5th Annual Watershed Symposium

March 19, 2008

UW-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 Lieffring

  – 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
• Hey! That’s not on the list!
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University of Wisconsin
Green Bay
Share information about their watershed
Share information about their research

- Water level
  - Is an indication of a recent rain event
- Rain fall
  - A rain event can carry fertilizer that contains phosphorus into the
    tributary
- Sources
  - Sources of the phosphorus in our area are the golf course and the
    residential areas
- Algae bloom
  - Due to the rain events it is our belief that the reasons for the wide
    variation of our data is due to small algae blooms. Turbidity tests
    and Dissolved Oxygen tests support our theory.
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
Students from GBSW participated in public TMDL open house
08 Symposium Schedule

8:50 -- 10:00  Oral Presentation Sessions

10:00 – 10:15  Break

10:15 – 11:15  Data presentations/discussion

11:15 – 12:30  Poster Session  (Winter Garden)
Student, university, agency
ASK QUESTIONS!

12:00 – 12:30  Lunch  (buffet)

12:30 - 1:15  Student Break-out Sessions - 1
– Using Monitoring Data in Watershed Planning:
  Nicole Richmond & Robin McLennan
– Exploring Bird Data: Dana Lex & Bob Howe

1:15 – 2:00  Student Break-out Sessions - 2
– Attend alternate session

2:00 – 2:30  Student Tours/Teacher Meeting
-- Lab Sciences – Matt Dornbush
-- Richter Collections – Tom Erdman
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
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
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
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...
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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