



**ALLEGHENY  
LAND TRUST**

---

# Big Sewickley Creek Watershed

Rivers Conservation & Stewardship Plan

---

**“That land is a community is  
the basic concept of ecology,  
but that land is to be loved and respected  
is an extension of ethics.”**

*- Aldo Leopold*



# **ALLEGHENY LAND TRUST**

## **PROJECT:**

**PREPARED BY:** Allegheny Land Trust

## **ADDRESS**

416 Thorn St  
Sewickley, PA 15143

## **AUTHOR**

**Alyson Fearon**

Senior Director of Community Conservation & Resiliency,  
Allegheny Land Trust

Master of Sustainability & Master of Business  
Administration, Chatham University

B.S. in Environmental Science- Sustainability Concentration,  
AMU

## **FUNDERS**



### **Rivers Conservation Program**

*"This project was financed in part by a grant from the Community Conservation Partnerships Program, Keystone Recreation, Park and Conservation Fund, under the administration of the Pennsylvania Department of Conservation and Natural Resources, Bureau of Recreation and Conservation."*

Thank you to **Bell Acres Borough** for being our fiscal sponsor for the DCNR funding, as well as all your support along the way.

**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

**RESOLUTIONS** (in alphabetical order by Municipality)

**BOROUGH OF BELL ACRES  
ALLEGHENY COUNTY, PENNSYLVANIA  
RESOLUTION NO. 01112021**

**A RESOLUTION OF THE BOROUGH OF BELL ACRES, COUNTY OF ALLEGHENY, COMMONWEALTH OF PENNSYLVANIA CLOSING OUT COMMUNITY CONSERVATION PARTNERSHIPS GRANT PROJECT (BRC-RCP-23-172)**

**WHEREAS**, the Borough of Bell Acres has prepared Rivers Conservation & Stewardship Plan ("Plan") for the Big Sewickley Creek Watershed; and

**WHEREAS**, the purpose of the Plan is to produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed ("BSCW") that results in a better public understanding of: (1) the watershed's natural and cultural assets; (2) the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; (3) the conflicting interests in land use and potential resolutions to those conflicts; and (4) the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate; and

**WHEREAS**, the Plan was financed in part by a Community Conservation Partnerships Program grant under the administration of the Pennsylvania Department of Conservation and Natural Resources ("DCNR"), Bureau of Recreation and Conservation, under contract number **BRC-RCP-23-172**; and

**WHEREAS**, the Borough of Bell Acres entered into a subcontract with the Allegheny Land Trust ("ALT") using the DCNR template form whereby ALT provided the required matching funds and fund administration.

**NOW, THEREFORE, BE IT HEREBY RESOLVED** by the Borough Council of the Borough of Bell Acres that:


- a. The project was completed in accordance with the Grant Agreement.
- b. All project expenditures have been made and were in accordance with the Grant Agreement.
- c. The Plan and related materials are acceptable to the Borough of Bell Acres.
- d. The Plan and related materials will be used to guide future rivers conservation decisions.
- e. The Borough of Bell Acres requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.

**ADOPTED** this 11th day of January, 2021.

**ATTEST:**

**BOROUGH OF BELL ACRES**

  
Secretary

By:   
David Renfrew, President of Council



**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 |  
ALLEGHENY LAND TRUST**

**Resolution No. 2021-11**

**A RESOLUTION OF THE BOARD OF SUPERVISORS OF  
THE TOWNSHIP OF CRANBERRY, COUNTY OF BUTLER,  
ADOPTING THE BIG SEWICKLEY CREEK RIVERS  
CONSERVATION & STEWARDSHIP PLAN AND  
NOMINATING THE WATERWAY TO THE RIVERS  
REGISTRY**

**WHEREAS**, A small portion of the Big Sewickley Creek Watershed is located in the south western portion of Cranberry Township; and

**WHEREAS**, Cranberry Township has reviewed the Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed; and

**WHEREAS**, the purpose of the Plan is: To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BSCW) that results in a better public understanding of: the watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.


**WHEREAS**, the objectives of the Conservation Plan are generally consistent with the Cranberry Plan and the general objective of the Township.

**NOW, THEREFORE, BE IT HEREBY RESOLVED** by the Board of Supervisors of Cranberry Township that:

- a. The Big Sewickley Creek Watershed Rivers Conservation & Stewardship Plan and related materials will be used to guide future rivers conservation decisions.
- b. Cranberry Township requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.


**RESOLVED AND ADOPTED** this 28th day of January, 2021.

**ATTEST:**



Daniel D. Santoro, Township Manager

**BOARD OF SUPERVISORS**

By: 

Richard M. Hadley, Chairman

**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

BOROUGH OF FRANKLIN PARK

**RESOLUTION NO. 1253-2021**

**A RESOLUTION ADOPTING THE BIG SEWICKLEY CREEK RIVERS CONSERVATION & STEWARDSHIP PLAN AND NOMINATING THE WATERWAY TO THE RIVERS REGISTRY**

**WHEREAS**, the Borough of Franklin Park (Municipality) has participated in preparing a Rivers Conservation & Stewardship Plan for the Big Sewickley Creek Watershed and,

**WHEREAS**, the purpose of the Plan is: To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BSCW) that results in a better public understanding of: the watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.

**NOW, THEREFORE, BE IT HEREBY RESOLVED** by the Borough Council (Governing Body) of the Borough of Franklin Park (Municipality) that:

- a. The Big Sewickley Creek Watershed Rivers Conservation & Stewardship Plan and related materials will be used to guide future rivers conservation decisions.
- b. The Borough of Franklin Park (Municipality) requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.

ADOPTED THIS 17th DAY OF February, 2021, by the

Borough of Franklin Park

(Name of governing body and name of grantee)

James W. Hogg, President

(Signature, name and title of chief official,  
president, or chairperson)

Attest: Cathy L. Krummert Cathy L. Krummert, Secretary  
(Signature and title)

**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 |  
ALLEGHENY LAND TRUST**

RESOLUTION NO. 01-20-02

A RESOLUTION OF THE HARMONY TOWNSHIP COMMISSIONERS, BEAVER COUNTY, PA. ADOPTING THE BIG SEWICKLEY CREEK RIVERS CONSERVATION AND STEWARDSHIP PLAN AND NOMINATING THE WATERWAY TO THE RIVERS REGISTRY.

WHEREAS, HARMONY TOWNSHIP has participated in preparing a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed and,

WHEREAS, the purpose of the plan is : To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BCSW) that results in better public understanding of : the Watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.

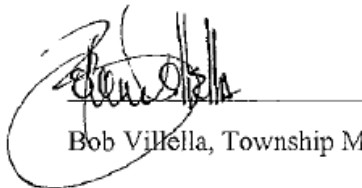
NOW, THEREFORE BE IT RESOLVED by the Harmony Township Commissioners that:

- A) Big Sewickley Creek Watershed Rivers Conservation & Stewardship Plan and related materials will be used to guide future rivers conservation decisions.
- B) The Harmony Township Commissioners requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.

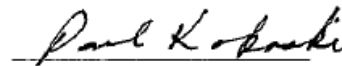
ADOPTED THIS 20th day of January, 2021 by the HARMONY TOWNSHIP BOARD OF COMMISSIONERS.

ATTEST

HARMONY TOWNSHIP

A handwritten signature in black ink, appearing to read 'Bob Villella', is written over a horizontal line.

Bob Villella, Township Manager

A handwritten signature in black ink, appearing to read 'Paul Kokoski', is written over a horizontal line.

Paul Kokoski, President

Board of Commissioners

**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

RESOLUTION NO. 03-2021-02

**A RESOLUTION ADOPTING THE BIG SEWICKLEY CREEK RIVERS CONSERVATION & STEWARDSHIP PLAN AND NOMINATING THE WATERWAY TO THE RIVERS REGISTRY**

WHEREAS, Leetsdale Borough (Municipality) has participated in preparing a Rivers Conservation & Stewardship Plan for the Big Sewickley Creek Watershed and,

WHEREAS, the purpose of the Plan is: To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BSCW) that results in a better public understanding of: the watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Council (Governing Body) of Leetsdale Borough (Municipality) that:

- a. The Big Sewickley Creek Watershed Rivers Conservation & Stewardship Plan and related materials will be used to guide future rivers conservation decisions.
- b. Leetsdale Borough (Municipality) requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.

ADOPTED THIS 11<sup>th</sup> DAY OF March, 2021, by the

Leetsdale Borough  
(Name of governing body and name of grantee)

[Signature] Council President.  
(Signature, name and title of chief official, president, or chairperson)

Attest: Jennifer Suilek, Borough Secretary  
(Signature and title)



**BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 |  
ALLEGHENY LAND TRUST**

OFFICIAL

**TOWNSHIP OF MARSHALL  
RESOLUTION NO. 980**

**A RESOLUTION OF THE TOWNSHIP OF MARSHALL, ALLEGHENY COUNTY, PENNSYLVANIA, ADOPTING THE BIG SEWICKLEY CREEK RIVERS CONSERVATION & STEWARDSHIP PLAN AND NOMINATING THE WATERWAY TO THE RIVERS REGISTRY.**

**WHEREAS**, Marshall Township has participated in preparing a Rivers Conservation & Stewardship Plan for the Big Sewickley Creek Watershed and,

**WHEREAS**, the purpose of the Plan is: To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BSCW) that results in a better public understanding of: the watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.

**NOW, THEREFORE, BE IT HEREBY RESOLVED** by the Supervisors of the Township of Marshall that:

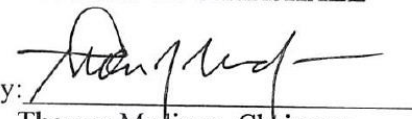
- a. The Big Sewickley Creek Watershed Rivers Conservation & Stewardship Plan and related materials will serve as a resource in connection with future rivers conservation decisions.
- b. The Township of Marshall requests that rivers, river segments or tributaries defined in the Plan above be listed on the Pennsylvania Rivers Registry.

**ADOPTED** this the 22<sup>nd</sup> day of February 2021 by the Board of Supervisors of the Township of Marshall.

**ATTEST:**

  
Sheryl Snyder  
Township Secretary  
(Seal)

**TOWNSHIP OF MARSHALL**

By:   
Thomas Madigan, Chairman  
Board of Supervisors





# BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

Thank you to our additional financial partners:

ALLEGHENY FOUNDATION



Foundation for Pennsylvania Watersheds



Bradford Woods Conservancy



Borough of Leetsdale



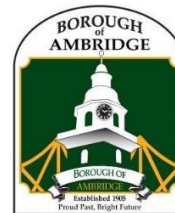
Marshall Township



Sewickley Valley Community Fund



Little Sewickley Creek Watershed Association



Borough of Ambridge



Franklin Park Borough



Leet Township

## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

### **ACKNOWLEDGEMENTS**

#### **STUDY COMMITTEE MEMBERS**

##### **Municipal Representatives**

*Ambridge Borough*

Joe Kauer, Manager

*Bell Acres Borough*

Charlie Kulbacki, Manager

*Economy Borough*

Randy Kunkle, Manager

*Franklin Park Borough*

Rege Ebner, Manager

*Harmony Township*

Bob Villella, Manager

*Leet Township*

Betsy Rengers, Manager

*Marshall Township*

Bill Campbell, MTMSA Manager & GIS  
Coordinator

*Municipalities Not Participating*

Bradford Woods Borough, Cranberry Township,  
Leetsdale Borough, New Sewickley Township,  
Sewickley Hills Borough

##### **Organizational Representatives**

*Allegheny County Conservation District*

Amy Miller, Watershed Specialist and Watershed  
Program Lead

*Allegheny Watershed Alliance*

Rebecca Zeyzus, Municipal Stormwater Program  
Lead

*Allegheny County Economic Development*

*Planning Division*

Kay Pierce, Manager (Retired during the project  
duration)

Will McLain, Planner

*Beaver County Conservation District*

Marty Warchol, Watershed Specialist (Retired  
during the project duration)

Hannah Schrauder, Watershed Specialist  
(formerly West Nile Virus Technician)

*Beaver County Planning*

Dan Distler, Environmental Planner

*Butler County Conservation District*

Ryan Harr, Watershed Resource Specialist

*Southwestern Pennsylvania Commission- Water  
Resources Center*

Erin Kepple-Adams, Water Resources Manager

##### **Consulting Representatives**

*Pennsylvania House of Representatives District 28*

*State Representative Turzai's Office*

Sarah Bresnahan Kennedy, District Director

*Pennsylvania Fish and Boat Commission*

Mike Depew, Fisheries Biologist 2/Asian Carp  
Coordinator

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

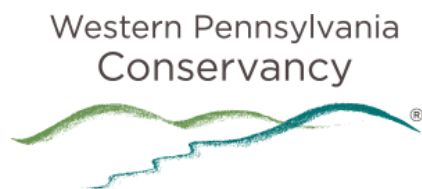
### CONSULTANTS



Karen Finlan, Senior Environmental Consultant  
Evan Teeters, Professional Geologist  
Tony Moscatello, Geologic Specialist



Heather Cuyler, Recreation Planner



Jeff Wagner, Director  
Ephraim Zimmerman, Science Director  
Jessica McPherson, Botanist



Emily Mercurio, President & CEO  
Matt Mercurio, Vice President & CTO  
Christian Gass, Vice President & COO  
Tal Cohen, Geospatial Analyst



Chris Kubiak (Avian Survey)

### CONTRIBUTING RESEARCHERS/ EDITORS

*In addition to our contracted professionals, the following individuals have made a significant contribution to the final report.*

#### *Fish Community Assessment*

**Researcher- Dr. Brady Porter-** Associate Professor & Director of Undergraduate Studies, Bayer School of Natural and Environmental Sciences, Duquesne University

**Researcher- Dr. Roy Weitzell-** Aquatic Laboratory Director, Falk School of Sustainability & Environment, Chatham University

## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

*Assistance with Macroinvertebrate Sampling and Identification*

**Alani Taylor**- Entomologist

*Municipal Ordinance Review and Municipal Communication Survey*

**Research Intern- Aaron Gould**- 2020 BSCW Intern, Master of Public Administration Candidate, Graduate School of Public & International Affairs, University of Pittsburgh

**Contributing Author and Editor- Roy Kraynyk**- Vice President of Land Protection & Capital Projects, Allegheny Land Trust

### **KEY ASSISTANCE- SPECIAL THANKS**

*Beaver County Planning Commission*

**Frank Vescio**, Planning Assistant/ GIS Coordinator

*Beaver County Agricultural Preservation Board*

**Joseph Petrella Jr.**, Chairman/Administrator

*Assistance with Macroinvertebrate Sampling and Identification*

**Jessica Kester**- Former Vice President of Education for Allegheny Land Trust

**Evan Schmidt**- Allegheny Land Trust Environmental Educator

*Engaging New Watershed Stewards with Big Sewickley Creek through a Municipal Communication Project*

**Mary Wilson**- Master Watershed Steward Coordinator for Allegheny County, Penn State Extension

### **PHOTO CREDITS**

**Lindsay Dill**, Marketing Communications Director, Allegheny Land Trust

**Jessica McPherson**, Botanist, Pennsylvania Natural Heritage Program

**Dr. Brady Porter**- Associate Professor & Director of Undergraduate Studies, Bayer School of Natural and Environmental Sciences, Duquesne University

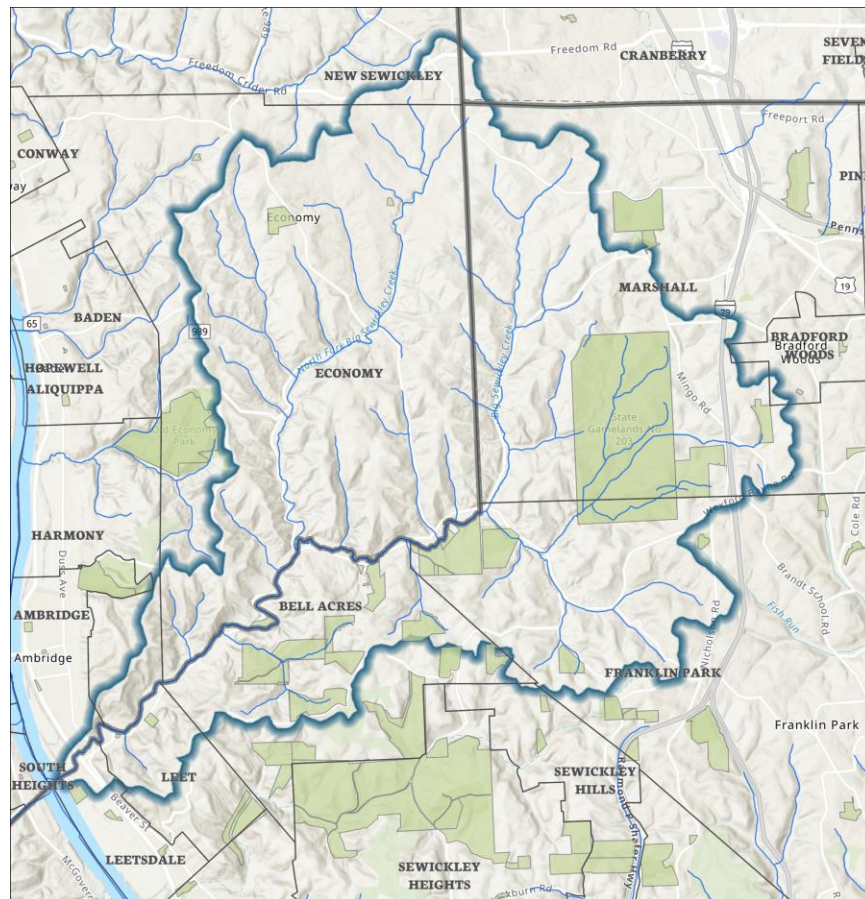


## **TABLE OF CONTENTS**

<b>EXECUTIVE SUMMARY .....</b>	<b>II</b>
<b>INTRODUCTION TO BIG SEWICKLEY CREEK WATERSHED.....</b>	<b>II</b>
PURPOSE OF THE PLAN .....	III
GOALS OF THE PLAN .....	IV
<b>APPROACH.....</b>	<b>IV</b>
<b>ISSUES, CONCERNS, CONSTRAINTS .....</b>	<b>IV</b>
PUBLIC PARTICIPATION .....	IV
DIGITAL SURVEY .....	V
NATURAL GAS AND OTHER DEVELOPMENT .....	VI
ILLEGAL DUMPING .....	VI
MUNICIPAL COMMUNICATION ACROSS THE WATERSHED .....	VI
<b>LAND, WATER, AND BIOLOGICAL RESOURCES .....</b>	<b>VI</b>
ECOLOGICAL OVERVIEW .....	VI
WATERSHED ECOLOGICAL ASSESSMENT RESULTS .....	VII
<b>RECOMMENDATIONS .....</b>	<b>IX</b>
PRIOR RECOMMENDATIONS .....	IX
MUNICIPAL ACTIONS .....	IX
COMMUNITY-BASED ACTIONS.....	XII
<b>IMPLEMENTATION STRATEGY .....</b>	<b>XIV</b>
<b>ACHIEVEMENTS .....</b>	<b>XVII</b>
THE BIG SEWICKLEY CREEK WATERSHED ASSOCIATION.....	XVII
NEW ALLEGHENY COUNTY RECORD OF SOUTHERN RED BELLY DACE.....	XVII

## **EXECUTIVE SUMMARY**

### **INTRODUCTION TO BIG SEWICKLEY CREEK WATERSHED**



*MAP 1: BIG SEWICKLEY CREEK WATERSHED*

Big Sewickley Creek is located in the Upper Ohio Basin Planning Area (20G) for the Pennsylvania State Water Plan. The watershed is approximately 30<sup>1</sup> square miles and is located in areas ranging from rural at the far edges of the watershed to industrial near where it meets the Ohio River. The watershed includes portions of 12 municipalities in three separate counties.

Big Sewickley Creek has 5 sub-watershed basins, North Fork, Cooney Hollow, Main Branch Big Sewickley Creek, East Branch and Rippling Run.

The watershed is rich with recreational and environmental assets with eight municipal parks, two Sportsman Associations, several privately protected conservation areas, and a 1,200-acre State Gamelands No. 203 within the watershed. Plenty of off-road trails are very popular with equestrians and mountain bikers, and road cyclists are often seen riding in groups with team colors on the local roads. Fishing holes and good water attract anglers of all ages on Opening Day of trout season, and the large tracts of green space are popular for small game and deer hunting. The watershed also contains critical habitat for several plant and animal species, as noted with the Six Natural Heritage Areas have recently been identified or reverified in 2020. The watershed is important for bird species, with a large great blue heron rockery along

---

<sup>1</sup> The previous study noted the watershed as 46 square miles, but the USGS StreamStats Program (54) has the watershed at 30 square miles.

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

the main branch of Big Sewickley Creek and more than 100 bird species have been identified in and around Linbrook Park.

### PURPOSE OF THE PLAN

**Purpose Statement:** To produce a Rivers Conservation and Stewardship Plan for the Big Sewickley Creek Watershed (BSCW) that results in a better public understanding of: the watershed's natural and cultural assets; the threats to water quality and property due to flooding, natural resource exploration, residential and commercial development, outdated municipal codes, infrastructure buildout, and other threats; of the conflicting interests in land use and potential resolutions to those conflicts; and the opportunities to maintain the watershed as a beautiful and healthy place to reside and recreate.

**Background:** The Big Sewickley Creek Watershed is approximately 30 square miles making it a large watershed relative to others in Allegheny County, with parts of 12 municipalities and three counties included in the overall area. Economy Borough (Beaver Co.) and Marshall Township (Allegheny Co.) have jurisdiction over the largest land area in the watershed. The headwaters reach from the Ohio River as far east as Bradford Woods Borough and Cranberry Township. The main branch of the creek is the boundary between Allegheny and Beaver Counties for the majority of its course, to its mouth at the Ohio River between Leetsdale and Ambridge. Given the number of municipal jurisdictions within the watershed and the lack of any known formal coordination of land use and zoning among them, the watershed remains in a relatively rural condition. Efforts to protect the watershed's assets by establishing a watershed association have come and gone over the years. *No watershed association existed when this project was launched.*

**Statement of Need:** Several land-use changes that may be detrimental to residents, wildlife, habitat, and water quality have occurred in the watershed since the 2010 Big Sewickley Creek Biological Assessment, Restoration and Protection Plan conducted by Blazosky Associates Inc. In the 2010 study, water quality ranges from "Excellent" in some tributaries to "Poor" in others.

The most significant change in land use in the watershed, that can have direct environmental effects, With the entrance of Marcellus Unconventional Gas exploration into the region, an increase in associated development activity has raised concerns within the watershed (See **Error! Reference source not found.** in the *Error! Reference source not found.* for full information). This development introduces new industrial operations and activities into the watershed and communities beyond where the well development is located. Primarily, well pad development has seen an increase in heavy equipment traffic on rural roads not constructed to withstand the level of use they now see. The well operations create potential for surface and groundwater contamination which is concerning because many residents in the watershed rely on private water wells. (For Full information please see *Natural Gas and Other Development*)

The second significant change is upstream housing development, that creates additional runoff that can impact downstream properties, stream bank conditions, and the volume and velocity of water flowing in the channel. Obstructions to the free flow of water can cause flooding, property damage, landslides and damage to public infrastructure.

A prescriptive plan is needed to investigate and address these and other matters, and to conceive recommendations to change the trajectory of activities that degrade the water and land resources; and to identify and recommend existing and new actions to support the activities that protect or maintain the attributes of the watershed such as its scenic rural character, recreational assets, wildlife habitat, water quality and the quality of life.

## **GOALS OF THE PLAN**

Rivers Conservation & Stewardship Plan Goals:

1. Raise awareness and increase cooperation among the 12 municipalities in the watershed to view the watershed as a natural planning unit;
2. Locate unique or exceptional recreational, cultural, natural amenities in the watershed and develop realistic strategies to protect them;
3. Improve the natural flow of water;
4. Identify natural lands that contribute to the watershed's recreation potential, natural beauty, water quality and flood control, and wildlife habitat;
5. Maintain water quality and reduce flood risk;
6. Promote (re)organization of a Big Sewickley Creek Watershed Association; and
7. Petition to have BSCW placed on the PA Rivers Registry.

## **APPROACH**

The Big Sewickley Creek Watershed has been assessed in the past, with the Big Sewickley Creek Watershed Assessment, Restoration, & Protection Plan completed in 2010. The focus of the 2010 work was to assess the health of the watershed through modified USDA Visual Assessments, water quality sampling, and macroinvertebrate sampling. (1) The study found that unmanaged stormwater is a significant concern for the watershed caused by the cumulative effect of unmanaged flows and improper encroachment into the natural floodplain and floodway of the stream channels.

*The Ecological Society of America defines ecology as "the study of the relationships between living organisms, including humans, and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them. Ecology also provides information about the benefits of ecosystems and how we can use Earth's resources in ways that leave the environment healthy for future generations." (71)*

Using the prior plan as the basis for a ten-year update to the watershed, field research focused on completing water quality sampling, macroinvertebrate sampling, and a fish community assessment using the same or equivalent parameters as the prior effort. To better acknowledge some of the natural features of the watershed a migratory and resident bird survey was completed by an independent expert and an Ecological Assessment focusing on rare plant communities was completed by the Pennsylvania Natural Heritage Program.

This study used *ecology* as a framework to view the interconnectedness of humans and nature in every aspect of this report. Starting with water quality as the basis for a food web, a macroinvertebrate survey, fish community assessment, plant survey and migratory and resident bird survey were completed.

Concurrently, a Geographic Information Systems analysis was developed with a focus on changes in the watershed since the 2010 study was completed. Finally, we conducted a Public Outreach effort that included a Watershed Festival, three public meetings, a digital survey, key person interviews, and a media campaign. The goal was to support an informed and engaged citizenry with active focus and efforts on the health and well-being of the watershed.

## **ISSUES, CONCERNS, CONSTRAINTS**

### **PUBLIC PARTICIPATION**

Multiple public input venues were utilized to collect information from residents regarding the Big Sewickley Creek Watershed. Public input venues were promoted through social media, municipal websites, press



## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

releases, local magazines, and flyers. Each sought to collect input that related to the formation of strategies to further protect the Big Sewickley Creek and its natural resources including flora and fauna of the area.

### **Public Input Venues**

1. Watershed Festival- May 5, 2019 Bell Acres Fire Hall, Allegheny County
2. 3 Public Meetings
  - a. June 10, 2019 -Marshall Township Municipal Building, Allegheny County
  - b. September 10, 2019 -Economy Borough Volunteer Fire Department Social Hall, Beaver County
  - c. January 30, 2020- Franklin Park Borough Activity Center, Allegheny County
3. September 23, 2019- Rivers of Steel, Voyager Tour with Ambridge Ecology Club
4. Digital Survey developed through Survey Monkey (146 participants)
5. 11 Key Person Interviews: educators, environmental groups, developers, landowners, residents, sportsmen
6. Publicity: social media, websites, press releases, flyers, local advertising signs, word of mouth

### **DIGITAL SURVEY**

The Consultant and ALT Staff together developed a seventeen-question digital survey to allow residents to express their thoughts and concerns about the watershed, 146 were completed.

#### **Digital Survey Summary**

The following highlights do not address every question in the survey but brings attention to important resident input.

Top municipal participation:

- Marshall Township 25%
- Franklin Park Borough 23%
- Bell Acres Borough 15%

Most Important Recreation Activities (Ranked 1-9):

- Hiking 7.93
- Fishing 6.27
- Bird Watching 6.21

What is the biggest threat?

- Development 53.52%
- Gas Drilling 40.85%
- Stormwater Runoff 33.10%

Is there enough being done to protect land and water in the Watershed?

- No 81%

Would you be willing to financially support land protection?

- Yes, between \$25-\$500/annually 71%

Would you volunteer to be part of a Watershed Association?

- Board Member 11%
- Creek monitoring/Clean-ups 50%

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

A list generated through the survey was processed and shared with the Allegheny Watershed Alliance representatives as a starting point towards the establishment of a more formal friends' group and a Big Sewickley Creek Watershed Association Board.

### NATURAL GAS AND OTHER DEVELOPMENT

With the entrance of Marcellus Unconventional Gas exploration into the region, an increase in associated development activity has raised concerns within the watershed (See **Error! Reference source not found.** in the **Error! Reference source not found.** for full information).

Infrastructure development of any type affects watersheds in a multiple of ways from increasing sediment runoff from cleared areas, to opening up forest canopy during site preparation, and others. As roads are widened, new housing is developed, or new water, sewer, or gas pipelines are installed, they require clearing of the land and a permanent restriction on vegetation types permitted to grow in utility right of ways. Vegetation management is often conducted with strong, non-selective herbicides, killing all vegetation in the right of way.

Although common violations for Erosion & Sediment Control plans contain a large number of administrative errors, there are common site violations that do occur. Improperly installed sediment control measures result in water creating pathways either underneath, above, or around the sediment controls. Sediment control measures that are not maintained over time can become overly full and lose their effectiveness. (See *Natural Gas and Other Development* in the Full Report for more information)

**Error! Reference source not found.** lists the most commonly cited violations specific to unconventional well development developed from compiled data, 2009-2015. Several of these violations overlap the sediment concerns listed above, and the third most commonly cited violation is related to erosion. Pollution controls make up the second largest group of violations, where spills, storage and transport of residual waste (used hydraulic fracturing liquids), were done improperly. (2)

### ILLEGAL DUMPING

Illegal dumping is an issue throughout the watershed, from materials dumped directly adjacent and into the creek, as well as illegal use of storm drains. Illegal dumping can take several forms, from physical materials being purposefully dropped off in unauthorized locations to illegal disposal of materials into storm drains.

### MUNICIPAL COMMUNICATION ACROSS THE WATERSHED

*We would like to extend our gratitude to the Municipal Officials that agreed to be interviewed for this section of the report.*

The Big Sewickley Creek Watershed is home to 12 very diverse municipalities located over 30 square miles and 3 different counties. This splintered political environment can make communication between all of the actors significantly more difficult when discussing comprehensive planning. Instead, most municipalities focus their attention on their piece of the Big Sewickley Creek Watershed and therefore may not fully realize the consequences of their land use decisions or the full potential of this resource. This has been a long-standing issue for many years in the Big Sewickley Creek Watershed and while previous efforts have had some success, sense of ownership remains fractured. Hopefully through this project, its recommendations and outcomes will nurture new relationships, communication and collaboration on future projects that will benefit all living, doing business or recreating in the watershed.

## LAND, WATER, AND BIOLOGICAL RESOURCES

### ECOLOGICAL OVERVIEW

The state of natural communities in the watershed is the result of historical land use, most notably agriculture, timbering, residential development, and industrial development. Soils and geology are the

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

foundation of the web of life, providing nutrients and shaping growing conditions for plants which are the base of the food chain.

A large portion of the watershed remains forested, and the watershed includes possibly the most intact landscape remaining in Allegheny County. However, these ecosystems and many of the species they contain are facing serious threats to their continued local viability from the long-term effects of deer browsing, non-native forest pests and diseases, fragmentation, invasive plant species, and climate change.

Patterns of residential development and roadway construction also impact current-day forest quality. Where non-forest land uses are interspersed with forest, the remaining forest is impacted by edge effects and fragmentation.

### WATERSHED ECOLOGICAL ASSESSMENT RESULTS

#### Water Quality

The data obtained from the June 26, 2019 sampling event appear to indicate that the water quality of Big Sewickley Creek Watershed has not changed significantly since the 2008 sampling event. Further, temporal and spatial changes in the data do not seem to reflect differences in land use across the watershed. Finally, the data does not appear to reflect negative effects from oil and gas drilling and extraction activities in the very limited range of samples and parameters analyzed under this scope of work.

#### Plant and Natural Communities Survey

The six Natural Heritage Areas (NHAs) found in the watershed are areas inhabited by regionally rare species. Two are focused around aquatic stream habitats, while three are focused on forest communities that host plants of concern, and a third is designated around the heron rookery.

Site Name	Description
Big Sewickley Creek Woods	Many blue herons nest in the woods along Big Sewickley Creek.
Sevin Road	A rare tree species, the red mulberry ( <i>Morus rubra</i> ), occurs on a steep, rich, forested slope.
East Branch Big Sewickley Creek	A small stream supports a rare dragonfly species.
Linbrook Woodlands Conservation Area	A small community of concern and a sensitive species of concern are found here.
North Fork Big Sewickley Creek	A fish species of concern is found in this stretch of creek.
State Game Lands #203	A sensitive species of concern is found in the sloping forest near Big Sewickley Creek.
(Unnamed; Linbrook Park) NEW	A fish species of concern was found in this stretch of creek during 2019 survey work; more information is needed to determine the extent of the population and appropriate NHA boundaries

#### Fish Community Assessment

The three sites that were also sampled for the 2010 study appeared relatively unchanged between sampling dates, based on comparison with the original site descriptions and photos. Site conditions and species assemblages are indicative of high-quality aquatic communities. All sites (2019) contained between 14-20 fish species, characteristic of western PA (Ohio Basin) stream and headwater communities. 2 sites (#6, #11) support populations of the southern redbelly dace, a threatened species in PA, though nothing is known of their full status in the basin. One record (Site #11, Allegheny Co.) represents a new (post-1980) county record. All sites are impacted by past activities (urban development, industry, incompatible forestry

## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

and agriculture practices). All sites ranked as “exceptional” or “very good” utilizing the “headwater” framework of the Ohio Basin IBI.

Despite 2 sampling rounds, very little is known about the full extent of the basin’s fish fauna, and to potential threats to these stream systems at multiple scales. Further surveys within sub-basins are necessary to gain knowledge at a workable level, identifying “hot-spots”, local threats, and other conservation and restoration opportunities.

### **Resident and Migratory Bird Survey**

The study, when combining spring and fall observations, resulted in 95 species of birds being recorded in the Big Sewickley Creek watershed 2019 season. When these numbers are added to the historic records dating back to April 2004, that number rises to 141 species.

The Migratory and Resident Bird Survey located nine species of concern in the watershed: Cerulean Warbler, Worm-eating Warbler, Louisiana Waterthrush, Blue-winged Warbler, Yellow-throated Warbler, Scarlet Tanager, Wood Thrush, Pileated Woodpecker, and the Great-blue Heron.

One can conclude that the Big Sewickley Creek watershed is an important breeding and migratory stop over location for a large number of species found in eastern North America.

### **Land Use and Ordinances**

The watershed as a whole has a good mix of well-crafted ordinances that serve as a strong base for collaborative improvement. However, as the watershed continues to develop the ordinances will need to be strictly enforced and monitored for efficacy.

Subdivision and land development ordinances in general are an area where municipalities can increase protection of important natural areas, Species of Special Concern, and other unique features discovered during this project and documented in this report.

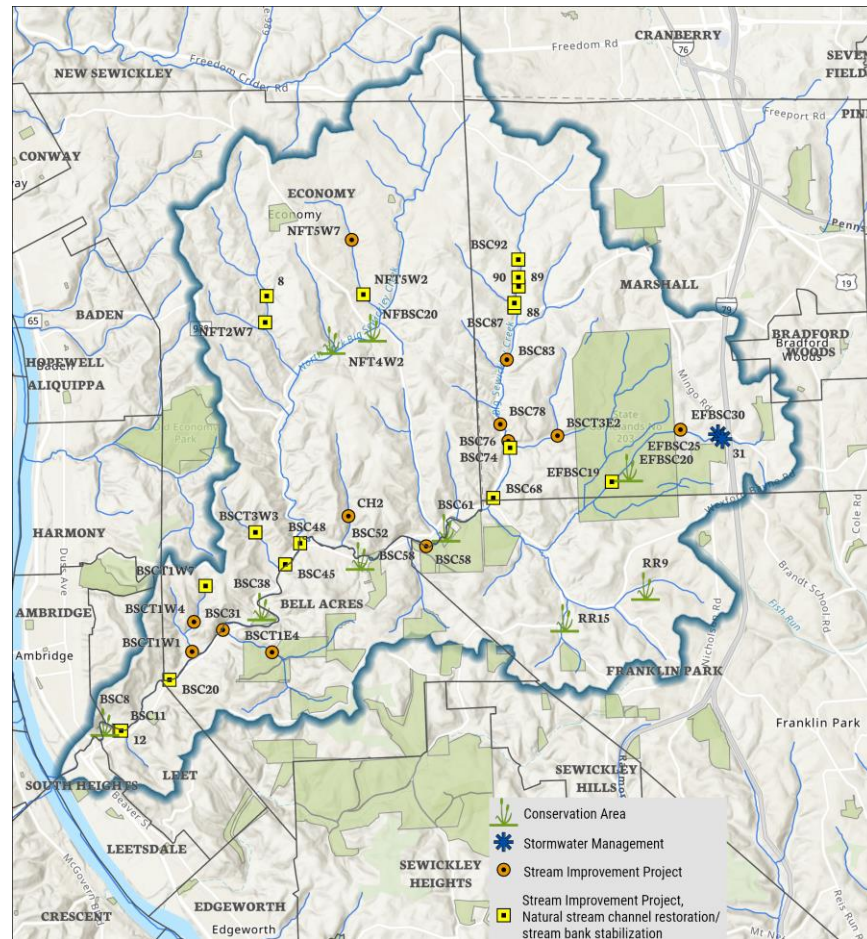
*In any case, the ordinances intended to protect natural features should include municipal-controlled punitive measures, such as fines, when violations occur.*



## RECOMMENDATIONS

### PRIOR RECOMMENDATIONS

Our first recommendation is to complete the Error! Reference source not found., especially the 11 items shown with a yellow square on the map in the categories of 'stream bank stabilization' and 'stream channel restoration'.



MAP 2: 2010 BIG SEWICKLEY CREEK WATERSHED MANAGEMENT RECOMMENDATIONS (RECREATED)

### MUNICIPAL ACTIONS

#### Conservation Oriented Land use

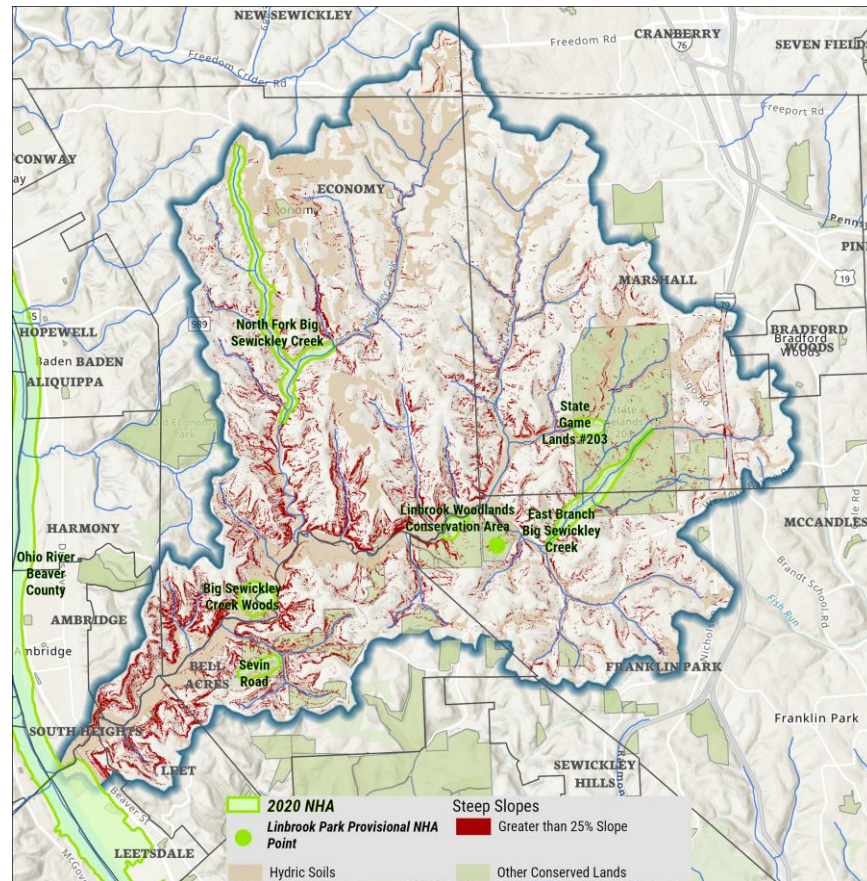
##### *Update and Strengthen SALDO and Zoning Ordinances*

As noted in the [Land Use and Ordinances](#) section earlier, the watershed as a whole has a good mix of well-crafted ordinances that serve as a strong base for collaborative improvement. However, as the watershed continues to develop the ordinances will need to be strictly enforced and monitored for efficacy.

Watercourse buffer and setback regulations can be improved dramatically, as most only have implemented a 50 ft setback.

Subdivision and land development ordinances in general are an area where municipalities can increase protection of important natural areas, Species of Special Concern, and other unique features discovered during this project and documented in this report.

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST



MAP 3: PROPOSED CONSERVATION OVERLAY FOR THE BIG SEWICKLEY CREEK WATERSHED

### Adopt a Conservation District Overlay and/or Suggested Greenways & Trails Map

It is highly recommended all of the watershed municipalities adopt the suggested conservation overlay, to ensure consistency across land use administration.

Municipalities adopt a compilation map, as shown in [Map 3](#) of the Natural Heritage Areas (NHA), steep slopes, and hydric soils maps as a Conservation Overlay District Map. The Nature Conservancy's (TNC) Resilient and Connected Landscapes map should also be considered to be part of the Conservation Overlay District (COD).

The pattern of slopes exceeding 25% throughout the watershed represents what could be a watershed-wide multi-municipal greenway protected through zoning, conservation easements, and other methods to connect parks and other protected open space with hiking and mountain biking trails and wildlife habitat corridors, while providing other public benefits such as stormwater and carbon sequestration, scenic beauty and enhanced property values.

### Create a Transfer of Development Rights Program

Transfer Development Rights (TDR) is an effective and powerful growth management tool currently absent from any of the watershed's municipalities' code book.

### Appeal for an Act 167 Stormwater Management Plan

Allegheny County has completed Phase I and II of their Act 167 Stormwater Management Plan at the county level but have NOT yet completed a watershed-level plan for Big Sewickley Creek.

## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

### **Implement Conservation Finance Measures**

The following is a list of funding strategies that can help to raise the local funds or to match state and foundation grants to implement environmental, recreational, and conservation related projects. It is not intended to be a complete list and options can vary upon the class of the township or borough. Consultation with your solicitor and other appropriate experts is critical when considering any of these methods.

More information on these and other tools available to municipalities can be found here:

<https://conservationtools.org/guides/category/27-finance-for-local-government>

#### *Real Estate Transfer Fees*

Municipalities that are empowered to do so under the Municipalities Planning Code (MPC) and other applicable laws can establish a transfer fee that is a small percentage of the sale price and paid by the buyer and or seller upon a sale of real estate. For example, a 0.25% (.0025) could generate \$1,250 on the sale of a \$500,000 property.

Municipalities should consider adopting a Home Rule Charter to empower them to raise real estate transfer fees and have more control over land use. (3)

#### *Bond Measures*

Municipalities frequently borrow money to build and repair roads, water lines, buildings, and other infrastructure. The same tool can be used to implement environmental, recreational, and conservation related projects. (4) (5)

#### *Fee-in-lieu*

Municipalities can offer Fees-In-Lieu as an option for a developer who is required to dedicate some land for green space in a new development. The fee paid to the local municipality in lieu of the land dedication. (6)

#### *Stormwater Management Fee*

Eligible municipalities could apply Impact or Stormwater Management Fees to generate funds to protect forests, natural floodplains and wetlands in the watershed that naturally capture stormwater. (7)

#### *Grants*

The PA Departments of Conservation and Natural Resources and Department of Community and Economic Development have several programs to fund environmental, recreational and conservation projects that are available to local government and qualified non-governmental organizations.

For more information please visit: <https://brcgrants.dcnr.pa.gov/> and <https://dced.pa.gov/how-to-apply/>

Allegheny County has several grant programs available:

<https://alleghenycounty.us/economic-development/communities/index.aspx>

Beaver County has similar programs, please contact them for more information:

<https://beavercountycd.org/>

### **Create or Engage Environmental Advisory Councils**

Create a forum for municipal Environmental Advisory Councils (EACs) to communicate with or have representation on the Big Sewickley Creek Watershed Association.

For municipalities without an Environmental Advisory Council, create an EAC under guidelines of the MPC.

### **Improve Recreation Opportunities**

#### *Create Public Fishing Access*

Watershed municipalities should look for opportunities to create spaces that improve public fishing access to Big Sewickley Creek.



## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

### *Improve the Safety of On Road Bicyclists*

Watershed municipalities work together with state representatives and representatives of the biking community to install signage and create dedicated bike lanes on the most popular road cycling routes.

### **Better Manage Public Infrastructure and Private Development**

#### *Conservation Design Practices*

Cluster development, utilities, and associated infrastructure to reduce impacts to species. Implement “Smart growth” practices that limit impervious cover, especially that adjacent to streams, and preserve critical stream flow paths are essential.

#### *Vegetation Disturbance Recommendations*

Require native species selections for all development activities that replace vegetation after construction activities are complete. If existing trees require removal, and the existing tree species has been identified as 'Invasive' require replacement with native species.

### **Improve Water Quality**

#### *Address Illegal Dumping*

Municipal officials should work with watershed residents on locating and removing existing illegal dumping incidents and creating a watershed watch network to further identify and address highly-used dumping locations. Municipalities should reach out to organizations like Allegheny Cleanways (<https://www.alleghenycleanways.org/>) for support on physical cleanups and developing resident education outreach.

#### *Manage Natural Creek Debris and Obstructions*

Clear guidance on determining exactly how much debris is ‘normal’ is difficult to provide, but unless the woody debris is actually causing an issue, it should be left in the stream.

#### *Adjust Winter Salting Procedures*

Consider reducing road salt application in sensitive areas near Big Sewickley Creek and Tributaries per PennDOT's Winter Operations guidance.

## **COMMUNITY-BASED ACTIONS**

### **Improve Riparian Habitat**

#### *Protect Existing Vegetated Riparian Areas*

The continuity of the riparian zone in some degree of natural, native cover is critically important as it forms the first line of defense in protecting in-stream habitat and water quality.

#### *Locate Riparian Restoration Opportunities*

Efforts should be made to evaluate the degree of intact riparian area (and width) for the watershed, and prioritize areas for restoration, where possible.

#### *Protect and Improve the Quality of Stream Headwaters*

Priority should be placed on riparian zones in headwater streams, who's ubiquity and intimate connections with the upland landscape constitute the bulk of the watershed. These areas are critically important in nutrient transformation and serve as nursery areas for stream fish and invertebrates.

## **BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST**

### **Resident and Municipal Leaders Education**

#### *Hold an annual BSC Watershed Festival*

The watershed festival in May 2019 was small but drew in highly engaged residents. The BSCW Association should work with watershed municipalities to continue the festival to raise awareness and support for caring for the natural attributes in the BSCW. This would also meet the MS4 Program public outreach and education requirements.

#### *Implement a Watershed-Level Environmental Education and Public Awareness Program*

Watershed education can engage around several topics, depending on the residents and stakeholders involved. For those groups most concerned with general watershed health, and/or specifically ensuring a healthy stream to sustain recreational trout fishing, topics might vary from trash and debris removal to restoring riparian areas. Basin-wide education, citizen-monitoring, and assessment practices should be established to create a thorough understanding of the resource, importance of the ecosystem services provided by Big Sewickley Creek.

### **Provide Ecological Support for Plants and Wildlife**

#### *Support Plants and Natural Communities*

Encourage the use of native plant materials wherever possible throughout the watershed. Natural areas are under extreme stress from many angles, and the viability of native natural communities over the next several decades, outside of settings that are intensively managed to abate threats, is questionable. For animal species, native plants are the basis of the food chain and provide the physical habitats they are adapted to use.

#### *Support Species of Greatest Conservation Need Found in the Watershed*

Highlighted in this section of the main report are the conservation actions listed for our species documented during the watershed study. The Migratory and Resident Bird Survey located nine species in the watershed Cerulean Warbler, Worm-eating Warbler, Louisiana Waterthrush, Blue-winged Warbler, Yellow-throated Warbler, Scarlet Tanager, Wood Thrush, Pileated Woodpecker and the Great-blue Heron. The Southern RedBelly Dace is also included in the Aquatic section.



## **IMPLEMENTATION STRATEGY**

Enacting the recommendations in this plan not only provide aesthetic improvements to the residents and municipalities, they address serious quality of life issues that affect every portion of the watershed. Improving municipal planning and coordination at the watershed level can mitigate downstream issues such as chronic daylight flooding, while improving the quality of Big Sewickley Creek as a whole. The recommendations have been selected to cover a range of watershed support activities that may be implemented at any level, from a private resident's backyard to larger landscape-scale work. Every action improves the overall quality of the watershed for everyone and raises the profile of the watershed to a community asset.

With the momentum gathered throughout the planning process implementation should be able to pick up in 2021 with the easiest recommendations first, then moving towards more complicated projects and partnerships. During the course of the planning process, a new Watershed Association has formed and is already active in the watershed. As a group they possess a wide range of expertise and are engaged in their communities. An improvement from the 2010 study is the newer Allegheny Watershed Alliance, whose mission is to support current and forming watershed organizations through their coalition of partners. Additionally, interest from private citizens, volunteer groups, and university researchers has sustained activity in the watershed, with completion of this plan opening a new area for water quality monitoring, plant survey follow-on monitoring, continued fish community assessments, and birding surveys.

The watershed municipalities have been involved throughout the planning process and many of the recommendations suggested to be led by the municipalities also tie into or directly support other water quality and stormwater management regulations. The recommendations were also developed in consideration for the vastly differing levels of development, municipal capacities, and constituent preferences.

Finally, Allegheny Land Trust's involvement with the watershed will remain active as the greater watershed was already an area with historical ALT involvement, with several high-profile conservation areas such as Linbrook Woodlands. There are immediate conservation actions needed, such as protection of the heron rookery, which Allegheny Land Trust plans to lead.

In the following table the recommendation titles are the same as in the Recommendations narrative above, with the addition of priorities, costs, timelines and partners. The Recommendations have been listed in order of priority, which is a combination of urgency for action and impact to the watershed as a whole. The entity in the Lead column is the organization with either the technical expertise, land control, and/or legal authority to begin implementation of the action. The entities in the Support column are needed because of the *additional* technical expertise they can lend or have land control, such as a landowner, who may need to provide access permission for the project to be completed.

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

TABLE 1: IMPLEMENTATION STRATEGY MATRIX FOR THE BIG SEWICKLEY CREEK WATERSHED

Priority	Recommendation	Lead	Support	Ease of Implementation	Estimated Cost	Timeline
High	Prior Recommendations: Complete 2010 Stream Bank Stabilization and Stream Channel Restoration Recommendations (See <i>Error! Reference source not found.</i> )	Municipalities	PA DCNR, PA DEP, Conservation Districts, Landowners	Difficult	\$\$\$	As soon as capable
High	Support and Protect Habitat for the Species of Greatest Conservation Need: Protect the Heron Rookery located in Big Sewickley Creek with a Conservation Easement or other permanent conservation measure.	Allegheny Land Trust	Watershed Group, Municipality	Moderate	\$-\$\$	Immediate
High	Municipal Actions- Improve Water Quality: Address Illegal Dumping	Municipalities	Allegheny Cleanways, Watershed Group, Residents	Cleanup- Moderate Prevention- Difficult	\$-\$\$	Cleanup- As soon as capable Prevention- Immediate and Ongoing
High	Municipal Actions - Conservation Oriented Land Use: Adopt Conservation Overlay and associated Big Sewickley Creek Greenway & Trail Map	Municipalities	Allegheny Land Trust, EACs, Watershed Group	Moderate	\$\$	Within 1-3 years
High	Community-Based Actions - Support and Protect Habitat for the Species of Greatest Conservation Need: Work with landowners to protect the 2020 Natural Heritage Areas in the Big Sewickley Creek Watershed with a Conservation Easement or other permanent conservation measure	Allegheny Land Trust	Watershed Group, Municipality	Moderate	\$-\$\$	Immediate
High	Municipal Actions- Conservation Oriented Land Use: Appeal for Act 167 Plan	Municipalities	County Planning Departments	Moderate	\$\$	As soon as capable
High	Community-Based Actions- Improve Riparian Habitat: Protect Existing Riparian Vegetated Areas	Municipalities, Landowners	Watershed Group	Easy	\$-\$\$	Immediate
High	Community-Based Actions- Improve Riparian Habitat: Protect and Improve the Quality of Stream Headwaters	Watershed Group, Landowners	Municipalities, Allegheny Land Trust	Moderate	\$-\$\$	Immediate and ongoing
High	Community-Based Actions: Support Plants and Natural Communities	Watershed Group, Landowners	PA Natural Heritage Program	Moderate	\$-\$\$\$	As soon as capable
High	Community-Based Actions: Support and Protect Habitat for the Species of Greatest Conservation Need found in the Watershed	Watershed Group	Audubon Society of Western PA	Difficult	\$\$\$	Ongoing
High	Community-Based Actions - Support and Protect Habitat for the Species of Greatest Conservation Need: Work with landowners to conserve remaining intact forested blocks over 50 acres with interiors over 300 feet from the forested edge (70) with a Conservation Easement or other permanent conservation measure.	Allegheny Land Trust, Watershed Group	Audubon Society of Western PA	Difficult	\$\$\$	Ongoing

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST

Priority	Recommendation	Lead	Support	Ease of Implementation	Estimated Cost	Timeline
Medium	Municipal Actions- Improve Water Quality: Manage Natural Creek Debris and Obstructions	Municipalities	Watershed Group Landowners	Easy	\$	Immediate
Medium	Municipal Actions- Improve Water Quality: Adjust Winter Salting Procedures	Municipalities	DCNR	Easy	\$	Immediate
Medium	Municipal Actions - Conservation Oriented Land Use: Update and Strengthen SALDO and Zoning Ordinances	Municipalities	Allegheny Land Trust	Moderate	\$\$	Within a year
Medium	Municipal Actions - Conservation Oriented Land Use: Create or Engage EACs	Municipalities	WeConservePA's EAC Support Network	Moderate	\$	Within 1-3 years
Medium	Municipal Actions - Conservation Oriented Land Use: Improve Recreation Opportunities	Municipalities	Residents, PA Fish and Boat, PA DCNR, Local Cyclist Community	Moderate	\$-\$\$\$	As soon as capable
Medium	Municipal Actions Conservation Oriented Land Use: Better Manage Public Infrastructure and Private Development	Municipalities	Allegheny Land Trust	Difficult	\$\$	Within a year
Medium	Community-Based Actions - Improve Riparian Habitat: Locate Riparian Restoration Opportunities	Municipalities, Watershed Group	Conservation Districts	Moderate	\$\$	Within 1-3 years
Medium	Community-Based Actions - Resident and Municipal Leader Education: Implement a Watershed-Level Environmental Education and Public Awareness Program	Watershed Group	Municipalities (to meet MS4)	Difficult	\$-\$\$	As soon as capable
Low	Community-Based Actions- Resident and Municipal Leader Education: Hold Annual Watershed Festival	Watershed Group	Municipalities, Other NGOs	Moderate	\$-\$\$	As soon as capable
Low	Municipal Actions - Conservation Oriented Land Use: Create a Transfer of Development Rights (TDR) Program	Municipalities, Allegheny Land Trust	Landowners	Difficult	\$\$\$	Within 1-3 years
Low	Municipal Actions: Research and where Feasible Implement Conservation Finance	Municipalities	Allegheny Land Trust	Difficult	\$\$	Within 1-3 years

Notes:

Cost Estimate: \$ = < \$25,000; \$\$ = \$25,000 - \$100,000; and \$\$\$ = > \$100,000

Priority Ranking is based on the level of impact to the watershed

## ACHIEVEMENTS

There are two items that emerged from the study goals worth highlighting as particularly exciting for the project.

### THE BIG SEWICKLEY CREEK WATERSHED ASSOCIATION

The BSCWA, with mentorship from the Allegheny Watershed Alliance, formed in late 2019. The nascent group is composed of watershed residents that are active in their communities and passionate about the creek.

***Mission Statement:*** The Big Sewickley Creek Watershed Association strives to bring together the community to promote actions that benefit our waterways, and our world, as a whole and to conserve the Big Sewickley Creek for the enjoyment of current and future generations.



FIGURE 1: LOGO FOR THE NEW BIG SEWICKLEY CREEK WATERSHED ASSOCIATION

***About Us:*** The Big Sewickley Creek Watershed is the 30 square mile area of land that drains into the Big Sewickley Creek. This watershed encompasses 12 municipalities and 3 counties, hosting many important and unique features such as the Great Blue Heronry. This Big Sewickley Creek Watershed hosts a variety of uses, from homes to businesses, and conditions, from rural to new subdivisions, all of which play a role in the health and vitality of the Big Sewickley Creek. By understanding and protecting our watershed, we can influence the health of the bodies of water it drains into, including the Ohio River, the Mississippi River, and the Gulf of Mexico. The Big Sewickley Creek Watershed Association strives to bring together the community to promote actions that benefit our waterways, and our world, as a whole.

### NEW ALLEGHENY COUNTY RECORD OF SOUTHERN RED BELLY DACE



FIGURE 2: A SOUTHERN REDBELLY DACE

A single specimen of the southern redbelly dace (*Chrosomus erythrogaster*), a threatened species in Pennsylvania (see discussion of the species at [Error! Reference source not found.](#)). Since 1980, the species is only known from Beaver, Butler, and Crawford counties, though there are historic records for the species for Warren, McKean, Lawrence, Allegheny, and Westmoreland counties ([Figure 3](#), (8)). As Site #11 is located in Allegheny County, this single specimen represents a new (recent) county record, and the full status of the population should be established.

## BIG SEWICKLEY CREEK WATERSHED: RIVERS CONSERVATION & STEWARDSHIP PLAN 2020 | ALLEGHENY LAND TRUST



FIGURE 3: DISTRIBUTION MAP FOR THE SOUTHERN REDBELLY DACE (*CHROSOMUS ERYTHROGASTER*) IN PENNSYLVANIA (9), AND A CHARACTERISTIC SPECIMEN FROM THE 2019 SAMPLING EVENT (PHOTO BY: BRADY PORTER).