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HINKSON ISSUE COMPLEX, FRUSTRATING TO ALL SIDES (Published May 21, 2005, in the Columbia Business Times) - 5/21/2005
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HINKSON ISSUE COMPLEX, FRUSTRATING TO ALL SIDES

COLUMBIA, Mo. – With the results of a new water quality survey of the Hinkson Creek coming next fall, it may be wise to remember Albert Einstein's adage that people cannot solve a problem using the same thinking they used when they created it.

Like most complex issues, there are at least two sides to the Hinkson Creek's difficulties. The Hinkson's pollution problems were created, and accelerated, over at least decades, so any solutions will require creative thinking on the part of both the environmental and development communities.

"Hinkson is a tough one, there's no doubt about it," said Scott Dye, director of the National Water Sentinels Program for the Sierra Club's Ozark Chapter. "It's a stream that runs through an urban area. The problems with Hinkson Creek probably took more than 100 years to accumulate. It's not something we're going to fix overnight, but we do have to start somewhere."

The latest legal battle flared up in 2002, when a preliminary study by the Missouri Department of Natural Resources highlighted the Hinkson on the designated list of impaired waterways, known as the 303(d) list and began to enforce its status. The creek had been placed on the list originally in 1998, after several fish kills were noted in the creek. As a result of the new stricter enforcement, the agency slowed the granting of building permits in the Hinkson watershed. In addition, because the DNR did not know yet exactly which pollutants were killing the fish, the Hinkson was listed as impaired by unspecified pollutants, which infuriated local developers even more. To them, it seemed projects were being held up for no valid reason.

"The astonishing thing here is not that we have a difference of opinion," said Don Stamper, executive director of the Central Missouri Development Council. "The astonishing thing is that this creek ended up on the endangered waters list without knowing what the pollutant is. If you don't know what the pollutant is, how do you know it's polluted?"

The Central Missouri Development Council hired Former Department of Natural Resources Director David Shorr to represent its interests and get the permits reissued. "The agency came in and essentially said there's going to be a prohibition on building; there will be no issuance of

permits for development in this community, in Hinkson Creek," Shorr said. "That, in my opinion, was an illegal act."

Of course, DNR did not agree. Phil Schroeder, chief of DNR's water quality monitoring and assessment section, said not issuing a permit hardly constituted a prohibition on construction. "We don't have any authority to create a prohibition on building," Schroeder said. "We do obviously have the obligation to administer laws in the control of wastewater discharges or pollutant discharges. Our responsibility is to review each permit application and to make sure the discharges associated with that activity do not exceed water quality standards."

Shorr complains that the listing was made administratively, without due process, and that the department's officials made a premature decision. He questions whether the Hinkson should have been listed in the first place. A listing carries a negative economic hit to a community, he said.

"If the Jack's Fork, one of Missouri's most highly sought-after recreational waterways, is listed, then it has a stigma to it that may impact its economy," said Shorr, an attorney with Lathrop and Gage in Jefferson City. "Hinkson Creek has a different economy to it, but if it's listed, it changes the economy. And in this case, it was listed for an unspecified pollutant. In other words, they claim that there's a negative impact in the stream, but they don't know what the impact is, so then, when you go to address the alleged impact, you don't know what you're looking at. These listings, as a matter of law, are supposed to be specific, and this was very vague."

In 2004, the Hinkson imbroglio resulted in a change in the way DNR handles putting streams on the impaired waters list. The agency is now required by rule to include public participation in its listing efforts, allowing for more public review on lists before they become final. According to Phil Schroeder, the Clean Water Commission, which directs the department on water quality matters, directed the department to develop a new methodology for getting waters on the 303(d) list, the new policy has been approved by the Clean Water Commission, and DNR is going through rulemaking to get it adopted.

"Prior to that time, it was pretty much up to professional judgment," Schroeder said. "It was through a lot of discussion with the Environmental Protection Agency and other experts in the field in terms of what waters needed further examination for the potential impairment. Our newer methodology goes along the lines that David [Shorr] has indicated, that we collect more information to really pin down the exact condition of a stream or water body before it is put on the 303(d) list."

The list is a product of the 1972 Federal Clean Water Act, which said that, by 1983, all U.S. public waters were to be fishable and swimmable. Environmentalists cheer the new emphasis on enforcing the water act, while those who support development tend to think the idea that the Hinkson could ever become swimmable is ludicrous.

Shorr said DNR did not follow the seven steps required by the Missouri Supreme Court before it could regulate after a stream had been placed on the impaired waters list. Although now DNR must follow the rulemaking process, which includes a regulatory impact report and public notice, in 2002 DNR only had to recommend to EPA that a stream be listed. When the Missouri Clean Water Commission requested that the Hinkson be removed from the list because of insufficient data, the U.S. Environmental Protection Agency refused.

To find more definitive data, DNR has launched a three-phase study of water quality in the 14 miles of Hinkson Creek as it travels through Columbia. The process is known as a Total Maximum Daily Load, or TMDL, analysis, which is a detailed attempt to discover what is causing the Hinkson to not support aquatic life adequately.

According to Randy Crawford, supervisor of DNR's water quality monitoring section, such studies benchmark the Hinkson's aquatic life against five similar "reference" streams that are designated as the best examples of healthy waterways within a region and also against a nearby

"control" stream, the Bonne Femme Creek. Crawford said the reference and control streams come from data developed by his unit over the past decade or so.

"The situation with Hinkson has simply been that, because it has unspecified pollutants, it makes it more difficult to find out what the problem or problems are," Crawford said. "We knew going in we probably weren't going to find one problem in one place because this is an urban stream. Hinkson has the same issues that every urban stream has."

The Phase 1 report was released in November 2004. Although technically due at the end of June, the second phase results will be released in the fall because extra time is needed to identify all of the organisms in the invertebrate samples. The third and final phase is slated for June 2006.

Results were mixed on the phase 1 study, which ran roughly from Interstate 70 to Broadway. The DNR study found sodium and calcium chlorides in the water that were tracked to the Missouri Department of Transportation facility on Conley Road near I-70, although the department also studied some sites located further upstream looking at runoff from agriculture and the city's landfill. Chlorides are the salts used in the winter to keep snow and ice off local roadways. The City of Columbia uses salt, sand and cinders to make roads passable during winter storms.

"The stream was listed for unspecified pollutants do to urban runoff, and it was placed on there based on a history of fish kills over the past several years," Crawford said. "The beneficial use, which was listed as being impaired, was the aquatic life. So based on that information, we needed to go and first of all reconfirm that the aquatic life was impaired."

The 2002 preliminary study, which looked at the entire length of the Hinkson through Columbia, found that there were quite a few areas of the stream in which aquatic life was impaired. The 2004 Phase 1 report documented that the aquatic life was indeed impaired in the section from I-70 to Broadway. Because the impairment came from unspecified pollutants, the broad TMDL analysis was necessary to find what types of substances might be causing the problems, Crawford said.

"We would collect, for example, stormwater samples that came off of the golf course, three off of Broadway Marketplace, there were two that came off of MODOT and then we looked further upstream at the landfill and so forth," Crawford said. "And we set up samplers there that, during a rainfall event, when the water rose to a certain level, it would trigger a sampling device, and it would collect the sample."

DNR studied sediments, water quality samples at base flow, stormwater runoff that was coming after rainfall events, specific stormwater discharges, and collected many different types of samples, Crawford said. The DNR subjected the samples to toxicity tests, looked at what compounds would cause the particular toxicity and then analyzed chemically for the specific compounds. The tests included Microtox, involving a bioluminescent bacteria that glows when conditions are good; toxicity identification evaluation, a standard EPA protocol in which substances are filtered from the sample until the toxicity disappears; a heavy metals test using a chelating agent, EDTA; and the C-18 Column test for organic compounds such as petroleum, pesticides or herbicides. Some of the testing also included the use of a freshwater cladoceran, a water flea.

The tests aimed to show which classes of chemicals were causing the toxicity, so that the technicians could then pinpoint the specific culprits. During one snowmelt sampling from the MODOT facility and Broadway Marketplace in February 2004, after each successive test did not remove the toxicity in the sample, various suspect substances were crossed off the list until it became clear that the pollutant was still dissolved in the sample. Since the sample also showed high electrical conductivity, the DNR scientists realized that chlorides were the problem.

They also found toxicity coming off of the Wal-Mart complex during a rainfall event. The sample included an organic chemical, carbyrl, an active ingredient in lawn-and-garden

chemicals. Lawn and garden chemicals were being stored outside in the parking lot near the storm drains. When DNR told MODOT and Wal-Mart about the problems, both organizations made steps to correct the problems.

However, Shorr said DNR still has not adequately shown what the main pollutants are, although he said they will probably find them eventually. He said there may wind up being no pollutants at all, suggesting that natural phenomena may be the culprit for the stream's inability to support wildlife. And even if specific pollutants are found, the public will face the social question of whether the pollutants are acceptable.

"What do you want to do, not salt the bridges over Interstate 70 in the middle of winter?" Shorr said. "Is a few lost minnows worth the X number of deaths that can be projected from lack of salt?"

About two thirds of Columbia lies within the Hinkson watershed, and it is one of the city's most well-known streams. Most other creeks and branches flow into the Hinkson, which then flows into the Perche, which in turn flows into the Missouri River.

Shorr said the natural design of the stream might even be the problem, in that not all streams have all the key ingredients that are necessary for the way government studies are configured. He said creatures look for ideal habitats and may choose not to live in particular locations that do not fit their needs. "Not all streams are alike; not all will have what is the quote 'expected basic species,'" he said. "In these evaluations, they make some presumptions that certain critters should be there. Well, maybe or maybe not."

New developments are sprouting near the Hinskon in several locations, including the CenterStates development that includes BassPro, the Grindstone Plaza WalMart project, the Sapp housing and golf course development on East Broadway, the Broadway Shops south of the Broadway Marketplace where the WalMart Supercenter is located, the Phillips tract and new businesses on Clark Lane. From time to time, DNR has cited particular sites, fining construction companies for not following best management practices, such as improper crossings of streams or inadequate silt fences, which allow soil to enter the creek, possibly robbing it of oxygen necessary for wildlife. Just last week, some of the final runoff cases were resolved.

Meanwhile, after several recent grease trap incidents that spewed grease into the creek, the City Council acted to tighten its rules on grease traps. Crawford said the Phase 1 study found sporadically high e-coli levels in the water, which DNR suspects come from various sources.

"Further up in the watershed, there are wastewater systems, package plants and so forth that aren't hooked up to the City of Columbia, you've got goose populations, you've got cattle populations, you've got people populations in and around the creek," Crawford said. "And then there's also a lot of the sewer mains that service the north and east side there that also come very close to Hinkson Creek. As part of our investigations, we did find that there were times when those sewer systems overflowed and spilled down right across from the golf course."

According to Crawford, e-coli in the water means sewage is present. Sewage technically does not cause toxicity to wildlife; it uses up the dissolved oxygen in the water, killing fish, and potentially creating a human health hazard. Crawford said also that there may be some older homes in Columbia that are not connected to city sewer lines and may be contributing sewage to the Hinkson.

During an August 2004 grease trap incident at the Conley Road Wal-Mart, DNR scientists were taking samples. "After that greaseball that occurred, and we went up and collected samples to document that, that same day there were little kids playing in the stream about 100 yards downstream from where that overflow was occurring," Crawford said. "Even though this isn't directly related to decreased aquatic life in the stream, that's something that the city and everyone needs to be concerned about because any stream that becomes surrounded by an urban setting is going to have a lot of people, especially little children, playing in it."

Other critics attack the methodology of the DNR studies. "The idea that you have to shut

down development until you know what the pollutants are in the Hinkson Creek is just a completely counter-intuitive idea," Don Stamper said. "While it serves conveniently an anti-growth perspective, it doesn't mean that it's meaningful. In being meaningful, our energy should go into quality research that identifies any pollutants that exist and then plans based upon specific knowledge that are designed to mitigate the pollutant into the creek."

Any attempt to clean up the Hinkson would be expensive, but not cleaning it up could be expensive too. Scott Hamilton, urban conservationist for the Hinkson Creek Restoration Project, said lack of foresight decades ago in the state's metro areas, and the same thing is happening now in Columbia. "The Hinkson could potentially cost us a lot of money," Hamilton said. "What's happening in St. Louis in particular where I grew up at is a lot of the infrastructure is failing because, frankly, the land use has changed, and the planners back in the 40s or 50s or what have you that initially put in these culverts and these bridge crossing had no idea that there would be this much impervious surface in the watershed contributing to that much more velocity. And they are paying millions of dollars now to retrofit all these crossings."

History plays here in Columbia as well. The Hinkson was placed on the 303(d) list because of a history of fish kills. In past years, there were specific incidents of diesel tankers overturning into the stream and individual wastewater treatment plants that discharged into the Hinkson. "I can remember years ago when Hinkson Creek was just gray because of the sewage that was present there," Crawford said. "When the city developed the centralized system and started pumping all of the sewage and getting all of these places hooked up to the main Columbia wastewater plant, the stream really improved considerably."

The critics of DNR's actions demand better science before stopping development. "The Hinkson Creek has become a whipping boy on behalf of the environmental community, and it is sometimes not the greatest quality of criticism," Stamper said. "They would like for us all to believe that you can't do any development because of theoretical pollutants in the Hinkson. And we believe that if there are pollutants in the Hinkson, they ought to be identified. We ought to go to the root of the problem and eliminate the cause, and that's what the rules say. That's what we're supposed to be able to do."

DNR and the Clean Water Commission's new process for listing streams on the list of impaired waters may help, by getting more research up front, but Stamper still questions the methodology of the studies and their results because they were not taken actually at the creek but taken outside the creek at the discharge pipes, some of which are 100 feet from the creek. However, Crawford said samples were collected both at the discharge pipes and in the stream as outlined in the report.

Any future solutions to the Hinkson dilemma will find the devil in such details. "Hinkson Creek is important to the whole community," Stamper said. "The Hinkson is a very complex waterway. We understand that it's complex. We don't have all the answers, but we do have a very significant concern for those that want to identify a solution for a very complex waterway based upon the simplest of approaches."

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