

Floyds Fork Watershed

TMDL will address nutrient pollutants; condition of stream

**By Janet Pinkston and Arnita Gadson, Kentucky Environmental Quality Commission
Photographs by the Kentucky Division of Water**

What is the value of a pristine stream? Who owns a creek that meanders for 62 miles through six counties of Kentucky landscape? Whose job is it to protect the stream for all who wish to use it? How can they do so in a way that accommodates growth and protects the asset for future generations?

This is the drama playing out on Floyds Fork Watershed, a once-rural waterway now situated on the rapidly developing suburban fringe of Jefferson County. The headwaters of the creek begin in Henry County and continue through Oldham, Shelby, Jefferson, Spencer and Bullitt counties draining 284 miles and covering 180,000 acres.

In the case of Floyds Fork, the creek is not a source of drinking water, but it is used by anglers and canoeists. Federal regulators do not recommend eating the fish from Floyds Fork as the creek has been classified as an impaired body of water. The fact that Floyds Fork made the impaired list is a big deal because once this happens, the state is mandated to clean it up.

The creek has large and medium-sized sewer plants, as well as many small package treatment plants discharging to its waters. Eight of these facilities are owned by the Metropolitan Sewer District. Some are scheduled to be replaced under existing rules and regulations, and the cost of potential new controls could fall



For thousands of years, the creek flowed relatively unimpacted by man until the modern world intervened and brought with it the pollution that trails an industrial society. These contaminants include raw sewage, sediment, pesticides from lawn chemicals, farming, golf courses, plus highway salts, oils and grease.

According to the U.S. Environmental Protection Agency (EPA), Floyds Fork Creek has been under significant pressure from new construction. Pollution from these pressures has reached a point where the federal government has declared Floyds Fork too polluted for swimmers and unhealthy for fish.

It is a land use story playing out nationwide. When cities grow, the countryside is minimized.

The galloping press of humanity means that the infrastructure for sewer and stormwater treatment must keep pace with development in order to protect natural resources. EPA's role in that process is to protect public health using the Clean Water Act as its guideline.

Cane Run is a tributary of Floyds Fork Watershed, located in Jefferson County upstream of the Thurman Road Bridge. Studies show that it supports a healthy biological community.

on public entities such as city governments, private businesses and citizens.

According to Louisville lawyer Bud Hixson, increased protections on the horizon may help the creek survive progress.

"It's now admitted and understood that we've reached and exceeded the loading capacity of this stream with pollution,"

said Hixson, who testified before the Kentucky Environmental Quality Commission (EQC) in August.

"The whole point of the Clean Water Act is to save beneficial recreational and wildlife resources for future generations.

We are in an era where impacts, pressures, industrial development and human encroachment have reached crisis proportions on nature. Sewer plants are loading the stream in both wet and dry weather...this was not the intent of the Clean Water Act. It was to limit pollutants, and if not working, to limit them more," he continued.

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RIGHT: *Floyds Fork Watershed flows through six counties.* Map by Tetra Tech Inc.

CENTER: *Longear sunfish (*Lepomis megalotis*) collected from Long Run in Jefferson County.*

BELOW: *Mark Vogel of the Kentucky Water Quality Branch holds a snapping turtle at Cedar Creek in Jefferson County.*



How does the designation “impaired water body” affect you?

It means that these waters are considered too polluted for human recreational use and contact. It also means these waters are polluted beyond the healthy threshold for aquatic life. As a result, resources and strategies need to be implemented to clean up the water. These could include updates to sewage treatment systems, increased controls for stormwater management, construction of streamside vegetated buffers and education/outreach efforts for landowners.

Upgraded sewer plants may be key to cleanup, but there are other sources of pollution, such as run-off from farm fields, leaks from septic tanks and stormwater run-off from cities large and small. Improved infrastructure is instrumental to preventing unlawful discharges of pollutants.

First though, a study is under way and must be completed to identify pollution sources. The document’s preliminary conclusions and modeling are a particular worry to farmers who fear that farming will be over-cited when sources of pollution are detailed.

Why? Because the document at the heart of the discussion, called Total Maximum Daily Load or TMDL, will require data collection and computer modeling to identify sources and causes of nutrient pollutants. The Floyds Fork TMDL will be the first modern nutrient TMDL in the state addressing nutrient pollutants, total phosphorous and nitrogen. When phosphorous and nitrogen are introduced to bodies of water, they can cause excessive algae growth, which leads to excessive amounts of nutrients that will affect the levels of oxygen in the water.

In other words, what happens at Floyds Fork may have wide-reaching implications and influences statewide. One implication may be higher sewer rates. A previous wave of federal involvement in Louisville to prevent sewer overflows resulted in a consent decree between the city and EPA. The Metropolitan Sewer District agreed to upgrade infrastructure and improvements underwritten with a ratepayer surcharge.

Since the stakes are high at Floyds Fork, the state has assigned the Kentucky Water Resources Research Institute (KWRRRI) at the University of Kentucky to lead a conversation about the creek with people who live, work and play along the watershed. The goal of the process is to identify shared values, minimize conflict and maximize consensus, according to Dr. Lindell Ormsbee, the hydrologist and scholar leading the effort.

Citizens and citizen groups are encouraged to participate in the conversation that will include questions such as whether sewer plants should be regionalized or made larger to replace small, aging plants. Will stronger water quality pollution controls lead to higher sewer treatment rates? And, how will growth and development be managed?

Visit KWRRRI’s website at <http://www.uky.edu/WaterResources/FF/index.html> to learn more about the effort. KWRRRI is gathering data about water quality science and human factors for a report due June 2013. To get involved, call 859-257-1299 or email Christie.Oliver@uky.edu or Ormsbee@uky.edu

“The EPA is turning the page on local regulations, and we want people to be up to date on potential implications,” said Arnita Gadson, executive director of the Kentucky EQC.

