

RECAP OF 2020

As 2020 comes to a close, we want share with you some of our accomplishments during the year and to thank you for your ongoing support. With the COVID-19 pandemic, this has been a challenging year. We have been limited with scheduling clean-ups and other events involving or engaging with the community. And most of our popular stream monitoring programs with local school students have been put on hold. However, we have continued to work with West Creek Conservancy, Cleveland Metroparks, the Northeast Ohio Regional Sewer District, and other partners on our stream restoration and green infrastructure projects.



In this newsletter, we update you on some of those projects, showcase our watershed signage project, explore how stormwater in our watershed functions, and provide a guide for our year ahead. We also want to thank our supporters for the work we've been able to accomplish and wish everyone a healthy and prosperous new year.

GREEN INFRASTRUCTURE AND STREAM RESTORATION UPDATES

The Caribe Bakery Green Infrastructure Project is nearly complete, while groundbreaking for the Barrio Distribution Center Green Campus project should begin in the fall of 2021. Under management by project partner West Creek Conservancy, the Stickney Creek Restoration project in Brooklyn's Memorial Park should be breaking ground in February.

Cleveland Metroparks' Brookside parking lot project will break ground in the spring, where bioretention cells will manage stormwater runoff entering Big Creek. BCC is playing a small part in the project with financial assistance and outreach efforts.

See our fall 2019 newsletter (<http://bigcreekconnects.org/newsletters/BCCnewsFall2019.pdf>) to learn more about these projects before we give updates on them later in 2021.



Caribe Bake Shop & Restaurant, 2906 Fulton Rd. Please turn to the next page to see one of the bilingual interpretive signs installed on the site.

CAPTURA DE AGUAS PLUVIALES *CAPTURING STORMWATER*

¿QUÉ SON LAS AGUAS PLUVIALES? Las aguas pluviales son cualquier agua que caiga del cielo, incluida la lluvia, el granizo y la nieve. En un paisaje natural sin desarrollo, las aguas pluviales se empapan en el suelo o caen en vías fluviales, dando el agua necesaria a las plantas y animales, y rellenando las aguas superficiales y subterráneas. En los paisajes urbanos, las aguas pluviales caen sobre superficies duras como techos, calzadas y caminos que no absorben agua. El agua pluvial se mueve a través de estas superficies duras, recoge la contaminación y transporta la contaminación a las alcantarillas combinadas locales. Si una cantidad excesiva de aguas pluviales ingresa al alcantarillado combinado, puede causar inundaciones localizadas y enviar agua contaminada directamente a nuestros ríos, lagos y arroyos.

WHAT IS STORMWATER? Stormwater is any water that falls from the sky, including rain, hail, and snow. In a natural landscape without development, stormwater is soaked into the ground or falls into waterways, giving needed water to plants and animals and replenishing surface water and groundwater. In urban landscapes, stormwater falls onto hard surfaces like roofs, driveways, and roads that do not absorb water. Stormwater moves across these hard surfaces, picks up pollution, and carries the pollution into local combined sewers. If too much stormwater gets into the combined sewer, it can cause localized flooding and send polluted water directly into our rivers, lakes, and streams.

¿QUÉ ES LA INFRAESTRUCTURA VERDE?

La infraestructura verde ayuda a que las áreas desarrolladas actúen más como paisajes naturales, imitando los procesos naturales para absorber las aguas pluviales en el suelo, donde son absorbidas y filtradas por el suelo y la vegetación. La infraestructura verde en esta plaza permite que la escorrentía de aguas pluviales penetre en los suelos arenosos que se encuentran debajo de la plaza, evitando que entre en la alcantarilla combinada local. Menos agua pluvial enviada al alcantarillado combinado ahorra energía y costos de procesamiento en la planta de tratamiento de aguas residuales. La infraestructura verde también reduce el estrés en las alcantarillas públicas y minimiza las reservas combinadas de alcantarillado e inundaciones y disminuye la cantidad de contaminación que de otro modo fluiría hacia vías fluviales como el Lago Erie.

WHAT IS GREEN INFRASTRUCTURE?

Green infrastructure helps developed areas act more like natural landscapes, mimicking natural processes to soak stormwater into the ground where it's absorbed and filtered by soil and vegetation. The green infrastructure in this plaza allows stormwater runoff to soak into the sandy soils below the plaza, keeping it from entering the local combined sewer. Less stormwater sent to the combined sewer saves energy and processing costs at the wastewater treatment plant. Green infrastructure also reduces stress on public sewers and minimizes combined sewer backups and flooding and lessens the amount of pollution that would otherwise flow into waterways like Lake Erie.

A special thanks to Metro West Community Development Organization for translation services



Above: one of the educational signs at Caribe Bake Shop

ART HOUSE GREEN CAMPUS

Another exciting green infrastructure project in the works is the Art House Green Campus Project. Art House, Inc. is a non-profit arts center located on Denison Avenue in the Brooklyn Centre neighborhood on Cleveland's west side. Its mission is to inspire exploration and expression through the visual arts. Art House, in partnership with Big Creek Connects and West Creek Conservancy, selected project consultant AECOM to build upon Art House's initial planning study for their "Art Park" while incorporating green infrastructure elements into its design.

Project partners solicited community input during its concept design phase of the project prior to a submission for a NEORS D Green Infrastructure Grant in October. Due to reduced funding availability in 2020 only a few projects were awarded grants this year, but project partners will be re-submitting a grant request in 2021.



COMMUNITY OUTREACH

Although community engagement and education efforts were limited this year, we did hold a virtual tour of the Brooklyn Oxbow area as part of the annual RiverDay event in May. A video presentation with BCC's Bob Gardin and archaeologist Dr. Roy Larick explained the natural and historic features of the area – the shale cliffs as remnants of an ancient sea, through the carving of the Big Creek



valley with the last glacial retreat, to the landscape we see today as a result of the construction of I-71 and the altering of the Big Creek channel. You can watch the video at https://youtu.be/pa_QCSldvzs.

BCC assisted CanalWay Partners with their RiverSweep clean-up in September by coordinating their Big Creek/Lower Harvard site with a limited number of attendees that were able to make an impact in the collection of a surprising amount of debris.



We were able to hold a stream monitoring event with about 50 Brooklyn students in October where social distancing was practiced. The students weren't able to get up close but were able to watch BCC staff from a distance collect water samples and test for some of the more basic chemical and biological qualities.

The biennial Greater Cleveland Trails & Greenways Conference that we planned for June 2020 is being rescheduled for 2021 using a virtual format with site tours. Due to the number of exciting projects happening in

the city of Cleveland, site tours will again be featured in the city, building on some of the sites explored during the 2018 conference.

Looking Towards the New Year

In the spring, we'll report further on the restoration and green infrastructure projects as well as conservation and trail efforts in the watershed with our partner West Creek Conservancy. At that time, we also hope to be able to re-schedule our clean-ups, plantings, educational meetings, tours, and school monitoring programs.

In the meantime, please consider making a year-end contribution to help us kick-off the new year! We appreciate your support and know that what we're able to accomplish would not be possible without you.

BIG CREEK SIGNAGE PROJECT



Perhaps you have noticed blue & white Big Creek crossing and watershed boundary signs along major streets on the west side of Cleveland and adjacent suburbs to the south this fall? A total of 96 signs are the result of the Big Creek Signage Project, undertaken by Big Creek Connects to enhance the public's awareness of the watershed in which they live and to encourage good stewardship of our valuable streams and land-uses within the watershed. In addition to helping identify the various and often confusing branches of Big Creek, the signage identifies the boundary of the Big Creek and adjacent watersheds.

The adjacent watersheds, also known as drainage basins, include Rocky River to the west and south, West Creek to the east, Chippewa Creek to the southeast, and Walworth Run to the north. All these streams, other than the Rocky River, are tributaries to the Cuyahoga River. The Cuyahoga and Rocky, in turn, are major tributaries to Lake Erie. The Big Creek watershed, at 38 square miles in size, encompasses all or parts of several communities including North Royalton, Parma, Parma Heights, Brook Park, Brooklyn, and Cleveland. Most of the watershed's northern boundary follows a fossil beach ridge upon which Denison Avenue in Cleveland now lies. Lake Whittlesey, a precursor to Lake Erie, created this ridge about

13,500 years ago during the last glacial retreat. The beach ridge created the lower Big Creek valley, diverting the north-flowing creek eastward to join the Cuyahoga River.

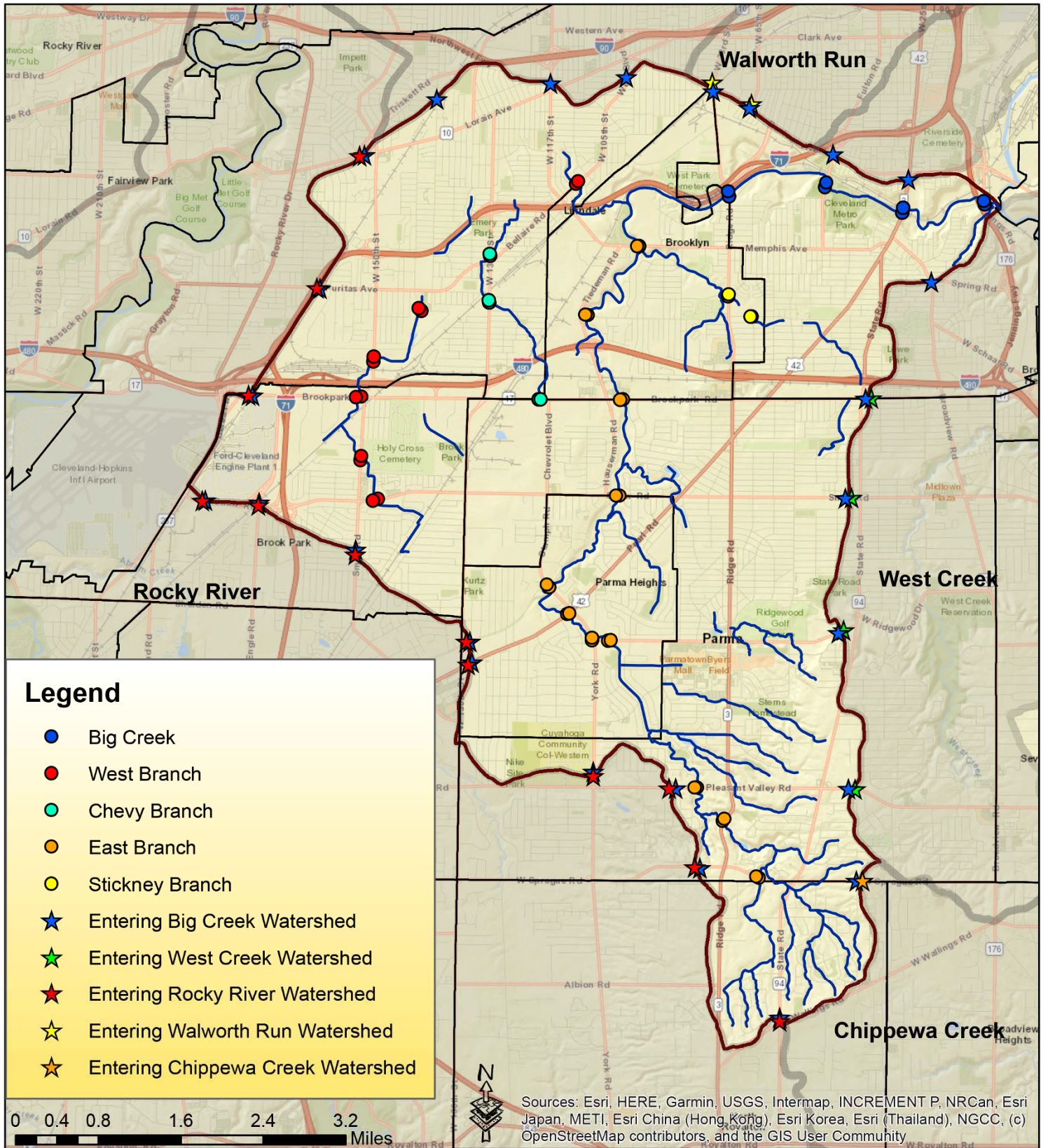
Big Creek enters the Cuyahoga just east of Jennings Road near lower Harvard Avenue after traversing through several cities, beginning with the 8.5 mile long East Branch's headwaters in North Royalton. From there it passes through Parma, Parma Heights, and Brooklyn, where it merges with the Stickney Branch. The 6-mile long West Branch begins in Brook Park and traverses through the Bellaire-Puritas neighborhood where it meets with the Chevy Branch. From there it continues through the Jefferson and West Boulevard neighborhoods where much of it is culverted as it turns east to meet with the East Branch in Cleveland Metroparks' Memphis Picnic Area to form the main branch of Big Creek.

During its last 4 miles, Big Creek runs parallel along I-71 in a concrete channel before passing through Metroparks' Brookside Reservation and the Zoo, where part of it is culverted before opening up again, on its way to the Cuyahoga River. Big Creek in the lower valley, east of Ridge Road, acts as a border between Cleveland's Old Brooklyn neighborhood to the south and the city's Stockyards and Brooklyn Centre neighborhoods to the north. Although the signage project focused on the larger streets where the boundaries of Big Creek and its main branches cross, we hope this project encourages the public to explore its tributaries of all sizes as they become more familiar with the watershed.

Please see the map of sign locations on the next page or visit <http://bit.ly/BCsignmap>.



Big Creek Watershed Signage



City of Cleveland
City of Brook Park



City of Parma
City of Brooklyn



City of Parma Heights
City of North Royalton



Northeast Ohio Regional
Sewer District
Protecting Your Health and Environment

STORM AND WASTEWATER IN THE BIG CREEK WATERSHED

Ever wonder where our storm and wastewater in Big Creek and other watersheds goes? You may know that stormwater runoff and sanitary waste are handled separately in our homes and other buildings. But beyond these buildings, did you know that there are two main types of sewer systems? They are known as separate and combined sewer systems. In newer urban communities, stormwater is handled separately from wastewater, with the latter going directly to a wastewater treatment plant. The stormwater coming off our streets, parking lots, and roof downspouts, however, goes directly to our streams, picking up pollutants with little or no treatment.

In larger and older cities like Cleveland and parts of its inner suburbs, much of the runoff from stormwater enters a combined sanitary-stormwater sewer system where both sources get diverted to a water treatment plant. The Big Creek Interceptor, running parallel to Memphis Avenue, captures most of the combined sewerage from Cleveland's Big Creek neighborhoods to carry it eastward to the Northeast Ohio Regional Sewer District's (NEORS) Southerly Water Treatment Plant in Cuyahoga Heights.

During large rain events combined systems can get overwhelmed, however, requiring Combined Sewer Overflow structures, where raw sewage can enter our streams and Lake Erie. Several CSOs exist along the West and Main Branches of Big Creek. Other CSO locations exist in the Cuyahoga River, Rocky River, Mill

Creek, Doan Brook, Euclid Creek, and along the lakefront.

CSOs are being greatly reduced in volume and frequency though, as municipalities are required to capture potential overflow with underground storage tunnels before slowly releasing them to a treatment plant. The Big Creek Storage Tunnel, projected to be completed in 2034, will be one of several tunnels the NEORS is in the process of constructing. Even with this increased storage capacity however, reducing runoff into a *combined* sewer system is as important as doing so in a *separate* storm sewer system where most of the surface runoff enters a stream directly. Undertaking measures to capture and infiltrate stormwater are important in both types of systems to reduce pollution loads, flooding, and erosion.

There are many measures that can be taken to reduce the volume and pollutant load entering our streams and Lake Erie. These include projects like those featured in this newsletter where efforts are being made to capture, detain, infiltrate and filter stormwater, whether by restoring our streams and natural areas or through green infrastructure. Another way is by raising watershed awareness through educational programs or stream signage projects, for example. However, there are many other measures and best management practices that communities, businesses, homeowners, and individuals can take towards good land and stream stewardship. In our next newsletter, we will further explore these measures.



HELP PROTECT AND IMPROVE THE WATERSHED WITH YOUR DONATION

Only with the generosity of our community members can we continue to protect and improve our environment. Please consider a donation to help us make a lasting difference in our watershed communities in the coming year.

Send your contribution with your name, address, phone & email. Make checks payable and mail to:
Big Creek Connects, P.O. Box 609272, Cleveland, OH 44109.

Corporate Sponsorships available.

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

Secure credit card payment is available online at bigcreekconnects.org.

THANK YOU FOR MAKING A DIFFERENCE!

BRIGHTON PARK AND BIG CREEK TRAIL CONNECTIONS

Cleveland Metroparks, Old Brooklyn Community Development Corporation, and Western Reserve Land Conservancy are nearing completion of Brighton Park on the former Henninger Landfill site in the Old Brooklyn neighborhood of Cleveland. Brighton was the name of the community during the early 1800's that was later incorporated as South Brooklyn before being annexed by the City of Cleveland. The former landfill, just east of Pearl Road on the south ridge of the lower Big Creek valley, used to take in construction debris before its closing resulted in limited uses. The project will create about 25 acres of passive greenspace with a trailhead that, using

neighborhood streets, will provide access to Jennings Road and the Towpath via the Treadway Trail.

Big Creek Connects is continuing to work with West Creek Conservancy exploring a Big Creek Valley trail, from the Towpath to the Zoo, and potentially Brookside Reservation, that will connect with the neighborhoods north of the valley as well as with Brighton Park. Since exploring trail alternatives in the late 1990's, public input has favored keeping a trail in the valley between these destinations while providing neighborhood connections on both sides of the valley. BCC, WCC and other project partners are committed to realizing this vision.



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



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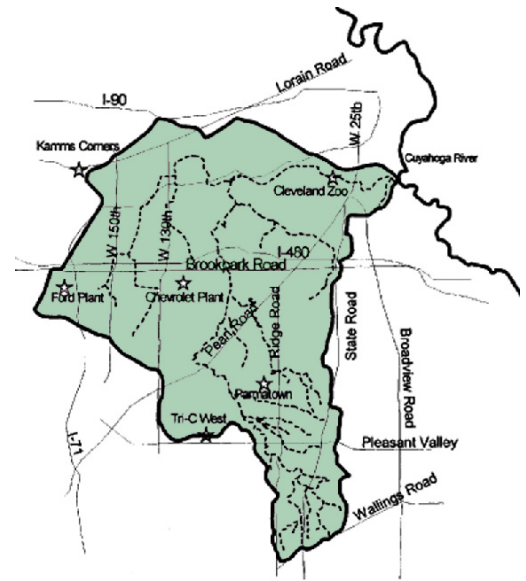
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Big Creek is the 3rd largest tributary of the Cuyahoga River. Its watershed contains over 130 miles of streams and culverts. Together they drain nearly 39 square miles from 8 municipalities - Cleveland, Brooklyn, Linndale, Parma, Parma Heights, Brook 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.

BIG CREEK CONNECTS
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