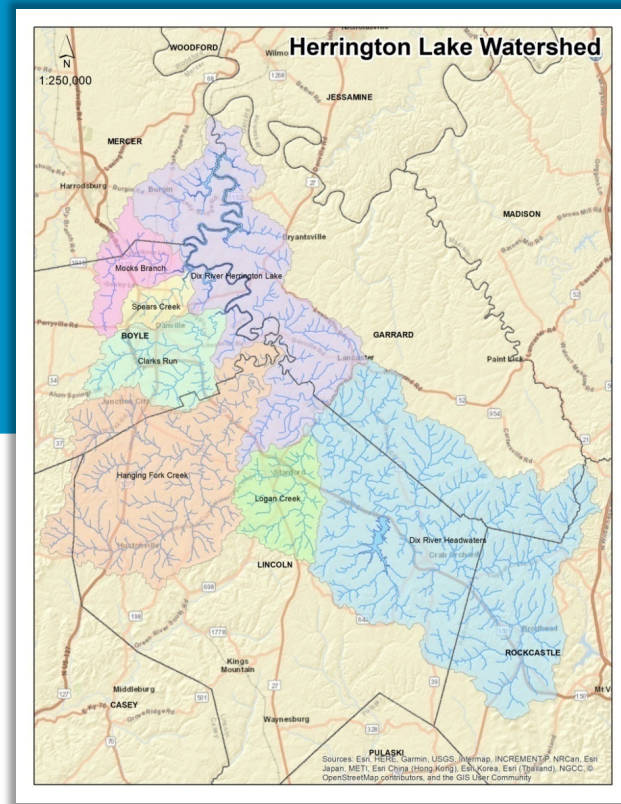


DIX RIVER WATERSHED STAKEHOLDER MEETING

November 19, 2019
Danville City Hall



AGENDA

1. Introductions
2. Review of Improvement Efforts
 - Watershed Based Plan Development and past projects in the Dix
 - Septic and Riparian Buffer 319 Watershed Improvement Projects
 - Hustonville-Ruritan Park Buffer and park improvements
 - City of Danville stormwater projects
 - Clarks Run Trail improvements and educational signage initiative
 - CREEC projects and current initiatives
 - US Highway 127 (Phase I and Phase II) sewer projects
 - EQIP funding in Hanging Fork watershed
3. Current Water Quality Data (KRWV)
4. Open discussion of goals, focus areas for the future, idea sharing, etc.

STAKEHOLDER ROLES

GOALS OF THE STAKEHOLDER GROUP

1. Improve water quality in the Dix River watershed
2. Identify areas of concern and provide input on watershed problems and management strategies
3. Foster partnerships and collaboration
4. Help with community education and outreach



**WATERSHED BASED PLAN
DEVELOPMENT AND
PAST PROJECTS IN THE DIX
RIVER WATERSHED
(MALISSA MCALISTER)**

CLARKS RUN & HANGING FORK WATERSHED

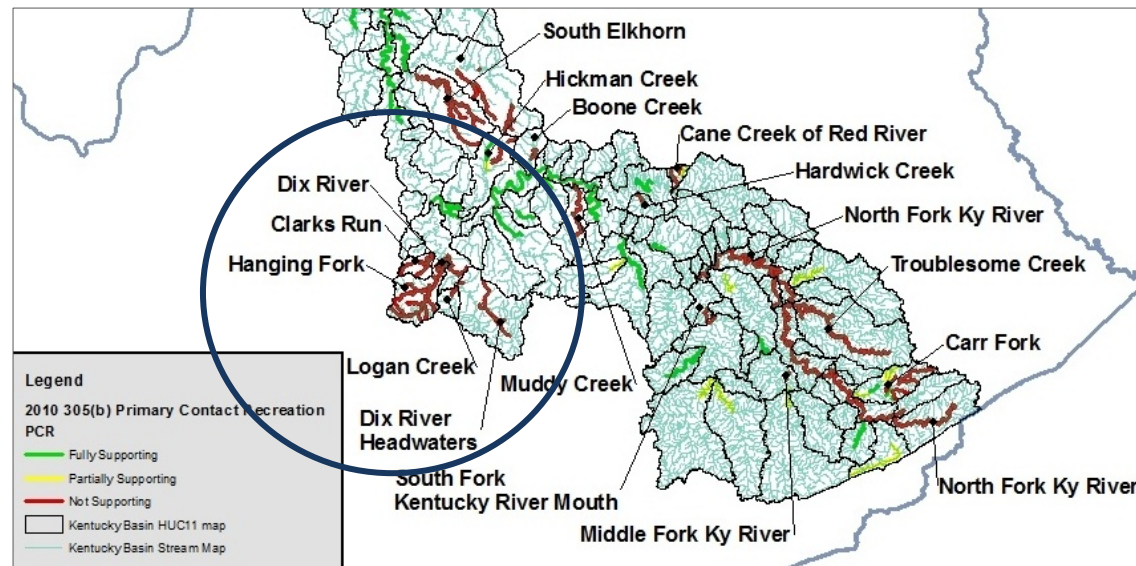
IMPROVEMENT PROGRAM UPDATES

Dix River Stakeholder Meeting
November 19, 2019



HIGH BACTERIA LEVELS

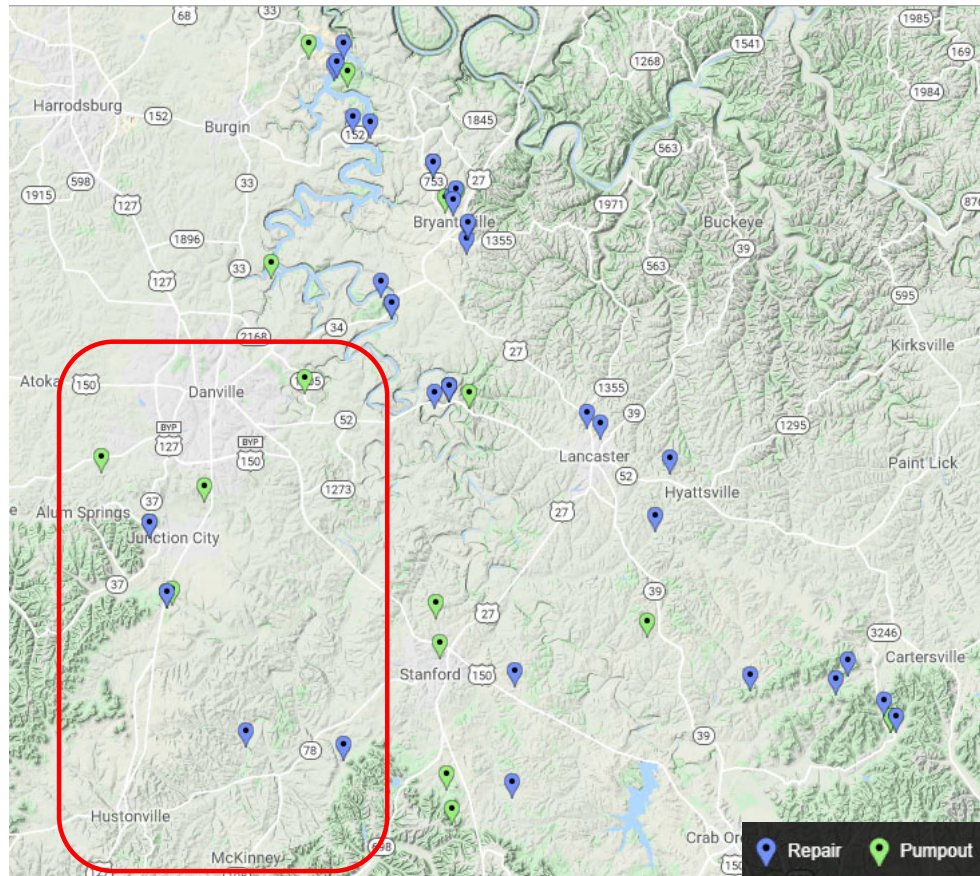
Reaches of Clarks Run and Hanging Fork watersheds are not safe for activities such as swimming, where there is significant risk of ingesting water



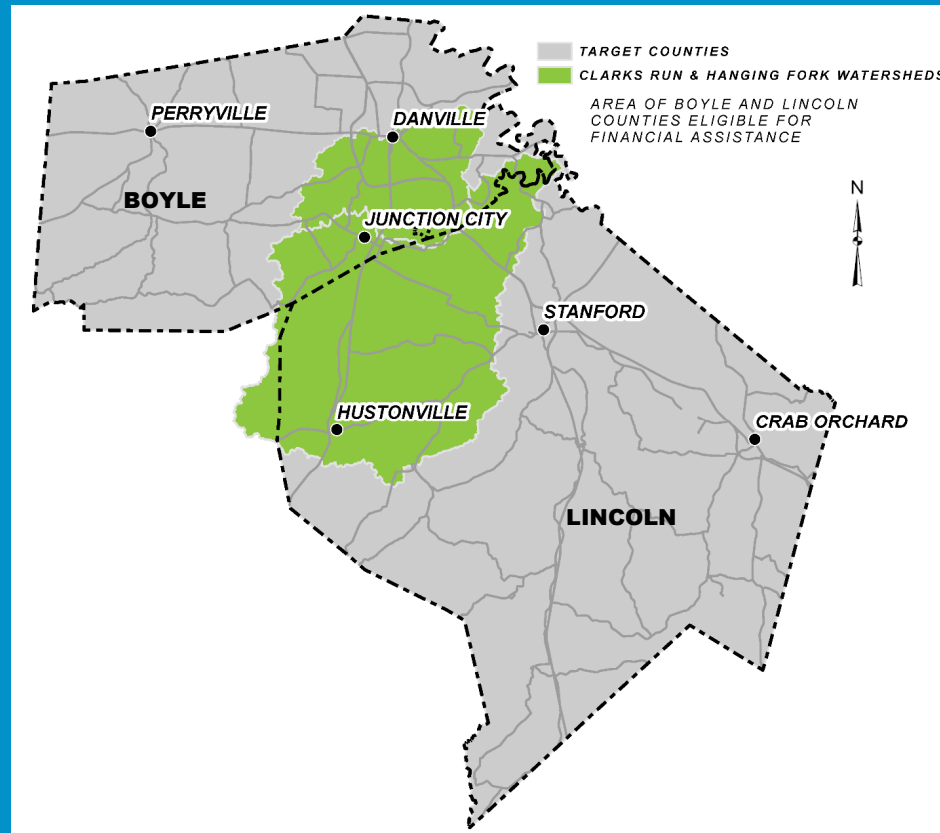
2013-2016 SEPTIC PROJECTS

Map Link:

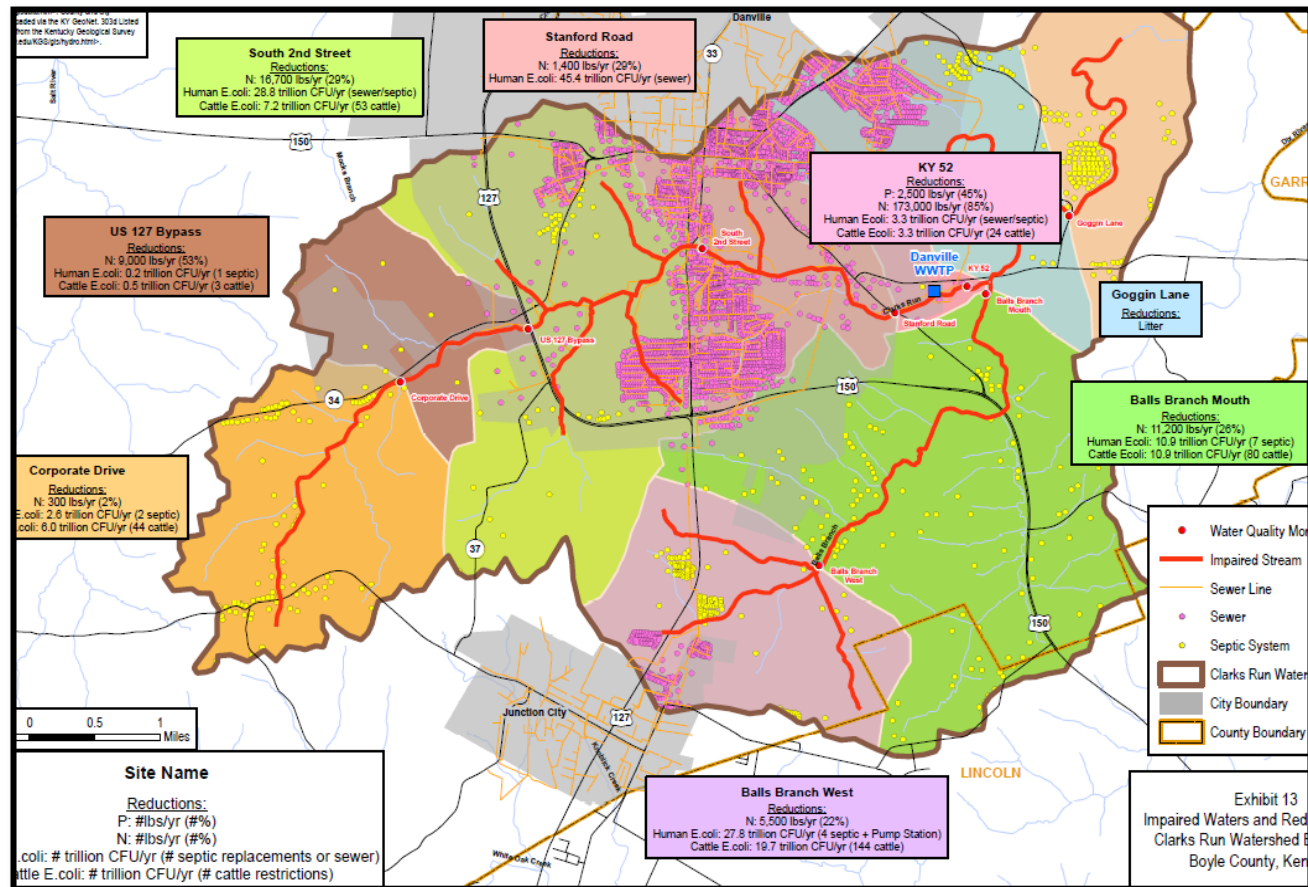
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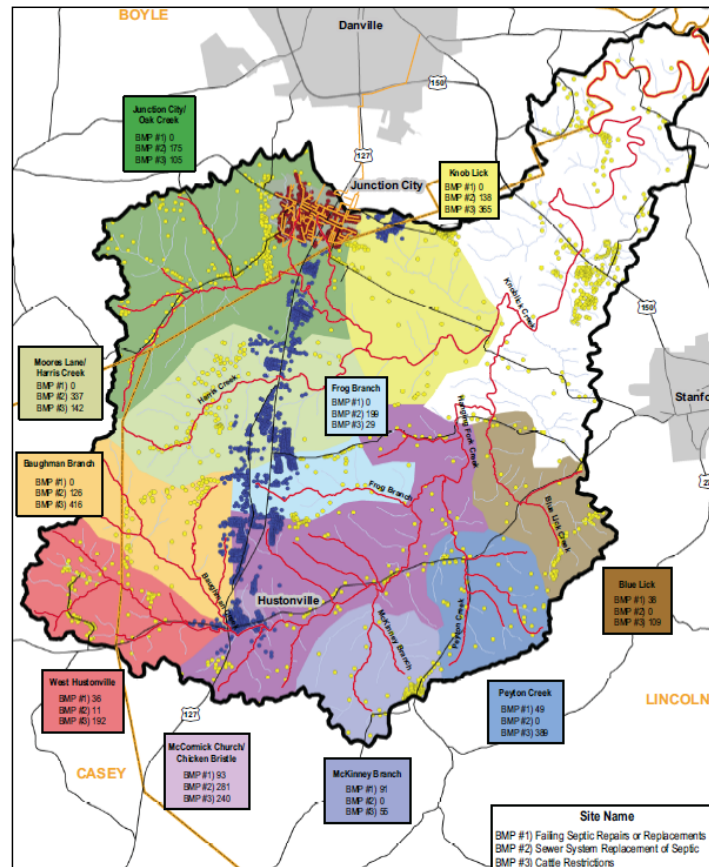
CLARKS RUN & HANGING FORK WATERSHED



CLARKS RUN



HANGING FORK



RECOMMENDATIONS

- Reduce human bacteria inputs from septic tanks and sewer leaks
- **Identify and replace failing and improperly maintained septic systems and straight pipes**



RECOMMENDATIONS

- Reduce pollution from livestock waste
- **Restrict agriculture grazing from the riparian zone and install streamside buffers and fencing to reduce fecal input from stormwater runoff**



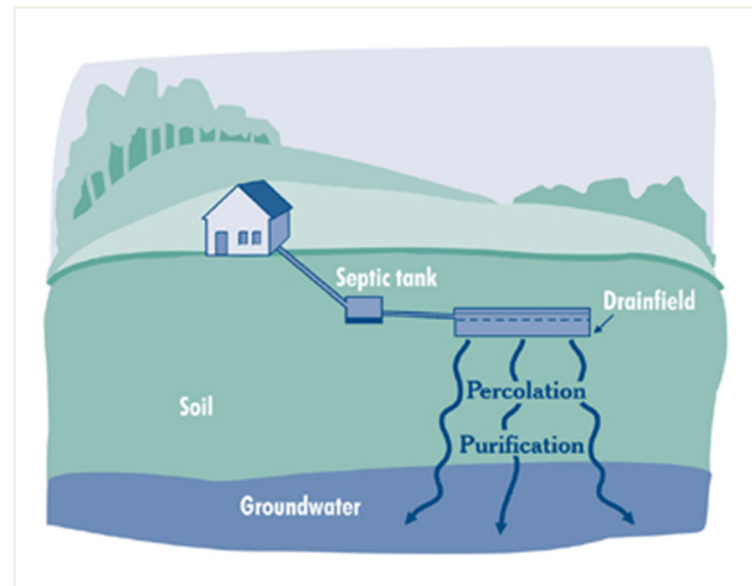
319 WATER QUALITY GRANT

- Administered through the KY Division of Water
- Implementation of portions of the Clarks Run and Hanging Fork Watershed Based Plans
- Objectives:
 - ✓ Implement practices to reduce human and livestock fecal inputs and address high pathogen and nutrient levels
 - ✓ Increase riparian buffer width
 - ✓ Increase knowledge of water quality issues for local citizens, officials, and students

SEPTIC PUMPOUT & REPAIR PROGRAM

SEPTIC WORKSHOPS:

- Education on septic system function
- Instruction on how to properly maintain septic systems
- Information and applications for financial assistance



SEPTIC SYSTEM FUNDING ASSISTANCE

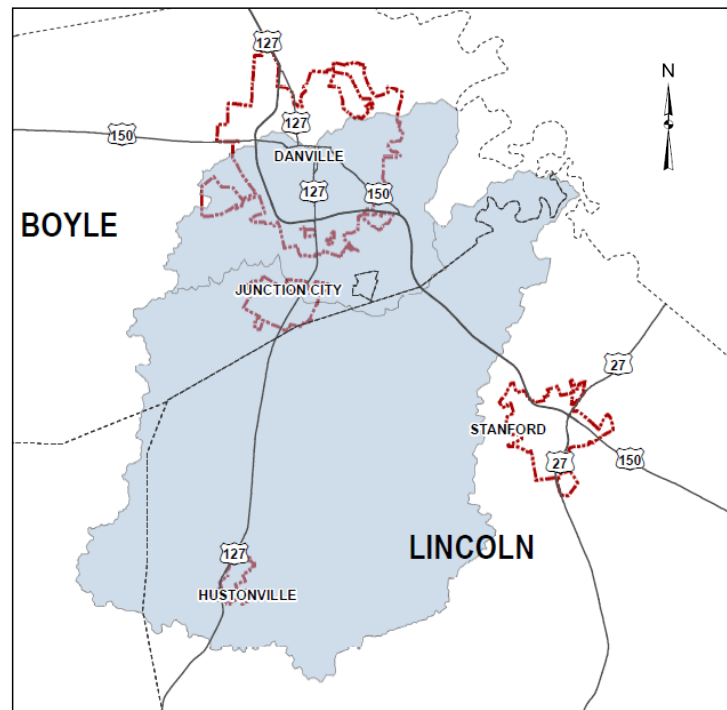
APPLICATIONS AVAILABLE FOR:

- FREE septic tank pumpout
 - ✓ Includes riser installation up to a designated amount, if necessary
- 80/20 Cost-share grants for septic system repairs
 - ✓ Solution for those with chronically failing systems or straight pipe conditions
 - ✓ Based on guidance from the County Health Department

SEPTIC FUNDING ELIGIBILITY

ELIGIBLE APPLICANTS MUST:

- Reside within the Clarks Run or Hanging Fork watershed
- Attend a septic workshop hosted by Bluegrass Greensource
- Submit a signed “Application for Septic Pumpout Program” or “Application for Septic System Repair Program”



SEPTIC PROGRAM PROMOTION

- Attended Community Events (tabled and presented)
- Local Health Department coordination/promotion
- Conservation District Tree Giveaways
- Promotion through County Chamber of Commerce
- Cooperative Extension Newsletters
- Articles in local newspapers
- Flyers in local business windows and on Library bulletin boards
- Facebook/Instagram promotion

SEPTIC PROGRAM SPRING 2018

- Workshops were held in each county and applications collected throughout the month of April 2018.
- 131 in attendance with 93 applications collected.

County	Workshop Date	No. Attendees	Pumpout Applications	Repair Applications
Nicholas	4/09/2018	40	15	20
Montgomery	4/12/2018	25	10	14
Bourbon	4/17/2018	41	12	10
Boyle	4/21/2018	18	5	3
Lincoln	4/24/2018	7	3	1
Total			45	48
Total Applications Received =			93	

SEPTIC PROGRAM SPRING 2019

- Workshops were held in each county and applications collected throughout the month of March 2019.
- 66 in attendance with 45 applications collected.

County	Workshop Date	No. Attendees	Pumpout Applications	Repair Applications
Boyle	2/26/2019	10	3	1
Montgomery	3/5/2019	18	8	9
Bourbon/ Nicholas	3/7/2019	22	4	5
Lincoln	3/12/2019	16	9	6
Total			24	21
Total Applications Received =			45	

SEPTIC CARE WORKSHOPS



APPLICATION PRIORITIZATION

- Proximity of homeowner's property to a stream or tributary
- Current septic system condition and age (if available)
- Proximity to a priority area identified in the watershed based plan
- Proximity to other implementation projects
- Annual household income

SEPTIC PROGRAM PROGRESS

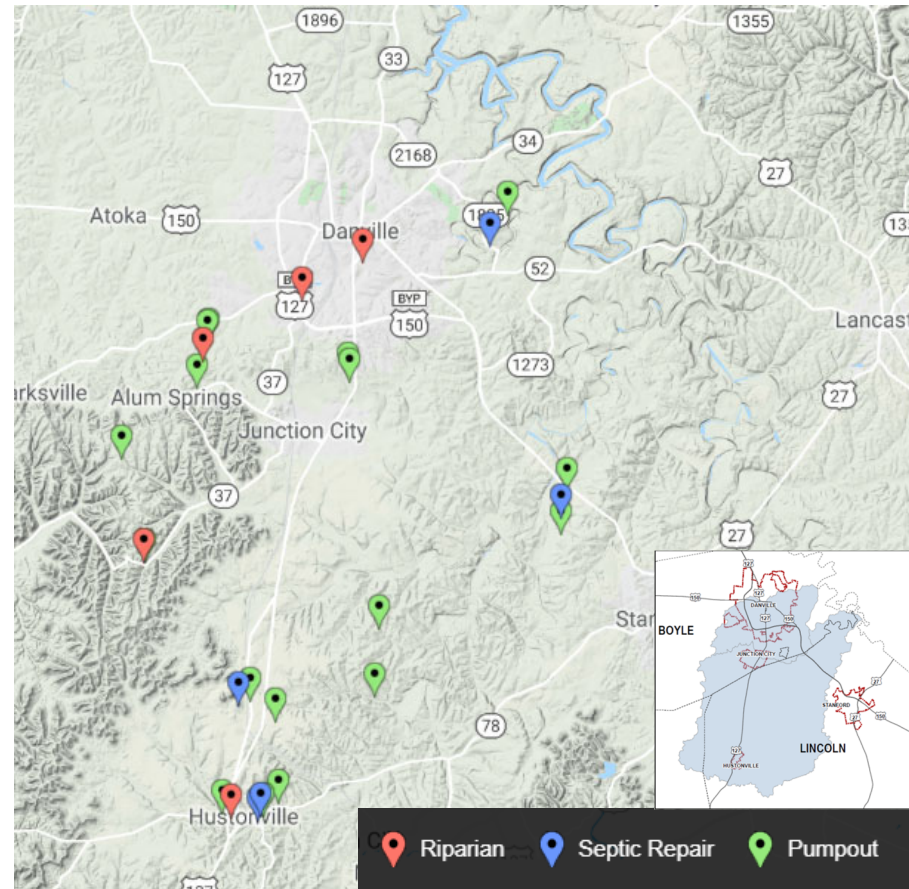
- **64** pumpout applications approved in 2018 & 2019
- Repair Applications reviewed and prioritized for assistance award. Number of projects selected based on the funding available and the average cost of septic installation or repair (\$7,000)
- Dix River Projects:

	Completed Dix River Projects	Total Dix River Projects	Overall (both watershed areas)
Pumpouts	12	17	64
Septic Repairs	3	5	33
Riparian Buffers	5	5	6
Total	20	27	103

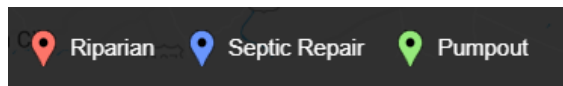
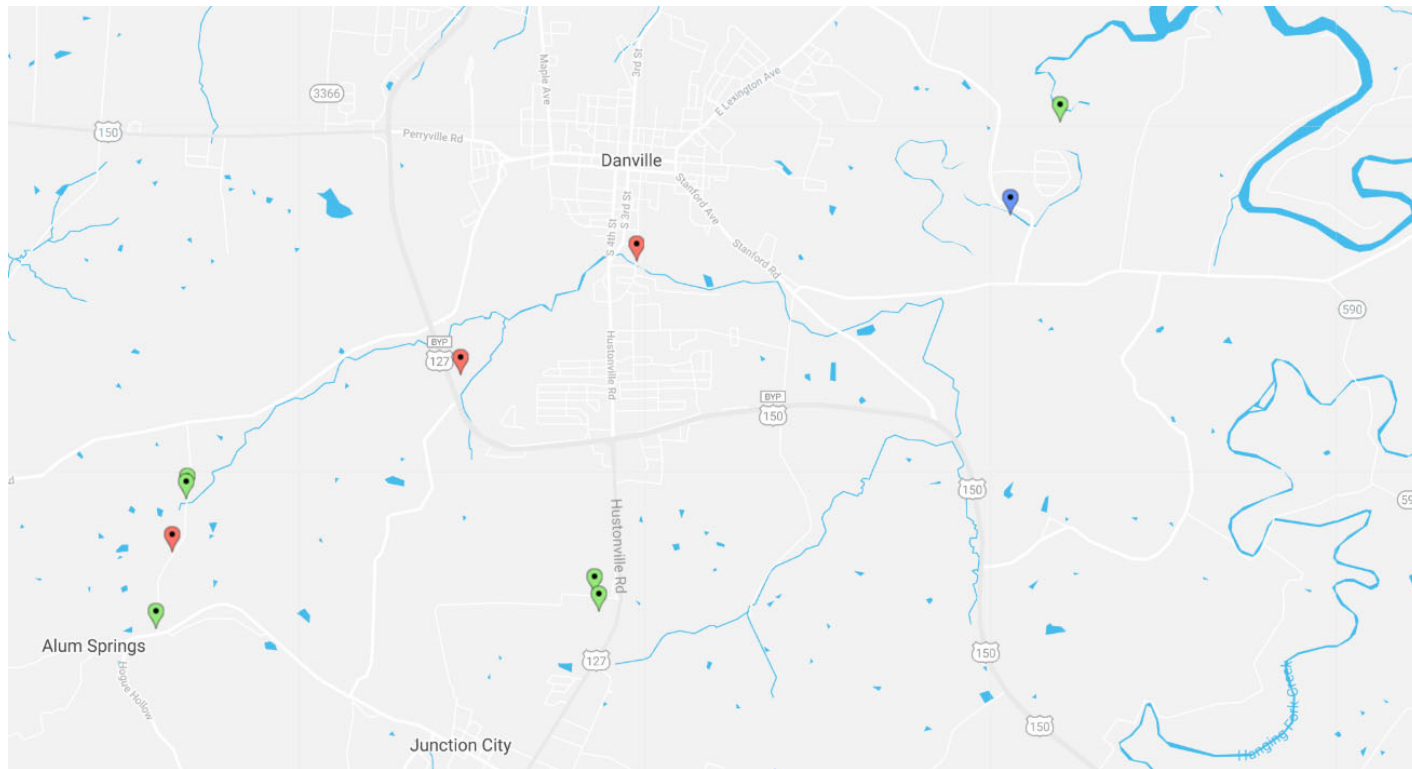
DIX RIVER PROJECT MAP

Map Link:

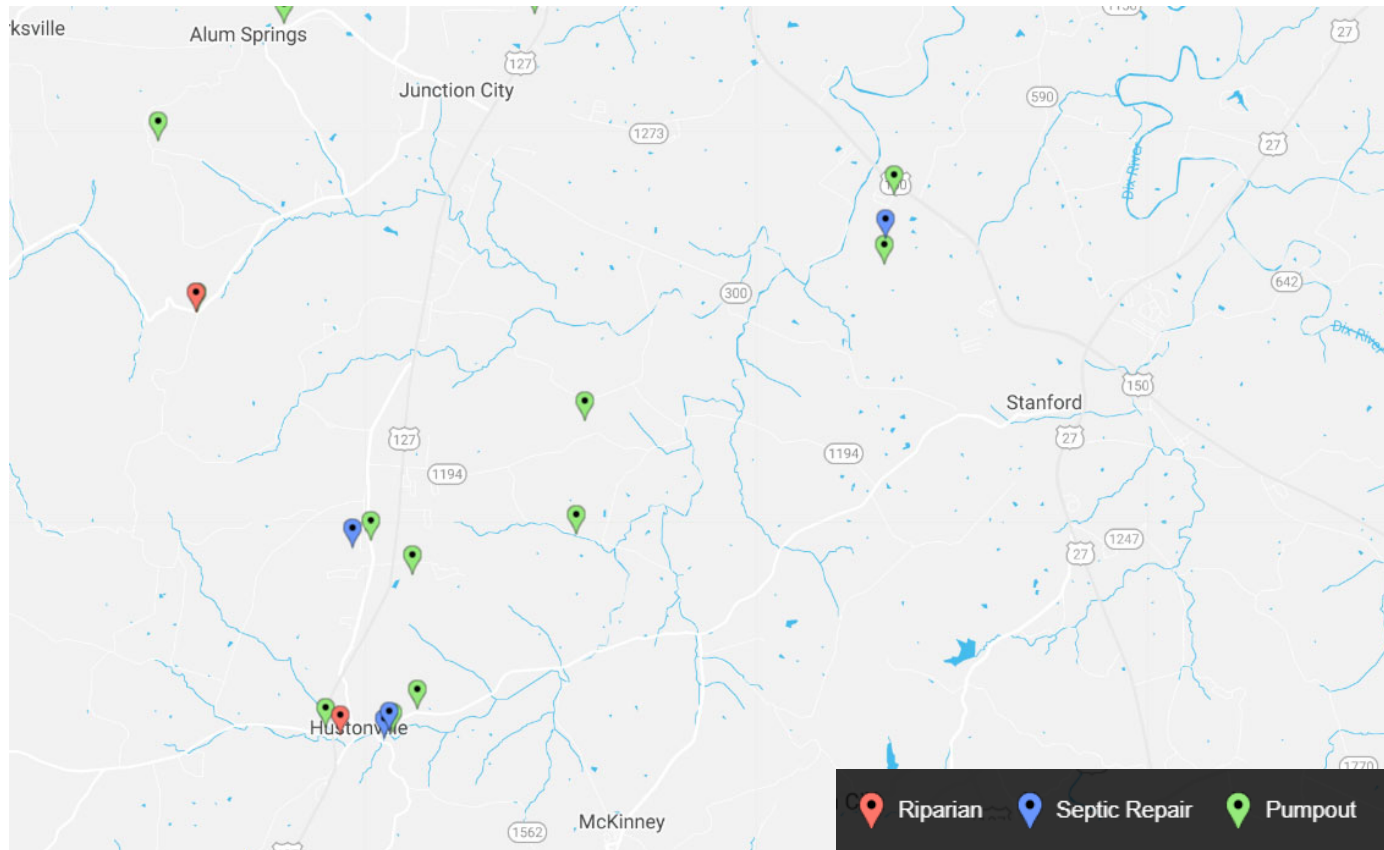
<https://batchgeo.com/map/2211ed1df2cbee339b3bcd1fc7f7a7e4b>



PROJECT MAP



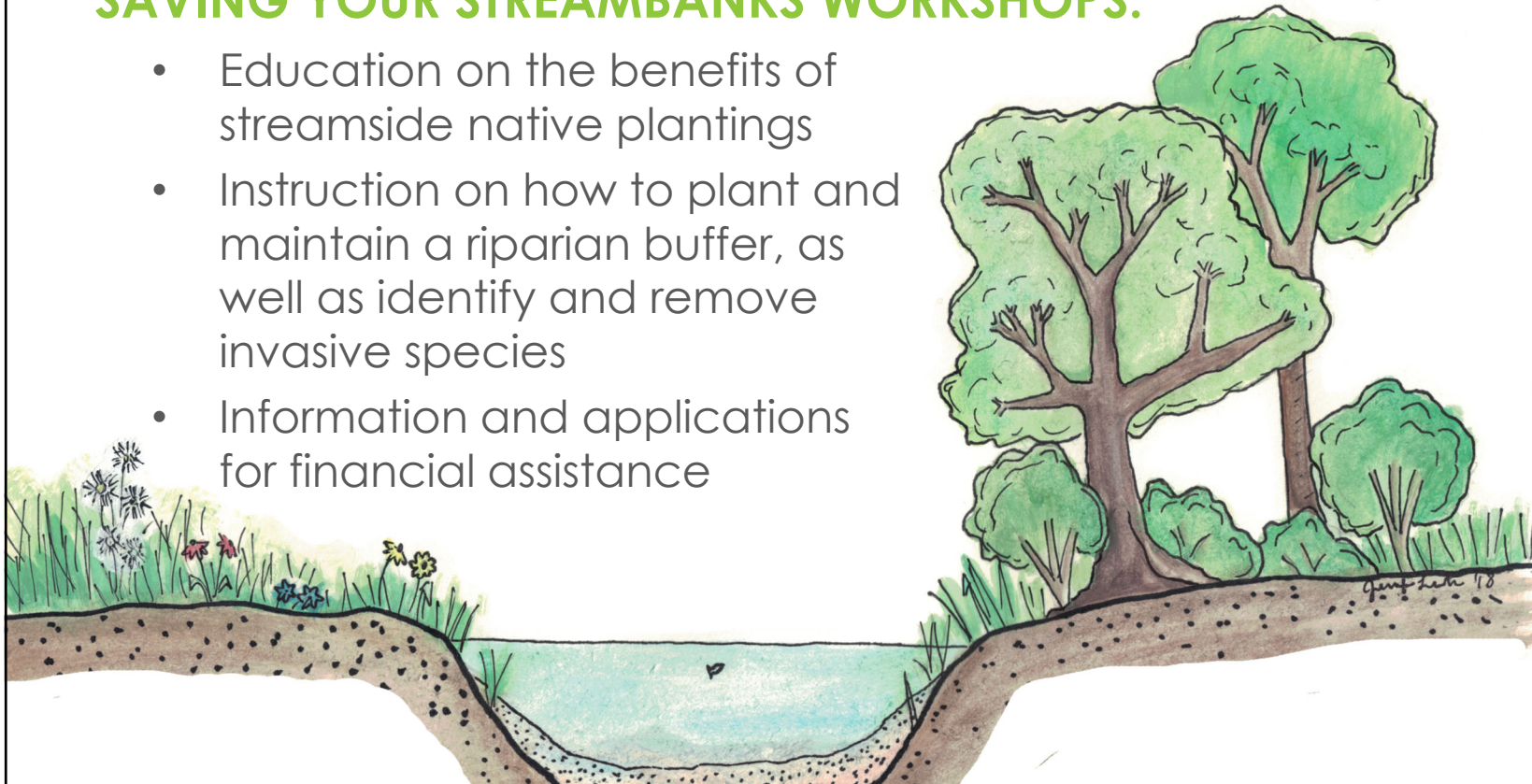
PROJECT MAP



RIPARIAN BUFFER PROGRAM

SAVING YOUR STREAMBANKS WORKSHOPS:

- Education on the benefits of streamside native plantings
- Instruction on how to plant and maintain a riparian buffer, as well as identify and remove invasive species
- Information and applications for financial assistance



RIPARIAN BUFFER ASSISTANCE

APPLICATIONS AVAILABLE FOR:

- 80/20 cost-share grants for establishing streamside buffers
 - BGGs will reimburse 80 percent of project cost, Up to \$2,000
 - Applicant responsible for 20 percent of the project cost and any additional amount over the maximum reimbursable amount
 - Open to public community projects, as well as private property owners

RIPARIAN BUFFER ASSISTANCE

STATE AND FEDERAL PROGRAMS:

- Kentucky State Cost-Share Program
 - Local Conservation District Office
 - Streambank BMPs to help agricultural operations protect the soil and water resources
- Environmental Quality Incentives Program (EQIP) Program
 - Local Natural Resources Conservation Service (NRCS) Office - Similar conservation practices as offered in State Cost-Share Program

RIPARIAN PROGRAM PROMOTION

- Attended Community Events (tabled and presented)
- Local Health Department coordination/promotion
- Conservation District Tree Giveaways
- Promotion through County Chamber of Commerce
- Cooperative Extension Newsletters
- Articles in local newspapers
- Flyers in local business windows and on Library bulletin boards
- Facebook/Instagram promotion

RIPARIAN PROGRAM FALL 2018

- Workshops were held in each county. The deadline for application submittal was Nov 30, 2018. Applications reviewed and approved in December for installation in Spring 2019.

County	Workshop Date	No. Attendees	Riparian Applications	Notes
Boyle	10/2/2018	14	4	Danville/WTE/ 2-Private Properties
Nicholas	10/9/2018	10	1	4-H Camp project
Bourbon	10/16/2018	23	1	Millersburg Community Park
Lincoln	10/18/2018	10	1	Hustonville Park Project
Montgomery	10/22/2018	7	0	

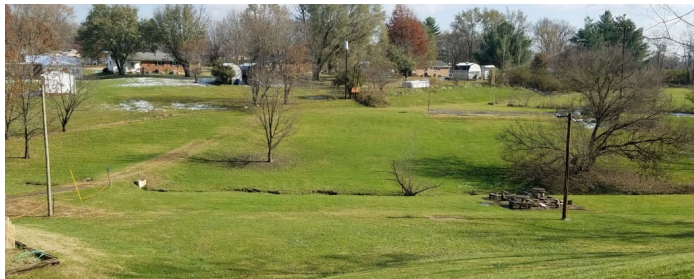
Total Applications Received = 7

RIPARIAN WORKSHOPS



RIPARIAN PROGRAM PROGRESS

- Native plants ordered in March/April
 - Mix of native trees (1 and 2 gal), native shrubs (3 gal and nursery quart sizes), native grasses and perennials (plugs and nursery quart sizes)
 - Willow live staking in February at 2 project locations
- Plantings scheduled for May and June 2019
- Projects completed by July 2019



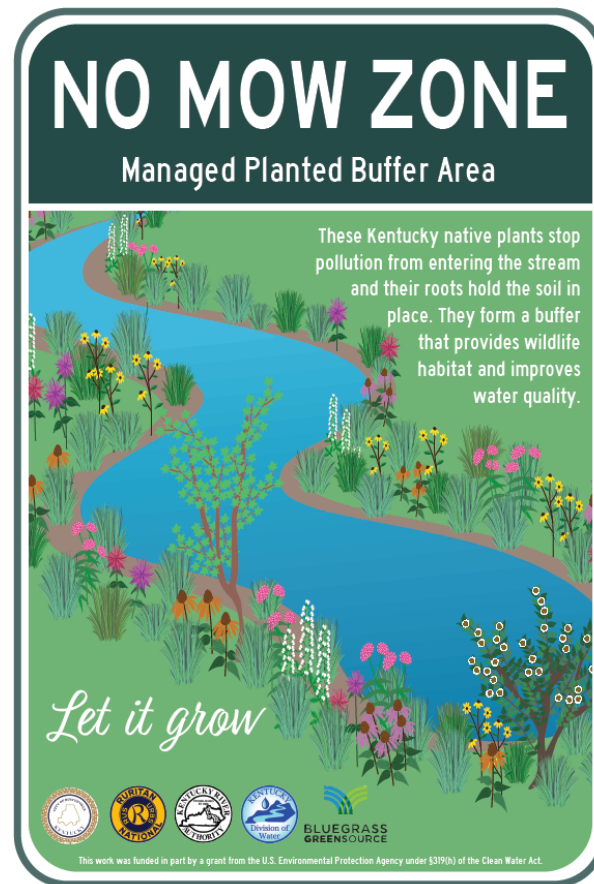
HUSTONVILLE BUFFER

COMMUNITY PARK PROJECT

City of Hustonville and Ruritan Club partnered to establish a riparian buffer along the confluence of Baughman and Hanging Fork Creek.



NO MOW ZONE SIGNAGE



EDUCATIONAL SIGNAGE

Hustonville Ruritan Park Riparian Buffer *protecting our streams*

This vegetated area surrounding Baughman and Hanging Fork Creek is called a riparian buffer. The planted buffer serves many critical functions to help protect water quality and aquatic life. A diverse planting of Kentucky native trees, shrubs, grasses, and perennials will help **filter out pollutants** in the stormwater runoff from our homes, farms, and roads. Plant roots hold tight to soil and prevent it from being washed away, **stabilizing streambanks** and **reducing downstream sedimentation**. Additionally, the plants provide **food and cool shade** for wildlife in and around the stream.

We can preserve stream buffers by allowing trees and shrubs to grow next to our waterways—just 15 feet can make a difference! Avoid mowing or animal grazing close to the water.

What is a watershed?

A watershed is the area of land that drains all the precipitation and streams to a common point, such as a lake, stream, or river.

Watershed Boundary: The high points of a watershed. When rain falls here, it flows downward or seeps into the ground to become groundwater.

Tributaries: Smaller bodies of water within a watershed that flow into larger streams and rivers.

Groundwater: Water that accumulates underneath the surface and fills the gaps between soil and rocks.

Main Stream Channel: Water flows downhill to form a main stream or river, which flows downstream to join larger rivers and eventually the ocean.

How do we impact our watersheds?



Residential Activity: Yard waste, pet waste, oil, fertilizers, and pesticides can be carried from our lawns and driveways into storm drains and local waterways.



Roadways: Pollutants such as trash, engine fluids, and road salt can wash from surfaces into waterways.

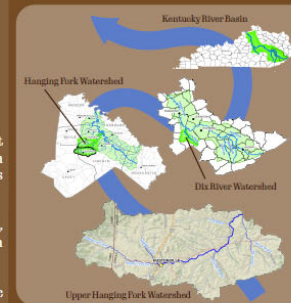


Septic Tanks: Poorly maintained septic systems can leak sewage into the groundwater and onto the surface.



Farmland: Fertilizers, animal waste, and pesticides wash away into lakes and streams which can be toxic to wildlife or spark algal blooms.

The Hanging Fork Watershed



Hustonville Ruritan Park is located within the Hanging Fork watershed, so all of its water will drain into Hanging Fork. However, the Hanging Fork watershed is part of larger watersheds. The stream will drain into the Dix River, which flows into the Kentucky River, then the Ohio River, later joining the Mississippi, until it eventually flows into the Gulf of Mexico!



This work was funded in part by a grant from the U.S. Environmental Protection Agency under 833006 of the Clean Water Act.

CLARKS RUN TRAIL BUFFER

CLARKS RUN AND 2ND STREET BRIDGE

City of Danville planted a 300FT buffer along Clarks Run Trail in conjunction with the 2ND Street Bridge construction.



ALUM SPRINGS BUFFER

LAWSON PROPERTY BUFFER

The Lawson buffer combined riparian seed mix, plugs, and container sized perennials, grasses, shrubs, and trees. Site was cleared, cleaned up, and planted along the headwaters of Clarks Run.



WILDERNESS TRACE BUFFER

PHASED BUFFER PROJECT

Wilderness Trace Solar/Environmental partnered with Boyle County to plant a buffer along a tributary to Clarks Run. Native trees, shrubs, perennials, and seed mix combined to test different methods along the buffer.



DENHAM BUFFER

BANK STABILIZATION AND BUFFER PROJECT

Water Quality Certification obtained for realigning and grading the streambank, and BGGS grant used to plant buffer along the new grade.



COMMUNITY OUTREACH

- Working with local watershed partners and community groups to establish long-term water quality awareness and protection as a local priority:
 - Work with local agencies, organizations, and others to expand the reach of the project into the communities
 - Build stakeholder capacity – **Dix River Watershed Stakeholder Meeting Tuesday, November 19, 2019** (5:30PM-7:30PM Danville City Hall Training Room)
 - Table and present at local events and meetings throughout the year to build awareness and promote workshops and financial assistance opportunities

COMMUNITY OUTREACH



K-12 OUTREACH

- Working with schools to establish long-term water quality awareness and protection as a local priority
 - Our environmental educators work with local teachers and school groups
 - Build water-related environmental education in the community for greater watershed improvement
 - K-12 education and classroom activities, 3 or 4 visits a year with an end of year water-related project

K-12 OUTREACH



QUESTIONS/CONTACT

Lindsie Nicholas, P.E.

Watershed Coordinator
Bluegrass Greensource
835 National Ave, Lexington, KY
lindsie@bggreensource.org
859-266-1572



**BLUEGRASS
GREENSOURCE**

**HUSTONVILLE-RURITAN
PARK BUFFER AND PARK
IMPROVEMENTS
(MARGO SMITH & LINDSIE
NICHOLAS)**

HUSTONVILLE-RURITAN PARK

CONCEPT PLAN



FUNDING OPPORTUNITIES

PARK IMPROVEMENT UPDATES

- Land and Water Conservation Fund Application through Bluegrass ADD (\$15,024 LWCF/ \$15,025 match) submitted 5/29/2019
 - Playground equipment
 - Updated pavilion electrical and lighting
 - Rebuild park benches and picnic tables
 - Resurface and stripe parking lot and basketball court
- KRA Grant (\$2,700) and BGGS Grant (\$2,000) for streamside buffer and educational signage installation Summer 2019
- Seeking outdoor classroom grants (Lowes Grants?)
- Looking into Tony Hawk Foundation skatepark grant to convert old tennis court into small skate park

HUSTONVILLE BUFFER

COMMUNITY PARK PROJECT

City of Hustonville and Ruritan Club partnered to establish a riparian buffer along the confluence of Baughman and Hanging Fork Creek.



BUFFER PLANTING

Help Us **Plant the Park!**

May 13-15

**Meet at Ruritan Park Pavilion in
Hustonville**

9:00 AM each morning

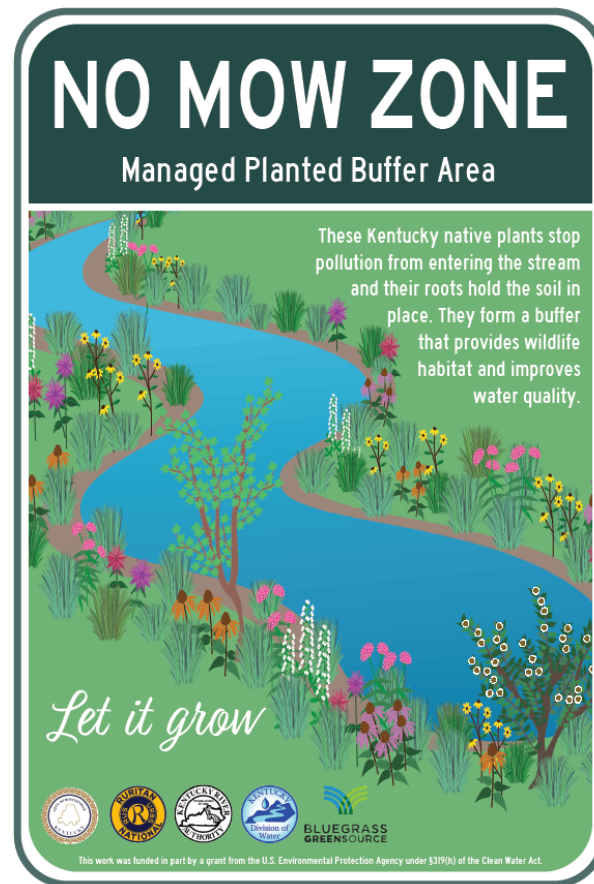
*Bring shovel, trowel, and gloves if
you have them!*

800 + Plants to get in the ground!

Volunteers Needed



NO MOW ZONE SIGNAGE



EDUCATIONAL SIGNAGE

Hustonville Ruritan Park Riparian Buffer *protecting our streams*

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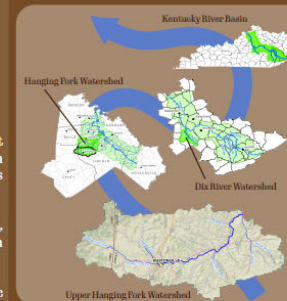


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This work was funded in part by a grant from the U.S. Environmental Protection Agency under 8330003 of the Clean Water Act.

GRAND OPENING FESTIVAL



CELEBRATING HUSTONVILLE
RURITAN PARK

Grand Opening

SATURDAY | JULY 20
4pm to 8pm

**HUSTONVILLE RURITAN
PARK PAVILION**

Live Music • Food • Stream-side
Activities • Fun for Kids

*In evening of fun! Come learn about the work being done in
your community while enjoying live 'Music with Joe' and
good eats. Bring lawn chairs or a blanket for the family!*

10039 West Main St., Hustonville Ky.

CITY OF DANVILLE STORMWATER PROJECTS (JOHN CASSEL)

**CLARKS RUN TRAIL
IMPROVEMENTS AND
EDUCATIONAL SIGNAGE
INITIATIVE
(JENNIFER KIRCHNER)**

CREEC PROJECTS AND CURRENT INITIATIVES (PRESTON MILES)

**US HIGHWAY 127
PHASE I AND PHASE II
SEWER PROJECTS
(BILL PAYNE)**

**EQIP FUNDING IN
HANGING FORK
WATERSHED
(PEGGY BAGWELL)**

OPEN DISCUSSION

OPEN DISCUSSION

**WHAT DOES CLEAN WATER IN THE
DIX RIVER WATERSHED LOOK LIKE
TO YOU?**

OPEN DISCUSSION

**Target/ Focus
Areas**

**Grant
Opportunities**

**Success
Stories**

**Concerns/
Issues**

**Future
Initiatives**

Partnerships

**Community
Outreach &
Education**

**Water Quality
Management
Ideas**

LINDSIE NICHOLAS, P.E.

WATERSHED COORDINATOR

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