

10817 Bucknell Drive  
Silver Spring, MD 20902

October 16, 2006

Mr. James A. Caldwell, Director  
Montgomery County Government  
Department of Environmental Protection  
255 Rockville Pike, Suite 120  
Rockville, MD 20850

Dear Mr. Caldwell,

Please find the enclosed summary of information about Sligo Creek's water quality between 2001 and 2005. This is Friends of Sligo Creek's reply to the Department of Environmental Protection's request for stream monitoring data. Thank you very much for making this request and allowing citizens a chance to tell what they have seen regarding Montgomery County streams.

Sincerely yours,

Mike Smith  
Friends of Sligo Creek  
Water Quality Committee

October 16, 2006

## **Sligo Creek in Montgomery County Water Quality Summary 2001-2005**

### **Summary:**

It is believed that the water quality information collected by Friends of Sligo Creek and the Anacostia Watershed Society between 2001-2005 shows that despite the valiant efforts of Montgomery County, during this period Sligo Creek remained in poor condition over its entire length in Montgomery County because of stormwater impacts.

### **Macroinvertebrates in Sligo Creek:**

sampling sites 2004

Sligo Creek was sampled for macroinvertebrates at eight locations by members of Friends of Sligo Creek in March-April 2004 for the Maryland Department of Natural Resources Stream Waders program. The eight sites were all rated as poor by the Maryland DNR. The samplers were Clair Garman, Ed Murtagh, Chris Victoria, Mike Smith, Masaya Maeda, Kathy Michels, John Fitz, and Todd Stevenson. In addition, the Maryland DNR surveyed a site on Sligo Creek in March 2004 for the Maryland Biological Stream Survey. This site, ANAC-116-R-2004, is located at the same location as one of the Stream Waders sites and can be seen on the map below at the spot immediately to the south of University Boulevard. The site was rated as poor for both macroinvertebrates and fish. The sites with comparatively better macroinvertebrates, though still poor, are the two between Forest Glen Road and University Boulevard and the two on Long Branch. Names of the sites may be found in Appendix A below.

### **E. Coli Levels in Sligo Creek:**

Masaya Maeda of the Anacostia Watershed Society sampled Sligo Creek for E. coli levels in 2004. All eight sites tested were found to be higher than the Maryland state standard of 126 steady state geometric mean density. An illegal connection from a condominium building pool drain and a leak from a nearby fire hydrant, found by the Montgomery DEP and Anacostia Watershed Society in 2005 and since repaired, were almost certainly the cause of the extraordinary levels at site SC5 (south of Colesville Road).

*1) Almost all of the results at SC5 were greater than the highest number in the test analysis range. When the test analysis range was 0-2400, the results exceeded 2400; when 0-4000, the results exceeded 4000. This being the case, the maximum number in the test analysis range was used to generate the geometric mean (ie, 2400 when the analysis range was 0-2400, 4000 when 0-4000). This means the calculated result of 3400 is likely to be significantly lower than the actual geometric mean at the SC5 site.*

### **General Water Quality Observations:**

Mike Smith of Friends of Sligo Creek tested three sites on Sligo Creek since September

2004. One of these is at the mouth of the Wheaton Branch in Montgomery County and two are in Prince George's County, one at the mouth of the Takoma Branch and one near the mouth of the main stem at Green Meadows Park. Some observations are that while the Wheaton Branch does seem to have lower nitrate levels than the other two sites, probably as a result of the stormwater detention ponds on Dennis Avenue, it also has generally higher turbidity levels in base-flow conditions and lower dissolved oxygen levels. Between September 2004 and December 2005, the median observed turbidity level on the Wheaton Branch was 11 FTU compared to 4 FTU on the Sligo main stem at Green Meadows Park, considering only base-flow conditions. The dissolved oxygen levels on the Wheaton Branch were observed to occasionally fall below the Maryland state standard of 5 mg/l. When the Montgomery DEP did a single day snapshot study of the Wheaton Branch and nearby Sligo main stem above the confluence on July 2, 2004, the dissolved oxygen levels were found to be 4.63 mg/l on the Wheaton Branch compared with 7.25 on the Sligo main stem (see Appendix B at the end of this report).

Significant spikes in the specific conductance levels were found shortly after snow falls at all three sites, probably as a result of road salts entering the stream. For example, on the Wheaton Branch between September 2004 and December 2005 the median base-flow specific conductance observed was 325 $\mu$ S/cm while levels of 3100  $\mu$ S/cm (2/05/2005), 4890  $\mu$ S/cm (3/05/2005), and 7560  $\mu$ S/cm (2/26/2005) were observed after snow falls.

### **USGS Branch Gage 01651000 on Northwest Branch at Hyattsville:**

Between February 2004 and December 2005, in addition to discharge information the U.S. Geological Survey recorded information about turbidity, specific conductance, pH, and temperature every 15 minutes at its Northwest Branch stream gage 01651000 at Hyattsville. While the gage is in Prince George's County, it is thought that the data it gathers reflects the collective water quality conditions of both Sligo Creek and the Northwest Branch upstream in Montgomery County. Friends of Sligo Creek webmaster Clair Garman created computer programs that looked at the pH, turbidity, and temperature data recorded by the gage and found every instance where they breached the Maryland state standard. He then calculated the percent of data that was in violation for each parameter. A table of this data is reproduced below from the Friends of Sligo Creek web site at <http://www.fosc.org/USGS/USGS-Summary.htm>. It was found that there were regular breaches of the turbidity standard of 150 NTU during stormwater events as well as occasional breaches of the 6.5-8.5 pH standard, with all the breaches greater than 8.5. It is suspected that the pH breaches may be associated with inadequate riparian buffers.

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If there are any questions about this report, please contact me via email at HYPERLINK  
 "mailto:waterquality@fosc.org" [waterquality@fosc.org](mailto:waterquality@fosc.org). Thank you very much.

Sincerely yours,

Mike Smith  
 Friends of Sligo Creek

## Water Quality Committee

### **Appendix A: Names of Stream Waders Macroinvertebrate Monitoring Sites on Sligo Creek, 2004**

Sligo Creek near Ladd Street

Sligo Creek near University Blvd

Sligo Creek near Forest Glen Road

Sligo Creek near Three Oaks Road

Sligo Creek near Kennebec Road

Sligo Creek near Drexel Street

Long Branch near Merwood Drive

Long Branch near Piney Branch Road

### **Appendix B: MC-DEP study of Wheaton Branch and the Sligo Creek main stem**

On July 2, 2004, the Montgomery County Department of Environmental Protection did this brief study of Wheaton Branch and the Main Stem of Sligo Creek. It is posted on the Friends of Sligo Creek web site at the permission of Keith VanNess at [HYPERLINK "http://www.fosc.org/DEPWheatonBrReport.htm"](http://www.fosc.org/DEPWheatonBrReport.htm) <http://www.fosc.org/>

**Biological Assessment:**

Wheaton Branch was observed to have few Trichoptera (Caddisflies) and Chironomidae (Midges).

Sligo Main Stem was found to have larger amount of Trichoptera (Caddisflies) and found Diptera (Crane Flies).

**Water Chemistry:**

The water chemistry in both tributaries was found to be in the normal range for a stream. However, the Wheaton Branch tributary was found to have lower Dissolved Oxygen than in the Main Stem of Sligo. The water clarity at the main Stem was clearer than that the Wheaton Branch Tributary.

Site	Wheaton Branch	Sligo Main Stem (above confluence)
Date	7/2/2004	7/2/2004
Time	3:54 PM	3:35 PM
Phenol (mg/l)	0	0.1
Chlorine Total (mg/l)	0	0
Detergent (mg/l)	0	0
Copper (mg/l)	0.1	0
Air Temp °C	26	27
Water Temp °C	25.58	21.94
pH	7.67	7.8
Conductivity (µmhos)	227	185
Dissolved Oxygen	4.63	7.25
Dissolved Oxygen%	56.6	82.7

**Physical Observations:**

There was an initial odor of "organic decay" (almost like what composting would smell like) at the Wheaton Branch tributary that was not present on the main stem of Sligo Creek. The substrate found in Wheaton Branch tributary had a layer of organic detritus (color of dark brown to black) throughout the tributary.

**Conclusions:**

There is a great possibility that the standing pipe in the Wheaton Branch pond is acting like a vacuum and is discharging the organic "soup" layer into Wheaton Branch Tributary. Potentially this organic layer is absorbing the dissolved oxygen in Wheaton Branch Tributary and therefore resulting in the lower dissolved oxygen numbers. There was found to be no chemical impairments in either of the two tributaries. It was found that there was no physical evidence that there was an illegal dumping of a type of oil in the Wheaton Branch Tributary. The biology found in both tributaries, to the best of my knowledge, is impaired but more likely is due to Sligo being an

urban stream. The Wheaton branch pond is slated for dredging in about 3 weeks according to Gene Gopenko (DEP). Gene said that he was out at the pond on May 25, 2004 and found the pond was only dewatering clear water; therefore, I would recommend performing further tests after the completion of dredging the Wheaton Branch Pond to determine if there is another candidate that is leaching out this natural detritus into the stream.