

OBSERVATION & MEASUREMENT CHECKLIST.



PRO2030 Instrument for measuring water temperature, DO, electrical conductivity



Turbidity Meter



All data gathered will be entered into the Ipad.



pH is measured using a pH meter and probe.



Parameter concentration will be measured using a lab method

Measurement	Why do we measure this?	Guideline values	How do we measure this ?
NNN (Total dissolved nitrates and nitrites) (µmoles/L)	Soluble nitrates are absorbed by plants as they grow. High concentrations of nitrates may contribute towards nuisance algal bloom.	0.075 mg/L	Spectrophotometric methods in the laboratory
DRP (Dissolved Reactive Phosphates) (µmoles/L)	Soluble phosphates can contribute towards nuisance algal growth, mainly in fresh water.	0.01 mg/L	Spectrophotometric methods in the laboratory
Chl-a (Chlorophyll a) (micrograms per gram)	Chl-a measures the amount of biological activity in the water. High values may indicate an algal bloom.	5 µg/L	Spectrophotometric methods in the laboratory
E coli (Escherichia coli) (cfu per 100 mL water sample.)	An indicator of suitability for swimming or stock water. If this is too high there is risk of illness if in contact with the water. This is a measure of faecal pollution.	260 cfu	Colilert-18 method on the laboratory.

Parameters measured in the field of study.

Measurement	Why do we measure this?	Background to data collected from 2017	How do we measure this ?
Weather and site observations	The weather (eg rainfall and wind direction and strength) affects water mixing, depth and other parameters being measured		
pH	pH measures the acidity or alkalinity of the water. Living organisms will struggle to cope with high or low pH in the water.	6.51-9.37	Using the pH meter
Electrical Conductivity (microSiemens /cm)	EC Measures the concentration of dissolved ions. (Could be nitrates, phosphates or ions from sea salts) Higher EC may indicate pollution or nuisance ions.	392-9200 μ S/cm	Using the instrument Pro2030/YSI 85
Water Temperature ($^{\circ}$C)	The concentration of oxygen that dissolves in the water depends on the temperature. The warmer the water, the less oxygen dissolves.	5.1-25.8 $^{\circ}$ C	Using the instrument Pro2030/YSI 85 or thermometer
Dissolved Oxygen (DO) (mg/L)	All living organisms (plant and animal) need oxygen to carry out energy release for growth and other life processes.	6.8-14.67 mg/L	Using the instrument Pro2030/YSI 85
Dissolved Oxygen %	To see how often the water becomes super saturated with oxygen. (> 100%) due to photosynthesis or mixing of the water.	61.7-143.3 %	Using the instrument Pro2030/YSI 85
Salinity (parts per thousand) (ppt)	Water balance within the cells of living organisms is affected by the salinity of the water. Living organisms have different tolerances to changing salinity. (sea water salinity close to 35 ppt)	0.3-9.7 ppt	Using the instrument Pro2030/YSI 85
Turbidity (NTU)	Measures the cloudiness of the water. Sediments will clog the feeding tubes of filter feeders or cover the plants surfaces so grazers have feeding problems, and stop light reaching plants. It can indicate the concentration of microscopic plants in the water.	Guideline value 5 NTU	Using the Turbidity meter 2100Q Portable Turbidimeter
Water depth (cms)	The depth of water may affect other parameters such as temperature and dissolved oxygen as well as indicating about the amount of water flowing in from the catchment. bout		
Macrophytes (large plants that grow mainly from the bottom of the lagoon)	The macrophytes influence the features of the microclimate of your site as well as providing habtat for animals and plants. Their presence may be an indicator of environmental health.		
Macroinvertebrates	The lagoon is a valuable habitat for different feeding methods for invertebrates. The abundance of invertebrate animals present will be an indicator of environmental health		

Quantitray

