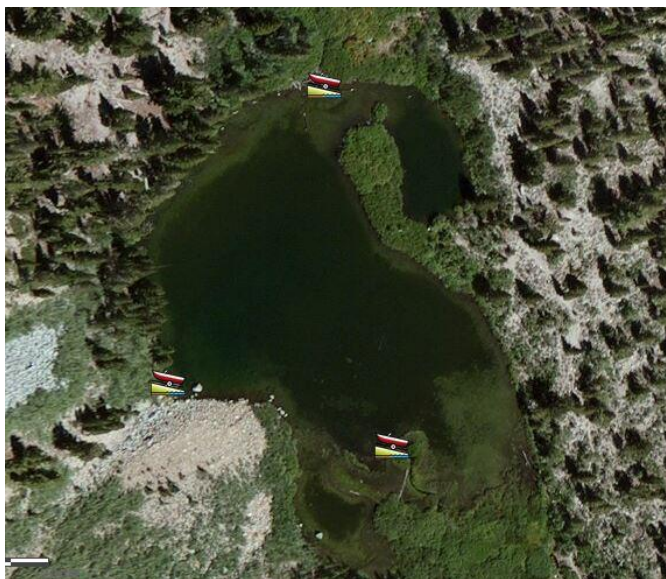


Yost Lake General Information:



Description:

Yost Lake is a relatively small body of water, surrounded by pines on the West side, a rocky shore on the SE side, and marshy, grassy shores from the SW around to the North side. It is a very calm body of water, whose inflow and outflow sites were a slow trickle near the lake due to a barricade of fallen logs. The day we arrived it was quite gusty, most strongly out on the exposed rocky shore. The rest of the shore line was quite thick with bramble bushes, which made for difficult traveling around the lake at times.

Water Sampling: (Lab 2)

We conducted a grab sample at each of our three Sampling sites, meaning we put on gloves (to prevent any salt or other materials on our hands from interfering with our sample) and dipped our hands and bottles at the sample site to collect water. Upon successfully obtaining each of our samples, we brought the filled bottles back, acid shocked the small bottle, and put the samples in the fridge immediately.

Stream Flow: (Lab 1B)

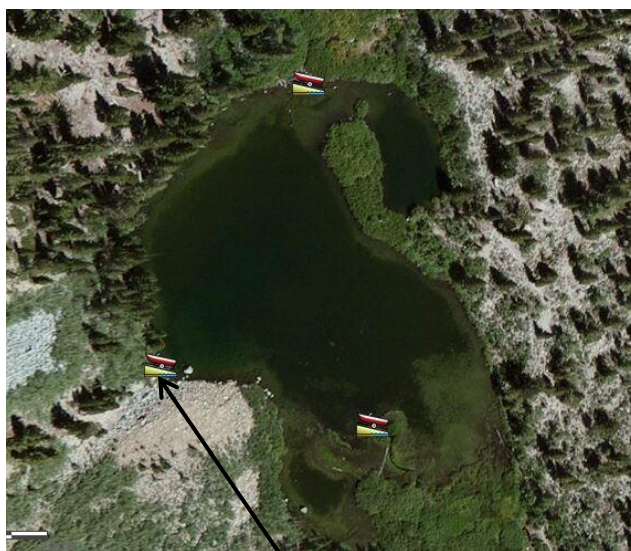
N/A

Control Sample: Location Description

We took our two control samples on the SE rocky shore. The trail ends as you approach the rocks, which gave the sample site a distance of at least 100 feet from the trail. There were no immediate interfering structures or sources.

Control Sample: Lake Status (Lab 1A)

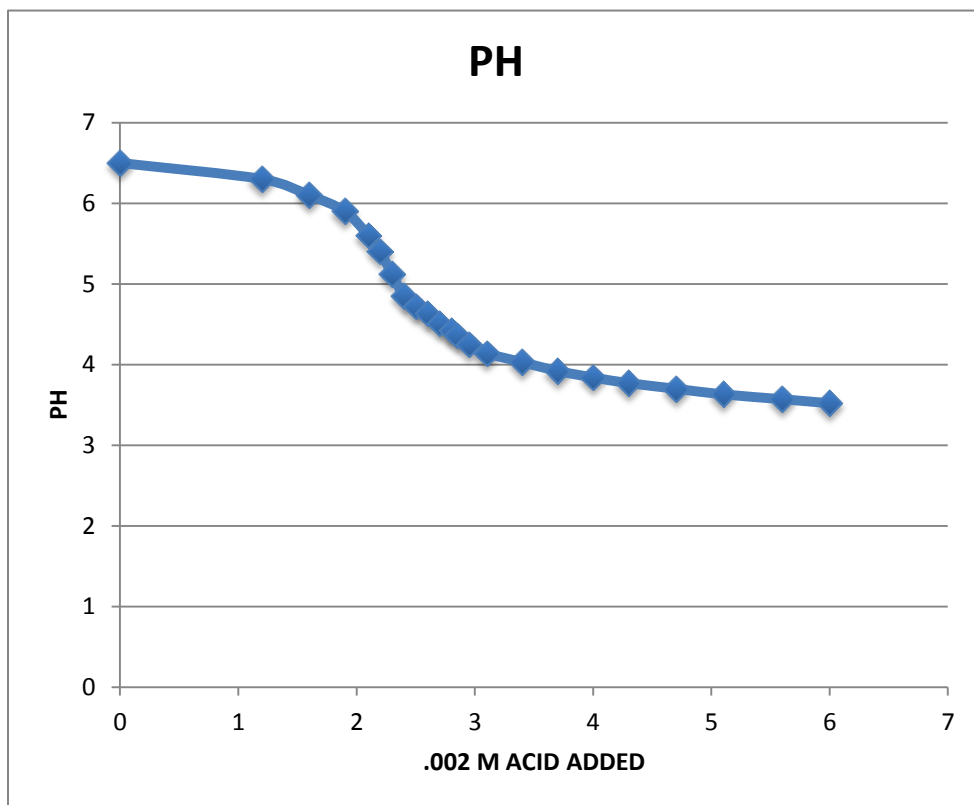
Latitude:	37.744259°
Longitude:	-119.096361°
Elevation	9,100 feet
Air Temp:	5°C
Wind Speed:	6 mph
Wind Direction:	30°
Relative Humidity:	32%
Water Temp:	10°C
Conductivity:	39mS/cm
pH:	7
Dissolved Oxygen:	9.5 mg/L
Turbidity:	-



Control Sample

Control Sample: Alkalinity Trial 1 (Lab 3)

Addition of .002 M acid	pH levels
0	6.5
1.2	6.3
1.6	6.1
1.9	5.9
2.1	5.6
2.2	5.4
2.3	5.12
2.4	4.85
2.5	4.72
2.6	4.63
2.7	4.51
2.8	4.42
2.85	4.36
2.95	4.25
3.1	4.14
3.4	4.03
3.7	3.92
4	3.84
4.3	3.77
4.7	3.7
5.1	3.63
5.6	3.57
6	3.52

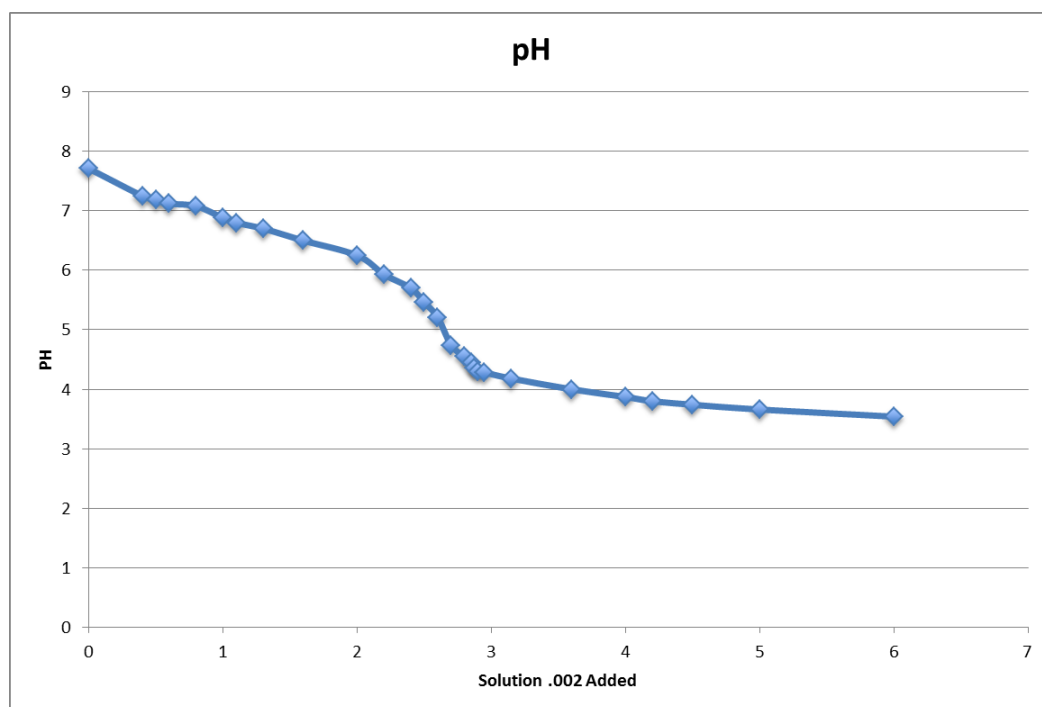


Alkalinity:	16.67 mg/L
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Control Sample: Alkalinity Trial 2

Addition of .002 M acid	pH levels
0	7.71
0.4	7.25
0.5	7.18
0.6	7.12
0.8	7.08
1	6.88
1.1	6.8
1.3	6.7
1.6	6.5
2	6.25
2.2	5.93
2.4	5.7
2.5	5.46
2.6	5.21
2.7	4.74
2.8	4.55
2.85	4.44
2.87	4.35
2.9	4.3
2.95	4.28
3.15	4.18
3.6	4.0
4	3.87
4.2	3.8
4.5	3.74
5	3.66
6	3.54

Alkalinity:	18 mg/L
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Control Sample Summary:

Our control sample revealed that Yost Lake has a neutral pH level, low conductivity levels and a moderate D.O. level. In other words, the lake has a low nutrient concentration (it is not hypereutrophic) given the low conductivity, but it is moderately active with plant life, given the moderate level of D.O.

In lab 3, our control sampled showed us that the lake has a dangerously low buffer zone, and if pollutants were to be carried into that watershed (e.g. via dust) the lake would easily be damaged. The standard deviation for the Alkalinity was found to be ± 0.667 .

We chose this to be our control sample because it was away from plant-rich areas that might interfere with nutrient or oxygen readings, and there was no point-sources nearby.

We grabbed our inflow sample from the South/SE end of the lake, at the edge of a grassy, marshy area. This was well out of any path designed for leisurely travel, preventing from any influencing point source for pollution at this spot of the lake.

Inflow Sample: Lab 1A (Lake Status)

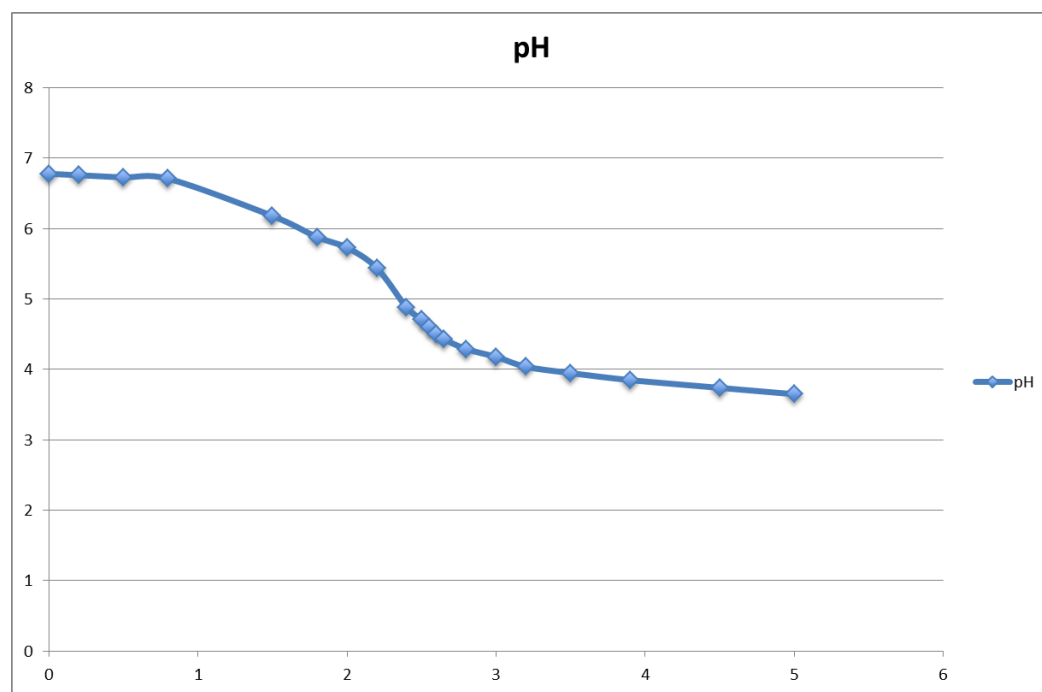
Latitude:	37.744030°
Longitude:	-119.095328°
Elevation	9,100 feet
Air Temp:	12°C
Wind Speed:	2 mph
Wind Direction:	-
Relative Humidity:	29%
Water Temp:	7.2°C
Conductivity:	37 mS/cm
pH:	7.01
Dissolved Oxygen:	9.0 mg/L
Turbidity	-



Inflow Sample

Inflow Sample: Alkalinity Trial 1 (Lab 3)

Addition of .002 M acid	pH levels
0	6.78
0.2	6.76
0.5	6.73
0.8	6.71
1.5	6.18
1.8	5.88
2	5.73
2.2	5.44
2.4	4.88
2.5	4.71
2.55	4.6
2.6	4.5
2.65	4.43
2.8	4.29
3	4.18
3.2	4.04
3.5	3.95

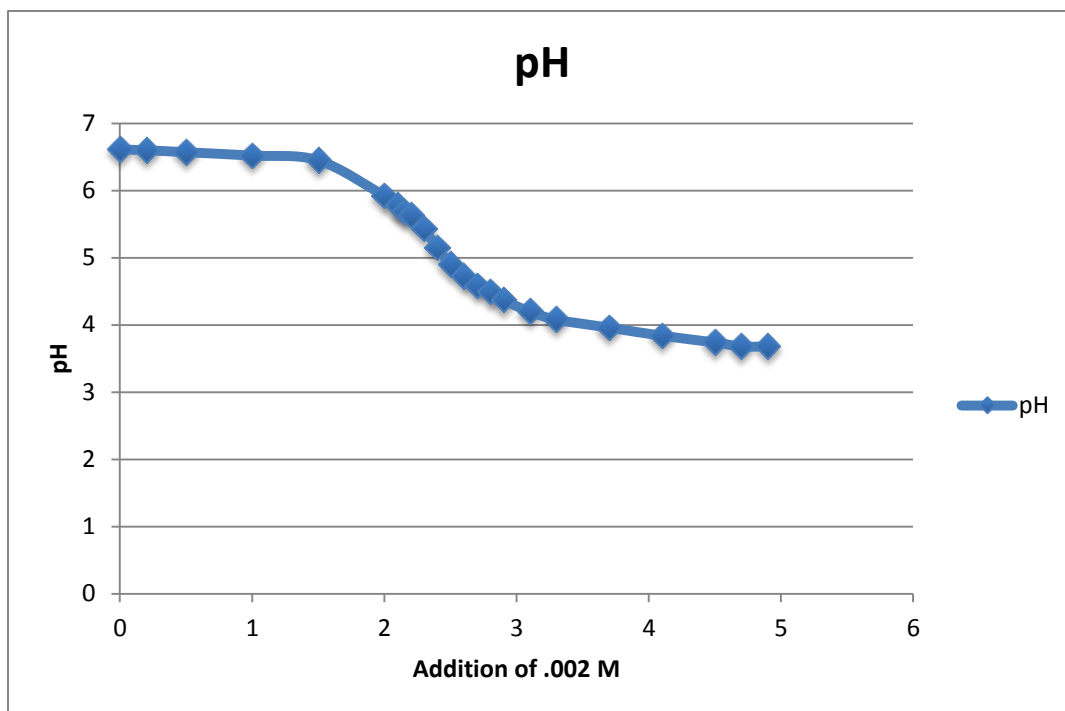


3.9	3.85
4.5	3.74
5	3.65

Alkalinity:	16.67 mg/L
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Inflow Sample: Alkalinity Trial 2

Addition of .002 M acid	pH levels
0	6.61
0.2	6.6
0.5	6.57
1	6.52
1.5	6.45
2	5.92
2.1	5.78
2.15	5.68
2.2	5.63
2.3	5.43
2.4	5.15
2.5	4.9
2.6	4.72
2.7	4.58
2.8	4.49
2.9	4.37
3.1	4.2
3.3	4.08
3.7	3.96
4.1	3.84
4.5	3.74
4.7	3.68
4.9	3.68



Inflow Sample Summary:

A similar result was found in our Inflow Sample regarding conductivity, pH, D.O. and Alkalinity. I was surprised to find a lower D.O. level because of the area of the inflow sample. We were perched on a grassy bank, very close to the long grass, close to where the oxygen transference takes place. The alkalinity was at a similar level to the control sample, reaffirming the low pollutant protection levels the lake.

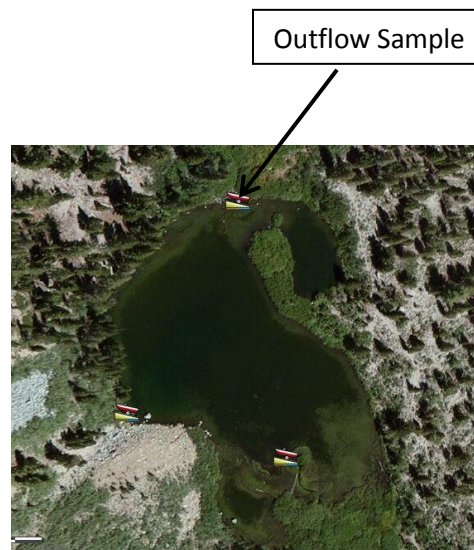
We chose this as our second sample, because it was near the inflow of the lake, and in comparison to our control sample, it offered a chance to see how a sample closer to flora effects the readings.

Alkalinity:	16.67 mg/L
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Finally, we grabbed our outflow sample from the North end of the lake. This area was not as marshy, but bramble bushes extended to the shore, where a large barricade of rotting logs lined the shore. It was quite isolated from any point sources, just like the previous samples.

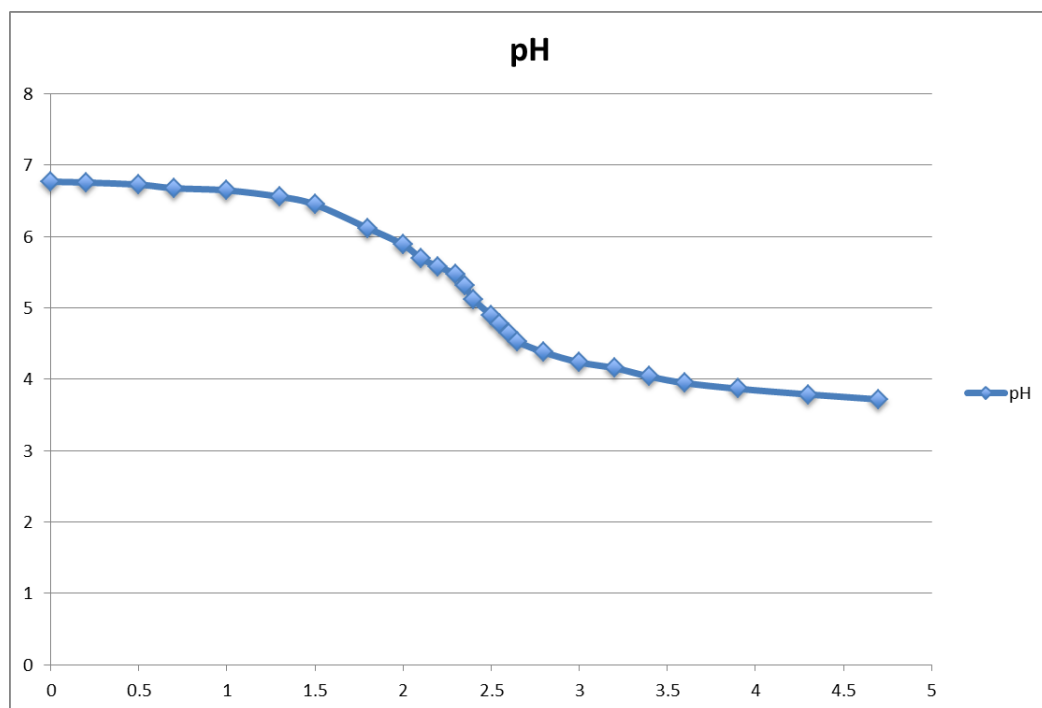
Outflow Sample: Lab 1A (Lake Status)

Latitude:	37.745343
Longitude:	-119.095645
Elevation	9,100 feet
Air Temp:	8°C
Wind Speed:	1 mph
Wind Direction:	30°
Relative Humidity:	32%
Water Temp:	10°C
Conductivity:	36mS/cm
pH:	7
Dissolved Oxygen:	7 mg/L
Turbidity:	-



Outflow Sample: Alkalinity Trial 1

Addition of .002 M acid	pH levels
0	6.77
0.2	6.76
0.5	6.73
0.7	6.68
1	6.65
1.3	6.56
1.5	6.45
1.8	6.12
2	5.89
2.1	5.7
2.2	5.58
2.3	5.47
2.35	5.32
2.4	5.12
2.5	4.9
2.55	4.78
2.6	4.65
2.65	4.53



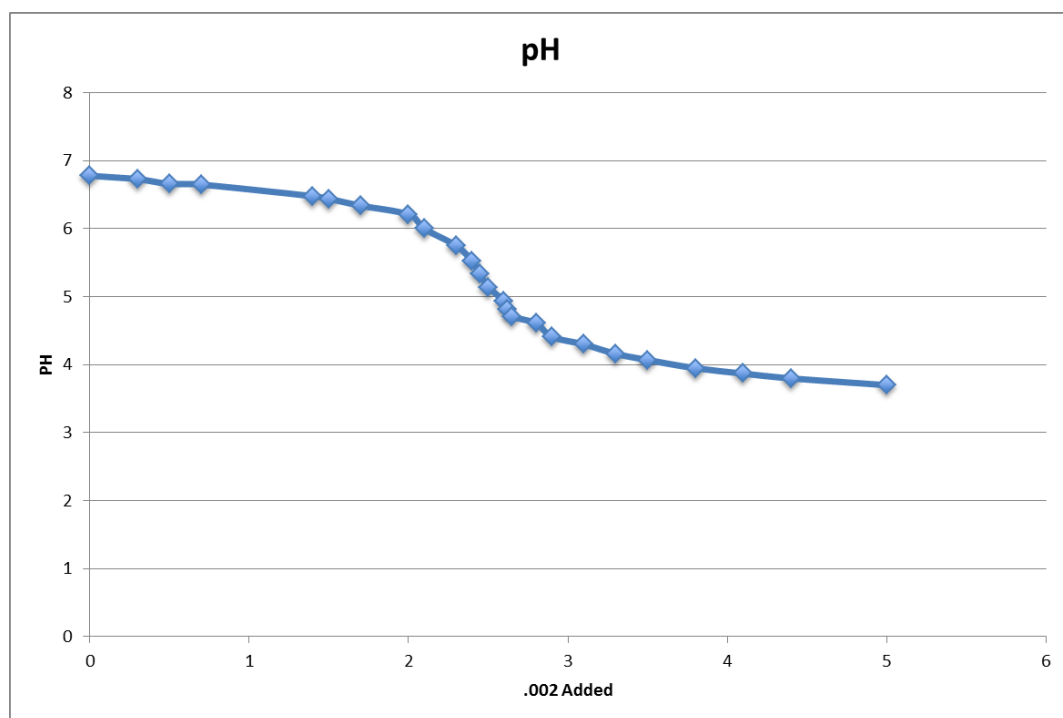
2.8	4.38
3	4.24
3.2	4.16
3.4	4.04
3.6	3.95
3.9	3.87
4.3	3.79
4.7	3.72

Alkalinity:	17 mg/L
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Outflow Sample: Alkalinity Trial 2

Addition of .002 M acid	pH levels
0	6.78
0.3	6.73
0.5	6.66
0.7	6.65
1.4	6.48
1.5	6.44
1.7	6.34
2	6.21
2.1	6
2.3	5.75
2.4	5.52
2.45	5.33
2.5	5.14
2.6	4.94
2.62	4.82
2.65	4.71
2.8	4.61
2.9	4.41
3.1	4.3
3.3	4.16
3.5	4.07
3.8	3.95
4.1	3.87
4.4	3.8
5	3.7

Alkalinity:	17.67 mg/L
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Outflow Sample Summary:

The Outflow Sample produced a similar result as the other two samples: the pH level was quite neutral, the conductivity was quite low, but in this sample, the D.O. was 2 mg/L lower than the other two samples. The outflow of the lake was quite slow, because of the fallen logs.

We chose this as our second sample, because it was near the outflow of the lake, and it contrasted from the marshy sample of our inflow, and the rocky sample of our control.

**Missing Data
 (of practices covered in class so far):**

Stream Flow, Turbidity, Lake Depth