

Dix River Watershed Council

July 17, 2006

Draft report – submitted by Pamla Wood

Present: Kay Harker, Lee Colten, John Webb, Tony Miller, Pamla Wood, Malissa McAlister, Rose-Marie Roessler, Linda Alexander, Donald Gooch, Tony White, Ken Douglas, Preston Miles, Bill Payne, Scott, Wallace, Tim Montgomery

Purposes & concerns

The council reviewed concerns listed by council members at the May 9 meeting. Malissa reviewed the purposes for forming the Council:

- Help identify pollutant sources,
- Review and comment on sampling results and analysis, as needed,
- Make specific recommendations for water quality improvement projects,
- Support, encourage, and participate in actions recommended in the final plan.

Sampling program

Tony Miller, from Third Rock, explained the sampling program: sites, parameter, sites of concern. He said the goal of sampling is to determine what's causing the impairments in these streams. Third Rock is sampling DO (dissolved oxygen), nutrients, and various other chemical parameters to help identify problems in the lake. The Division of Water, which monitors to determine the level of impairment relative to other streams, has identified Clark's Run and Hanging Fork as the areas of highest concern. Clark's Run has excessive nutrients, which increases algae and leads to low DO.

Tony Miller explained that algae uses oxygen when it decomposed at night, and bugs & fish die when the DO is low. He said phosphorus is usually the limiting factor in algal growth, and the level of phosphorus is very high directly below the wastewater treatment plant; phosphorus is a natural byproduct of treating all that waste. New treatment standards may impact the phosphorus below the treatment plant.

Donnie said phosphorus could come from lawn fertilizer; Bill said golf courses also contribute.

Tony Miller said that the uppermost sampling site is on Corporate Drive, upstream of Danville, outside the bypass (by the technical college).

The Division of Water will evaluate Total Maximum Daily Load (TMDL) on Clark's Run and Hanging Fork. The purpose is to be able to give specific limits to those found to be responsible. One TMDL in Hanging Fork will be done for bacteria; a bacterial TMDL will not be done for Clark's Run, despite the fact that Third Rock found it very high in coliform in sampling, because it isn't "listed" for bacteria. Tony Miller said that GRW, another consulting firm, has found industrial wastes in sampled landfills, creating the potential for toxic pollutants.

Third Rock has 18-20 sites throughout the watershed, at locations determined by working with modelers, conducting physical habitat characterizations, and some initial sampling. To find pollutant sources, sites were placed high in the watershed, above and below probable pollutant sources, or near the mouth of streams. There are many, intermixed types of land use in the Clark's Run watershed, so Third Rock tried to tease apart their impacts by taking samples at a lot of sites.

For TMDL calculations, modelers will decide how much the stream can "take" - of phosphorus, for example - and then see what each inflowing stream contributes. Third Rock will estimate which areas are making the contribution. Ultimately, these calculations and conclusions will be used to reduce contributions.

Lee said the Division of Water (DOW) has less authority over pollution coming off the land, unless one source can be proven. There are ways to get at “bad actors,” but most situations aren’t so clear. DOW wants to work with the Council to find solutions to those problems, to work with landowners and others in the watershed to address those problems in an amiable fashion.

Tony said there are some resources available to assist agricultural landowners, such as funds from the Farm Bill and the tobacco settlement funds. However, preliminary sampling shows that the source of bacteria is more often human than livestock.

Donnie asked about wastewater treatment for Moreland and Hustonville homes; Tony said they have a “package” treatment plant. Donnie also pointed out that dairy operations are minimal and no hog farms remain.

Rose Marie asked where the sewage from new development is going. Bill said that Hustonville has talked about running a sewer main north, towards Junction.

Tony and Lee explained that the first flush from storms brings pollutants from surface runoff, whereas pollutants found in low-to-normal flow is likely to be from point-source discharges such as sewage or septic. Third Rock is measuring flow as well as volume.

Donnie pointed out that Gilbert’s Creek is dry, and Stingy Creek and Cedar Creek will dry up. Record rainfall filled the lake up quickly. He also said it shows, downstream, when the dam is draining.

Bill observed that Knoblick and Hanging Fork are unimpaired, but below the confluence they are impaired. Tony said that their sampling didn’t find excessive phosphorus in Hanging Fork. However, he said that phosphorus level entering a reservoir should be 0.05, and triple that amount is entering Herrington.

Bill said a lot of cattle have been fenced cattle out of the creek.

[Tony left the meeting at this point.]

Grant funds/project ideas

Lee said grant funds of about \$60,000 are available, which is enough to get started on some project. Funds would be arranged through a contract or Memorandum of Understanding with the Division of Water; they require a 40% match, so the total project cost would be \$100,000. The criteria for project options for these funds are:

- Addresses documented water quality issues,
- Near-term water quality improvements are possible,
- Requires funding assistance, and
- Technically feasible/able to demonstrate quantifiable improvements.

Malissa said that she hoped this Council would work independently, in addition to providing local input to the Division of Water, -- especially while waiting for data collection and analysis. Also, the \$60,000 is already available for use, perhaps in a broad effort.

The deadline for the entire Dix River Watershed grant is 2009. When the watershed plan is complete, the area will be in a good position for more funding.

Project ideas included the following:

- Introduce sterile grass-eating carp, to eat algae and raise dissolved oxygen (Bill suggested).
- Reduce fertilizer used on lawns (Donnie suggested). Linda said Bluegrass PRIDE has the information, classes about lawn and yard mgt. Rose Marie said diversity is important. Pamla suggested working with Extension to promote diversity, etc., using PRIDE curriculum.

- Educate golf course managers to reduce impacts (Bill suggested). There are some lakeside courses.
- Look at areas with failing septic systems and offer incentives for improvement (Rose Marie suggested). Boyle & Mercer Counties weren't able to get septic assistance offered by East KY PRIDE. Tony said poor soil conditions make it difficult to fix septic problems in some locations; cluster systems are sometimes necessary. He also said that Mercer County has a countywide sanitation district. Malissa said that another watershed group (Eagle Creek) is offering landowners cost-share, or the full cost, to correct failing septic systems. In some cases, cluster systems are appropriate, i.e. individual septic tanks using a common drainfield, which is managed by another agency. Kay said \$60,000 wouldn't finance a cluster system, but could fix systems that aren't functioning.
- Help form a sewer district in some of the heavily developed areas (Tom suggested). For example, there is sewer service on Airport Road, right below junction, but none to nearby housing for 300-400 people. (Lee said funds cannot be used to *construct* sewer lines, but may be approved to work towards establishment of a sewer district.) Pamla suggested assessing the adequacy of human waste treatment throughout the watershed.
- Establish honeydew wagon service on the lake and/or educate boat owners (Linda suggested). Linda said there is not one working pumping station on the lake, although Candora is only waiting for parts. Fish & Wildlife has notified marinas that the agency is going to start enforcing laws. Chimney Rock, and two other marinas owned by Jeff _____ will have pump-outs next year. However, many houseboats don't have access to a pumping station.
- Educate septic system businesses that regular clean-out is important for protecting water quality (Pamla suggested).
- Sample for toxins along the railroad (Rose Marie suggested). (Lee said it is unlikely that sampling would be an approved use of these funds. In addition, Kay said that toxins are not a documented water quality problem in this watershed at this time.)

Related discussion

- Headwater areas are preferred for project work, because it is easier to demonstrate improvements, show success.
- The Council needs the data, and data analysis, before making major decisions about priorities. Yet the data collection won't be finished until February 2007, and people will need assistance to help understand them. However, bacterial data will be complete in October. Lee explained that these data would be used in TMDL modeling, which will have legal implications.
- The Council needs to know the range of solutions for wastewater issues.

Data needs/data review

The group expressed interest in reviewing other available data, such as Kentucky River Watershed Watch (KRWW). Rose Marie encouraged everyone to consider volunteering for KRWW, providing data for pH, DO, nitrates, phosphates, and bacterial counts. She said it is not only a good way to monitor a stream near you, but also learn about what the information means. Information about KRWW can be found at <http://kywater.org/watch/ky.htm>. Sewage is also contributing nutrients, said Malissa. Preston asked if the Council could obtain a compliance report for the 30-40 permitted locations in the watershed. Lee said he would supply this.

Ideas for project locations

- Junction City, which is in the headwaters, had a tap-on ban and needs solutions (but money cannot be used for sewer lines).
- It would be best to find a location in the headwaters, with problems and willing landowners. Rose Marie mentioned Alum Springs: a small community where KRWW sampling has found problems. Rose Marie said there is also an old landfill there.
- Check with Jim and Rosemary, suggested Rose Marie: they sample in Garrard County, with KRWW.
- A project in the Hanging Fork watershed would more easily be approved, Lee said. There are lots of houses all along 127, Rose Marie said: Jeffries Road, Shelby Woods subdivision below Junction.
- The Council needs more information about areas of the main-stem of Hanging Fork in Lincoln & Garrard Co.
- Cedar Creek has recently been closed to swimming, Donnie said. Rose Marie said it is beautiful: no sediment, no algae. Pamla said that doesn't mean there isn't bacteria.

Health Departments/county differences, etc. (miscellaneous discussion)

Tony said that in Mercer County, a 2 ½ acre lot and 18" of soil is minimal for septic system approval, and a soil evaluation is required before a building permit is issued. However, he said Mercer Countians always have a wastewater option. Lagoons/ponds are used in the western part of the county. If a new septic system in Mercer County fails, the owner has to replace it. Old systems, including most of those around Herrington, did not have those requirements.

Linda commended the Garrard Co HD.

It is a statewide law that an approved wastewater treatment system be in place before a permanent electrical hookup is approved.

Next Meeting: Sept 12. Location: Danville city hall.

- Malissa will call health departments to ask environmental inspectors to help the Council identify areas with wastewater treatment issues such as leaking septic systems.
- Pamla will check on getting Ky River Watershed Watch data for the Council.
- Lee will try to obtain compliance information about permittees in the watershed.

