



With Your Help We are Making Progress

Friends of the North Fork and White Rivers’ work to protect the water quality of North Central Arkansas’s streams, rivers and lakes requires a combination of “Sound Science” and “Active Conservation” and, with your help, we are continuing through these unprecedented difficult times.

Although many of Friend’s activities are on pause due to the COVID-19 pandemic, some are very active including water testing in Hicks and Dodd Creeks in Mountain Home.

Mike Jirka

Board member Mike Jirka is continuing monthly water sampling and testing for nitrate and bacteria levels. This testing is designed to create a baseline for the City of Mountain Home to determine the sources of these pollutants which have resulted in Hicks Creek being “impaired” according to Arkansas Department of Environmental Quality (ADEQ) and U.S. Environmental Protection Agency (EPA) standards.

The photo at right shows how the testing was conducted before the COVID-19 outbreak. About 6 people would help in the process of collecting water samples and assisting Mike.



Now Mike is managing on his own.

Friends is fortunate to have Mike, with his science skills and experience, as the head of water testing. Mike graduated from the University of Nebraska at Omaha in 1969 with a Medical Technology degree and worked 40 years in 3 different hospitals performing lab tests for the hospitals and medical clinics. He also concurrently served 24 years in Army and Navy reserves as a Medic / Corpsman with a specialty in laboratory medicine. Mike served in the Gulf War I and is retired from the military.



Most of Mike’s work was done on human blood. The closest equivalent to water chemistry would be analyzing spinal fluid or checking the purity of deionized water used in the laboratory.

Mike learned a lot of “old school” chemistry in 1969, before automation became standard practice which makes him an expert when dealing with colorimeters and titrators used in water chemistry.

Tests for bacteria involve placing water samples on culture dishes as shown below and measuring bacteria growth. The level of bacteria growth per milliliter of water indicates the level of bacteria in the overall water sample from the creek. Friends continues to work with the city of Mountain Home in efforts to identify the source(s) of the bacteria and nitrate pollution.

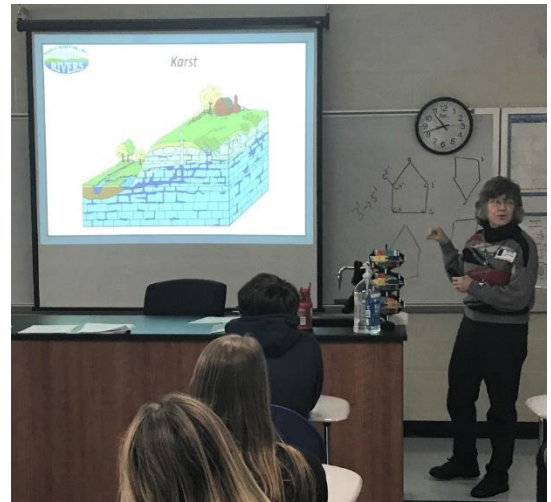


The water samples collected are tested for a variety of pollutants with the results recorded on a spreadsheet. The results are used to create a base line at different times of the year, which helps in identifying sources of pollution.

District 2	Stream Team #	Time Sensitive Tests (run on site) DO will vary with rain or exposure to air					Air / Water Temp index	Any Rain in the last 12 hr	Instrument test	Instrument test Ag Chemicals (seasonal) May spike with rain		Limestone (Karst) raises the water pH Titration tests optional optional				BIO WORISHEET #
		DO (Dissolved Oxygen)	Air Temp °C	Water Temp °C	pH	Turbidity				Nitrates	Ortho-Phosphates	Total Alkalinity	Total Hardness	CaCO3 Segment	Calculated MgCO3	
Site Name F.N.W.R. @ DODD Creek	1179															
Normals	Quarter	5-12mg/L	Seasonal		6.7-8.3			Seasonal	0.84-8.22 mg/L	0.03-0.28mg/L	61-198	71-198				
2020-03-30	Q1	10.60	21.0	16.0	08.40	1.3	N	3.0	02.90	00.50	250	246	0	N/A		
2020-04-23	Q2	10.70	15.8	15.4	08.38	1.0	Y	7.0	00.80	00.96	256	238	220	18		
	Q3													N/A		

Dr. Pam Phillips

Pam Phillips is also a member of Friend's board and water testing program. Pam earned her BS degree from Sam Houston State University and MS and PhD degrees from the University of Texas at Dallas in Environmental Sciences, specializing in water quality and policy. Pam worked for the City of Dallas for the environmental health and water purification departments and at Texas Instruments in environmental regulation.



Pam demonstrates water chemistry tests for the Dodd Creek Stream Team which Friends conducts with Mountain Home High School advanced placement science students. These tests include water temperature, pH, turbidity, total dissolved solids, dissolved oxygen and others. She also presented the water chemistry portion of Friend's stream team classroom program at Mountain Home High School.

Friends is fortunate to have Mike Jirka and Pam Phillips as board members and leaders of our water chemistry program.

Friends depends on our Members to help support our water testing and education programs.

I know these are difficult times for all of us, and we truly appreciate the generosity of the members and donors. Without this support Friends of the Rivers could not continue its efforts to help keep our waters healthy. The waters of our region not only provide opportunities to enjoy ourselves and maintaining some degree of normalcy in our lives while social distancing, but are critical to our local economy. If you have not yet renewed your 2020 membership, you can do so at [online](#).

Thank you

Steve Blumreich, President
Friends of the North Fork and White Rivers
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