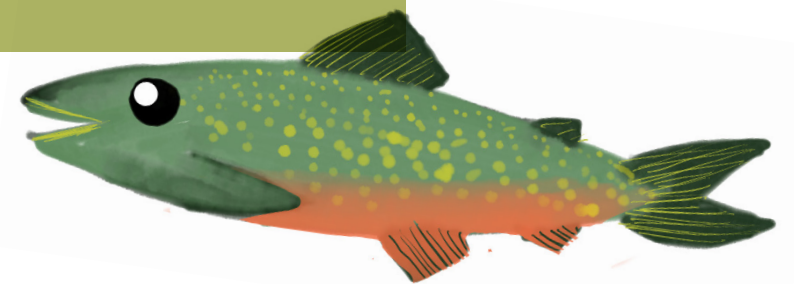




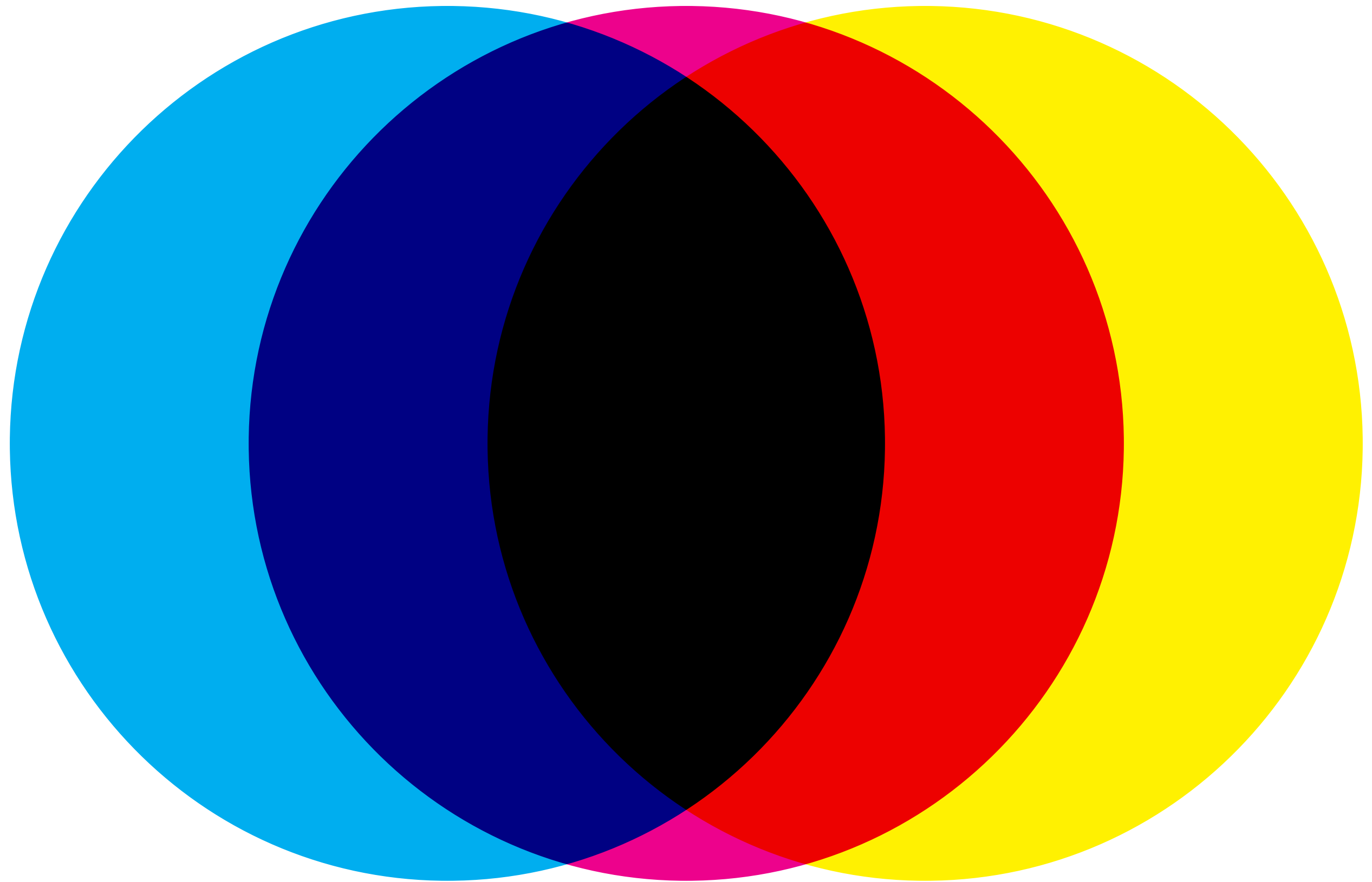
Bushkill Creek Greenway

Master Plan



Wildlands Conservancy

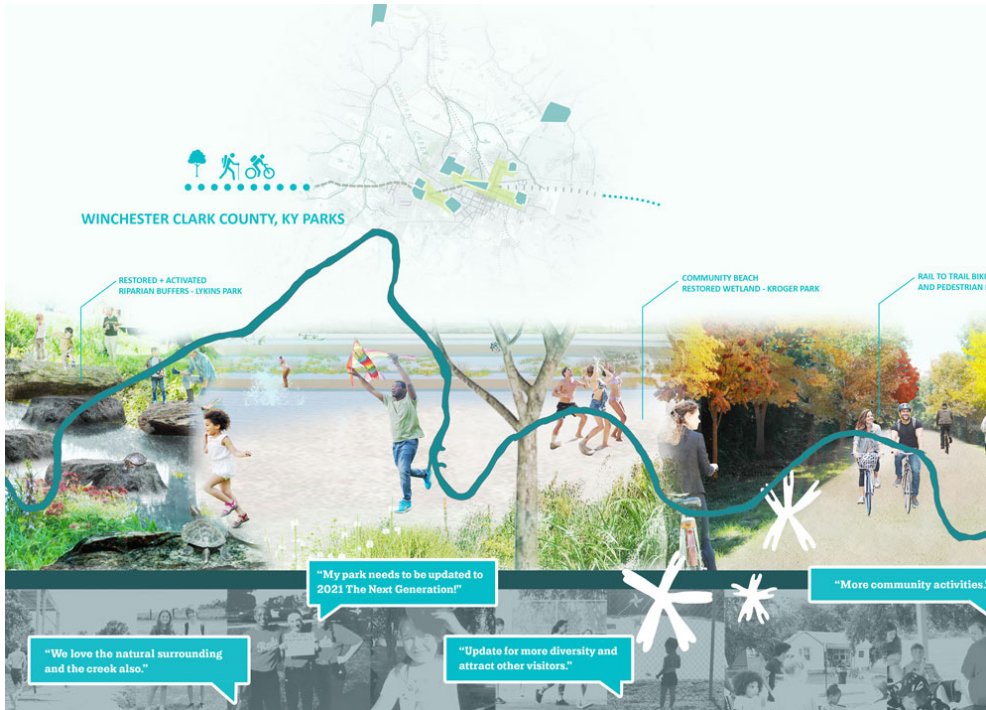
akrf



All, everybody, together

Breadth of Experience

PLANNING & URBAN DESIGN



WINCHESTER PARKS & OPEN SPACE MASTER PLAN: WINCHESTER, KY

PUBLIC ENGAGEMENT



EASTON POCKET PARKS MASTER PLAN: EASTON, PA

TRAILS & STREETSCAPES



WINOOSKI PARKS & OPEN SPACE MASTER PLAN: WINOOSKI VT

PLAZAS & URBAN PARKS



ARTSWALK: ALLENTOWN, PA

RESILIENCY & RESTORATION



SOUNDVIEW PARKS MASTER PLAN: BRONX, NY

MIXED-USE DEVELOPMENTS



1600 W. GIRARD DEVELOPMENT: PHILADELPHIA, PA

Breadth of Experience

WILDLANDS CONSERVANCY



Wildland Conservancy's mission is to protect and restore critical natural areas and waterways, and educate the community to create a legacy of a healthy, sustainable environment for future generations. Their vision is for a Lehigh Valley and Lehigh River Watershed that contain expansive natural areas, connected green spaces, healthy waterways and an enlightened community where people embrace conservation and sustainability.

AKRF

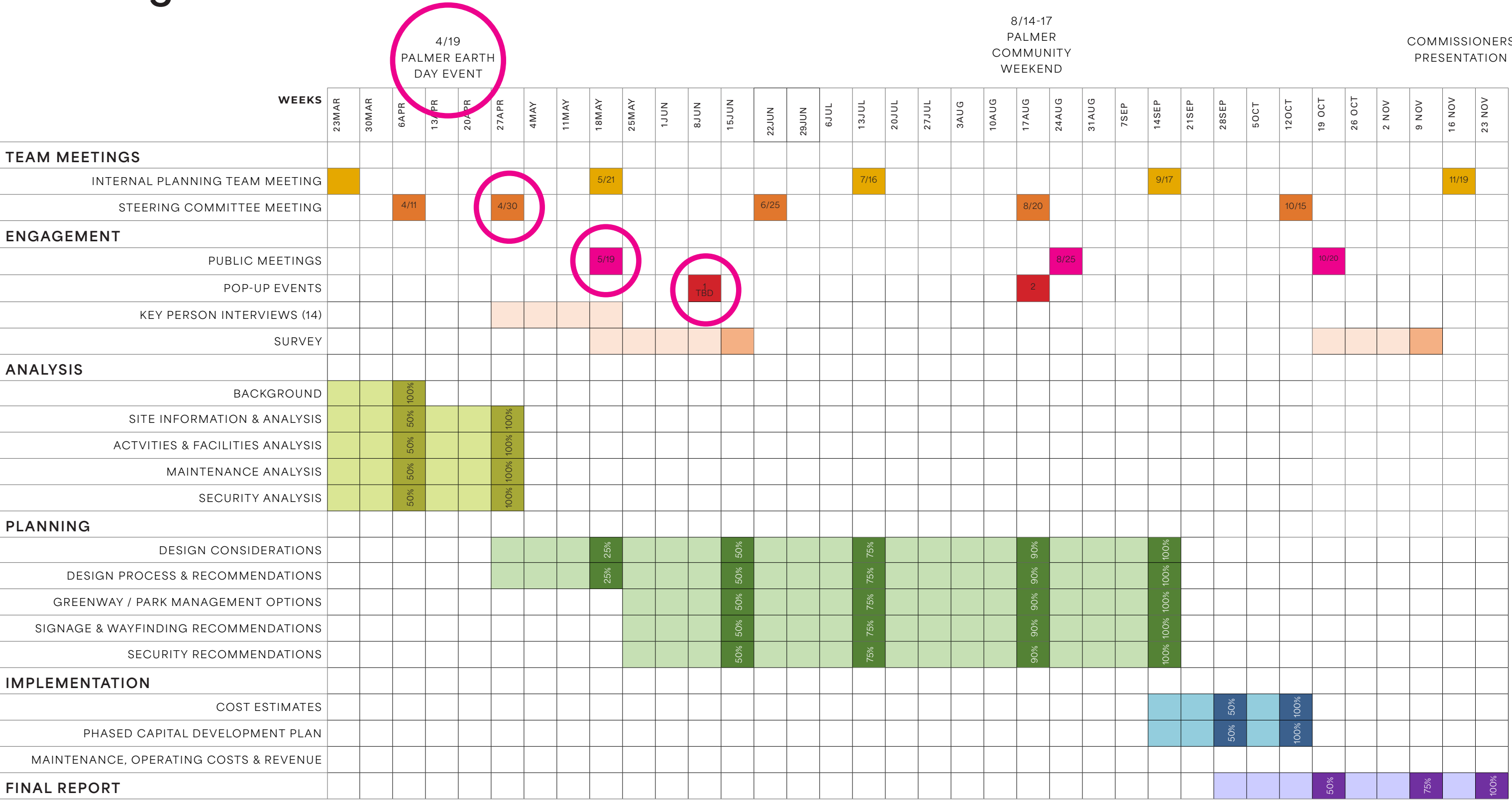


AKRF, Inc. is a multidisciplinary consulting firm specializing in landscape, engineering, planning, and environmental services. Founded in 1981, they bring together the talents of nearly 400 employees throughout the Mid-Atlantic and Northeast. Specifically in Pennsylvania, they have over 60 professional staff spread across offices in Pittsburgh, Harrisburg, and Philadelphia.

Planning Schedule

[illegible]

Planning Schedule



Project Goals from RFP

- **MITIGATE FLOODING** - Address significant flooding events in creekside parks and gateway intersections.
- **UPDATE FACILITIES** - Update existing parks facilities, including those identified in the National Wetland Inventory, to enhance safety and usability.
- **DEMONSTRATE EXEMPLARY ACCESSIBILITY** - Ensure all parks, trails, facilities, and creek access areas are ADA-compliant and inclusive for all residents and visitors.
- **ENHANCE MULTI-USER RECREATION EXPERIENCE** - Evaluate overlapping and conflicting park uses and make recommendations that improve the experience for all of the different user groups.
- **SUPPORT TRAIL SYSTEM CHANGES** - Strengthen the Palmer Bikeway/Two Rivers Trail system, particularly as it serves the September 11th National Memorial Trail.
- **PROTECT HABITAT & ENHANCE RESILIENCE** - Protect and enhance the creek's habitat to withstand the potential effects of global climate change.
- **COMMUNICATE LOCAL HISTORIC & CULTURAL SIGNIFICANCE** - Reveal the historic and cultural significance of the area through creative storytelling of archival research.

Group Discussion

1. What are your goals/aspirations for the greenway planning process?



Group Discussion

- 1. What are your goals/aspirations for the greenway planning process?**
- 2. What are challenges or opportunities for the greenway?**




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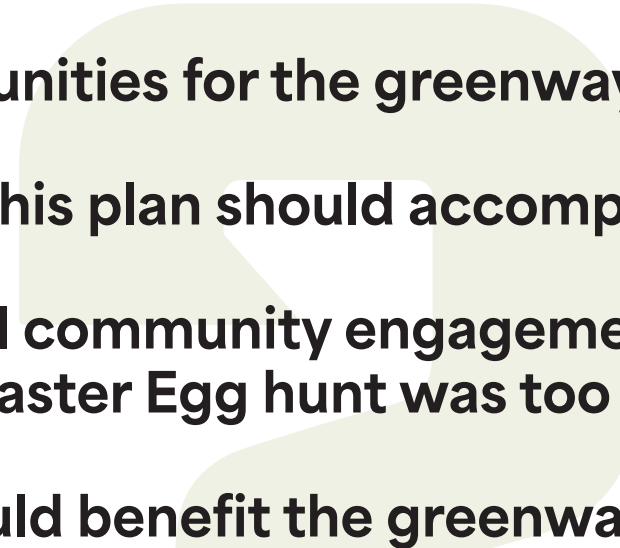
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- 3. What are the top three things this plan should accomplish?**



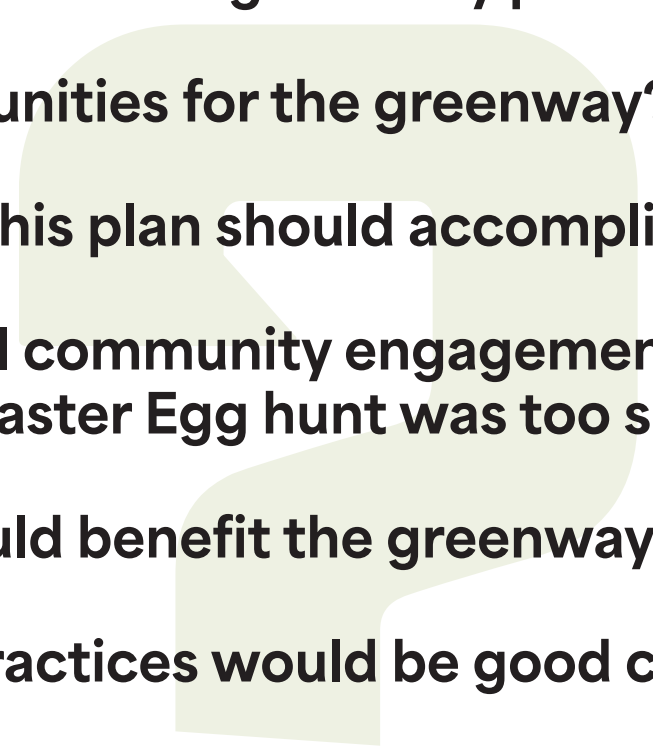
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 - 4. Do you have ideas for impactful community engagement events that Omnes could attend for Pop-Up No. 1? [the Easter Egg hunt was too soon!]**
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Group Discussion

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- 5. Are there partnerships that could benefit the greenway and its users?**
- 6. What inspirational projects / practices would be good case studies for the team to know about?**
- 7. Anything else you would like us to know?**

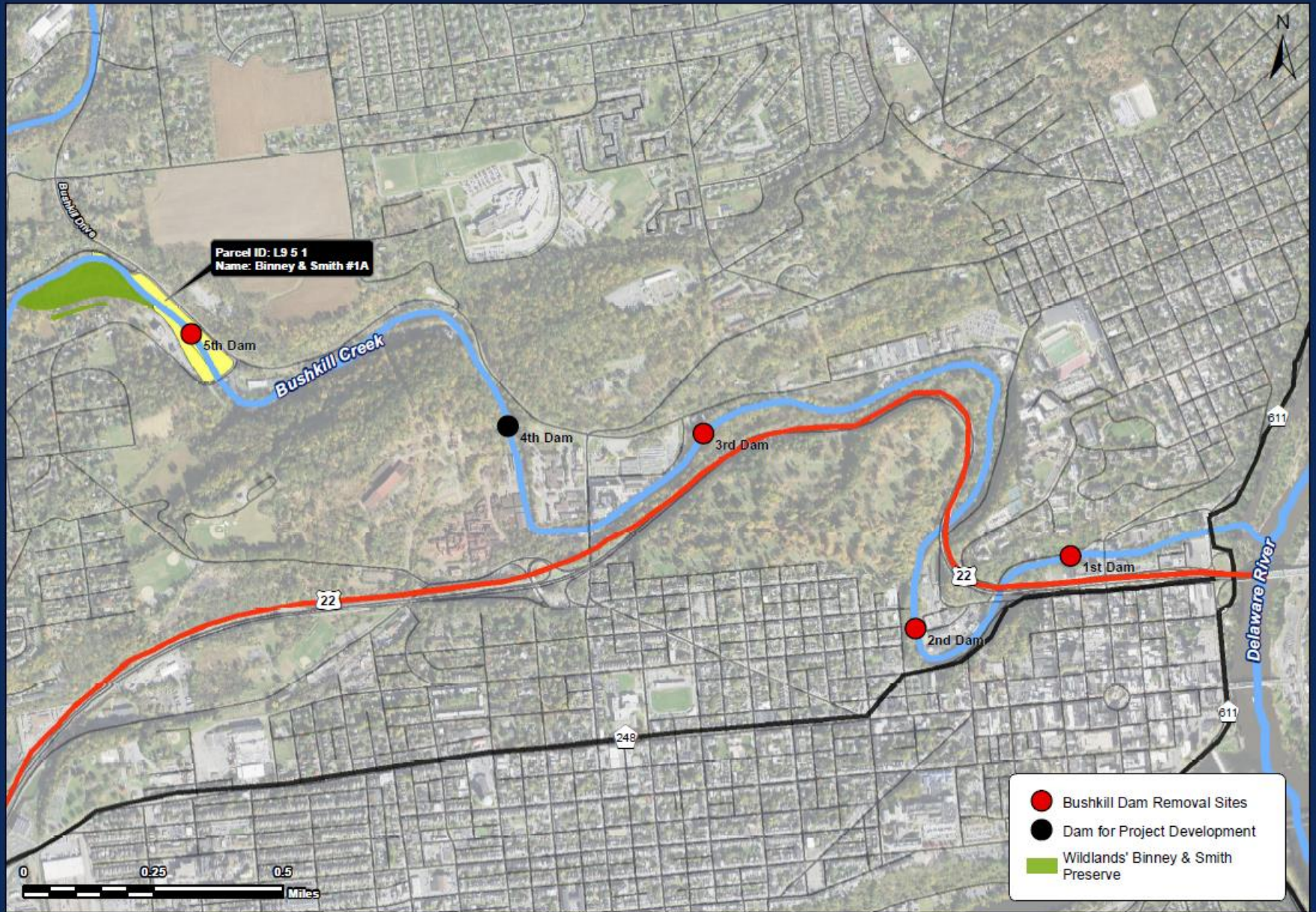
Great Things Happening in the Bushkill Creek!

Since 2020, approx. \$3 million of funding and over 15 partners supported stream restoration in the Bushkill Creek

- **Accomplishments:**

- Restoring fish passage and aquatic connectivity for fish & freshwater mussels:
 - For the first time in over a century, miles of the Bushkill Creek are unobstructed and connect to the Delaware River and Atlantic Ocean. **Six dams will be removed by 2026 to restore passage of more than 6 miles.**
- Instream habitat restoration
 - **Restored over 2 miles** of the Bushkill through instream habitat structures and stream bank stabilization (partially funded by LVG)
 - An additional **1 mile** of instream habitat is in development
- Riparian Buffer Restoration
 - Established over **2 acres of native riparian buffer** and managed invasive species
 - **Planted 500 trees and over 4,000 herbaceous plugs**

Bushkill Creek Dam Removal Projects



Dam Removal Efforts

Restoring Natural Stream Function

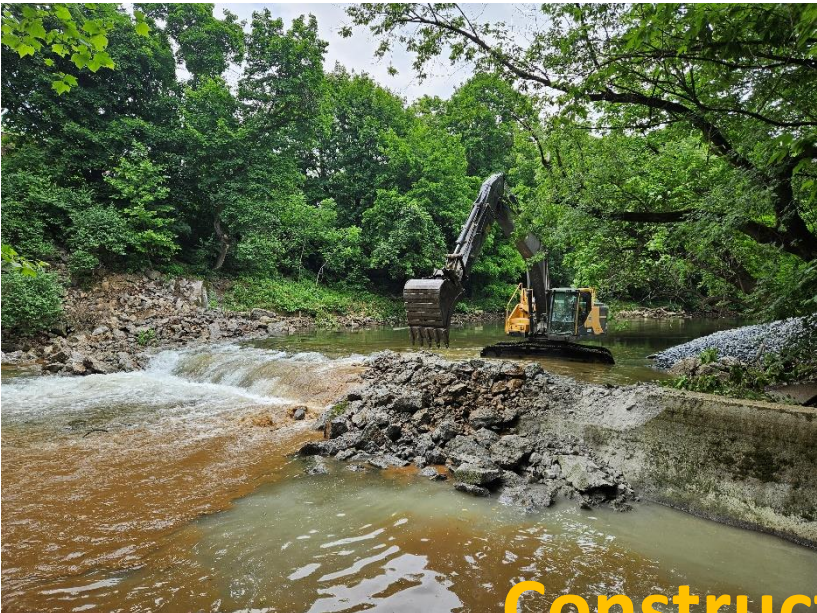


- **ENVIRONMENTAL & RECREATION:** Removal greatly improves water quality and habitat, which would greatly improve fishing opportunities. Restoring streambanks to their natural slope address erosion and sedimentation.
- **FISH PASSAGE & FRESH WATER MUSSEL RESTORATION:** Removal connects aquatic habitat for fresh water mussels and aquatic organisms, and restores fish passage for migratory & resident species
- **FLOODING:** Restoring the streambanks and floodplains creates more storage and reduces flooding frequency and severity.
- **PUBLIC SAFETY:** Removing dams eliminates a public safety hazard

City of Easton (Dam #2) Construction Photos



Construction Day 1



Construction Day 2

City of Easton (Dam #2) – 1 Month After Removal



Photo by Princeton Hydro



Riffle forming where dam was removed



Stabilizing Infrastructure Upstream of Bushkill Dam #2



Photo by Princeton Hydro

2021 Crayola Dam Removal



- Completed dam removal adjacent to Bushkill trail and Wildlands' Preserve
- Working with partners as a Phase 2 to install instream habitat structure and further enhance habitat – partially funded through DCNR



Outreach strategies over the years = supported projects



Freshwater mussels, the focus of a recent initiative in filtering and purifying water, are essential to the ecosystem. Near Lafayette, however, their species into Bushkill Creek, a watershed encompassing 40 square miles from Riker Mountain to the Delaware River in Easton, has been blocked for more than 100 years after a series of dams was constructed for milling. Due to dam and water pollution, freshwater mussels everywhere are facing a troubling future. According to the U.S. Fish and Wildlife Service, more than 70% of approximately 300 species in North America are considered endangered, threatened, or of special concern. Thankfully, over the past few months, a Lafayette-supported project led by the Wildlands Conservancy, an innovative non-profit government agency and conservation organization, has been removing dams to remedy the waterway, restore freshwater mussels, and improve the overall health of the creek. Nearly 20 years in the making, the project emerged from a legal settlement arising from a 2005 coal ash slurry spill at a coal-fired power plant on the Delaware River about 10 miles north of Easton. The nearly \$1 million mitigation settlement

EASTON

Removal of dams on Bushkill Creek in Easton is underway

Updated: Jul. 07, 2023, 4:18 p.m. | Published: Jul. 07, 2023, 4:07 p.m.



Partners in an ecological restoration project led by Wildlands Conservancy look on as a crew with Flyway Excavating begins Friday, July 7, 2023, to remove the dam on the Bushkill Creek just upstream from North Third Street

'The creek's flowing again': Easton dam removed as part of Bushkill Creek restoration

LehighValleyNews.com | By Molly Bilinski

Published June 5, 2024 at 1:26 PM EDT



Bushkill Creek freely flowing into the Delaware River: How that's expected to make for a healthier ecosystem

Bo Koltzow Jun 4, 2024 0

Demolition starts on third Bushkill Creek dam in Easton

Updated: Jun. 04, 2024, 4:23 p.m. | Published: Jun. 04, 2024, 4:12 p.m.



An excavator removes chunks of a dam Tuesday, June 4, 2024, on the Bushkill Creek behind Easton's 500 Bushkill Drive public works complex as part of a waterway restoration project coordinated by Wildlands Conservancy. Kurt Bresswein | For lehighvalleylive.com

Project Partners for Bushkill Dam Removals

Large Partnership effort:

Landowners: Lafayette College, City of Easton, Private Landowners.

Project Manager: Wildlands Conservancy

Agencies: Delaware River Basin Commission (DRBC), Pa Fish & Boat Commission (PFBC), Pa Department of Environmental Protection (Pa DEP), National Fish and Wildlife Foundation, PennDOT, UGI, Easton Area Joint Sewer Authority

Conservation partners: American Rivers, Forks of the Delaware Trout Unlimited, Bushkill Stream Conservancy, Delaware River Shad Fisherman's Association, Northampton County

Project funders: Northampton County, National Fish and Wildlife Foundation, mitigation funds administered by Delaware River Basin Commission (DRBC), PA Department of Environmental Protection (PA DEP), PA Department of Conservation and Natural Resources (PA DCNR).



Press Coverage of Bushkill Dam Removals

2023:

[Removal of dams on Bushkill Creek in Easton is underway - lehighvalleylive.com](https://www.lehighvalleylive.com/news/2023/05/23/removal-of-dams-on-bushkill-creek-in-easton-is-underway/)

<https://www.lehighvalleynews.com/easton/easton-dam-demolitions-begin-reconnecting-bushkill-delaware-for-first-time-in-a-century>

[With an interdisciplinary spirit, Lafayette supports Bushkill Creek's restoration · News · Lafayette College](https://www.lafayettecollege.edu/news/2023/05/23/with-an-interdisciplinary-spirit-lafayette-supports-bushkill-creek-s-restoration)

[Dam removal continues at Bushkill Creek | Video | wfmz.com](https://www.wfmz.com/news/2023/05/23/dam-removal-continues-at-bushkill-creek/)

[Delaware River Basin Commission | Dam Removal on the Bushkill Creek: Reconnecting Tributary & River \(nj.gov\)](https://www.nj.gov/dep/riverbasincommission/dam-removal-on-the-bushkill-creek-reconnecting-tributary-and-river)

[Wildlands Conservancy and Partners Restore and Enhance Bushkill Creek in Northampton County – Wildlands Conservancy \(wildlandspa.org\)](https://www.wildlandspa.org/news/2023/05/23/wildlands-conservancy-and-partners-restore-and-enhance-bushkill-creek-in-northampton-county)

2024 (Bushkill dam removal #2):

<https://www.lehighvalleylive.com/outdoors/2024/06/demolition-starts-on-third-bushkill-creek-dam-in-easton.html>

https://www.wfmz.com/news/area/lehighvalley/bushkill-creek-freely-flowing-into-the-delaware-river-how-thats-expected-to-make-for-a/article_daefbc9e-22b7-11ef-9999-b76b03e9639e.html

https://www.lehighvalleynews.com/environment-science/the-creeks-flowing-again-easton-dam-removed-as-part-of-bushkill-creek-restoration?utm_source=piano&utm_medium=email&utm_campaign=weekday-headlines-nl&pnespid=t6g2VyJMKKBD1.DF9yuvFJSAoQisRMJ9Kbjk0_g58BlmZ.cxCpT97zy1u43GhHArdpqINQPsrw





Bushkill Stream Conservancy Bushkill Creek Restoration & Habitat Enhancement



- Restoration along 1.9 miles of stream adjacent to trail network and public parks
- Completed in partnership with Bushkill Stream Conservancy, TU, with funding through LVG





- Expanding native riparian buffers and pollinator habitat along the Bushkill Creek
- Continue post planting invasive species management & monitoring