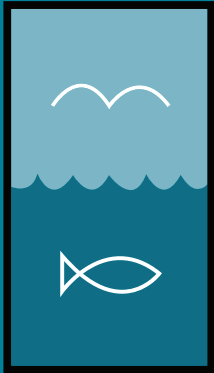


EDUCATION

SCIENCE

THE LOWER FOX RIVER



watershed
monitoring
program

COMMUNITY

TEACHERS
SCIENTISTS
STEWARDS
COLLABORATIVE
PARTNERS
EXCEPTIONAL
EMPLOYEES
OUTSTANDING
VOLUNTEERS
ENGAGED
CITIZENS
ENLIGHTENED
LEADERS

WHAT DO WE WANT STUDENTS? TO BECOME IN THE FUTURE



The Lower Fox River Watershed Monitoring Program: Proven success and student engagement since 2003.

VISION

Imagine a network of teachers and students from high schools in Northeast Wisconsin collaborating on a long-term watershed monitoring and education program. Envision a future where scientifically literate citizens work together within businesses, industries, institutions and government to enhance the economic and social well-being of our community by protecting our most valuable natural assets, the Fox-Wolf River Basin and Bay of Green Bay.



“This program provides students a means of information - something that they can go home and talk to their parents about. The more knowledge people have and the more students understand what they do with their water at home and at school affects the livelihood of our local ecosystems, students will be more apt to change their future decisions to support improved water management strategies.”

– Teacher Dan Albrent, Ashwaubenon HS

“Throughout my years of involvement with the Lower Fox River Monitoring Project, I have seen many of the students involved pursue careers in the field of Environmental Science.”

– Teacher Lynn Terrien,
Green Bay Southwest HS

“My involvement has made my decision, in majoring in Environmental Engineering concrete. It made me realize I want to go into a field that helps deal with the environment.”

– Katie, Pulaski HS

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“There is so much life in the creeks that you don’t know about until you actually get in there and test it and see it.”

– Student, Ashwaubenon HS

“The Lower Fox River Watershed Monitoring Program has really brought science into the real world for me.”

– Student, Appleton North HS

“I knew the Fox was polluted but I never realized that the pollution came from the watershed and that the streams were part of that.”

– Samantha, West De Pere HS

“My students (and their parents) have told me that not only are they learning things for the first time, but they are taking that information home and actually having conversations with their families.”

– Teacher Dana Lex, West De Pere HS

WATERSHED EXPERIENCES



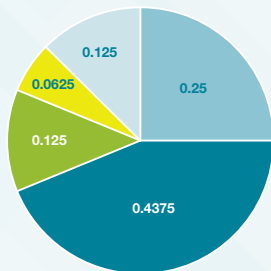
The Lower Fox River Watershed Monitoring Program combines watershed education and the collection of top quality scientific data with support from the university, businesses, agencies, and community groups. Our program strengthens citizen knowledge of the health of our fresh water resources and inspires citizens to accept their role as stewards of the Fox-Wolf River Basin and Bay of Green Bay.

Authentic science learning happens when students literally become scientists as they explore the health of local streams in partnership with the scientific community. This collaboration creates a rich resource of information about water quality throughout the Fox River Basin.

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TOP QUALITY DATA

Our high quality data is audited by university staff and is shared on the project website, at our annual Student Watershed Symposium, and at other community outreach events. Scientists, municipal leaders, and students use this data to help inform decision-makers and stakeholders within our community.



Spring Brook Macroinvertebrates
August 3, 2011

- Aquatic Sowbug
- Scud
- Water Boatman
- Midge Larva
- Riffle Beetle



“My involvement in testing the water quality gave me an understanding of how important and how fragile our water is. Small factors in the environment, whether from natural or human factors, can dramatically change the water and the ecosystem.”

– Ryan, West De Pere

“I finally understand how rain and run off can affect the local creeks.”

– Student, Ashwaubenon HS

“This program is an excellent opportunity to get young people outside and participating in Science in a very real, tangible, hands-on way. We have been working at this long enough now to have considerable useful data and to witness changes in our stream over time. We can convey this fact to our students to show the importance of monitoring our environment and also to see how human actions can impact the living things around us.”

– Teacher Kevin Hendricksen,
Green Bay Preble HS

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“People have a strong instinctive reaction to their natural environment. It is profound to see this come alive in our students, some of whom have spent very little time outdoors. It’s very rewarding to see a student reach into a net and pull out something squirming and alive and see how their faces light up.”

– Teacher Kevin Hendricksen,
Green Bay Preble HS

“Easily, this program has been the single most influential and enriching experience I’ve been involved with in my career.”

– Teacher Dana Lex, West De Pere HS

“I liked the fact that we don’t just learn in the classroom, but we apply it in the field. Environmental science gives me real life experience. I now have a general understanding of what I would do and it makes me want to pursue my career in natural science even more!”

– Ryan, West De Pere HS

WHO’S DOING THE MONITORING?

Eleven High Schools:

- Appleton East
- Appleton North
- Ashwaubenon HS
- Green Bay East
- Green Bay Preble
- Green Bay Southwest
- Luxemburg-Casco
- Oneida Nation HS
- Oshkosh North
- Pulaski HS
- West De Pere
- Green Bay Boys & Girls Club



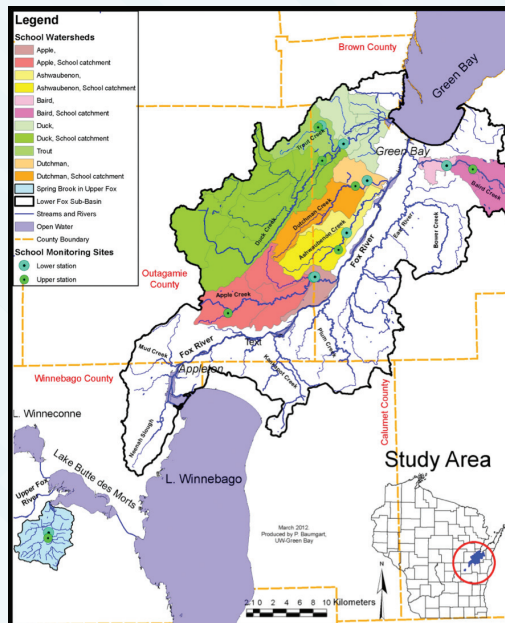
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WHERE DO WE MONITOR?

**We monitor seven streams,
two locations at each:**

- Ashwaubenon Creek
- Apple Creek
- Baird Creek
- Duck Creek
- Dutchman's Creek
- Spring Brook
- Trout Creek

Six streams are in the Lower Fox River Basin and one stream, Spring Brook, is located on the Upper Fox River.



“Watershed health is a complex topic. The program has been wisely designed to provide the teachers (and subsequently their students) with a rich resource base not only in the equipment and procedures supplied, but especially in the training sessions, guest speakers, community field experiences, and the network of support and expertise that has been built between the teachers and university.”

– Dana Lex, West De Pere High School

“My involvement has helped me to realize that our local watershed and ecosystem are in danger, and people like us need to take action to help preserve the Fox River Watershed for future generations to enjoy.”

– Peter, Pulaski HS

“I never realized how dirty our creeks are and how what we put into them affects it.”

– Student, Ashwaubenon HS

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“Too few kids spend quality time outdoors. This program is one way to get students outside, exposed to the environment and understand more deeply the relationship between themselves, living things, and the ecosystem they inhabit.”

– Teacher Kevin Hendricks,
Green Bay Preble High School

“I’d call it a very good hands-on project where, not only are they learning how to do water tests, chemistry tests, and so on, but they’re also learning an awful lot about what contributes to stream quality.. It’s about as good as education can get when you can have students learn a lot, and at the same time, they’re really enjoying what they’re doing.”

– Teacher Charles Frisk, Luxemburg-Casco HS

“I understand much more about the quality of the water in my area, how it got to be that way, and possible ways to improve the quality.”

– Laura, Pulaski HS



KEEPING IT LOCAL

“Place-based learning” partners schools with the local community to explore environmental and social issues, civic leadership, and cultural heritage. Teachers and students help solve “real” problems, take action to enhance the economic and social well-being of our community, cultivate a “Sense of Place” and celebrate local identity. Students in our program practice science research not just for their own learning, but also in service to the local community. Examples of high school research topics are:

- The Effectiveness of Detention Basins on Apple Creek
- Conductivity and City Salting Practices in De Pere
- Monitoring the Effectiveness of Buffers in the Baird Creek Watershed
- How Does Snowmelt Impact the Total Maximum Daily Load on Duck Creek?
- What Effect Does Land Use Have on Nitrogen Levels in Spring Brook?

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COMMUNITY CONNECTIONS



- Wisconsin DNR
- Fox-Wolf Watershed Alliance
- Wisconsin Sea Grant
- UWGB Summer Camps-Eco U: Water Resources
- Bay Beach Wildlife Sanctuary
- Northeast Wisconsin Stormwater Consortium
- UW-Madison Arboretum-Earth Partnership for Schools
- Brown County Land and Water Conservation Department
- Green Bay Metropolitan Sewerage District
- City of Appleton
- City of Green Bay
- Baird Creek Preservation Society
- Neville Public Museum
- NEW Wilderness Alliance
- UW-Extension

“I knew I wanted to study biology but after the watershed unit I realized how much I actually liked doing things like that and didn’t mind getting a little dirty in the name of science.”

– Samantha, West De Pere HS

“These activities are embedded in the curriculum for my science class. Some students balk a bit at the meticulousness and seriousness of the activities, but for the most part teenagers want to feel that they can contribute something meaningful to the community.”

– Teacher Dana Lex, West De Pere HS

“The watershed monitoring program increased my understanding of all the organisms living in such a tiny area of water and that rivers and waterways are very sensitive to quality.”

– Carli, Pulaski HS

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“The Fox River Monitoring Project is an excellent example of how students can do real science work out in the field. The students understand that their data is important and take great pride in using the equipment that we have. Plus they love the opportunity to get their feet wet!”

– Teacher Lynn Terrien,
Green Bay Southwest HS

“I plan to integrate this data into my freshman science class when we learn how to create graphs, analyze tables, etc. It will be a great way to use actual data acquired from their local community and learn how science and the community has changed over time.”

– Teacher Dan Albrent, Ashwaubenon HS

“I have learned more from this experience than in the last 3 years of science.”

– Student, Appleton North HS

OUR APPROACH

Getting outside and collecting the data is just the beginning.

The field research experience allows students in our program to become scientists who use rigorous methods and scientifically accurate equipment to collect useful and relevant data. They are led by motivated teachers that take on extra training in order to teach real watershed science. Students make observations, ask questions, and share data through an online system to investigate issues that are important to local and regional communities. Each year students and teachers meet at an annual Watershed Symposium to communicate results and to learn from each other, along with experts in our community.

Students develop their ability to analyze scientific data, formulate and evaluate complex questions, think critically, and develop creative solutions to real environmental issues. The result is a community of teachers, students, scientists, agencies, and municipalities working together to learn more about water quality in the Fox-Wolf Basin.

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GRATITUDE



This program was established in 2003 through a lead grant from Arjo Wiggins Ltd.

When you donate to the LFRWMP, you make an investment in science education and water quality in our communities. Your gift will be used to:

- Sustain the program and facilitate continued community centered science education opportunities.
- Continue to build a long term water quality dataset for the Lower Fox watershed.
- Expand the program to include more schools and creeks within the watershed.

We share your passion for community based science education. We need your support. Please join our supporters and sponsors. Visit www.uwgb.edu/foundation for more information and to donate. Thank you for your support.



“This experience made me conscious of my impact on the watershed.”

– Kyler, Pulaski HS



“Having a long-term data base allows current students to look over the data collected from the past and analyze trends that seem to be forming. This is a great opportunity to hypothesize on why these trends are taking place and do some important critical thinking.”

– Teacher Lynn Terrien,
Green Bay Southwest HS

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