

Dry Creek Watershed Roundtable Community Meetings

February 5 and 9, 2008



This project is funded in part by a grant from the U.S. Environmental Protection Agency under 319(h) of the Clean Water Act through the Kentucky Division of Water to the Kentucky Waterways Alliance (Grant # C9994861-04).

We want to hear from you

1. How do you use the creek?
2. How would you like to use the creek?
3. How do you use the watershed?
4. Why is the watershed important to you?
5. What are the problems in the watershed?
6. What are your goals for the watershed?

What is a Watershed?

A Watershed is . . .

an area of land where all the rain and snow melt flows over the surface or through the soil as groundwater to the lowest point, a stream, lake, river or wetland. The boundary of a watershed is the high point, or ridges, on the land.

What is a Watershed-based Plan?

A watershed-based plan is a comprehensive study of all the activities and sources of pollution on the land that drains rain and snow melt to a specific stream.

What is a Watershed-based Plan?

A watershed-based plan ...

- identifies information about the levels of pollution and flooding in the stream, the sources of the pollution and the amounts each source contributes,
- includes steps that can be taken to reduce the levels of pollution and flooding and who can take action to perform these steps.

What is a Watershed-based Plan?

Everyone who lives or works in the watershed should participate in developing this plan so that all concerns about the water in the stream are discussed, investigated, and addressed to ensure clean water for everyone to use.

Why use a Watershed-based Plan?

- ❑ Looks at all activities in the watershed.
- ❑ The plan is a way to fix all pollution sources in the watershed.
- ❑ The plan encourages community input and involvement.
- ❑ With a plan for the future, water resources can be protected and restored in Dry Creek.

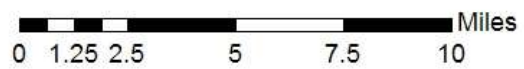
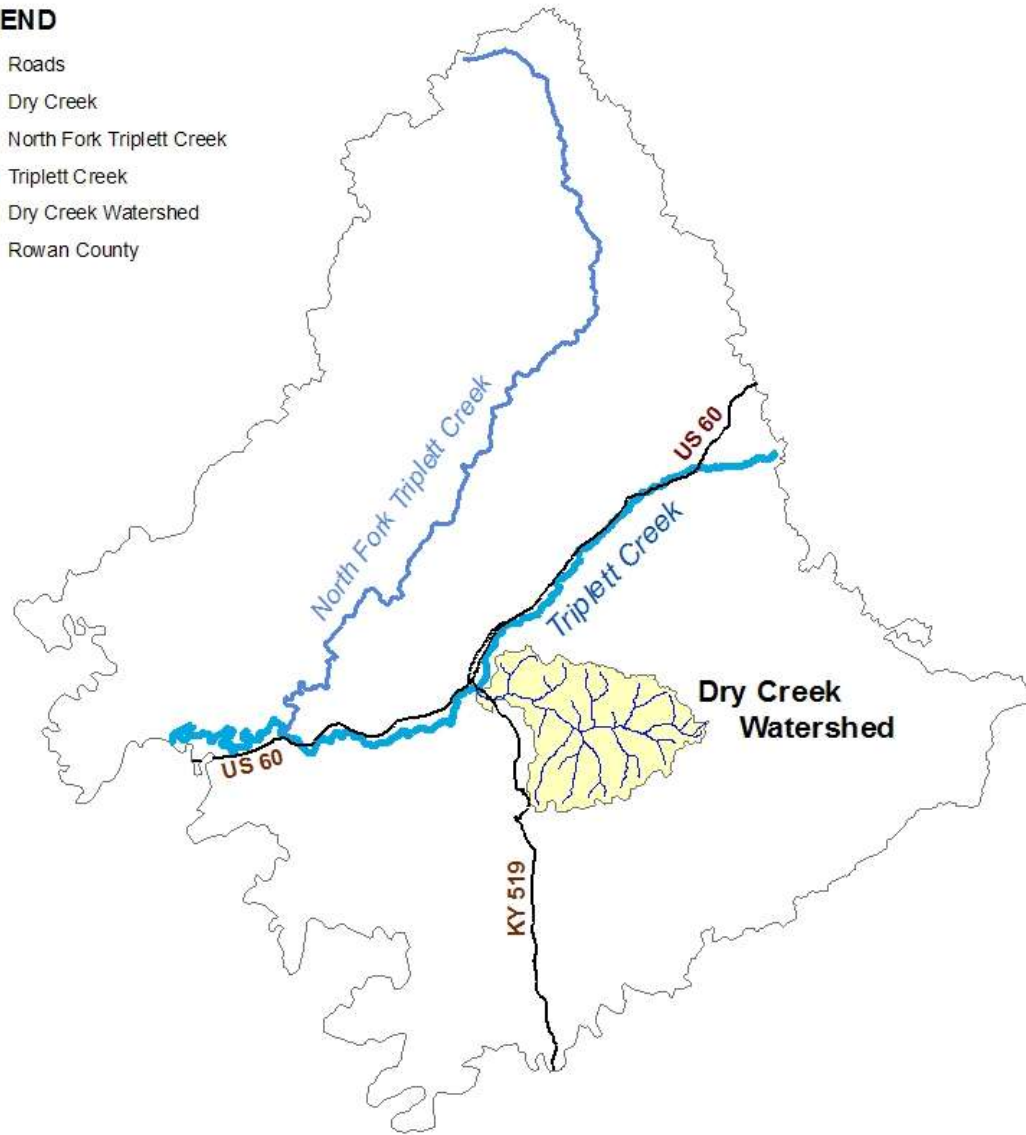
Why Do a Watershed Based Plan for Dry Creek?

Dry Creek is polluted by sediment (soil) and sewage. This pollution prevents the creek from supporting all of the aquatic creatures, such as fish and insects that are supposed to live in the water.

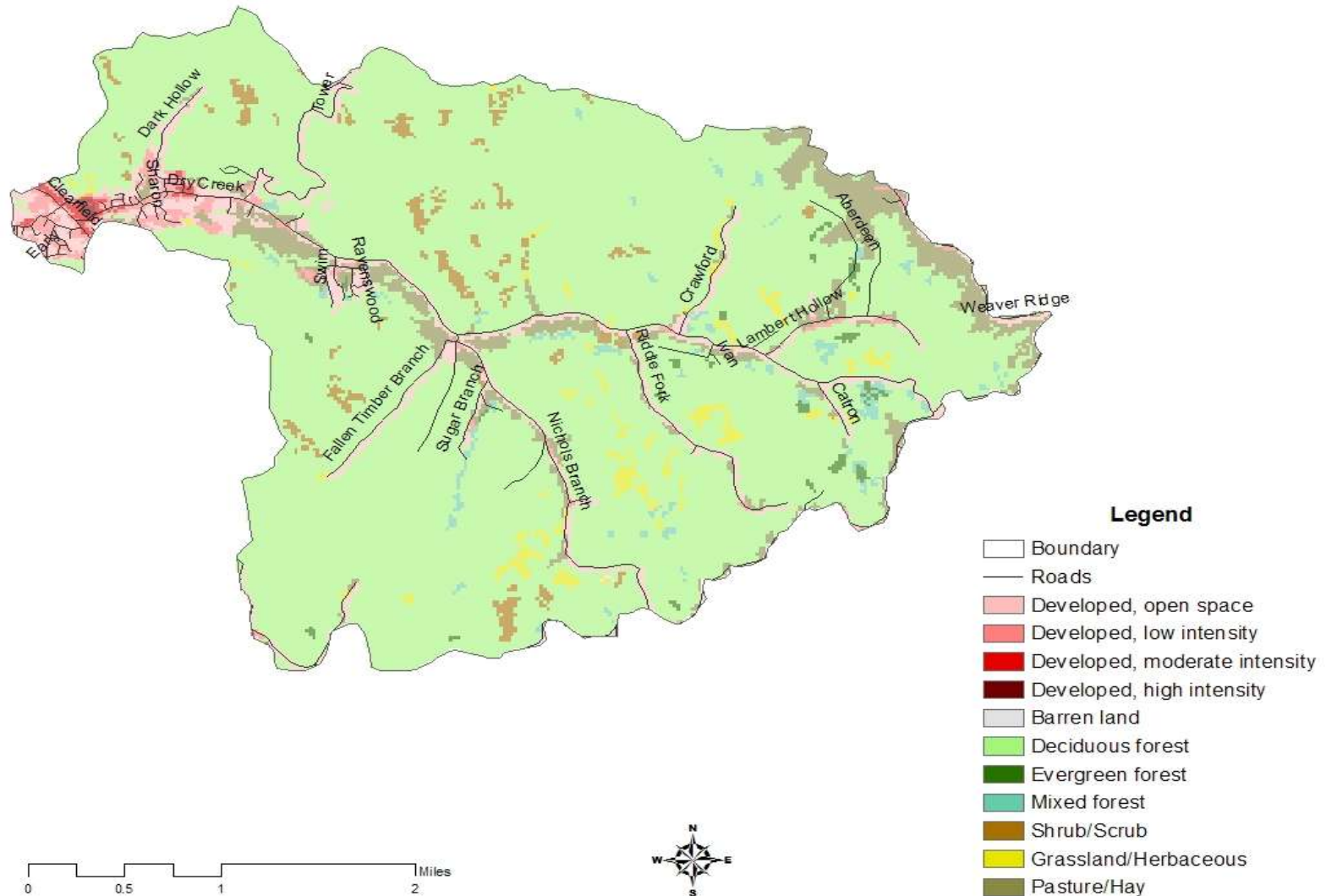
Listed on the 2006 Integrated Report to Congress on Water Quality as only partially supporting aquatic life.

LEGEND

- Roads
- Dry Creek
- North Fork Triplett Creek
- Triplett Creek
- Dry Creek Watershed
- Rowan County



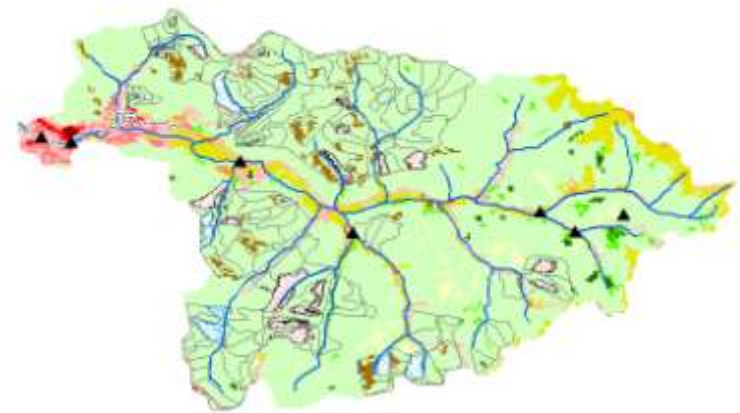
The Dry Creek Watershed



Initial Habitat Assessments



Dry Creek Watershed



Legend

- ▲ Habitat Assessment Sites
- Sewerlines
- Streamlines
- DC_USFS_land
- DC_comm_logging
- DC_sustainable_logging
- Developed, open space
- Developed, low intensity
- Developed, moderate intensity
- Developed, high intensity
- Bare land
- Deciduous forest
- Evergreen forest
- Mixed forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay

0 0.5 1 2 Kilometers

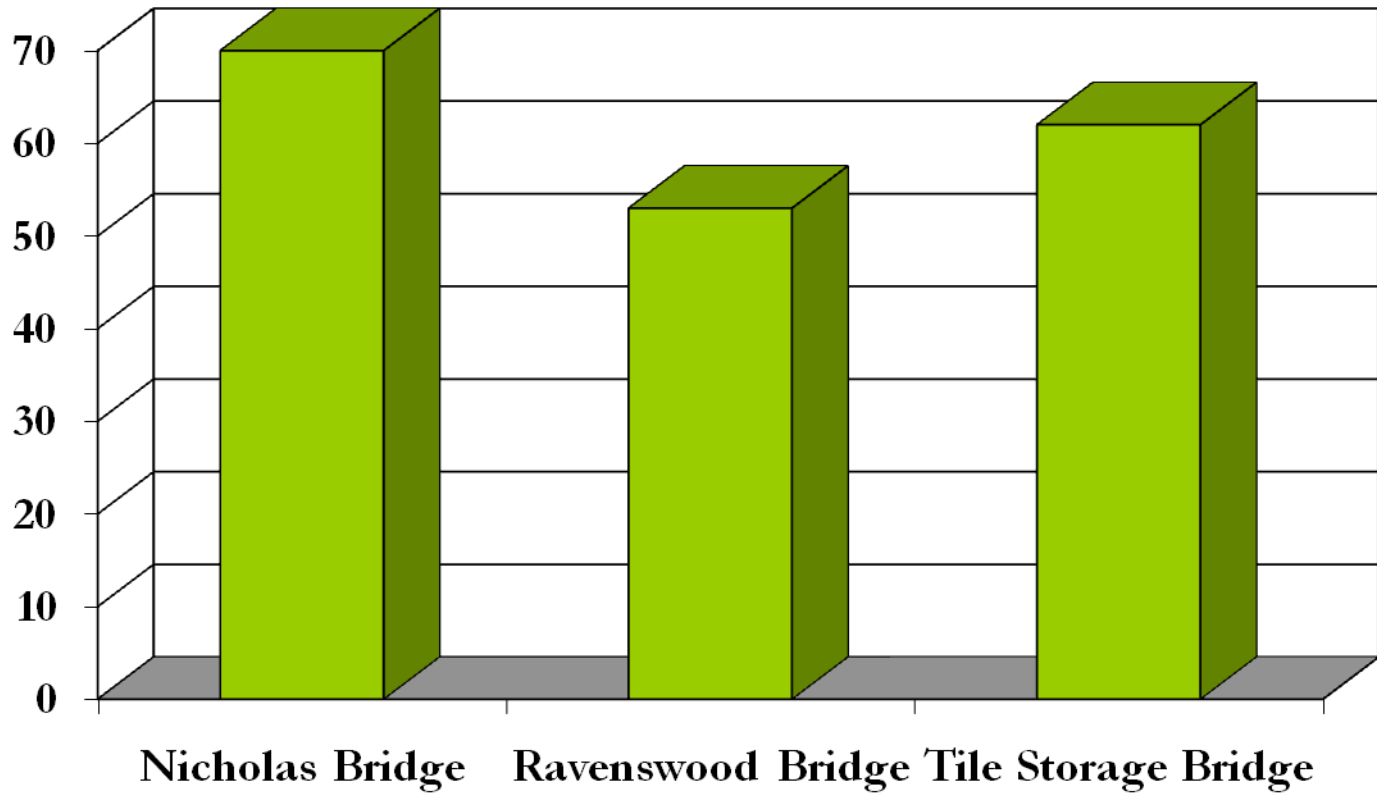


Habitat Assessment Looks at ...

- ❑ How much water is in the stream
- ❑ Sediment in the stream
- ❑ Plants along the stream
- ❑ Places where insects and fish can live

Habitat Assessment Scores range from 0-200

Habitat Assessment, January 2008



Most common problems

- ❑ No plants and trees along the creek
- ❑ Channel straightening
- ❑ Soil erosion along creek



SEDIMENT

- ❑ Weathering – physical and chemical breakdown of rocks and minerals
- ❑ Erosion – transport of weathered material by gravity, wind, water, and ice
- ❑ Sediment – particles (from weathering and erosion) once there are in transport

Signs of Erosion



Signs of Erosion



Nutrient Data

- Nutrient loading is often associated with poor habitat assessment scores and sedimentation.

Nutrient and Biological Data 98-99

- ❑ Areas of concern were oxygen at some sites.
- ❑ Increasing nitrate levels.
- ❑ Spots with elevated total phosphorus and nitrate indicated failed or no septic system.
- ❑ No flow or sediment data collected.

Nutrient and Biological Data 2006

- ❑ Dry Creek was one of the “dirtiest” waterways in the Triplett Creek watershed.
- ❑ Elevated nitrate and phosphorus upstream.
- ❑ Increase in conductivity downstream.

History of Bacteria Data

Sept 98 – August 99

- ❑ 13 sites were sampled.
- ❑ Fecal coliform ranged from 3 to 3840.
- ❑ The Morehead Utility Plant Board installed new sewer lines in 1998.

Triplett Creek Study, 2006

- ❑ 2 sites were sampled.
- ❑ Fecal coliform ranged from 20 to TNTC.
- ❑ *E.coli* ranged from 180 to TNTC.
- ❑ Both sites exceed standards for Fecal coliform and *E.coli*.

Bacteria Data, Fall 2007

24 October – 14 November

- ❑ 8 sites were sampled on 5 different dates.
- ❑ Fecal coliform bacterial densities ranged from 0 to 1,600/100 mL.
 - Geometric means ranged from 2/100 mL to 52/100 mL
 - State acceptable levels of fecal coliform bacteria is <200/100 mL.
- ❑ *Escherichia coli* densities ranged from 0 to 2,260/100 mL
 - Geometric means ranged from 2/100 mL to 312/100 mL
 - State acceptable levels of *E. coli* is <130/100 mL.
- ❑ Fecal coliform to fecal streptococci ratios indicate that the source of fecal contamination is animal and a mix of animal and human.

Bacteria Sources

- ❑ Run off from lots with animals
- ❑ Failed septic systems
- ❑ Improperly sized leaching fields
- ❑ Leaking sewer lines

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