

THE LOWER FOX RIVER



watershed  
monitoring  
program

# 5<sup>th</sup> Annual Watershed Symposium

March 19, 2008  
UW-Green Bay



UNIVERSITY of WISCONSIN  

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GREEN BAY

# School-Based Monitoring Program

- Enhance student/teacher & community understanding of landscape and land use impacts on water quality and stream ecosystems.
- Provide opportunities for students and teachers to engage in hands-on science and to network with university scientists, resource managers and community professionals.
- Structured to provide meaningful, long-term data:
  - Picture of existing conditions (**Baseline**)
  - Changing conditions over time (**Trends**)
  - Can be used to answer questions about watershed dynamics and integrity. (**Cause and effect relationships**)



# Program Partners: Introductions

- UW Green Bay
  - Kevin Fermanich, Paul Baumgart, Jill Fermanich, Bob Howe, Bud Harris, Nick Reckinger, Dan Cibulka, Zach Zopp, many others
- UW Milwaukee
  - Tim Ehlinger, many others
- 7 High Schools
  - GB Southwest HS: Lynn Terrien, Rick Berken
  - Appleton East HS: Kara Pezzi, Ryan Marx
  - Luxemburg-Casco HS: Charlie Frisk
  - GB Preble: Kevin Hendrickson, Chris Hansel
  - West DePere: Dana Lex
  - GB East: Rich Krieg
  - Oshkosh North HS: Barbara Reed, Mark Lieftring
  - Markesan Schools: Dave Burbach, Aaron Burbach
- Ryan Atwater, other expert bird monitors
- **Arjo Wiggins Appleton, Inc**
- USGS, GBMSD
- Others

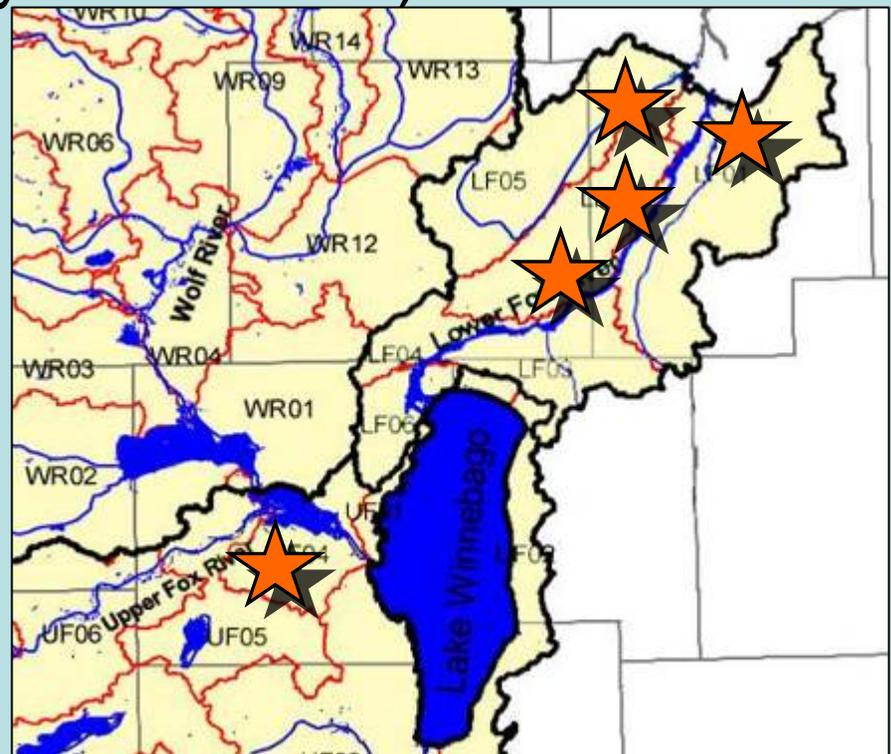




# Five Watersheds / 7 Schools

Spring, summer and fall monitoring for water quality and habitat at:

- **Baird** (Luxemburg-Casco / Green Bay Preble)
- **Duck Creek** (Green Bay Southwest)
- **Apple Creek** (Appleton East)
- **Spring Brook**  
UF04(Markesan, Osh. North)
- **Ashwaubenon Creek**  
(West DePere; GB East)





# School-Based Parameters

## Physical Elements

Temperature

Turbidity (Clarity)

Specific Conductance

Streamflow

## Chemical Elements

pH

Dissolved Oxygen

Soluble Reactive P

Nitrate

Ammonia

## Habitat and Biotic Elements

Habitat

Macroinvertebrates

Amphibians

Birds





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- Hey! That's not on the list!



Key to Macroinvertebrate Life in the River

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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# Share information about their watershed



# Share information about their research



# Communicate their findings

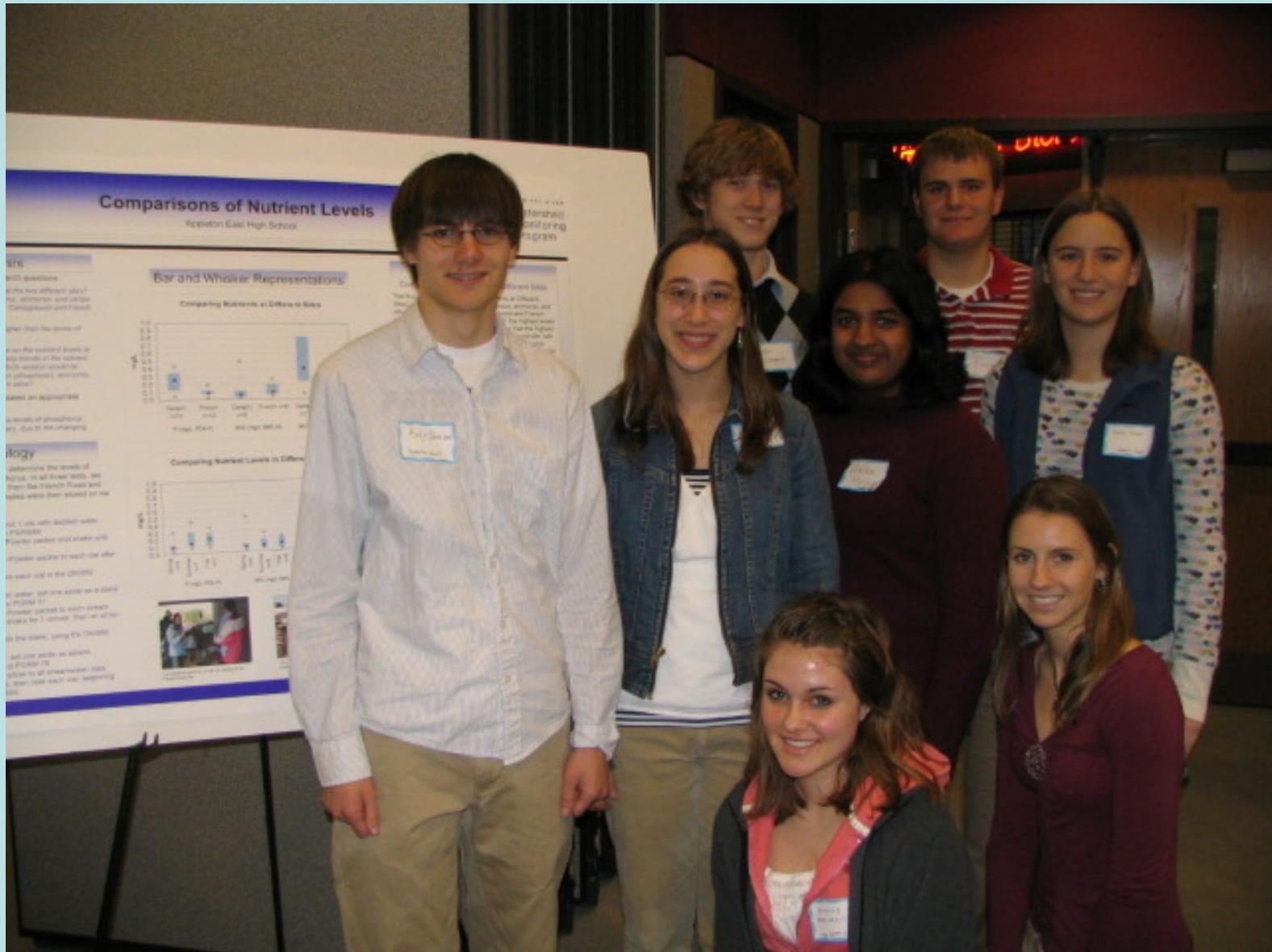


# Discuss monitoring data

## Learn how it can be used



# Share their research



# Learn about watershed management issues



# Apply their knowledge



# Apply their knowledge



# Governor's Conference





# Restoring Our Water Heritage

A TMDL: Creating a Better Future for the Lower Fox River  
and Green Bay

Wisconsin Department of Natural Resources

Students  
from  
GBSW  
participated  
in public  
TMDL  
open  
house



# 08 Symposium Schedule

<b>8:50 -- 10:00</b>	<b>Oral Presentation Sessions</b>
<b>10:00 – 10:15</b>	<b>Break</b>
<b>10:15 – 11:15</b>	<b>Data presentations/discussion</b>
<b>11:15 –12:30</b>	<b>Poster Session (Winter Garden)</b> Student, university, agency <b>ASK QUESTIONS!</b>
<b>12:00 – 12:30</b>	<b>Lunch</b> (buffet)
<b>12:30 - 1:15</b>	<b>Student Break-out Sessions - 1</b> <ul style="list-style-type: none"><li>– Using Monitoring Data in Watershed Planning: Nicole Richmond &amp; Robin McLennan</li><li>– Exploring Bird Data: Dana Lex &amp; Bob Howe</li></ul>
<b>1:15 – 2:00</b>	<b>Student Break-out Sessions - 2</b> <ul style="list-style-type: none"><li>– Attend alternate session</li></ul>
<b>2:00 – 2:30</b>	<b>Student Tours/Teacher Meeting</b> <ul style="list-style-type: none"><li>-- Lab Sciences – Matt Dornbush</li><li>-- Richter Collections – Tom Erdman</li></ul>



## 2007-08 Partnership Program Proposals

\$100,000 was made available to help support citizen-based monitoring initiatives in 2007. Successful proposals for the 2007-08 Partnership Program are listed below.

**Investigation of Impacts from Communication Towers to Avian Migrants in Dane County, WI** [Contact](#)  
University of Wisconsin-Madison

The purpose of this project is to determine the impact from communication towers to avian migrants in Dane County, WI. Together with the support of interested local community members and students, in addition to the cooperation of tower owners/managers, we will obtain daily mortality estimates for a minimum of 11 towers during the peak of migration in fall of 2007 and spring of 2008. We will be considering the role of tower height, weather, season, and migration intensity upon observation of mortality events at each tower. We hope to gain a better understanding of tower kill events that can ultimately help guide future tower management and bird conservation.

**Lower Fox River Watershed Bird Biodiversity Index** [Contact](#)  
West De Pere High School

The Lower Fox River Watershed Monitoring Program (LFRWMP) is a citizen-based monitoring program in which teams of high school students and teachers perform various monitoring activities in selected sub-watersheds of the Lower Fox River. Five watersheds are studied by teams from seven local high schools.

**Marsh Monitoring - A Pilot for Partnership with the Citizen-based Water Monitoring Network** [Contact](#)  
University of Wisconsin-Extension, Environmental Resources Center

The purpose of this level 3 Network project is to partner the Water Monitoring Network with the MMP to take advantage of existing strengths of each program in order to report on long-term wetland bird, amphibian, aquatic macroinvertebrate community assemblage and water quality data in the Lower Fox River/Green Bay and St. Louis River Areas Of Concern. The data citizens will collect will be contributed to the Marsh Monitoring Program as baseline information to help measure and track the success of Remedial Action Plan restoration and rehabilitation efforts in each of these selected AOCs. Long-term volunteer-collected water quality and aquatic macroinvertebrate community data, in addition to MMP volunteer-collected marsh bird and amphibian monitoring data, collectively serve to directly address four Beneficial Use Impairments (degraded benthic invertebrate populations, degraded fish and wildlife populations, fish and wildlife habitat loss and aquatic

- Dana Lex
- \$5000 grant
- w/ Cofrin Center for Biodiversity

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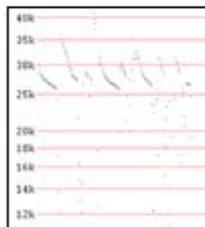


# Cofrin Center for Biodiversity

UNIVERSITY of WISCONSIN - GREEN BAY

Spring must be coming because rafts of waterfowl are being reported in the Oshkosh area. As soon as the ice is gone, migrants will be arriving at the bayshore along the Cofrin Arboretum as well as the mouth of the Fox River, where good numbers of wintering waterfowl and eagles already are present.

## What's New?



Did you know that bats fly in the winter? Ultrasound recordings from UWGB's recently established bat monitoring station show that some bats are active (for short periods) even during December. Studies from Canada suggest that hibernating bats wake occasionally to get a drink of water. Read more about our findings in [Econotes!](#)



[Cofrin Student Research Grants](#) provide both undergraduate and graduate students opportunities to conduct research on any of our UW Green Bay managed natural areas. Students in all programs are eligible; past projects have ranged from photographic essays to the biochemistry of endocrine disruptors.

- [Mission Statement](#)
- [About the Great Lakes States](#)
- [Meet the Faculty & Staff](#)
- [Arboretum Trail Map \(pdf\)](#)
- [GIS Resources](#)
- [Ask a Scientist](#)
- [Student Resources](#)
- [Educator Resources](#)
- [WI Naturalist](#)
- [Related Web Pages](#)
  - [UW Green Bay Home](#)
  - [Natural & Applied Sciences](#)
  - [UWGB Graduate School](#)

# Ongoing Plans

- School Monitoring:
  - Program will become part of the Cofrin Center for Biodiversity at UWGB
  - Continue w/ current schools
  - Continue to build community linkages
    - Basin-wide Watershed management, outreach, monitoring (TMDL)
    - Municipalities
    - Community Groups
    - Industry
  - Short-term & Long-term funding







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