RAVINIA

An Advocate for Community Resources

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The Story of the Glen Echo Boulder

It emerged in February 2005 covered in mud like an ancient water buffalo from its ancestral wallow. Steve Phillips, of Oxbow River and Stream Restoration Inc., discovered it while excavating the streambank in the Glen Echo stream restoration project. It was a very large, very old, rounded granite boulder, sunk in the mud where it had lain for centuries.

Hauling the boulder up from the bank, where it obstructed the stream's planned course, was no mean feat, requiring a large forklift. Phillips placed the two-and-a-half-ton rock a few yards away from the stream bridge, beside the pathway through the park. Sunk slightly into the soil, it stands about four feet high, its stature reduced by a foot or so that is set in the ground. There it stays, probably for many more centuries, for park visitors to admire.

Shortly after the rock's exhumation, snow fell. From a distance, the boulder looked like one of the wood bison that formerly inhabited Ohio's forests, hunkered down, sleeping out the storm under a blanket of snow. When the snow stopped, surely it would stand up, shake off the snow, and amble away among the trees. But no. It doesn't belong here. Its home is not Ohio.

Ohio's rocks are sedimentary, rocks formed from wet sediments that settled at the bottom of ancient oceans, such as shale, limestone, and sandstone. But this granite boulder sparkles with the mineral crystals of igneous rocks (rocks formed by fire), such as pink and whitish-grey feldspar; black hornblende and pyroxene; and clear, glassy quartz. It's also much older than local rocks. Ohio's oldest exposed bedrock dated from marine fossils, is Cambrian, little more than 500 million years old. The Glen Echo boulder is probably close to a billion years old.

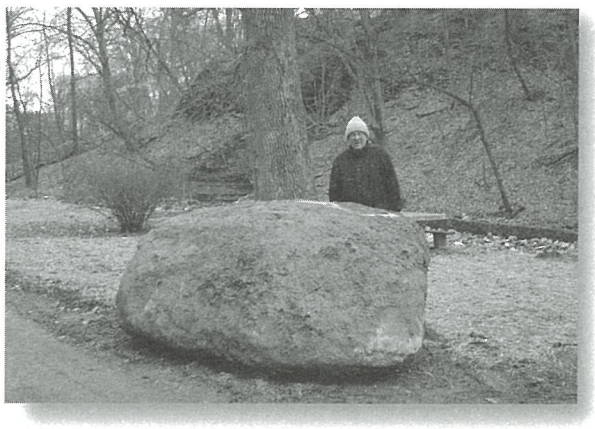
This igneous rock was made deep in the earth, where rock is hot and liquid. It cooled and solidified as it rose to the surface. Igneous rocks rise above the surface as mountains. But we have no mountains in Ohio! Glen Echo has outcrops of shale nearby, evidence that Glen Echo Ravine was formerly at the bottom of a sea, not up a mountain. So how does a mountain rock get buried in the mud in Ohio?

When geologists first found rocks out of place like this, they called them erratics. This word comes from the same root as the word "error," because it seems that Mother Nature made a mistake, putting this kind of rock in the wrong place.

Many thousands of erratic rocks are scattered over the Midwest's sedimentary bedrock. Some emerge when soft rock or mud around them erodes away from streambanks or when people dig basements for buildings. Where did all these erratic rocks come from? Canada.

The Midwest's erratic rocks were carried here by glaciers, acting like giant conveyor belts. More than 12,000 years ago, central Ohio was covered by ice a mile high. The ice sheets moved south from a point of origin in Canada close to what is now Hudson's Bay. Geologists call this the Laurentide Ice Sheet (after the Saint Lawrence River). When the ice sheet got far enough south that its southern end melted in summer warmth, the rocks were dumped on the ground.

Glacial rock dumps are called moraines. Many moraines festoon the Ohio landscape in places where the ice front was stationary for a while as it melted off. Glen Echo happens to be just such a place. Geologists know that this and other Midwestern erratics came from Canada, and not from the Appalachians or elsewhere to the south or southeast, because of several lines of evidence.



Oxbow Stream Restoration Inc. excavated the boulder from Glen Echo Run on February 15.

continued on page 4

FROM THE CHAIR OF THE BOARD

As we move through autumn's colors in the quiet season for our ravines, we all should pause to note the exceptional work done in the Glen Echo Ravine. As most of you know, the eastern end of that ravine was in a state of severe deterioration just ten years ago. The park area was primarily a location for litter, graffiti, and exotic human behavior. The slopes would not hold vegetation, which had accelerated the normal erosion of both rock and soil. The stream bed had not held clear, clean water in years. Vegetation in the park was composed primarily of hardy invasives.

There is much to do in all our ravines, including Glen Echo Ravine from Indianola though High Street to the Olentangy River. But change has come. Those who care for ravines have learned much, worked hard, and brought Glen Echo back to a state where people can enjoy a ravine that will change by nature's timetable and whims, not ours. The slopes have been replanted and are stable; the park is clean and is a garden spot for vegetation indigenous to ravines. The stream is clear and runs when the earth and the sky give it water. (Graffiti and litter are the exception.) And citizens and schoolchildren visit it often.

It is not possible to overstate the work and effectiveness of the Glen Echo group. In addition, their exceptional work created a sense of ownership and vigilance in residents up and down the ravine. The city has purchased land along the middle section of the ravine, and residents here have worked with the city to prevent construction companies and the uninformed from using the ravine as a place to put their refuse. There are plans to acquire additional land along the ravine and to stabilize its fragile structure.

It is a significant tribute to all the people who have done so much to rescue Glen Echo Ravine that the current annual report from the Columbus Foundation cites the Glen Echo restoration as one of its most significant success stories, and who better to have graced those pages with her countenance than Martha Buckalew. She is the perfect symbol of all those who have done so much in Glen Echo and elsewhere to show that our ravines can be returned to the stewardship of nature.

The Glen Echo restoration has helped Friends of the Ravines fulfill its mission to protect and restore ravines and to educate the public about ravine areas.

Jack Cooley, Chair, Board of Trustees

NEWS FROM THE RAVINES

Adena Brook Community has installed 43 nesting houses for kestrel, barred owls, flickers, woodpeckers, screech owls, duck, titmice, chickadees, and wrens. Volunteers continue removal of invasive plants. Friends of the Ravines board of trustees allocated funds for the purchase of native plantings on public property in the Adena Brook watershed.

Glen Echo Ravine's slope and stream restorations are nearing completion. This season the perennial woodland garden planted last year in a swampy area on the floor of the ravine flourished, but the hot, dry summer was brutal to new plantings on the southern slopes. However, rescued wild flowers and ferns installed in May beside seeping springs are thriving.

Volunteers planted rescued ferns and wildflowers on Glen Echo slopes in May.

Iuka Ravine residents active in the Indianola Forest Association sent letters along with photographs of code violations to rental agencies and landlords of houses on Frambes and Lane avenues. The IFA received assurances that couches would be removed from porches and trash would be cleaned up. City Code Enforcement followed up with postings regarding couches on porches.

Walhalla Ravine Association has voted to name the creek that runs through the ravine Walhalla Creek. WRA used its lively interactive e-mail list to decide voting procedure, collect residents' suggestions, and post results. The e-list allows WRA residents to effectively report neighborhood activities and promotes interaction between Walhalla residents.

Columbus Landmarks Foundation's 2005 Summer and Fall Walking Tours of Historic Places included neighborhoods around Rush Creek, Iuka Ravine, and Glen Echo Ravine. Both areas have National Register of Historic Places status.

Stormwater Drainage Manual Revised

Columbus Division of Sewerage and Drainage has a revised Stormwater Drainage Manual. Comments were accepted and the final will appear sometime in late 2005. The requirements will affect how surface runoff is managed on development and redevelopment sites in the city.

Stormwater runoff drains the land after wet weather. Legally, "stormwater" refers to runoff collected or channelized in pipes or ditches; it may come from urban areas, industrial sites, or agricultural activities. When impervious or hard-surfaced areas grow to more than 10-20% of the total, ecological stress becomes apparent because of increased flow volumes and rates, as well as increased pollutants. Municipalities are required to control stormwater system releases under the Clean Water Act.

Under Columbus' new stormwater rules, almost any construction or development will have to submit a technical report prepared by a professional engineer with maps and calculations of how stormwater will be managed. Not included are single parcels with one or two family homes. There are three categories of requirements in the new rules: Stream Preservation and Protection, Stormwater Conveyance, and Stormwater Controls.

Stream Preservation and Protection requires that when a stream is identified, a stream corridor protection zone excluding most building and development activities will have to be shown on the map and legal documents. The width of the protection zone is based on watershed drainage and ranges from 50 to 200 feet. There are some protections for wetlands. Exemptions are allowed, with no protection zone required downtown, on the river side of the floodwall, or for redevelopment projects with building already in the protection zone.

Stormwater Conveyance rules require calculations by an engineer to make sure that stormwater pipes are big enough to handle the existing flow plus additional flow from the proposed development "with no increase in downstream peak water elevation." There are detailed design guidelines for storm sewers, curb inlets and catch basins, culverts, discharge pipes, and constructed streams and watercourses.

Stormwater Controls are facilities required to control quantity of flow and quality (pollutants). There are different requirements for quantity and quality. Exemptions are allowed for single-lot developments and existing facilities. The rules suggest relaxed requirements for redevelopments. The controls recommended include detention basin, vegetated swales, and filter strips. Green roofs or alternative controls are allowed, although guidelines and requirements are strict. There are also stricter quality controls for commercial areas with high-risk pollutants.

continued on page 4

To Name or Not to Name? No Longer A Question!

Over the past two years, the Stream Signage Project, under the leadership of the Steering Committee of the Greenways Program at MORPC, has drawn attention to our local rivers. When you drive across Alum Creek, you know it is not the Olentangy or an unnamed geographic feature. It is a stream significant enough to have a name and a sign. This year's tributary signage project will add another layer of information: the concept of the watershed. Soon people will know that when they cross Hayden Run, they are in the Scioto River watershed. Hopefully, it will all come together in people's minds . . . small streams flow into big ones, everything is connected.

Unfortunately, our area has plenty of unnamed streams—and plenty of creeks called ditches. Merriam-Webster's Online Dictionary defines "ditch" as "a long narrow excavation dug in the earth"—not exactly the meaning we would like to convey when we try to educate on water quality, natural stream flow, and treating our rivers with respect. Just as we would not deny that the use of sexist or racist language conveys and maintains negative attitudes, the inappropriate use of ditch assigns a label of low value. If you had to make a decision on whether to invest your limited volunteer time and energy into preserving a ditch, an unnamed tributary, or a Rose Run, for example, which would it be?

Because perception is so important in rallying support for our local streams, the Greenways Program is embarking on a Stream Naming and Renaming Project. The initial focus will be on the Scioto River and Alum Creek watersheds. The first two unnamed tributaries on the list are in the area of Indian Village Camp on the west side of the Scioto River. Both creeks drain into Griggs Reservoir. The Friends of Alum Creek has Argyle Run on their wish list of streams to name because the name is not officially recognized by the US Geological Survey. Both watersheds have some "ditches" that could use a name change. Tudor Run is much more appealing than Tudor Ditch.

The steps involved in naming an unnamed stream include research into historical maps and records, public outreach, name selection, and name endorsement by local area commissions, municipalities, and County Commissioners. The name then has to be registered with the USGS Board of Geographic Names and the Ohio Board of Geographic Names. If you would like to get involved in tributary naming and/or tributary renaming, please contact Andrea Gorzitze (614-233-4124) or Erin Miller (614-233-4178).

The Story of the Glen Echo Boulder, *continued from page 1*

The boulder now lies on the north bank of Glen Echo Run.

As ice sheets move, hard granite boulders encased in the bottom of the ice scrape into the softer sedimentary rock below, gouging grooves and scratches into the bedrock. That's how the glacial grooves on Kelley's Island were made. Like parts of Columbus, Kelley's Island is made of limestone, a soft rock—the grooves run north-south, not east-west.

That means the ice sheets were moving either from north to south or from south to north. If the grooves and scratches ran east-west, the ice could have come from the Appalachians, but they don't. We have no evidence that ice sheets formed in Ohio's warm climate and flowed north. The ice came from the north and melted when too far south for comfort.

Also, a comparison of the chemical composition of Ohio erratics with Canadian bedrock shows that many boulders here are identical to bedrock in Canada. We don't find sedimentary rocks with Ohio fossils in them up in Canada, which would happen if glaciers moved from here northwards.

Then there's the age factor. Igneous rocks can be dated by radiometric dating, a method developed at the turn of the twentieth century. This method is a way to calculate the decay of one radioactive element into another, more stable element. These elements decay at constant rates that scientists have measured. Because some elements decay over billions of years, scientists can assess the age of very old rocks.

Dating a rock involves counting the atoms of an element and its decay products, then comparing the percentage of decayed to non-decayed to see how far along that element's "decay timeline" it has gone. When the atoms become fixed into a crystal, any decayed atoms are trapped inside the crystal, making them measurable. Knowing how much an element has decayed and what the speed of decay is allows one to calculate for how long it has been decaying since it became "frozen" into a crystal.

Different regions of Canada have different dates frozen into the bedrock, most close to a billion years. That's another way to estimate where in Canada the erratics came from. If the chemistry and the age match up we have good lines of evidence for the rock's origin.

The Glen Echo boulder is a well-traveled rock. It has existed for a long time and moved a long distance. It formed about a billion years ago, deep underground, as hot, liquid rock rose to the surface and cooled. It was pushed up in a mountainous area in what is now Canada and got slightly metamorphosed (squeezed or heated) in the process. It stayed in Canada until glaciers formed during prolonged cold weather and carried it south to Ohio, thousands of years ago.

It melted out of the glacier before Glen Echo Creek had begun to erode its way into the glacial deposits and bedrock below. Later, the boulder rolled downhill and settled into the mud around the creek bed, where it remained until dug up from its burial place.

"Finders keepers" the old saying goes. It's our rock now. But watch out for a guy in a lumberjacket who strolls by announcing, "Got one of our rocks eh? We want it back!"

Stormwater Drainage Manual Revised, *continued from page 3*

Maintenance requirements are incorporated into general submission rules. The city offers to take over maintenance of private facilities if easements are granted. Otherwise, the owner is responsible, but the city maintains the right to enter and fix problems if a control facility is not maintained.

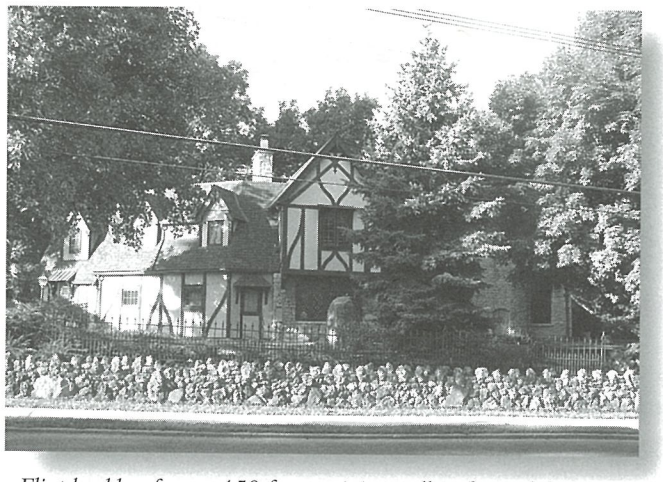
The submittal requirements include a site plan, calculations and designs signed by a professional engineer, easements, and any other reports or permits necessary.

The requirements are complicated and will increase the complexity and cost of developments of one parcel. They improve past policy that streams be enclosed in pipes; the stream corridor protection zone is particularly welcome. Because Columbus soils basically do not filter water, the control facilities will store stormwater runoff and release it at prescribed rates: the rules control stormwater rates but not volumes. Grass detention basins will be common features. Constructed wetlands with ponds or trees will be rarer. Floodplain filling will continue to be allowed.

Ravines are greatly affected by stormwater practices because they receive concentrated runoff from the urban catchment areas. Although the new rules will help with the rate of runoff from future development, the revisions do not address the repair of already degraded streams. That problem must be solved in the future.

Restoring a Garden, Respecting the Ravine

In 1994, my husband and I acquired a Jazz Age Tudor house with a wooded backyard spanning both sides of a forested ravine that gets deeper and wider as it drains into Alum Creek. The ravine backyard, once meticulously manicured, was in a state of convalescence from years of total neglect. Having no gardening experience whatsoever, we did not realize that we had purchased a modern Labor of Hercules! Today, 11 years later and after countless hours in the yard, I am beginning to visualize how I want my garden to grow.



Flint boulders form a 150-foot retaining wall in front of the house.

The historical information on the house and property was passed from owner to owner: from the Browns to the Kramers to another Brown family to the Triannos — to us. Our dear neighbor, Fern, who lived next door for more than 55 years, was a great source of such information until her death several years ago.

"It is said that ignorance is bliss, and I was blissfully ignorant of the woeful state of the backyard."

Our house was built in 1927 for the wife of a builder named Brown. At that time, the house was located in the wooded hinterlands of Columbus and the ravine had a relatively undisturbed path to Alum Creek. The second Mrs. Brown told me that she could see pheasants in the ravine when she first lived here in 1955. Dr. Leon Kramer and his wife Lorna purchased the property in 1939. Dr. Kramer collected natural and historical artifacts in the 20s and 30s before laws protected and preserved such items for the public benefit. It is now illegal to remove crystal formations from caves without a permit, but we are able to enjoy some of the fruits of his collecting through our living room fireplace, which he faced with naturally faceted quartz of varying size and color. Dr. Kramer was called "Flint King" for his acquisition of enough flint boulders from Flint Ridge to build a 150-foot retaining wall along the front of the house. One boulder stands over 4 feet tall and 3 feet wide.

On several occasions, Dr. Kramer hired trucks and drivers to travel out West with him to collect specimens of arrowheads, spearheads, rocks, crystals and minerals. Not only did he fill his display cases with his choice artifacts, he hauled back enough granite boulders and other interesting rocks to create several hundred linear feet of terraced beds, arching stairways, and stone benches for his wife's garden. The lower flagstone patio is adorned with petrified wood and several pieces of preserved lakebed. There are three grindstones on the property: one is in a walkway, one serves as a bench, and one lies beside the drive.

A family of stonemasons named Kientz provided the labor that created the stonework and the fireplace. Fern, our neighbor who had watched as the work progressed, described how Dr. Kramer would pass around beers and tell the Kientz boys where to place the stones. They moved huge boulders, some weighing over a ton, using only bars, levers, and beer-fueled muscle power! The stonework was designed along organic lines. Except for the front retaining wall, there are few straight edges to the garden beds.

Truck loads of topsoil were needed to create terraces.

Neighbors report that Mrs. Kramer spent most days in her garden. To complete the terraces, she emptied truckload after truckload of top soil onto the hills and into the terraces cut into the ravine and planted many varieties of azaleas and bulbs, over the years turning the garden into a spring showplace. After Dr. Kramer's death in 1954, Mrs. Kramer sold the house to the second Browns, who lived in the home for 27 years, raising a family and working hard to preserve the house and gardens.

In 1982, Mrs. Brown was left alone and had difficulty maintaining the property, which was then 55 years old. When she sold it to Ms. Trianno, Mrs. Brown gave her gardener permission to take a few plants. The gardener took all the azalea bushes and bulbs and, in all probability, other valuable shrubs.

Ms. Trianno filled in the empty garden spaces with ferns, ornamental grasses, and multi-colored phlox, but her primary interest lay inside the house. When she married five years later, she decided to sell. When she put the house on the market, bridge construction and road expansion had closed the street to outside traffic. The house had been on the market for two years before we saw it for the first time. I was so charmed by its wild

continued on page 6

The wooded backyard spans both sides of a forested ravine.

looks and hidden setting so near to downtown that I paid no attention to the state of the gardens. We moved in September of 1994.

It is said that ignorance is bliss, and I was blissfully ignorant of the woeful state of the backyard. The property had many large trees, including a beautiful Japanese red maple close to the house and an arching magnolia over the lower patio. Many of the shrubs were sadly overgrown taxus or junipers that hid much of the stonework in the back as well as most of the first level of the house fascia. I decided not to add or remove anything until I knew what was already there.

In the spring, I found hyacinths and tulips growing close to the house and many large clumps of beautiful daffodils growing in large clumps. Lily of the valley and grape hyacinth appeared on the edges of several beds, and, early on, tiny blue flowers rose up in the lawn and many of the flowerbeds and then went to seed. A sprinkling of Virginia bluebells and ferns appeared along some of the longer slopes. A large block of daylilies eventually displayed double orange flowers. Closer to the woods, different wild flowers appeared: patches of white and red trillium, wild ginger, jack-in-the-pulpit, wild geraniums, trout lilies, bloodroot, spring beauty, hepatica, anemones, and Dutchman's breeches.

However, not until I saw a multitude of tiny green leaves coming up among the flowers and ground covers did I figure out that the tall, dry stems that had covered many of the beds the previous fall belonged to garlic mustard, a notoriously invasive, non-native plant. That spring, I learned the consequences of allowing garlic mustard plants to go to seed: what looked like hundreds of thousands more covered my beds.

Furthermore, it soon became clear that tree-sized euonymus and vines were choking ferns and native wildflowers out. Cutting down one of the euonymus shrubs exposed a stone sphere two feet in diameter. Ivy covered much of the stone terracing and the lower retaining walls. Here and there, I saw bits of periwinkle or pachysandra trying valiantly to survive. Under the garlic mustard, some anemic looking ivy was surviving on a few of the steeper slopes, but the drought of the two previous summers had left many clay-colored bare spots. There also was a small patch of bee balm and lemon verbena under the garlic mustard in a bed along one of the stairways.

Granite boulders line the terraced beds.

Without time or money for new ground cover, I decided to tackle the most invasive plants first in an effort to encourage the non-invasive native plants. It took three years to get rid of most of the garlic mustard and establish a thick growth of ivy over most of the long slopes for protection from erosion. On hands and knees, I pulled the euonymus up by its roots, after untangling it from the ivy or periwinkle, and finally succeeded in eradicating it, too.

After those battles, I started on the phlox, which was overrun by violets. Again, the only economical way to keep the phlox was to pull the invaders out by the roots. It took about three years of systematic weeding. The red bee balm and the lemon verbena are still fighting for space along the stairs, and I have given up on transplanting daylilies to keep them in check. Before I weed and thin out areas, I spray with an environmentally friendly herbicide to make pulling out roots easier.

Living in this symbiotic environment of the wild and the half kempt, I have developed a passion for encouraging plants I want to keep and eradicating those I do not want. I have learned to keep all non-invasive natives, slowly adding and transplanting to see what works. Through diligence and discretion, I am creating a garden of my own making that leads into a natural ravine garden of nature's own making.

Clean Ohio Funds Awarded

In 2005, Clean Ohio funds were allocated by the Natural Resources Advisory Board (District 3) to five watershed projects in Franklin County. Total funding for these projects was almost $3.2 million.

Hellbranch Antrim Property

This project aims to purchase, restore, and protect critical riparian habitats along McCoy Ditch, tributary to Hamilton Run, Hellbranch Run and Big Darby Creek. This purchase constitutes the remaining riparian and hydric components of the Hellbranch headwaters project that have not yet been protected. The project area will complete the protection of the largest contiguous floodplain and hydric area in the Hellbranch watershed.

Mock Park to Innis Park

This acquisition of five sites by Columbus Parks and Recreation is along Alum Creek, adjacent to existing city parklands with high-quality natural characteristics. It will preserve a 2.5-mile stream corridor from Mock Park to Innis Park and will expand the protected natural corridor by .5 miles, as well as adding approximately 450 linear feet of Mock Run and 32 acres of forested floodplain.

Blacklick Creek Main Stream, Floodplain, and Riparian Area Preservation

Jefferson Township plans to acquire 43 acres of riparian lands consisting of forest and floodplain along Blacklick Creek and place several conservation easements on two sites. This project will preserve critical habitat adjacent to the rapid development that is occurring in Columbus and Jefferson Township.

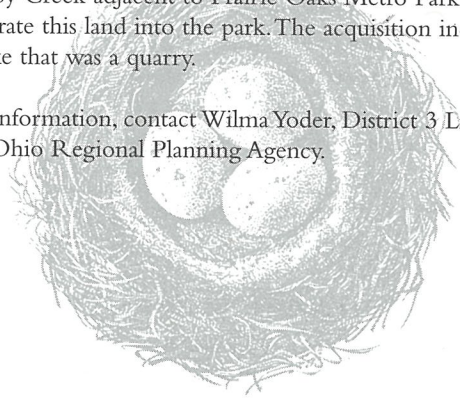
Hayden Run Headwater Restoration

The Franklin County Engineer will conduct the Hayden Run project, which will require several developers to commit to the dedication of a stream easement of 150-300 feet wide on 47 acres along 9,000 feet of Hayden Run. This easement will permit the reintroduction of a natural stream with access to its floodplain at the headwaters and will require the redesign and reconstruction of two bridges, one on Hayden Run Road and the other on Cosgray Road. The watershed is 5.1 square miles. For more than a century this section of the stream has been a ditch serving the drainage needs of agriculture.

Bradley Lake Acquisition

Franklin County Metro Parks will acquire 20 acres of land along the Big Darby Creek adjacent to Prairie Oaks Metro Park and will incorporate this land into the park. The acquisition includes a 14-acre lake that was a quarry.

For further information, contact Wilma Yoder, District 3 Liaison, at the Mid-Ohio Regional Planning Agency.



YES! I WANT TO BE A SUPPORTING MEMBER OF FRIENDS OF THE RAVINES.

Name_____ E-Mail_____ Phone (____)_____

Address_____ City/State/Zip_____

Indicate any special instructions for listing of your name in the Roster of Supporting Members._____

Membership Category *(Make check payable to Friends of the Ravines.)*

___ Friend: $15 ___ Sponsor: $35 ___ Sustainer: $50
___ Contributor: $25 ___ Household: $40 ___ Patron: $100 ___ Corporate (Over $100) _____

Indicate Shirt size: ___ M ___ L ___ XL *Anyone contributing $100 or more will receive TWO T-Shirts!!*

I want to volunteer to help Friends of the Ravines carry out its mission to protect ravine areas and educate the public. I can help by:

___ Distributing *Ravinia* ___ Writing Articles for *Ravinia* ___ Preparing Mailings
___ Maintaining the Website ___ Giving Computer Advice ___ Helping with Ravine Clean-ups
___ Planning Community Forums ___ Removing Invasive Plants in Ravines ___ Becoming an On-Call Volunteer

My special area of expertise is _____ My favorite ravine is _____

Friends of the Ravines, PO Box 82021, Columbus, Ohio 43202

Spring Ephemerals in Bill Moose Ravine

On April 17, 2005, Plant Walk Guide Rick Gardner and a record number of participants spent the afternoon on the path that snakes through Bill Moose Ravine on the grounds of the Ohio State School for the Deaf. Below is a listing of some of the wild flowers in bloom.

Bloodroot *(Sanguinaria Canadensis)*
Cut-leaved Toothwort *(Cardamine concatenate)*
Dutchman's Breeches *(Dicentra cucullaria)*
False Mermaid *(Floerkea proserpinacoides)*
Harbinger-of-spring *(Erigenia bulbosa)*
Jacob's ladder *(Polemonium reptans)*
Large White Trillium *(Trillium grandiflorum)*
Large-leaved Waterleaf *(Hydrophyllum macrophyllum)*
Mayapple *(Podophyllum peltatum)*
Solomon's-plume *(Smilacina racemosa)*
Solomon's-seal *(Polygonatum pubescens)*
Spring Beauty *(Claytonia virginica)*
Virginia Bluebells *(Mertensia virginica)*
White Ramps *(Allium burdickii)*
Wild Geranium *(Geranium maculatum)*
Wild Ginger *(Asarum canadense)*
Yellow Trout Lily *(Erythronium americanum)*

Ravinia is the official publication of Friends of the Ravines.

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Submissions and suggestions are welcome.

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Thank You:

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New Supporting Memberships:

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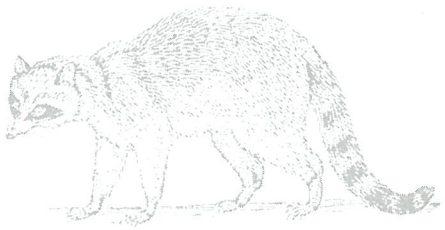

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