HEART OF THE VALLEY
Times-Villager
Vol. 134 No. 82 – Saturday, June 20, 2015 Serving our neighbors since 1880 24 pages 75¢

FVTC coordinating groundbreaking Fox River study

By Brian Roebke
Editor

The Fox River is a crucial part of the economic and cultural life in the Fox Valley, and Fox Valley Technical College is leading an effort to study the quality of the water in the huge Lower Fox River watershed and the ecosystem that lives in it.

The college received a grant issued through the state, with FVTC coordinating it and getting students involved as much as they can.

The four students and one graduate, John Moyles of Neenah, a summer intern naturalist at the 1000 Islands Environmental Center in Kaukauna, will get out into the field and coordinate the sampling effort of 14 tributaries to the river from Neenah to Green Bay.

FVTC is working with the Department of Natural Resources, UW Extension, State lab of hygiene, and UW-Superior.

The state lab will analyze collected water samples and UWS will do macroinvertebrate identification this fall.

Students will go out into the water and collect bugs that live in the streams.

There is a community piece involved, water action volunteers.

"They're really the heart of what's going on here," said Scott Heinritz, natural resources instructor at FVTC.

The 14 tributaries are Konkapot Creek, Garners Creek, Neenah Slough, Apple Creek, Plum Creek, Ashwaubenon Creek, Baird Creek, Bower Creek, Duck Creek, Dutchman Creek, Lancaster Creek, Mud Creek, and two branches of the East River.

They collect samples from as close to the river as possible.

Brian Roebke photo

Water that flows through Konkapot Creek in Kaukauna largely comes from farmers' fields south of the city, which is not required to clean it up before it gets into the Fox River. Fox Valley Technical College is coordinating a study to determine the baseline for water quality in tributaries to the Fox River in the lower Fox River watershed.

One of the concerns of the state is dead zones in the rivers and lakes.

Dead zones are where there isn't any oxygen in the water for anything to live. If dead zones get larger, the river habitat is further endangered.

"All of these streams act as a conveyor belt and when we have an event like we had (Monday), with these huge rain storms, they transport sediment and nutrients," Heinritz said.

Nutrients cling to the sediments and they are transported into the Fox River, which is called non-source point pollution.

"We really can't put our finger on where it might be coming from," Heinritz said.

Point sources, basically discharges coming from pipes from paper mills and sewage treatment plants, are easy to find and monitor.

Non-source point pollution is a huge concern nationwide.

Silt screens are required on construction sites to keep dirt from eroding away but that doesn't catch all of the sediment.

Phosphorus is the major nutrient that degrades the river ecosystem. When it gets transported into the bay of Green Bay, it stimulates algae growth.

Phosphorus comes from fertilizer that's applied on lawns, parks, and farm fields, although it's no longer allowed to put on residential lawns.

"The algae takes off like crazy, it doesn't have any restrictions on it, but eventually that stuff dies," Heinritz said. "It kind of rains down to the bottom of the lake and when it gets down there, that algae is consumed by bacteria."

When the bacteria eat the algae, they consume the oxygen of the lake.

That means there are areas of the lake with no oxygen, especially later in the year, mainly during the summer.

Students are monitoring the streams because the state wants people in the community to sample streams.

There are 8 to 10 volunteers, plus friends who help them, from the community who are engaged in the project.

Students are charged with coordinating those volunteers from across the Fox Valley by training them on how to collect the samples.

The bugs that live on the bottom of the streams will tell researchers how healthy the stream is.

There are two ways to look at the health of a stream: fish and macroinvertebrates.

When the sediment sinks to the ground, there's no place for macroinvertebrates (bugs) to live. If bugs don't live, fish don't have anything to eat and the fish leave.

"If you have a bug that lives under a rock and then you fill in around that rock with sediment, it doesn't have a home," Moyle said.

When fish lay eggs in gravel, the sediment can smother the eggs and it stops the ecosystem.

Fish take a long time to adjust, and they move out of an area that doesn't have anything for them to eat. Trout can't live in this area

See River, page 6

River

continued from page 1

because of the sediment that denies their eggs oxygen.

The bugs, however, can't leave.

In the fall, they will gauge the overall health of the river because there isn't much information to judge whether the river is getting healthier or sicker. "This is the first intensive effort to establish baseline data looking at the Fox River," Heinritz said.

The state wants to eventually try to get efforts by citizens, farmers, and landowners to change land practices to cut down on nutrients running off the land and into the tributaries.

Farmland erosion is a huge issue right now but farmers don't have anywhere near the runoff control/treatment requirements that municipalities and industry have.

John Sundelius, director of public works/city engineer for the City of Kaukauna, said the total sediment and pollutant removal required by a municipality is based on land area and type in the municipality. For Kaukauna, farmland runoff that runs through the city, particularly through Konkapot Creek, makes Kaukauna look bad when it flows through the city because it has a chocolate appearance.

"But we don't have to treat it because the sediment in it is not from the corporate limits," he said. "Also, it is frustrating when we see treated storm water runoff leave the Horseshoe Park pond after it's been treated (and looks clear) dump into the murky Konkapot Creek water from the farms to the south of Kaukauna."

Heinritz said, however, that most farmers really love the land and can become their best partner if they become educated. After all, erosion takes away the land that makes them money.

Brian Roebke photo

Water that flows through Konkapot Creek in Kaukauna largely comes from farmers fields from south. Looked a lot like chocolate milk after Monday's rain storm. The city of Kaukauna is not required to treat the water that largely comes from sources south of the city.

Simple things like grass runways that create a buffer between the farmland and streams are not a big financial investment but can pay off in terms of saving land.

"You just leave a space with long grass," Moyle said. "That way, it slows down the water and gets rid of some of the sediment."

The grass absorbs some of the fertilizer that comes off the land and keeps it out of the stream.

The baseline allows them to tell years down the line if conservation practices are working.

"Over time we should start to see improvements in the Fox River and then ultimately in Green Bay," Heinritz said.

He hopes this grant is sustaining and helps to continually engage students to monitor the health of the river.

He likes that students get to do real world work. Moyles, who received his associate degree as a natural resources technician from FVTC in May, coordinates the Konkapot Creek monitoring.

Students not only sample the water but coordinate a group of people that includes college professors, high school science teachers, and interested people from the four counties in the study area.

"It's a great experience for the students to be able to do that," Heinritz said.

Sampling is done monthly from May through October, with data entered into a state database. Students will prepare a report summarizing the data, then make some presentations where they can go to community leaders and citizens in Winnebago, Calumet, Outagamie, and Brown counties that have waterways that lead into the river.

The Environmental Protection Agency of the federal government is intently watching this because these streams are considered impaired.

"They want to see all this stuff come back into compliance," Heinritz said. "The state has to show efforts they are bringing this back into compliance or the EPA steps in and then they take over."

"It's nice that we are getting this baseline because nobody has really done it before," Moyle said. "It's an honor for the school and definitely an honor for myself that I was chosen to help with this."

He said it's been a great experience for him. If the grant continues, the four present students, including Doug Weber of Kaukauna, will mentor them to continue the study.

"The Fox River's kind of a big deal around here," he said. "Everybody loves the river, and the fact that it hasn't been done before, at least on this scale, is kind of surprising."

Heinritz noted the federal government has cracked down on the big suppliers of water pollution over the years that there aren't a lot of things to pull out of the river, but there are still impacts on the system. "A lot of this is coming from those non-point sources," he said. "It's kind of like chasing a ghost."