

Andrew

Introduction:

The optimal pH level for river water should be 7.4. I get this figure from Cuyahoga River Water Quality Monitoring Program, Cleveland State University. Testing for pH is important because if the pH is too low or too high, the water could chemically burn fish and destroy their eggs.

The ideal temperature for river water is between 13°C and 20°C. I get this figure from Cuyahoga River Water Quality Monitoring Program, Cleveland State University. Testing for temperature is important because if it is too hot or cold, it could make the water uninhabitable for certain species or cause diseases to spread more quickly.

The ideal dissolved oxygen level is 6.5 ppm. I get this figure from R.R.O. Hazewinkel, M.Sc. Regional Services, Northern Region Alberta Environment And K.A. Saffran, M.Sc., P.Biol. Environmental Monitoring & Evaluation Branch Alberta Environment. Testing for dissolved oxygen is important because if it is too low then most aquatic life can't survive.

The ideal turbidity is 0 NTU. I get this figure from Cuyahoga River Water Quality Monitoring Program, Cleveland State University. Testing for turbidity is important because if it is too high, it can increase water temperature, which in turn lowers dissolved oxygen levels.

Procedure:

PH Test

1. Take a single PH strip and hold half of it in the water for about 15 seconds
2. Take the strip out of the water and hold it up to the colour chart
3. Whatever colour most closely matches the colour of the PH strip will be labelled with the PH level of the water

Temperature

1. Take the thermometer and hold the lower half in the water for 30 seconds
2. Whatever stripe the mercury is closest to will be labelled with the temperature of the water

In the experiment, we took measurements and recorded data directly from the Bow River. The purpose of the experiment was to discern if the Bow River is healthy. The data showed that the average pH levels are slightly more basic than healthy levels, the temperature is on the colder side of the scale but still within healthy levels, the dissolved oxygen is usually higher than healthy levels, and the turbidity is usually more healthy. One source of error is the fact that we missed the test for dissolved oxygen at Site C for Prince's Island. The next step would be to do more tests along the Bow River.

Dissolved Oxygen

1. Take one of the measuring devices and crack the narrow tip off
2. Put it in the water to fill up the device
3. Tip it upside-down and then back to make sure it's mixed properly
4. Hold it up to the different tubes
5. Whatever tube is closest to your water in colour will be labelled with the dissolved oxygen level of the water

Turbidity

1. Look down through the water at the bottom of the container where the turbidity measuring symbol is located
2. Hold the chart up next to it
3. Whatever symbol lightness the one at the bottom of the container looks closest to, will be labelled with the turbidity level of the water.

Observations:

2017-09-18 - St. Patrick's Island

	Wetland	Wading Pool	Storm Pond
pH	7.5	8	7
Temperature	12°C	14°C	14°C
Dissolved Oxygen	10 PPM	9 PPM	6 PPM
Turbidity	10 NTU	0 NTU	80 NTU

2017-09-26 - Prince's Island

	Site A	Site B	Site C
pH	8.3	8	8
Temperature	15°C	14°C	13°C
Dissolved Oxygen	8 PPM	11 PPM	
Turbidity	5 NTU	10 NTU	10 NTU

Conclusion: