

Nimesh YCLI Project

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Objectives



To test Accotink Creek water quality based on four tests



Cleanup up the Accotink Creek



Observe effect of the cleanup by testing the qualities again

Project Outline

- Collect Accotink Creek Water from four distinct locations along the Accotink Creek Water for “before” test.
- Test Accotink Creek water for pH, Dissolved Oxygen, Phosphorous, and Nitrogen
- Organize cleanup and collect trash with child and adult volunteers
- Collect Accotink Creek water from the same locations
- Test for the four qualities and observe changes with retest
- Under the guidance of Ms. Ashley Palmer, Conservation Education Specialist for Northern Virginia Soil & Water Conservation District

Pretest - Collecting Water Sample and Testing

- Borrowed testing equipment from Thomas Jefferson High School for Science and Technology
- Partnered with the Fairfax County Park Authority and gained approval to test water
- Collected four water samples about 100 feet apart and tested on February 1st



	Sample 1	Sample 2	Sample 3	Sample 4	Average	Evaluation
pH	7	7	6.75	7	6.92	Healthy
Dissolved Oxygen (mg/L)	17	16	16	16	16.5	High
Phosphorous (mg/L)	0.08	0.04	0.06	0.06	0.06	Slightly High
Nitrogen (mg/L)	1	1	1.25	1	1.0625	Healthy

Accotink Creek Cleanup

- Received cleanup supplies from the Fairfax Clean Water Council
 - Consisted of safety gloves and large trash bags
- Organized a cleanup with 5 child volunteers and 2 adult volunteers
- Collected seven bags of trash
 - Mainly plastics bags, bottles, caps



Collecting Water Samples and Retesting

- Collected water samples from the same four locations on February 22nd
- Tested for the qualities again on the same day

	Sample 1	Sample 2	Sample 3	Sample 4	Average	Evaluation
pH	7.5	7.4	7.3	7.4	7.39	Slightly High
Dissolved Oxygen (mg/L)	16	15	15.5	16	15.625	High
Phosphorous (mg/L)	0.08	0.06	0.04	0.08	0.065	Slightly High
Nitrogen (mg/L)	1	2	2.5	1	1.625	Slightly High



Results & Conclusion

	Before	After	Healthy Range	Evaluation
pH	6.92	7.39	7	Same
Dissolved Oxygen (mg/L)	16.5	15.625	6.5 - 8	Better
Phosphorous(mg/L)	0.06	0.0625	0.005 - 0.05	Same
Nitrogen (mg/L)	1.0625	1.625	< 10	Same

- pH increased from a slightly basic solution to a slightly acidic solution
- Nitrogen and phosphorous levels remained relatively constant
- Dissolved Oxygen decreased to by a large factor, 0.875 mg/L

Lessons Learned

Overall, my project positively impacted the community, removing unwanted objects from the creek. The health of the stream has become better, according to the dissolved oxygen test. I have learned about environmental sciences and gained many unique experiences from the project.

I hope to continue my interest in environment conservation and maintain the lasting positive impact I have on my community and environment