

The Importance of Stakeholder Involvement in Small Watershed Action Plans & Maintaining Stream Health

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BRINCKERHOFF**

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August
2011



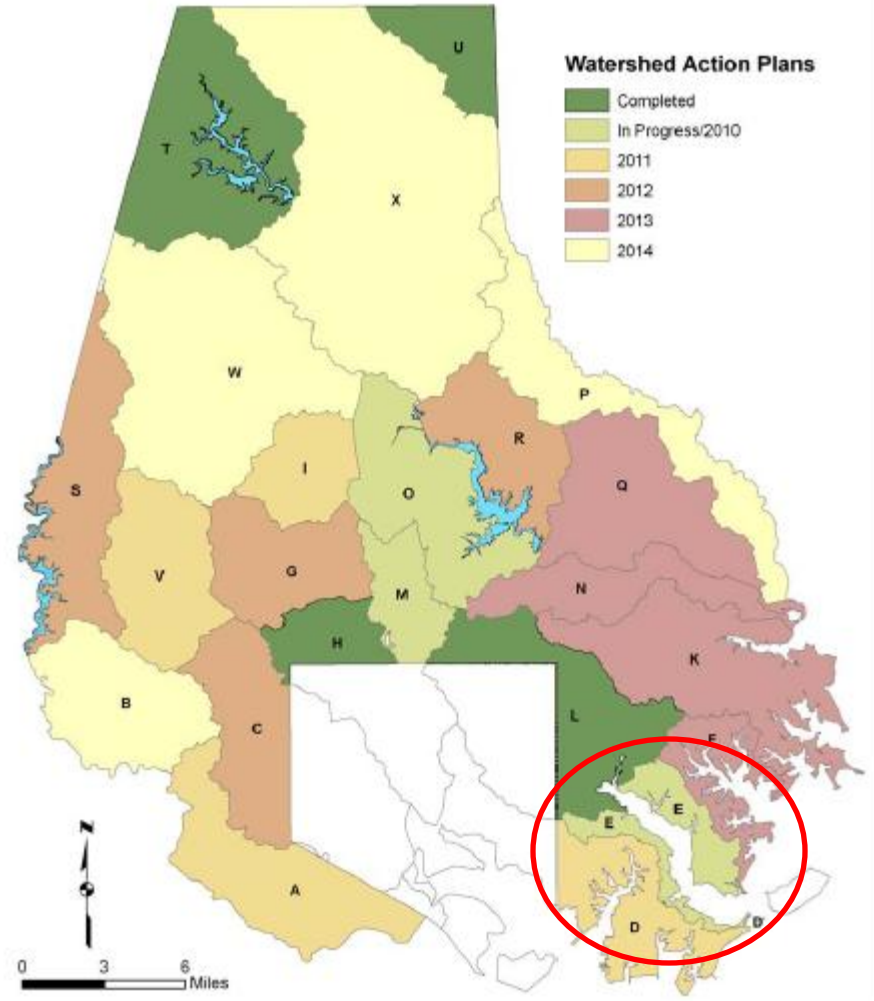
Why Are Small Watershed Action Plans Needed?

- ◆ Many municipalities completed larger watershed management plans during the 1990's and 2000's.
 - ❖ Plans typically focused on capital restoration projects
 - ❖ Included limited public involvement
 - ❖ Not detailed enough to meet many grant requirements
- ◆ Small Watershed Action Plans focus on the subwatershed level
- ◆ Help municipalities meet current water quality regulations and Waste Load Allocations
- ◆ Assist municipalities in obtaining grant funding (EPA 319 A –I criteria)

Baltimore County Watershed Action Planning Areas



Watershed Action Plans
Baltimore County, MD



What is a SWAP?

◆ Small Watershed Action Plan

◆ Strategy that outlines how we will clean up our streams

Small Watershed Action Plan (SWAP) Tidal Back River

Fact Sheet

What is a SWAP?

A SWAP is a strategy that outlines how we will clean up our streams.

The plan will:

- ◆ outline the existing surroundings,
- ◆ identify sources of pollution,
- ◆ examine alternative ways to enhance our watershed and clean our streams,
- ◆ determine the costs,
- ◆ and decide who will implement the options.

Who participates in the SWAP?

Participation by many stakeholders is essential in the preparation of the SWAP. Residents in the neighborhoods, leaders from local community and business associations and government agencies are all necessary to build a successful plan. This plan will have a tally sheet that computes all the actions needed to have a clean stream. Each group or organization will be responsible for the implementation of several actions. Full implementation is needed to achieve success.

How will we improve our streams?

Restoration actions may include:

- ◆ New stormwater management facilities
- ◆ Planting trees
- ◆ Rainspout disconnections
- ◆ Additional forest along streams
- ◆ Neighborhood raingardens and rainbarrels
- ◆ Fertilizer reduction
- ◆ Community awareness about stormwater
- ◆ Shoreline restoration projects



How can I get involved?

Contact The Back River Restoration Committee about all the ways you can help restore your watershed!

Back River Restoration Committee: 410-254-1577 www.savebackriver.org



BALTIMORE COUNTY
MARYLAND

Baltimore County Watersheds & Monitoring 410-887-5683
Website: www.baltimorecountymd.gov/go/backriver
Email: watersheds@baltimorecountymd.gov

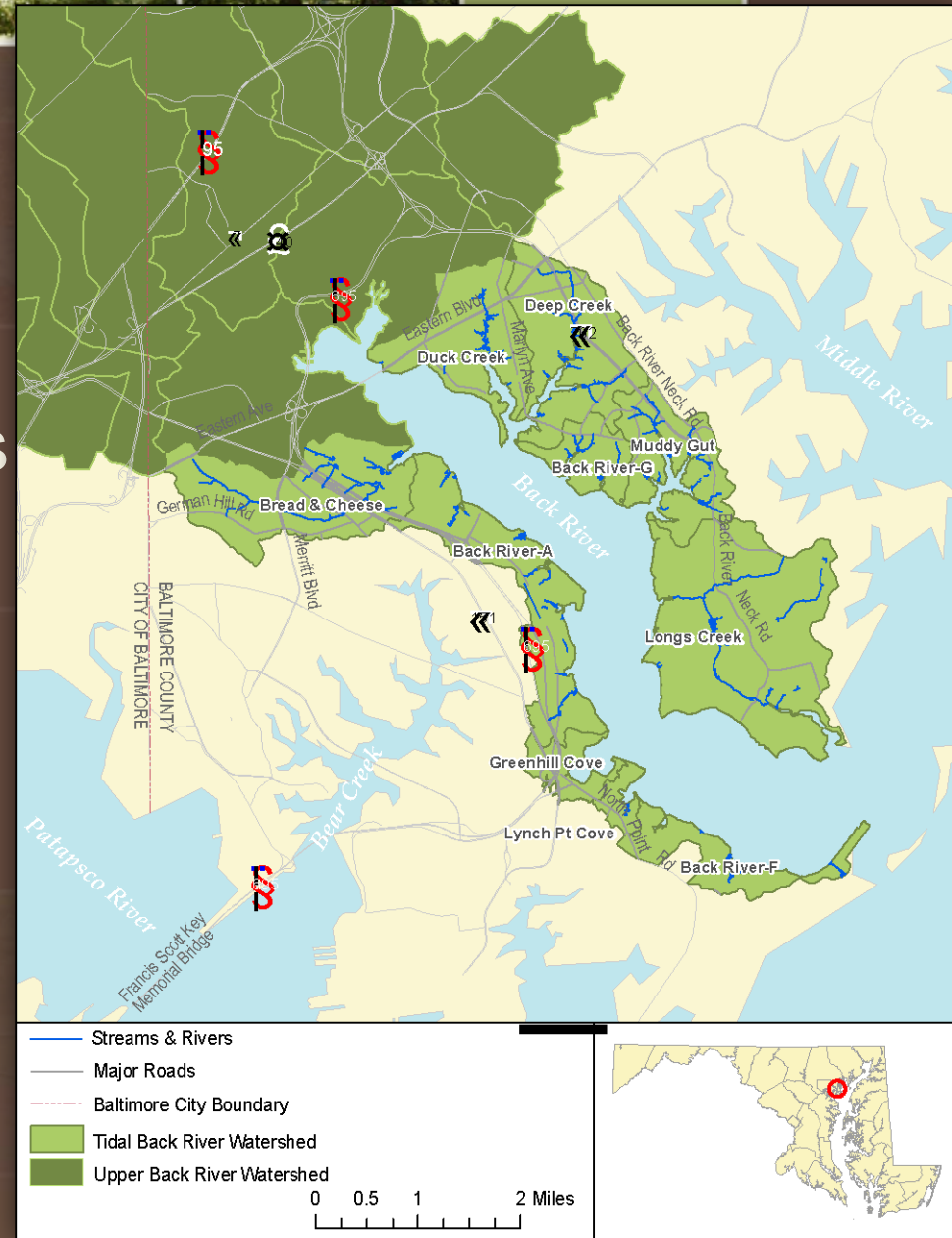


A Tidal Case Study

- ◆ Tidal Back River, Baltimore County, MD
 - ❖ Community focused effort
 - ❖ Steering committee of community leaders, business associations & government
 - ❖ Focused on
 - ◆ Engaging Citizen & Watershed Groups
 - ◆ Municipal actions

Tidal Back River

- ◆ 7,720 acres
- ◆ 10 subwatersheds
- ◆ Landuse:
 - ❖ 34% Residential
 - ❖ 32% Forest
 - ❖ 20% Commercial & Industrial





Tidal Back River Small Watershed Action Plan (SWAP)

- ◆ Year long plan development
- ◆ Review of existing data & new data collection
- ◆ Bi-Monthly Steering Committee Meeting Meetings
- ◆ 3 Stakeholder Meetings



Tidal Back River SWAP – Steering Committee Members

◆ Baltimore County & City


- ❖ Baltimore County DEPRM
- ❖ Baltimore City – DPW

◆ Community

- ❖ Back River Restoration Committee
- ❖ Back River Tributary Team
- ❖ Citizen Leaders

◆ Consultants

- ❖ Parsons Brinckerhoff



Watershed Characterization & Data Collection

◆ GIS Analysis & Characterization

◆ Field Assessments

- ❖ Upland Assessments
- ❖ Rapid Stream Assessment (Tidally Influenced Streams)
- ❖ Stormwater Facility Retrofit Study

◆ Community Surveys

- ❖ Known water quality problems/locations
- ❖ Input on watershed goals/objectives
- ❖ Input on restoration opportunities



Field Assessments

- ◆ Upland Assessments
- ◆ Stream Corridor Assessments
- ◆ Stormwater Facility Retrofits

Upland Assessment Components

◆ Neighborhoods (NSA)

- ❖ 46 neighborhoods

◆ Institutions (ISI)

- ❖ 27 sites

◆ Open Spaces (PAA)

- ❖ 9 sites

◆ Hotspot Operations (HIS)



Downspout Disconnection

- ◆ 76% of Neighborhoods
- ◆ 93 acres of rooftop runoff

Lawn Care Education & Storm Drain Marking

- ◆ 33% - Lawn care
- ◆ 76% - Storm drain marking





Street Trees

- ◆ 40% of neighborhoods
- ◆ 1,300+ trees



Street Sweeping

- ◆ 22% of neighborhoods
- ◆ 25 miles of roadways



Rapid Stream Assessment – Low Gradient Streams

- ◆ Used modified version of Maryland's Stream Corridor Assessment (SCA) Protocols
- ◆ Adapted SCA for Low Gradient Streams
 - ❖ Erosion sites
 - ❖ Buffers
 - ❖ Fish migration barriers
 - ❖ Exposed/discharging pipes
 - ❖ Channelization/altered streams
 - ❖ Dumping
 - ❖ Habitat
 - ❖ Unusual conditions





Stream Findings

- ◆ **Dumping & trash** were prevalent
 - ❖ Estimate 175 truckloads of trash to be removed from channel
- ◆ 74% of the channels have **inadequate buffers**

These are items that Community Involvement can help improve with some help from their local governments and watershed associations!

Stormwater Facility Retrofit Study

- ◆ Focused on Dry Detention Ponds
- ◆ Looked for water quality retrofit potential
- ◆ Identified maintenance needs

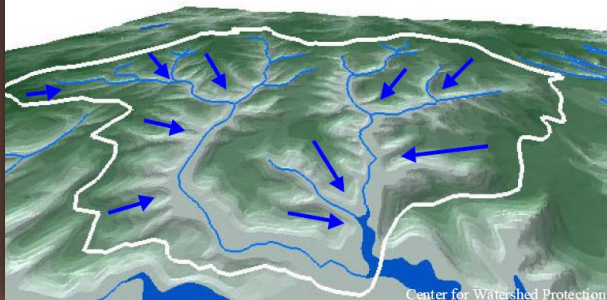


Stake Holder Meetings

- ◆ Meeting #1: July 2009 – introduced community to SWAP concept
 - ❖ Had over 150 community members attend
 - ❖ Brainstormed watershed slogan
 - ❖ Voted on watershed Goals & Objectives

What is a Watershed?

A watershed is the area of land that contributes runoff to a particular point along a waterway.




Lets Talk Trash.....



"Where does all this stuff come from?"



Held Slogan Contest

- 
- ◆ Brainstormed slogans with Steering Committee
 - ◆ Community voted on slogans & proposed their own ideas

SLOGANS

- Back River – Your Back Door to the Chesapeake Bay
- Back River – Visit it's Natural Beauty
- Scenic Back River – Discover it!
- Back River – Where Nature and Neighborhoods Connect
- Back River – Keep Our River Clean: Stow it Don't Throw it!
- Back River – Discover What You've Been Missing
- Back River – Get Back to Nature
- Back River – Keep it Clean, Hon!
- Back River – Baltimore County's Hidden Treasure
- Back River – Keep Back River Clean!

Provided A Direct Way For Community to Be Involved

We
Need
Your
Help!

**BACK
RIVER
RESTORATION
COMMITTEE**

SATURDAY - AUGUST 29, 2009 @ 8:00 AM



JOIN THE BACK RIVER RESTORATION COMMITTEE AND BALTIMORE COUNTY
ENVIRONMENTAL PROTECTION AND RESOURCE MANAGEMENT (DEPRM)
TO CLEAN UP THE SHORELINE AND MUDFLATS OF BACK RIVER
MEET AT THE ESSEX PARK AND RIDE AT 8:00 AM

PLEASE WEAR OLD CLOTHES AND WEAR WATERPROOF BOOTS OR OLD SHOES. OPTIONAL: BRING GLOVES, HATS, CHAIR OR FOLD UP CHAIR
TO REGISTER OR FOR MORE INFORMATION PLEASE CALL DEPRM 410-884-2904

SaveBackRiver.org

BRRC

Stake Holder Meetings

◆ Meeting #2: October 2009

- ❖ Provided results of field assessments
- ❖ Slogan Voting – slogan will appear on signs when entering the watershed
- ❖ Community Vote on Citizen Action Items



TIDAL BACK RIVER – CITIZEN ACTIONS SURVEY

Please indicate which action(s) you have interest in (check all that apply):

<input type="checkbox"/>	Proper lawn care techniques (eliminate/reduce fertilizer and pesticide use, target irrigation)
<input type="checkbox"/>	Bayscaping (planting native trees, shrubs, and perennials & reduce amount of mowed lawn)
<input type="checkbox"/>	Disconnecting your Downspout (redirect, rain barrels, and rain gardens)
<input type="checkbox"/>	Proper vehicle maintenance (avoiding and absorbing leaks/spills)
<input type="checkbox"/>	Organize and/or participate in a neighborhood street tree planting program
<input type="checkbox"/>	Planting trees in your own yard (where & how to plant, species selection, maintenance, benefits)
<input type="checkbox"/>	Organize and/or participate in a community clean-up
<input type="checkbox"/>	Organize and/or participate in a stream clean-up
<input type="checkbox"/>	Learn more about your local Back River Restoration Committee (BRRC)

Contact Information

Name: _____

Address: _____

Email: _____

Phone: _____

11 Things You Can Do At Home to Help The Back River!

1. Limit or eliminate use of fertilizers and pesticides; keep them off of driveways and sidewalks
2. **Plant native trees, shrubs, and perennials & reduce the amount of your yard devoted to lawn**
3. Disconnect your downspouts and/or use a rain barrel to capture rooftop runoff
4. **Clean up after your pets**
5. Wash your car on the grass or at the car wash
6. **Water only when and where it's really needed**
7. Properly maintain your vehicle; avoid or properly absorb spills/leaks on streets and driveways
8. **Participate in/organize a neighborhood street tree planting program**
9. Plant trees, especially near your backyard stream and don't mow to the banks
10. **Keep your street curbs & gutters clear of trash and organic debris**
11. Join your local watershed association!

Blue Card Summary

- ◆ Available at 1st & 2nd community meetings
- ◆ Allowed residents to document problem areas & receive follow up information if wanted
- ◆ Improved meeting flow while allowing residents to voice their concerns

PROBLEM No. 1

Nearest Cross Streets: _____

Problem Type:

TRASH

DUMPING

ILLICIT DISCHARGES

(Ex: Chemicals, Sewage, Oil, etc.)

EROSION

STANDING WATER

OTHER

Problem Description: _____

Contact Information (OPTIONAL)

Name: _____

Email: _____

Phone: _____

Blue Card Summary

TYPES OF PROBLEMS

TRASH	17
DUMPING	11
ILLICIT DISCHARGES	4
EROSION	10
STANDING WATER	3
INSECTS	9

SOLUTIONS

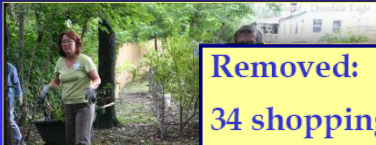
DEPRM researched each issue, field verified if necessary and responded to the citizen via: e-mail, letter or phone call.

A Task Force was formed to discuss the problem with Midges in Back River

Highlighted Activity Since Last Meeting

Clean-up Projects-Bread and Cheese Creek September 10, 2009

Over 50
volunteers!



Removed:
34 shopping carts
2 motorcycles
6 bicycles
1 bath tub
Several bowling balls

Clean-up Projects - Back River Mud Flats August 2-29, 2009



325 Tires
10 tons of debris
Numerous donations
from businesses and
individuals
Over 250 volunteers!

Back River WWTP Tours

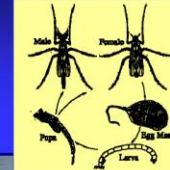


9/18/09 - 12 attendees

9/22/09 - 10 attendees



Midge Task Force Meetings



In September -
DEPRM, BRRM,
MDA and Balto.
City representatives
met with Back
River business
owners to discuss
Midge problem and
solutions

Created Midge Task
Force



Stake Holder Meetings

◆ Meeting #3: January 2010

- ❖ Presentation of draft Small Watershed Action Plan
- ❖ Held a Citizen Fair to allow citizens to learn more about activities in their watershed.



Recycling

Storm drain marking



Rain barrel demo

Continued Watershed Updates

- ◆ Continued updates
- ◆ Governor attended clean-up
- ◆ News coverage

Clean-up Projects - Back To The Flats November 6 -7, 2009



400 Tires

15 – 40 cubic yard dumpsters filled with wood and debris

150 volunteers!

Clean-up Projects - Back River Mud Flats August 2009 to Date.....

Over 1000 Tires

Over 30 40-cy dumpsters of debris

Numerous donations from businesses and individuals





Maintaining Community Momentum is Key To Success

◆ Provide Community With Ways to Stay Involved

- ❖ Held multiple cleanups of streams and tidal mud flats. **Over 250 community members attended clean up events**
 - ◆ **Removed 1,000+ tires & over 50 tons of trash**



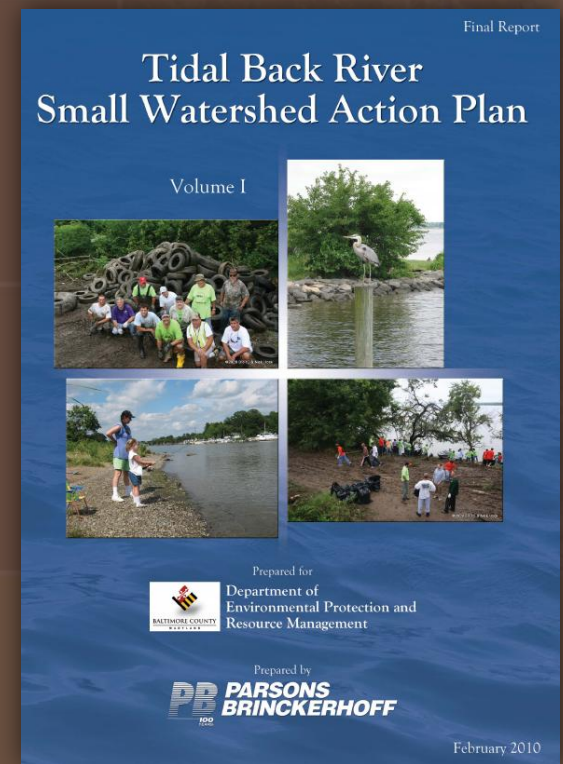
Small Watershed Action Plan (SWAP) Development

◆ Key components

- ❖ Watershed characteristics
- ❖ Identify sources of pollution
- ❖ Examine alternative ways to enhance the watershed & clean up streams
 - ◆ Citizen & Watershed Groups
 - ◆ Municipal Actions
- ❖ Cost estimates
- ❖ Implementation plans

Tidal Back River - SWAP

- ◆ Plan developed to meet established watershed Goals, Objectives & Action Items
- ◆ Implementation began in Spring 2010 & is on-going
- ◆ Includes measures to monitor for plan effectiveness & success



Questions?

<http://www.baltimorecountymd.gov/Agencies/environment/watersheds/>

HOME | MISSION | HISTORY | GET INVOLVED | EVENTS | CONTACT US | STORM DRAIN MARKING | OYSTER PLOT PROGRAM | TRASH ART SHOW AUCTION | BACK RIVER DEPTH SURVEY | OSPREY STUDY | RAIN BARREL PROGRAM

Back River Restoration Committee

Posts | Comments

SAVEBACKRIVER.ORG

PROTECTING THE FUTURE OF OUR RIVER

About

The Back River Restoration Committee is a 501 (c) 3 nonprofit watershed organization dedicated to restoring the tidal portion of the Back River watershed.

Contact:
Back River Restoration Committee Inc.
1422 Calena Road
Essex, MD 21221
443-414-4384

Links

- Baltimore County Watershed Associations
- Baltimore Watershed Agreement
- Clean Bread and Cheese Creek
- Coastline, Bathing Beach, and Recreational Water Sampling Program
- EP5's E-News Stream
- Gottgo Portable Restroom Solutions
- Maryland Environmental Protection & Resources Management

SaveBackRiver.org

just passed 400,000 lbs. and 2575 tires and counting...

BRRC is looking for a 15-25hp outboard motor donation (or reasonably priced) to replace one of our original motors. We are also looking for someone to do some underwater photography.

Please give Brian a call at 443-414-4384 if you are able to help with items.

Back River Restoration Committee Golf Tournament

Facebook: BRRC FACEBOOK
Twitter: FOLLOW BRRC ON TWITTER
YouTube: WATCH BRRC

BRRC Videos

- Red House Run 123 views 22 Mar 10
- Spring Plastic Bottles 95 views 22 Mar 10

Follow me on vodpod

<http://www.savebackriver.org/>

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IN THIS SECTION

- EPS Main
- Watersheds Main
- Baltimore Harbor
- Bird River
- Deer Creek
- Gunpowder River
- Gwynns Falls
- Jones Falls
- Liberty Reservoir
- Little Gunpowder Falls
- Loch Raven Reservoir
- Lower Gunpowder Falls
- Middle River
- Patapsco River
- Prettvog Reservoir

MOST REQUESTED SERVICES

- Pay/Search Property Taxes Online
- Find Your Zoning
- Browse County Codes
- Complete Jury Questionnaire
- View Daily Docket
- Pay Parking and Red Light Tickets
- Find Your Council District
- Download Trash Schedule
- Locate County Facilities
- Search Crime Stats
- Find Recreation Activities
- Volunteer Today

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Back River Watershed

Back River watershed encompasses 73 miles of streams located in urban and suburban portions of southeastern Baltimore County and includes the northeastern quadrant of Baltimore City. Approximately two-thirds of the watershed is located within Baltimore County and includes the stream systems of Herring Run, Red House Run, and Stemmers Run. The watershed is mostly comprised of older, established communities including Rosedale, Overlea, Parkville, Stoneleigh, Loch Raven Village, and portions of Essex.

It is home to numerous marinas and County waterfront parks, including Cox's Point Park and Rocky Point Park that feature public picnic areas, boat ramps and fishing piers. It is also home to Rocky Point Golf Course and the historic Ballestone Manor House featuring seasonal exhibits, Civil War reenactments, and displays of Early American Art. Also located in this watershed is the Back River Wastewater Treatment Plant that treats 160 million gallons of sewage each day for 1.3 million residents of Baltimore City and Baltimore County.

The watershed is currently 70 percent built-out and much of the existing development occurred in the 60s and 70s. Because this development predates current stormwater management regulations, there are limited opportunities for stormwater management controls. Through the Baltimore County Waterway Improvement Program, many water quality retrofit, shoreline enhancement and stream restoration projects have been implemented and many more are planned.

In addition, the County monitors the need for maintenance dredging in the tributaries of Back River. Baltimore County is also working on a waterway debris removal project at the headwaters of Back River to capture trash and debris from the Herring Run and Red House Run watersheds.

Final SWAP is available!

Thank you to all that were involved in the development of the Tidal Back River Small Watershed Action Plan. Hundreds of neighbors attended stakeholder meetings, clean-up events and signed up for action projects including stormdrain marking, rain barrels, rain gardens, Growing Home trees, and recycling. Below is the final plan and the presentations from all of the stakeholder meetings.

Tidal Back River SWAP

- [Volume 1](#) (PDF) outlines the actions identified as part of the strategy
- [Volume 2](#) (PDF) contains the results of the field and GIS data assessments



The Back River watershed is located along the southeast side of Baltimore County.



Back River is a tidal river and is home to many waterfront communities and recreational opportunities. The Herring Run is the major tributary stream to the Back River.