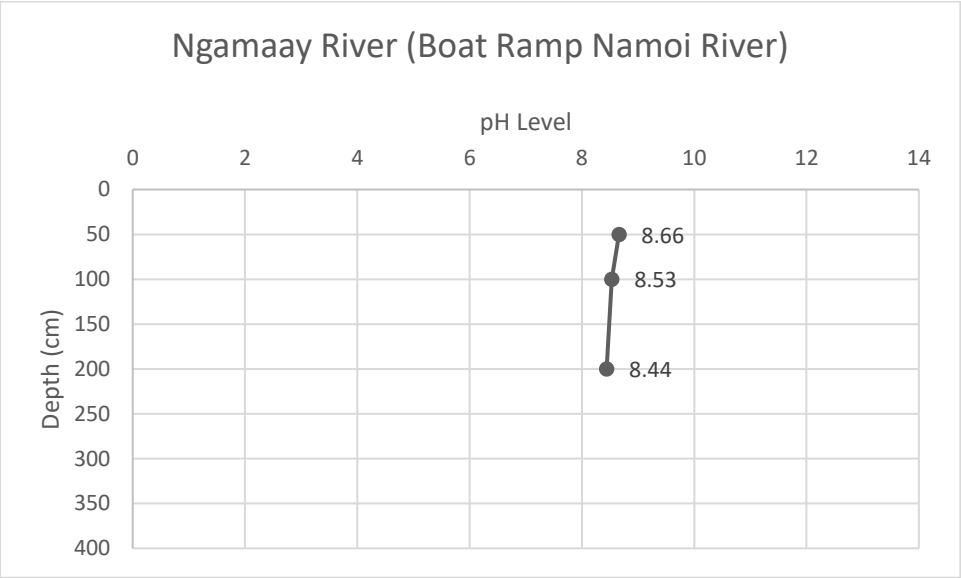
River Depth and Flow



The river depth at both the site and the nearest working gauge (Namoi@Goangra 419026) is good for small, medium and large fish. The flow at the gauge is below the acceptable range. Native fish prefer flowing water. The flow at the gauge shows that there is a good flow for the fish.

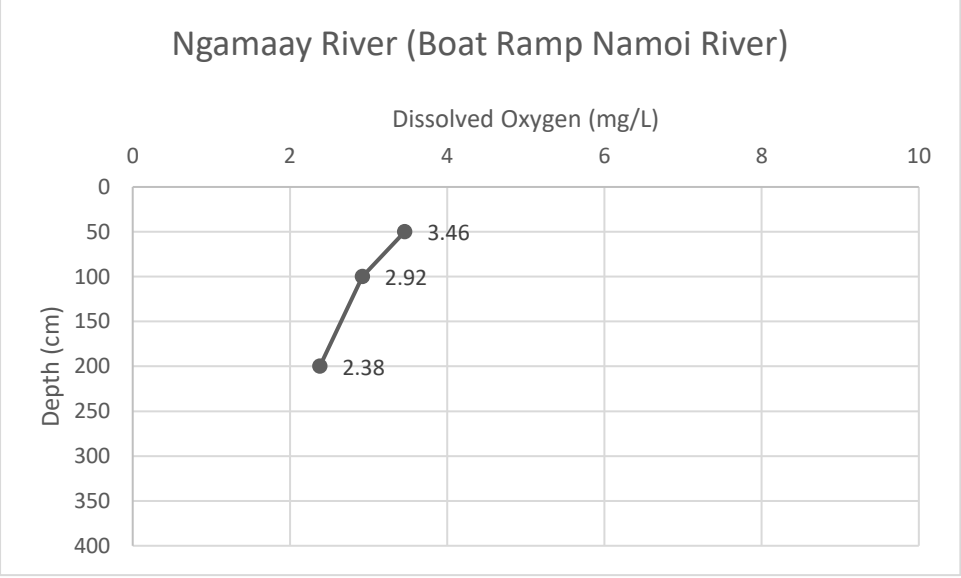
Ngamaay River (Boat Ramp Namoi River)

pH Level



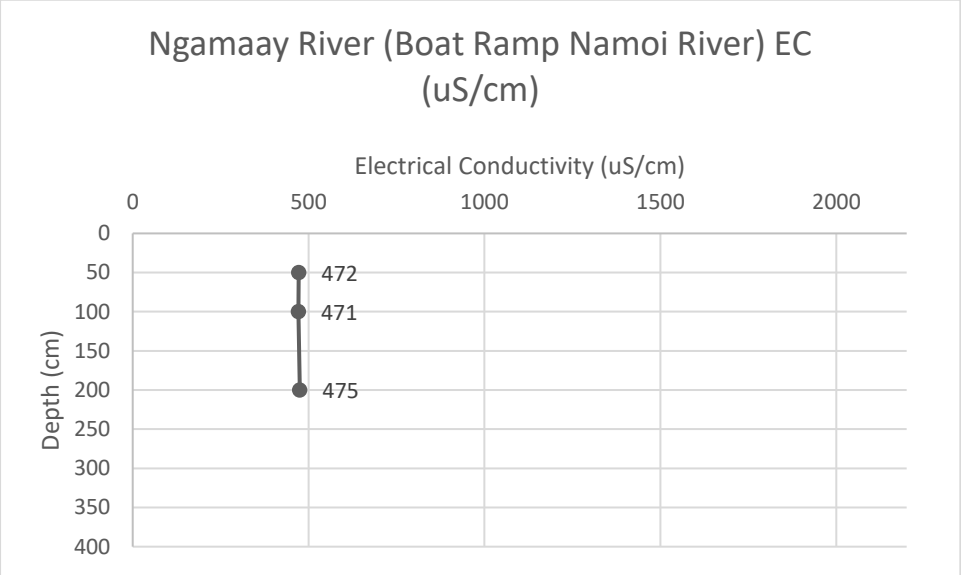
The pH level readings at site five on the Ngamaay River are all within an alkaline range but the readings show that it is not too alkaline.

Dissolved Oxygen



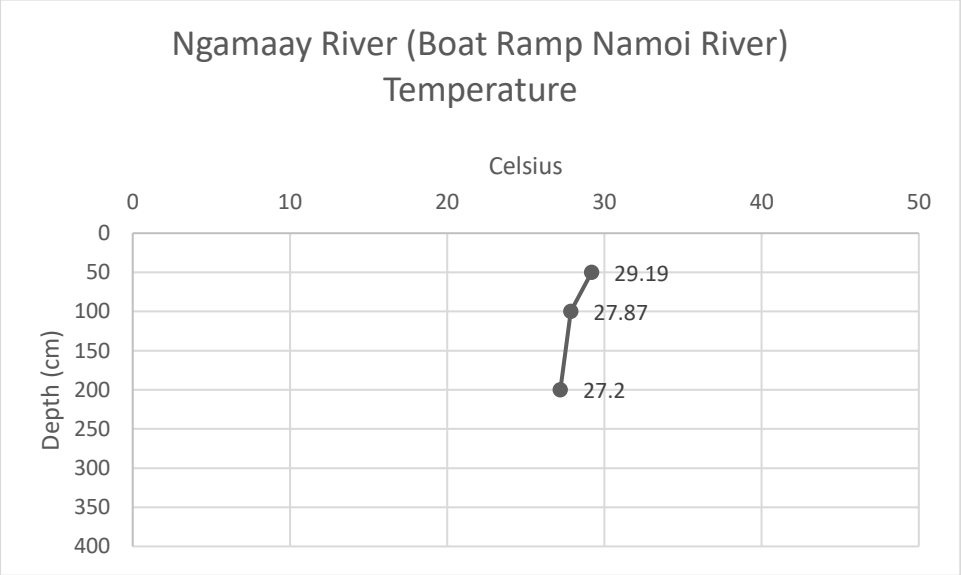
The first dissolved oxygen reading is within a poor range. As we measure deeper into the river the dissolved oxygen measures at a dangerously low level. When the dissolved oxygen level is below 3mg/L fish may struggle and may be in a stressful state.

Electrical Conductivity



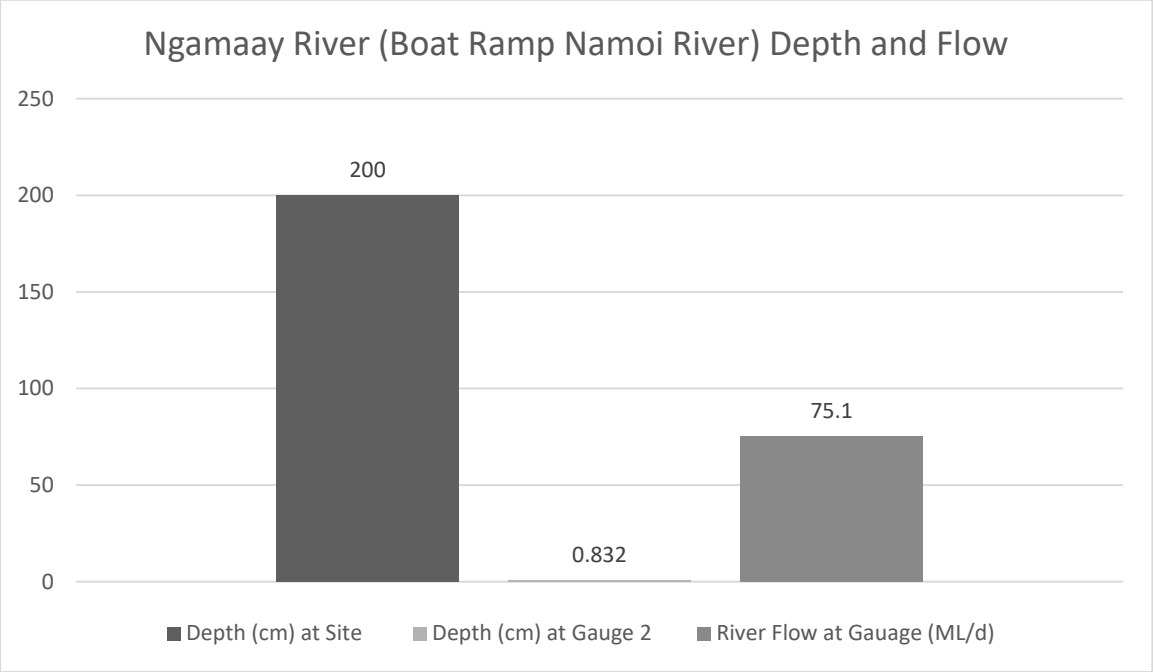
The electrical conductivity is a measurement of salinity. The salinity at site five on the Ngamaay River is within a good range. This is good for freshwater fish. The EC limits for freshwater fish are between 125 - 2200 uS/cm.

Temperature



The temperature measured at the first depth is high but is typical for this time of year. The following readings are within a good range. The temperature is within a good range for freshwater fish. There are no extreme differences between the temperatures at each depth which means that there is no danger to the fish.

River Depth and Flow



The river depth at both the site and the nearest working gauge (Namoi@Goangra 419026) is good for small, medium and large fish. The flow at the gauge is below the acceptable range. Native fish prefer flowing water. The flow at the gauge shows that there is a good flow for the fish.

Overall Conclusion

The first three sites on the Baawan the pH levels are within a good range. The last two sites on the Ngamaay River are within an okay range. The readings show that the pH is within the alkaline range but not too alkaline.

The dissolved oxygen at all sites along the Baawan and Ngamaay River are still within a concerning range. The first readings at both Ngamaay sites are within a poor range but get to dangerous levels as we measure deeper in to the river.

The electrical conductivity measured at all sites at all depths are within a good range.

The temperature measured at each site are within good range. The first reading at the following sites; 5 mile, Walgett Weir, Stock Route Walgett and Boat Ramp Namoi River, showed that the temperature is high but as we measure deeper into the river the temperature drops.