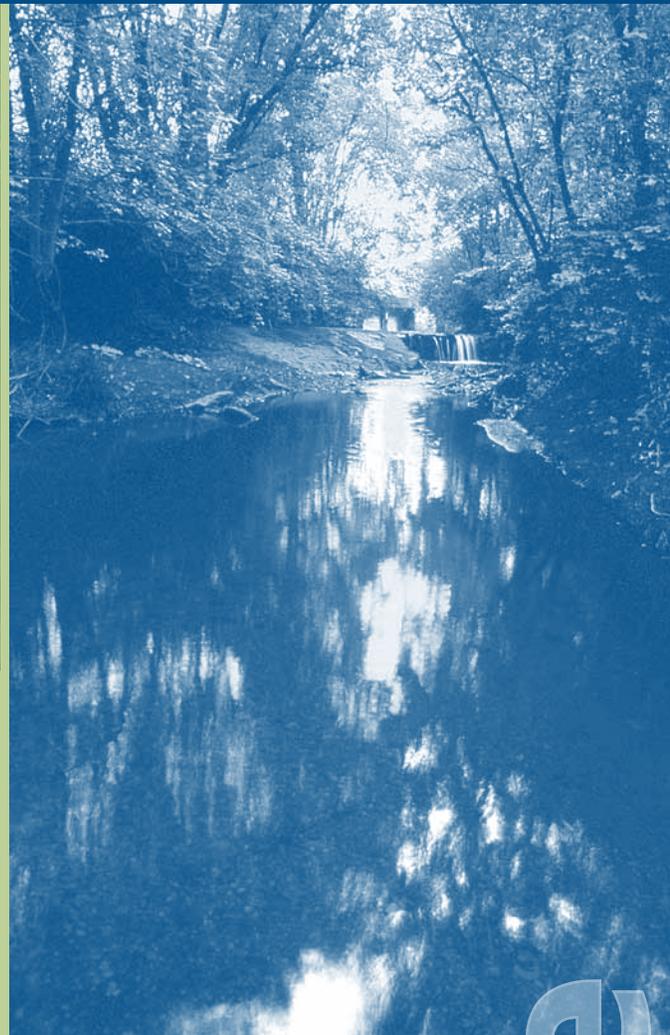


Information

FLOW



Photos courtesy George C. Anderson

The MONITOR Program **Monitoring, Observing and Naming Impacted Tributaries**

by Kim Williams, Editor

Headwater tributaries perform important functions such as controlling the level of flooding and the amount of sediment and nutrient loads to the mainstem, as well as providing wildlife habitat for a number of species that cannot exist in the mainstem. For this reason, headwaters are frequently compared to capillaries, since without them the mainstem or artery of the Oolentangy River would be overwhelmed. Recent biological surveys of the Oolentangy River in southern Delaware county indicate that the mainstem is being negatively impacted. The most likely culprit is the rapid development that is filling and culverting headwater streams.

For the past two summers, FLOW volunteers have been assessing the Oolentangy River's headwater streams in southern Delaware County as part of the MONITOR program, which was funded by the Ohio Environmental Education Fund grant. The goal was to examine the physical characteristics of the stream to determine suitability for aquatic organisms and whether there were noticeable problems impacting the streams. Studies conducted by Ohio Environmental Protection Agency (OEPA) have demonstrated a link between the type of aquatic organisms and the quality of habitat.

(continued on page 3)

SPECIAL DOUBLE ISSUE!

INSIDE: Map of Delaware County Tributaries • Stream Naming • Tributary Data

Explore

Table 1: 2009-2010 QHEI and HHEI results

OR RM	Tributary Name	PRE-Designation (QHEI score)	QHEI (2009-2010)	Aquatic Life Use (QHEI)	HHEI (2009-2010)	Primary Headwater Habitat Class (HHEI)
28.79	Unnamed Trib to Clear Run	WWH (unknown)	N/A		54	Class II Perennial
25.78	Delaware Run	WWH (61/40)	59 and 63	WWH	N/A	
		WWW (61/40)	63	WWH	N/A	
24.18	Kingsbury Run	WWH Untested	N/A		71	Class III Perennial
24.18	Unnamed Trib to Kingsbury Run	WWH Untested	N/A		67	Class III Perennial
22.92	Unnamed Trib to Anderson Run North	Undesignated	N/A		35	Class II Intermittent
22.92	Unnamed Trib to Anderson Run North Branch 2	Undesignated	N/A		64	Modified Class II Intermittent
22.34	South Trib to Willis Run	Undesignated	N/A		74	Class III Perennial
21.00	Unnamed Trib @ 21	Undesignated	65	WWH	60	
20.71	Unnamed Trib @ 20.71	WWH (52.5)	68	WWH	96	
20.19	Unnamed Trib @ 20.19	Undesignated	N/A		65	Class II Perennial
19.33	McKinney's Run	Undesignated	N/A		70	Class III Perennial
19.33	same trib - additional site	Undesignated	N/A		47	Class II Perennial
18.19	Unnamed Trib to Big Run	WWH (68)	N/A		45	Class II Perennial
18.19	Weeping Rock Trib to Big Run	WWH (68)	54.5	Not Meeting WWH	N/A	
17.94	Wildcat Run	Undesignated	64	WWH	N/A	
17.01	Lick Run	Undesignated	N/A		64	Class III Perennial
16.50	Unnamed Trib @ 16.50	Undesignated	N/A		59	Class III Interstitial
15.80	Deep Run	WWH (48)	74	WWH	100	
15.80	same trib - additional site		N/A		80	Class III Perennial
15.80	same trib - additional site		N/A		89	Class III Perennial
15.43	Unnamed Trib @ 15.43	Undesignated	N/A		78	Class III Perennial
14.34	Unnamed Trib @ 14.34	Undesignated	N/A		93	Class III Perennial
14.10	Unnamed Trib @ 14.10	Undesignated	N/A		83	Class III Perennial
14.10	same trib - additional site	Undesignated	N/A		63	Class III Perennial
13.83	Unnamed Trib @ 13.83	Undesignated	N/A		61	Class III Perennial

See explanation of headings and abbreviations on page 3

TABLE 1 – EXPLANATION OF COLUMN HEADINGS AND ABBREVIATIONS

TIERED AQUATIC LIFE USE (TALU) DESIGNATIONS

In a drainage area greater than 1 mi² and pool depth greater than 40 cm, QHEI is used to determine if the creek is meeting the TALU.

• **Exceptional Warmwater Habitat (EWH):** Unique or diverse populations of aquatic organisms. To maintain this status, more stringent criteria for dissolved oxygen, temperature, ammonia and nutrient targets are required. A section of the mainstem of the Olentangy River has this designation in southern Delaware County from Hyatts Road to Hard Road.

• **Warmwater Habitat (WWH):** A variety of aquatic organisms including pollutant intolerant and tolerant species and is the baseline requirement consistent with Clean Water Act's fishable and protection goals.

NOTE: There are more TALU designations than listed here.

PRIMARY HEADWATER HABITAT CLASSES (HHEI)

Drainage area less than 1 mi² and pool depth less than 40 cm

• **Class III PHWH:** Streams with cool-cold water adapted fish and lungless salamanders that require perennial cool flowing water. HHEI scores typically ≥ 70 , but if the score is above 50 and there is more than 20% of substrate types bedrock, boulder, boulder slabs and cobble then it can be classified as a Class III stream. Aquatic insects can hide in the substrate types, which in turn supports other wildlife.

• **Class II PHWH:** Streams with moderately diverse community of warm water adapted fish and salamanders that are temporary and/or can adapt to different conditions. Scores between 31 and 69. See Class III for exception.

• **Class I PHWH:** Normally dry channel streams with little to no species of aquatic life present. HHEI score less than 30.

• **Modified Class I or II PHWH:** The channel has been modified and whether it is I or II is dependent on the scores. Expectations for diversity and number of aquatic organisms are lower.

MISC.

- N/A= not applicable or the particular survey not done
- RM= River Mile along the Olentangy where the mouth of the Olentangy starts at zero
- The Pre-Designation column lists whether it has been previously determined to be Warm Water Habitat and if the QHEI has been determined the scores are in parenthesis.

MONITOR (continued from page 1)

A stream that meanders with cobble and boulder riffles will be able to support a more diverse fish population. When the stream is straightened and receives polluted runoff coming from parking lots the number and diversity of fish shrink to those that can tolerate low oxygen and polluted conditions.

Two habitat assessment methods were used: Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI). QHEI was used for large headwater streams that encompass more than 1 mile squared drainage area and have deep pools that can support populations of fish. The HHEI was used for primary headwaters that are less than are equal to 1 mile square drainage area and are more apt to support salamanders. Thus, the two habitat assessment methods have been calibrated against the aquatic life seen in different sized streams.

However, the two assessment methods are not directly comparable. The QHEI score can indicate whether the stream is meeting one of the tiered aquatic life uses such as Warmwater Habitat, Exceptional Warmwater habitat etc. Each aquatic use has an expected biological criteria score. For example, an Exceptional Warmwater Habitat stream is expected to have a high fish and macroinvertebrate score. In contrast, the HHEI scores indicate the type of headwater Class (I, II or III) which differentiates flow and size of the stream. The classes can indicate in general what organisms can be expected, but it does not have the level of specificity of the tiered aquatic life use designations with assigned biocriteria scores.

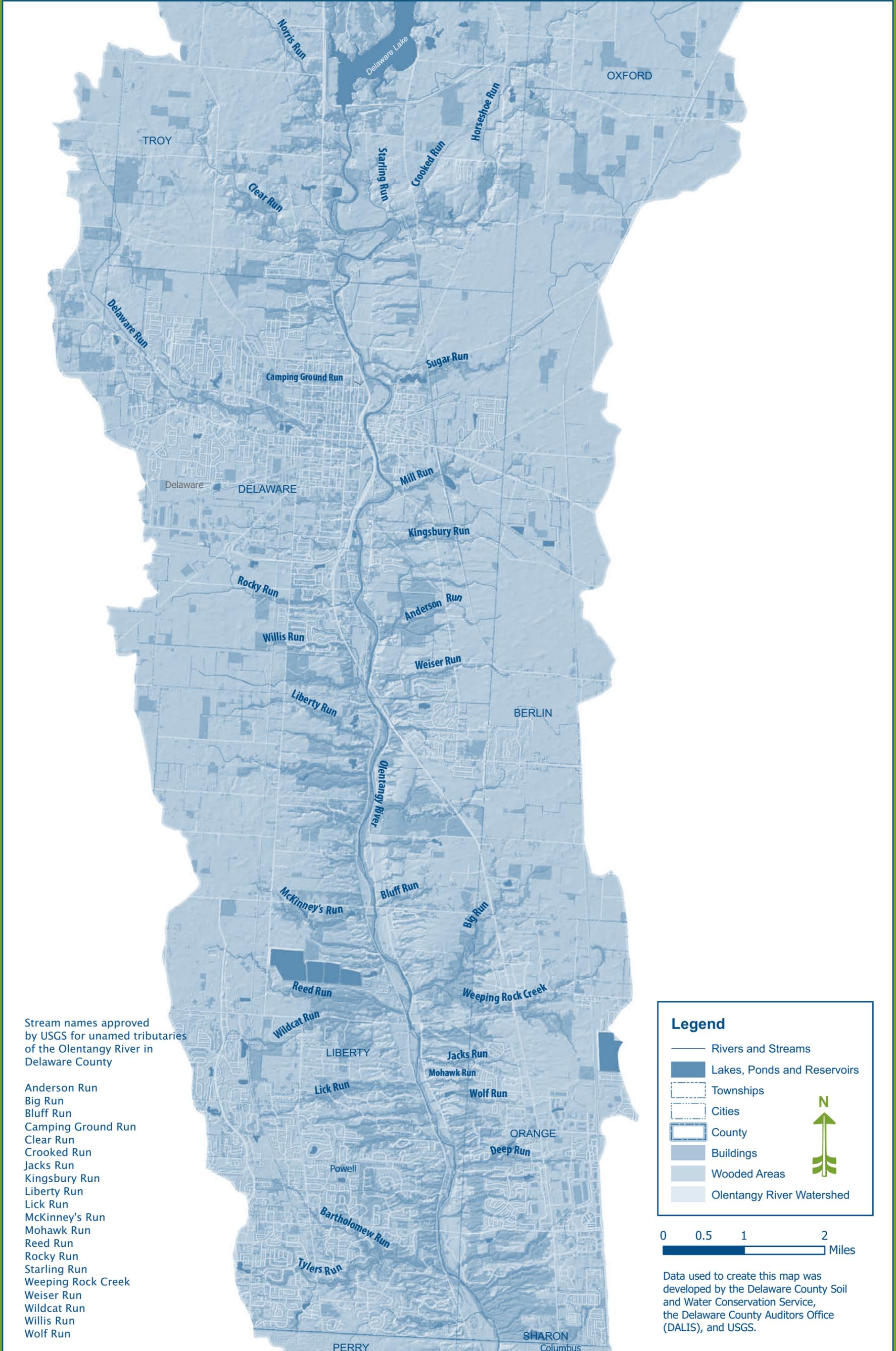
The Results

Table 1 provides a summary of results from the past two years. To see where the sampling sites are located, go to www.olentangywatershed.org for the MONITOR Google map. Overall, the headwaters appear to be healthy, however a number of the surveys did indicate impacts such as culverted streams and streambanks without vegetation. For one of the Big Run tributaries, the HHEI score of 45 was in part due to a large amount of sediment and clay runoff that was received from an upstream property. If the runoff no longer occurs, it is possible that the substrates of boulder, bedrock could now be more accessible to aquatic insects and fish. If this is the case, then the stream could now be a Class III instead of Class II. Again, the impacts that were seen could be offset by maintaining a streamside buffer of deep rooted plants such as trees, protecting wetlands and installing rain gardens in parking lots to address the stormwater overflow.

The results summarized in Table 1 not only help track the water quality conditions of the Olentangy River, but can be used to determine the level of protection for the headwater streams. Due to the development pressure in southern Delaware County and other areas, Ohio EPA developed an alternative general permit for storm water associated with construction activity for certain sections of the watershed. Depending on whether the stream is ephemeral, intermittent or perennial determines the width of the buffer along the stream and the mitigation requirements if the stream should be culverted. All streams have a thirty feet buffer, but the perennial streams have an additional fifty feet. Thus, monitoring the headwater streams will help determine the level of protection.

Headwater tributaries maintain the water quality and beauty of the Olentangy River.
If you own streamside property, please do not mow to the edge of the bank!

Tributaries of the Lower Olentangy River in Delaware County



Stream names approved by USGS for unnamed tributaries of the Olentangy River in Delaware County

- Anderson Run
- Big Run
- Bluff Run
- Camping Ground Run
- Clear Run
- Crooked Run
- Jacks Run
- Kingsbury Run
- Liberty Run
- Lick Run
- McKinney's Run
- Mohawk Run
- Reed Run
- Rocky Run
- Starling Run
- Weeping Rock Creek
- Weiser Run
- Wildcat Run
- Willis Run
- Wolf Run

Legend

- Rivers and Streams
- Lakes, Ponds and Reservoirs
- Townships
- Cities
- County
- Buildings
- Wooded Areas
- Olentangy River Watershed

N
↑



Data used to create this map was developed by the Delaware County Soil and Water Conservation Service, the Delaware County Auditors Office (DALIS), and USGS.

Thanks to Volunteers, Tree Plantings a Great Success

Como Park - April 16

Our tree planting in Clinton Park was a huge success!! We not only planted the 165 native butterfly host trees that we were scheduled to plant, but we also planted an additional 100 native trees in the woods. The additional trees were planted to reforest an area we previously cleared of honeysuckle last year.



Como Park planting.



These are just some of our amazing volunteers.

Results:

- 265 native trees planted
- 1/4 acre of honeysuckle cleared
- 300 ft. natural barrier built to protect newly planted trees
- 53+ Volunteers
- 2.5 Hours worked
- 133 Total Volunteer Hours



Local soccer players stop in to help plant before their game.

Whetstone Park – April 9

The Olentangy Watershed Action Plan calls for reforestation of 300 acres of floodplain. We re-planted about 1 acre on April 9th, 2011. We worked on reforesting the edge at Whetstone Park in Clintonville with 1450 seedlings and 22 larger trees around the casting pond, along with our partners the Battelle Rivers and Stream Team, and Columbus Recreation and Parks. Thanks also to Keep Columbus Beautiful, Franklin Soil and Water and the Friends of Alum Creek and Tributaries for loaning us tools. We couldn't have done it without the help of 148 volunteers. THANKS EVERYONE



OSU students using the invasive honeysuckle to create a barrier and protect our newly planted seedlings



A hard working cub scout helped water the seedlings.

Stream Naming

By Kelsey Bridges

In addition to monitoring streams, FLOW has worked to officially record the names of twenty tributaries along the Olentangy River. The stream naming process required a significant amount of technical information such as longitude, latitude, and elevation which can be found using Stream Stats and various topographic maps. It also required historical research to see if any of the tributaries had a name at one point. However, thanks to Delaware Soil and Water Conservation District, who did the majority of the historical research, the submission paperwork was reduced drastically. FLOW was able to submit the historical names as non-recorded names to the United States Geological Survey. Since the names have been confirmed, FLOW is currently working with its partners to install signage at major stream crossings to help

increase awareness. Thank you to Lynn McCready for volunteering time on this project and again thanks to DSWCD for their help. The following are the historical names.

(see map on previous page)

- | | |
|--------------------|--------------------|
| Anderson Run | Wildcat Run |
| Crooked Run | Camping Ground Run |
| McKinney's Run | Liberty Run |
| Weeping Rock Creek | Rocky Run |
| Big Run | Jacks Run |
| Mohawk Run | Willis Run |
| Weiser Run | Clear Run |
| Bluff Run | Lick Run |
| Kingsbury Run | Starling Run |
| Reed Run | Wolf Run |

FLOW Calendar of Events, Meetings, and Volunteer Opportunities: Spring 2011

All times and dates are subject to change. Please confirm time, date, and location by calling our office at 614-267-3386 or on our website at www.olentangywatershed.org

JUNE

What: World Environment Day Service Event

Where: Anheuser Busch Sports Park (4990 Olentangy River Rd., Columbus, OH 43214)

When: Saturday, June 4th, 8 am - 11 am (tentative)

Cleanup and honeysuckle removal at Anheuser Busch Sports Park as part of the World Environment Day celebration. Details are still being worked out, so please check the website for confirmation of time and location. Please wear pants and closed toe shoes.

What: HEADWATER HABITAT EVALUATION INDEX (HHEI) WORKSHOP

When: Saturday June 11th, 9 am - 3 pm

Where: Workshop will start at Delco Water Treatment Plant (6682 Olentangy River Road, Delaware OH 43015)

If you would like to attend the event, please RSVP by calling 614-267-3386 or e-mailing info@olentangywatershed.org. Please provide your name, phone number and e-mail address so that we can provide updates if necessary.

Chris Skalski with Ohio EPA's Division of Surface Water will teach the headwater habitat assessment training course. The course will cover the importance of headwaters in maintaining wildlife populations and the water quality of the Olentangy River as well as how to assess the stream's health by examining its physical characteristics. Please bring knee high boots or hip waders, bug repellent and sunscreen. Also, please pack a lunch.

Check the FLOW online calendar for late-breaking service project events.

"Soaking It In" update

Brian Ogle, FLOW and Amy Dutt of Urban Wild will meet with Godman Guild Center representatives to discuss the possibility of installing another rain garden using the rest of the Honda of America Foundation monies.

Rain garden in bloom at Columbus Mennonite Church
Photo by Kim Williams



Kroger Plus Card Registration and Renewal



By registering your Kroger Plus card, you can help FLOW receive a percentage of your purchases. You must swipe your registered Kroger Plus card or use the phone number that is related to your registered Kroger Plus card when shopping for each purchase to count. If you registered last year, please renew for 2011. For further directions, please visit the FLOW website. www.olentangywatershed.org. *Thank You!*

A SPECIAL THANKS TO:

- Adopt an Area Coordinator Julie Smiley who wrangled trees out of boxes to sort them.
- Contributors to the April 9, 2011 Whetstone Park Tree Planting Event: Bailey Cavalieri LLC, Battelle, Columbus Recreation and Parks, Courtney Miller, Friends of Alum Creek and Tributaries (FACT), Keep Columbus Beautiful, Porter, Wright, Morris & Arthur LLP, and Adam Wagenbach.
- Office Helpers: Anne Marie, Adelaide, Deanna, Karen and John for helping with stamping and stuffing.
- Vince Mazeika for organizing bi-monthly education meetings.

YES! I want to support FLOW for cleaner water!

Choose a membership:

- Individual/Family Member \$25-\$249
- Personal Leader \$250-\$499
- Business/ Government Leader \$500 +
- Corporate/Government Sponsor \$1000 +

Fill in the following:

- New Member Renewal Gift

Name(s): _____

Organization/Business: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Email: _____

By providing your email, you will save resources and stay up-to-date on news and events.

Return this form to:

FLOW
3528 N. High St., Suite F, Columbus, OH 43214

Or give securely online at: www.olentangywatershed.org



3528 N. High St., Suite F
Columbus, OH 43214

Information



Published By

Chair: Laura Shinn
Vice Chair: Laura Fay
Treasurer: Nikhil Shah
Secretary: Mike Sapp
Brian Ogle
Jeff Garretson
Steve Leahy
David White

Newsletter Editor

Kim Williams

Newsletter Layout

Ellie Nowels, Centipede Graphics

Contact FLOW

614-267-3386 (phone)
614-262-8922 (fax)
info@olentangywatershed.org
www.olentangywatershed.org

Friends of the Lower Olentangy Watershed is a non-profit organization dedicated to keeping the Olentangy River clean and safe for all to enjoy through public education, volunteer activities, and coordination with local decision makers. FLOW is registered with the IRS as a tax-exempt, nonprofit charitable organization under Section 501(c)3 of the Internal Revenue Code. Donations are tax-deductible.

Because FLOW is a small organization, we rely heavily on volunteer participation to create positive change in our watershed. Please contact us for more information about how you can volunteer. We have a wide variety of opportunities to fit your schedule that will match your skills and interests.

FLOW is a member of Earth Share Ohio. You may donate to FLOW through Earth Share's workplace giving campaign, available at numerous private companies, state and municipal government agencies, and Combined Federal Campaigns. For more information about workplace giving, please contact us.

