Euclid Creek
Volunteer Monitoring Program 2010

Volunteers conducted physical and chemical monitoring at five sites in the Euclid Creek watershed. During the time period from May 2006 through April 2009 a total of 207 sample events took place resulting in over 2,000 individual observations.

This brief report will provide a general review of the data.

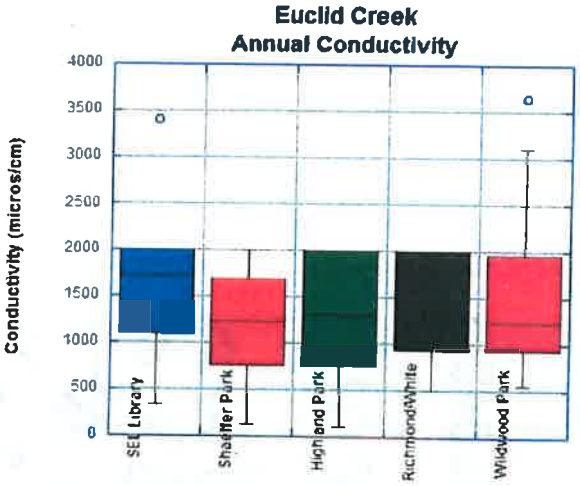
Monitoring was conducted following a sampling plan prepared in accordance with Ohio's Credible Data rules.

Results

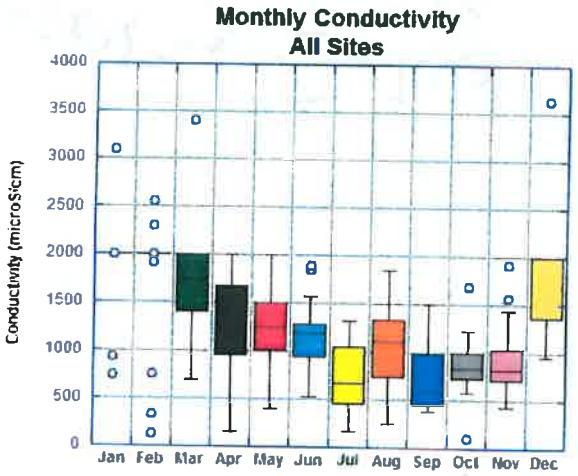
The following graphs and tables depict results for selected parameters. All box plots show sites from left to right: South Euclid Library, Shaeffer Park, Highland Park, Richmond/White Roads, and Wildwood Park.

Conductivity

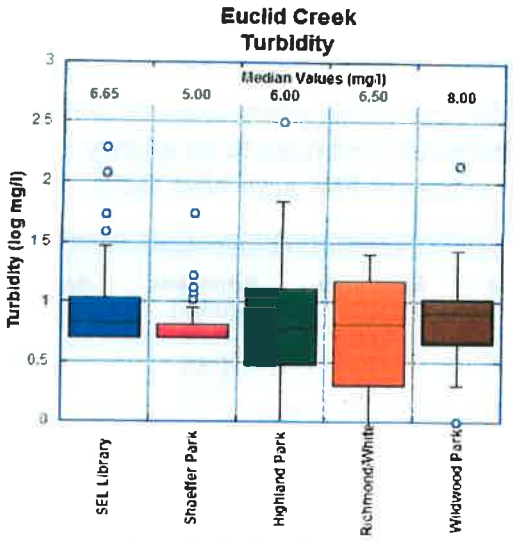
Conductivity results were generally similar between sites. The results show levels higher than similar sized streams in less urbanized areas. Conductivity is associated with ions, in this case those of sodium and chloride - road salt.



The second graph shows data combined from all sites by month. Most interesting is the pattern of elevated levels beginning in December and lasting through March, evidence of direct impacts from municipal deicing operations. Salt is still being discharged into the months of April and May.

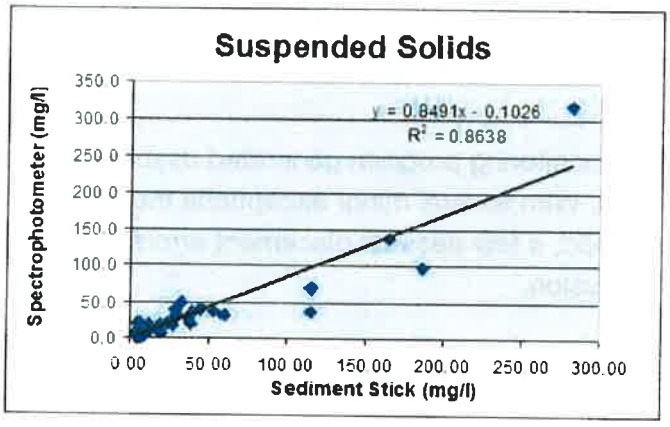


Results



Turbidity

Turbidity was monitored using both a Hach meter and the Ohio Sediment Stick. As is seen in the graph to the left, all sites have similar turbidity levels. The graph was plotted using a log scale in order to allow higher levels to appear on the graph, better illustrating the results.



The second graph (above) is a comparison of the turbidity results to those gathered using the sediment stick. In general this shows that a sediment stick can be a useful tool for quickly monitoring suspended solids associated with construction site runoff.

Results

Nutrients

Two nutrient elements, nitrogen and phosphorus, were monitored using a Hach meter. Ammonia and phosphate were chosen to represent impacts associated with human activity. The table below presents a summary of the data. Ammonia levels were low and well below Ohio's standards. Phosphorus continues to be slightly above the target level of 0.1 mg/l set in the US EPA approved TMDL.

	SEL Library	Shaeffer Park	Highland	Richmond	Wildwood
	Ammonia (mg/l)	Ammonia (mg/l)	Ammonia (mg/l)	Ammonia (mg/l)	Ammonia (mg/l)
Average	0.08	0.11	0.08	0.09	0.08
Median	0.05	0.06	0.03	0.05	0.06
Maximur	0.36	0.67	0.50	0.33	0.22
	Phosphate (mg/l)	Phosphate (mg/l)	Phosphate (mg/l)	Phosphate (mg/l)	Phosphate (mg/l)
Average	0.14	0.22	0.14	0.25	0.10
Median	0.08	0.13	0.12	0.10	0.07
Maximur	0.80	1.18	0.36	2.75	0.37

Conclusions

The volunteer monitoring program generated usable data capable of showing trends. With several minor exceptions the quality of data entered was good, a few decimal placement errors and data outliers resulted in exclusion.

Euclid Creek Questions

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Water Quality Questions

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