Methods Protocol

BOD
Appendix VII

1. Background Information on BOD
2. Methods Protocol ~ BOD
Background Information ~ Biological Oxygen Demand

Biological oxygen demand is the measure of the oxygen used by microorganisms to decompose the waste present in water. The word waste as referred to here includes any organic matter such as dead plants, leaves, grass clippings, manure, sewage, or food waste. The more waste in the water, the more bacteria and microorganisms will be found breaking it down. With an increased number of microorganisms in the water, there will be a greater need for oxygen and thus a high biological oxygen demand. As the waste is decomposed and dispersed, the biological oxygen demand will go down.

Nitrate and phosphate levels in water may increase biological oxygen demand levels. Nitrates and phosphates are plant nutrients which may cause plant life and algae to grow quickly. The increase in plant and algae growth is accompanied by an increase in the levels of waste in the water which in turn increases the bacteria population.

High biological oxygen demand levels negatively impact dissolved oxygen levels, and may cause aquatic animals such as fish to die off. A biological oxygen demand level of 1 – 2 ppm is very good signifying very little waste in the water. A level between 3 and 5 is considered moderately clean. Once levels reach 6-9 the water is considered somewhat polluted and levels over 100ppm indicate heavy pollution.

References:
