

2023 YEAR END REPORT

RECAP OF 2023

Looking back at 2023, we want to share with you some of our accomplishments for the year and give thanks to our many supporters. In this report, we update you on the success of two green infrastructure projects—one that transforms an urban arts campus, and another that modifies a large parking lot adjacent to Big Creek.

We provide a recap of the several full-day stream monitoring programs that we held with three local high schools and an elementary school. And

we give recognition to the many volunteers that have participated in one of our Big Creek cleanups over the years while encouraging their continued involvement.

The Board and staff at Big Creek Connects are looking forward to increasing our capacity for projects and programs in the year ahead, as we continue to work with our many partners, funders, donors and volunteers. And we look forward to your ongoing support!

ART HOUSE GREEN CAMPUS

The Art House Green Campus project was completed in 2023 with great success. In addition to its role in capturing, detaining, and filtering stormwater runoff, the project is providing an attractive and functional greenspace to the Art House property. See photo below and interpretive signage on next page.

Art House Executive Director Laila Voss recently noted that “The results of Green Infrastructure project were transformative—not just for the Art House property, but for Denison Avenue as well. The two city lots are no longer in a blank, passive state. Rather they have become a place full of life and color, a frontage that welcomes passersby and participants to our programs and events. The

GIG is helping Art House, Inc. to fully realize a long-standing vision—the Creative Garden: an active outdoor classroom, a space for gatherings, and a beautiful respite for the community.”

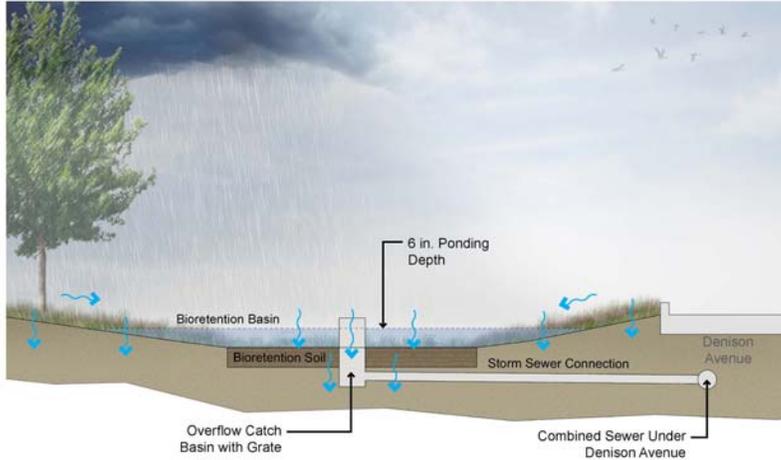
The project was funded through the Northeast Ohio Regional Sewer District’s Green Infrastructure Grant (GIG) Program. The program funds green infrastructure projects that remove stormwater runoff from the District’s combined sewer service area. Additional funding is being secured by Art House to enhance the project with amenities including artwork, fencing, and lighting. We plan to report later this year on other GIG projects that are in the pipeline for funding and implementation in 2025.

Art House Green Campus,
3119 Denison Ave., Cleveland,
with one of two bioretention
basins shown in foreground
– June 2023



ART HOUSE, INC. GREEN INFRASTRUCTURE GARDEN

FEATURES OF A BIORETENTION BASIN



CAN YOU IDENTIFY THESE PLANTS THAT ARE IN THE BIORETENTION AREA?



Asclepias tuberosa 'Hello Yellow'
Hello Yellow Butterfly Weed



Echinacea 'Prima Ginger'
Prima Ginger Coneflower



Iris sibirica 'Caesar's Brother'
Caesar's Brother Siberian Iris



Santolina ericoides
Lavender Cotton

WHY IS GREEN INFRASTRUCTURE IMPORTANT?

Green infrastructure is a range of stormwater control measures that use plant/soil systems, permeable pavements, or stormwater harvesting to capture, store, and treat stormwater runoff. This project demonstrates how Green Infrastructure stormwater control measures like bioretention and permeable pavement might be incorporated into other public and private properties to better manage stormwater runoff. Permeable pavement systems consist of a permeable pavement surface layer and one or more underlying gravel layers designed to temporarily store and infiltrate stormwater.

WHAT IS BIORETENTION?

Bioretention areas are stormwater cells or basins that use soil, mulch, and vegetation as a natural filtration device to remove pollutants and nutrients from stormwater runoff. This bioretention area improves water quality by utilizing bioretention soil which is a specialized planting soil with a higher sand content that supports infiltration.

THE BIORETENTION PROCESS

1. Clean stormwater runoff through soil filtration.
2. Infiltrate stormwater runoff into the soil.
3. Reduce the amount of runoff into combined storm sewers and Lake Erie.

SITE PLAN



Art House interpretive signage. For more information about the next phase of Art House's Creative Garden visit www.arthouseinc.org/projects-3

HELP PROTECT AND IMPROVE THE WATERSHED WITH YOUR DONATION

Special thanks to these 2023 supporters:

Northeast Ohio Regional Sewer District

West Creek Conservancy

General Motors

Kenneth Moss

Chris Hopkins

Only with the generosity of our community members can we continue to protect, improve, and connect with our environment.

Please consider a donation to help us make a lasting difference in our watershed communities in the coming year.

Secure credit card payment at bigcreekconnects.org or scan code.

If you prefer, mail your contribution with your name, address, phone & email:

Big Creek Connects, P.O. Box 609272, Cleveland, OH 44109

Corporate Sponsorships available.

Big Creek Connects (aka Friends of Big Creek) is a greenway advocacy and watershed stewardship 501(c)(3) non-profit organization.

To conserve, enhance, and bring recognition to the natural and historic resources in and around the Big Creek Watershed and develop a recreational trail network that connects these resources to each other and the community.



SCHOOL STREAM MONITORING PROGRAM

During 2023, program partners hosted five stream monitoring events with three high schools and one elementary school, with a total of over 300 students participating. The events took place in Cleveland Metroparks' Memphis Picnic Area where the two main branches of Big Creek converge. The site is ideal for comparing how differences in land uses for the East Branch and West Branches of Big Creek affect water quality.

In May we hosted Maple Heights High School students on two different dates. In September we hosted Lakewood High School students, new to the program. In October we hosted another set of Maple Heights High School students one day, and two new schools together on another day – Berea High School and East Cleveland Elementary School students. In December, follow-up classroom sessions by BCC staff were held with Maple Heights High School students.

The program introduces students to watershed stewardship and the application of science, technology, and engineering with professionals in the field. It combines monitoring of the biological, chemical, and physical characteristics of the two branches of the creek with site tours examining the natural and man-made environments within the park.



Maple Heights High School students at chemical stations



Berea High School students sorting and scoring macroinvertebrates

The program is funded by a General Motors Community Impact Grant, awarded annually to Big Creek Connects. The GM Parma Plant's environmental "E-Team" assists the students with studying chemical parameters of water samples, while Cuyahoga Soil & Water Conservation District staff assists with their assessing stream habitat, and Northeast Ohio Regional Sewer District staff guides their identification of macroinvertebrates.

Cleveland Metroparks, Cleveland Museum of Natural History, and West Creek Conservancy staff lead the students on the site tours. Big Creek Connects staff and board members coordinate the program and help fill in any gaps. Program partners are looking forward to another full set of outings beginning in May of 2024.

Lakewood High School group photo



East Cleveland Mayfair Elementary and Berea High School group photo



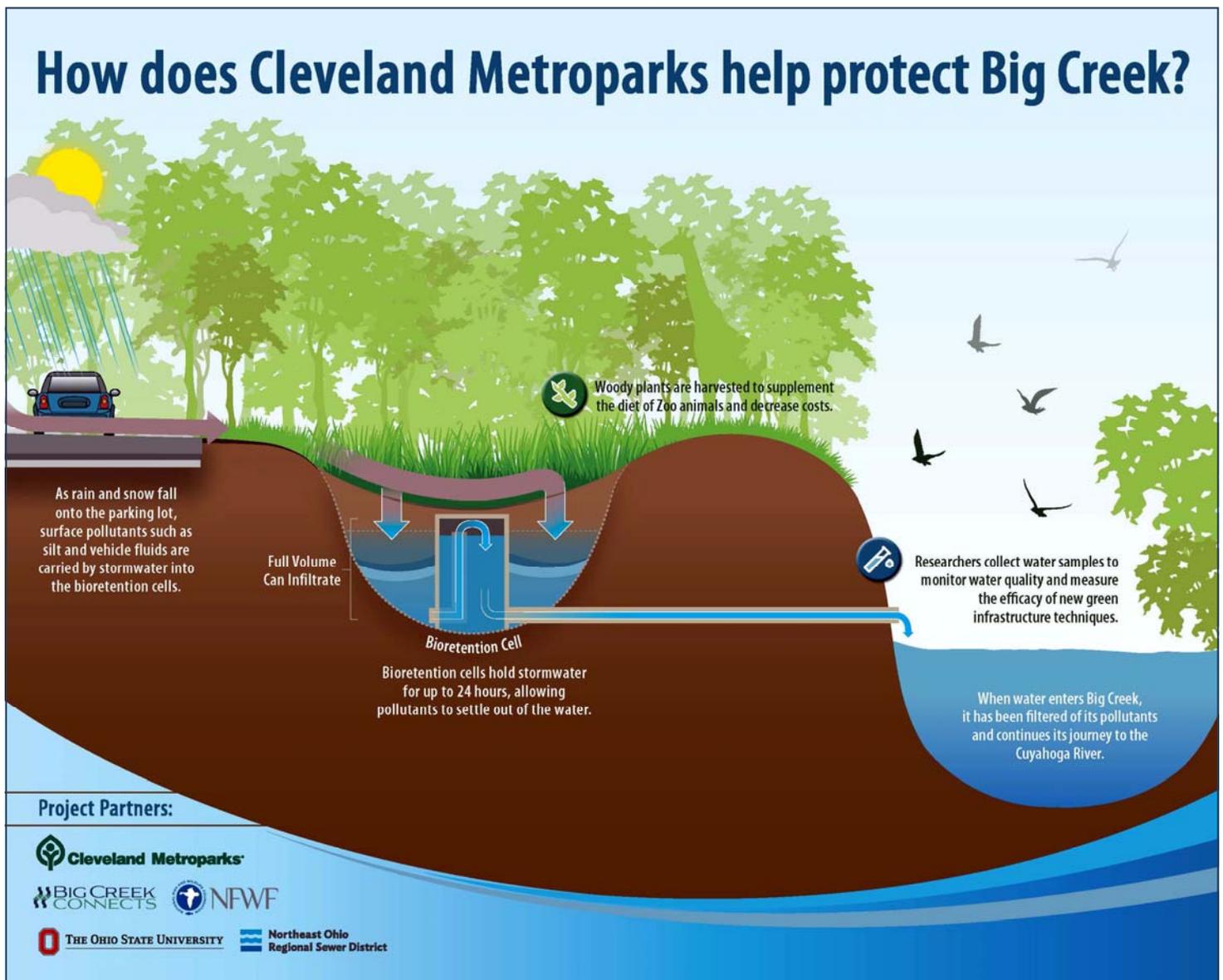
Four vegetated bioretention cells were installed in 2021 to manage stormwater runoff in Brookside Reservation and, after two full seasons of growth, are functioning as intended. The cells are located in the large parking lot adjacent to the Reservation's Football/Soccer Fields where runoff was contributing 2.5 million gallons annually of untreated stormwater to Big Creek. Initial estimates were for an increase of stormwater infiltration of 58%. However, its success rate is significantly greater than anticipated.

Jennifer Grieser, Cleveland Metroparks Director of Natural Resources noted recently that "With OSU's technical expertise, we were excited to

measure the amount of stormwater captured by the new bioretention cells in the 3.2-acre parking lot at Brookside. Results indicated that some cells capture 71% (turf grass) to 89% for the native grass/sedge and the native forb [broad-leafed, non-woody plant] cells. Data also showed that [although] very little pollutants (Nitrogen, Phosphorous, Suspended Sediment) ran off the parking lot without treatment, now the water will be even cleaner before it enters Big Creek."

In addition to its environmental impacts to Big Creek, the bioretention cells contribute aesthetic value to the large parking expanse and are a unique source of browse material for Zoo animals.

Below: Interpretive signage at Brookside parking lot. Please see also photo on next page.





Ohio Spiderwort within the native forb bioretention cell. The monitoring station is in the brown box in the background.

Photo by Cleveland Metroparks

ABOUT BROOKSIDE RESERVATION

The historic Brookside Reservation is a green oasis in the heart of Cleveland's near-west side. As one of the oldest parks in the city, it has contributed value as a recreational destination while containing natural features that provide respite. In October, BCC hosted a tour where participants learned from guest speakers about the park's history, Big Creek's hydrology, and a created wetlands complex in the park. Similar tours within the Big Creek watershed will be announced later this year.

In the meantime, be sure to visit Brookside in mid-April when the Yoshino cherry trees along its famed Cherry Grove are in full bloom. The trees run along John Nagy Boulevard, beginning near the park's entrance off Ridge Road. To learn more about the trees and other park features visit clevelandmetroparks.com/parks/visit/parks/brookside-reservation.



Participants on a tour in Brookside Reservation listen to NEORS's Michael Blair as he stands next to Big Creek's modified spillway.



Scan the code to sign up for email notifications of upcoming events.

Ours is a low-volume email list. We will never give out your information. You can opt-out at any time.

Two large cleanup efforts are held annually every spring for Big Creek. Each May, Big Creek Connects assists **Canalway Partners** with their annual RiverSweep by coordinating over 80 volunteers at the Big Creek/Lower Harvard staging area. Six teams are sent out from there along Big Creek, the Cuyahoga River, and adjacent roadways. **This year's RiverSweep will be held Saturday, May 4.**

Also, each spring Big Creek Connects, in partnership with **Cuyahoga Soil & Water Conservation District** and other partners, coordinates over 150 volunteers from three staging areas in the upper part of the watershed. The staging sites and cleanup areas include Cleveland Metroparks Snow Road Picnic Area—covering Big Creek's East Branch in Parma Heights and Parma from Stumph Road to Brookpark Road; Brooklyn Fire Station—covering the lower East, Upper Main, and Stickney Branches in Brooklyn from Brook-

park Road to I-71 and Ridge Road; and Cleveland's Brookfield Park—covering the West and Chevy Branches in Cleveland's Bellaire-Puritas neighborhood. **This year's event will be held Saturday, June 1st and will mark the 25th anniversary of the Annual Big Creek Watershed Clean Up.**

The cleanup of trash in our local streams improves water quality and wildlife habitat and adds aesthetic value. It also helps remove plastics that can entangle or become consumed by wildlife as they travel downstream to larger rivers, lakes and eventually, our oceans. In addition, as plastics degrade, microplastics end up posing a serious threat to both the environment and through human consumption. To help make a difference and set an example for others, consider volunteering for a Big Creek or other stream cleanup this year.



24th Big Creek Watershed Clean Up – April 2023. Pictured above: Volunteers including Boy Scout Troop 319 at Brooklyn Fire Station site. Below: Volunteers at Cleveland Metroparks Snow Road Picnic Area
Please see more cleanup champions on the next page!





Some of the volunteers at Big Creek/Lower Harvard cleanup staging site.
In a crouch - M. E. Stasek, BCC Board Chair.



General Motors Parma Metal Center volunteers
with BCC's Executive Director Bob Gardin.



BIG CREEK 2024 CALENDAR

- **Parma Heights 3rd Annual Earth Day Event** **Saturday, April 27, 1–4:00 p.m.**
Greenbrier Commons. Food vendors.
- **RiverSweep Clean-up – Canalway Partners** **Saturday, May 4, 9–11:00 a.m.**
Big Creek: Lower Harvard/Jennings site. Refreshments by Canalway Partners.
Info and register at: <https://www.canalwaypartners.com/events/2024/05/04/riversweep>
- **25th Annual Big Creek Watershed Clean Up** **Saturday, June 1, 9–11:30 a.m.**
3 locations: Snow Road Picnic Area, Brooklyn Fire Station, Cleveland Brookfield Park.
Pizza.

More to come!



P.O. Box 609272
4352 Pearl Road, Suite C
Cleveland, Ohio 44109

Board of Directors

- Mary Ellen Stasek, Chair
- Garrett Ormiston, Vice Chair
- Roger J. Kalbrunner, Esq., Secretary
- David McBean, RLA, Treasurer
- Greg Cznadel
- Ann M. Kuula
- Jeffrey Lennartz
- Dale Smith
- Stacey Staub, Esq.

info@bigcreekconnects.org
www.bigcreekconnects.org

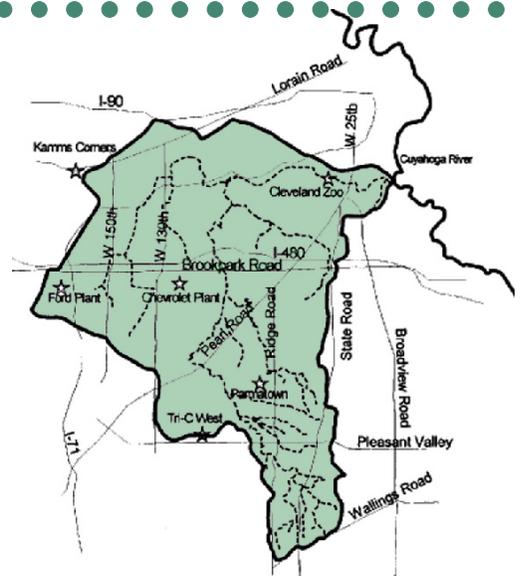


Executive Director

- Bob Gardin
- 216.269.6472 mobile
- 216.264.9780 office
- bgardin@bigcreekconnects.org

Advisory Committee

- Gayle Albers, Manager, Conservation Stewardship Specialist, Cleveland Metroparks
- Sean Brennan, Ohio House of Representatives District 14
- Donna Friedman, Manager of Community Watershed Coordination, Northeast Ohio Regional Sewer District
- Jane Goodman, Director, Cuyahoga River Restoration / Area of Concern, Retired
- Jennifer Heard, Chief Civil Engineer, Cleveland Division of Water Pollution Control
- Jim McCall, Chair, Parma Heights Planning Commission
- Melissa Miller, Assistant Director and Community Development Director, Bellaire-Puritas Development Corporation
- Kathleen Pucci, Member, Brooklyn City Council
- Rory Robinson, Outdoor Recreation Planner, Rivers, Trails, and Conservation Assistance, National Park Service, Retired
- Jim Rokakis, Senior Advisor, Ohio Land Bank Association
- Derek Schafer, Executive Director, West Creek Conservancy
- Jeffrey T. Verespej, Chief of Staff & Operations, Cleveland Neighborhood Progress



Big Creek is the 3rd largest tributary of the Cuyahoga River. Its watershed contains over 130 miles of streams and culverts. Together they drain nearly 39 square miles from 8 municipalities - Cleveland, Brooklyn, Linndale, Parma, Parma Heights, Brook Park, Middleburg Heights, and North Royalton. Over 90% of the watershed's area has been developed and 39% of the land surface has been made impervious, making Big Creek the most heavily urbanized watershed of any major tributary in the Cuyahoga River Watershed. This degree of urbanization provides tremendous challenge...and opportunity.