“Water and Youth: A Streaming of Ideas”

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Why Youth?

- Our Future! Future decision makers and resource managers.
- Less pre-conceived notions, inaccurate facts, and "other" agendas…
- Experience yields appreciation, appreciation yields future involvement and hopefully stewardship(works for "old folks" too!)

Why Youth And Water?

- A “perfect fit”. Sensory and exciting from birth on. Something to play in/on/around that is interesting and exciting
- Connections to other hobbies (fishing, tubing, swimming, canoeing)
- Almost every aspect of science applicable- physics, biology, geology, math, etc…
- A lifetime of learning!

4 Examples…

- K-12 Youth/Water Monitoring and Recreation
- US EPA Grant “Youth Environmental Leadership in Riparian Zone Management: A cross Cultural Exchange”
- UW Stevens Point: Summer Session Water 380 Undergraduate Course
- UWSP “Pathways to Point” Freshman Wilderness Orientation Program

K-12 Water Recreation and monitoring

- A#1 First provide an enjoyable outdoor experience!!!

Recreation: “Building a Foundation”

- Boating/canoeing/kayaking/sailing (pace/intimacy/setting can heighten appreciation)
- Tubing/skiing/PWC??
- Fishing (Go barbless!)
- Swimming
- Snorkeling (“forest of aquatics and fish)
- Duck Hunting

Early elementary isn't too young, water is a sensory and captivating medium…

"fun science"

Youth Lake/Stream Monitoring: Chemical and Physical

- Do2 –”ampules”
- Secchi
- Thermometer
- pH
- Hardness/alkalinity “strips”
- Turbidity tube
- Phosporous?
- Velocity/depth measurements

Youth Monitoring; Biotic

- Invertebrates!!!! Accessible, effective and interesting!
- Laminated id charts
- D-nets, smaller seines, even buckets and hands.
- Put everything in a white/clear pan, and let kids return to water

Even Groundwater!

- Wells, seeps
- “Poppers”
- Collection tubes
- Chemical tests
- Clarity
- Depth to water table/well bottom

Suggestions

- Keep duration short. 1 1/2 hours?
- Keep pace “snappy”/have a “game plan” and extensions.
- Prepared specimens as “backup”?
- Make it “fun” (kids know when you are having fun too).
- Can be done in winter w/ ice auger or groundwater wells

Suggestions….

- Use discretion with technical terms, but don't be afraid of topics/techniques. Why does it matter…?
- Have equipment "downsized"(waders, nets). A piece of equipment for EVERY kid!! (make own beforehand?)
- Keep it SAFE. Temperatures? Depths? Supervision? Lifejackets while in boats.

Extensions…

- Plankton tows/ microscopes
- Comparative values/indexes
- Classes chart over season/ years
- Input data (“making a difference”)
- Making presentations- kids perspectives
- Web research
- School/community newspapers, TV
- River /Lake Clean ups!
- Adult “Clubs” DNR to fund projects (kid directed)

US EPA 2005 Grant: “Youth Environmental Leadership in Riparian Zone management: A Cross Cultural Exchange”

Co-author Glenn Middleton

Goals:

- To develop awareness, appreciation, involvement and leadership of Youth in Riparian Zones/rivers in their respective communities.

- To Create a positive cross-cultural exchange and dialogue between native and non-native youth.

Introductions and Team Building

- Lac Du Flambeau, Rhinelander HS EE Clubs
- Initial site visits and Leader Orientations
- Group visits and overnights at Treehaven
- Simple team building initiatives/mixing of teams
- Review of H20 Systems, Use of monitoring equipment

New friends and new experiences…

Site Selection and float trips

- Bear river, Lac Du Flambeau
- Wisconsin River, Rhinelander down to Hat Rapids Dam
- 8-10 mile sections
- Treehaven supplied canoes/equipment

Creating Action Plans

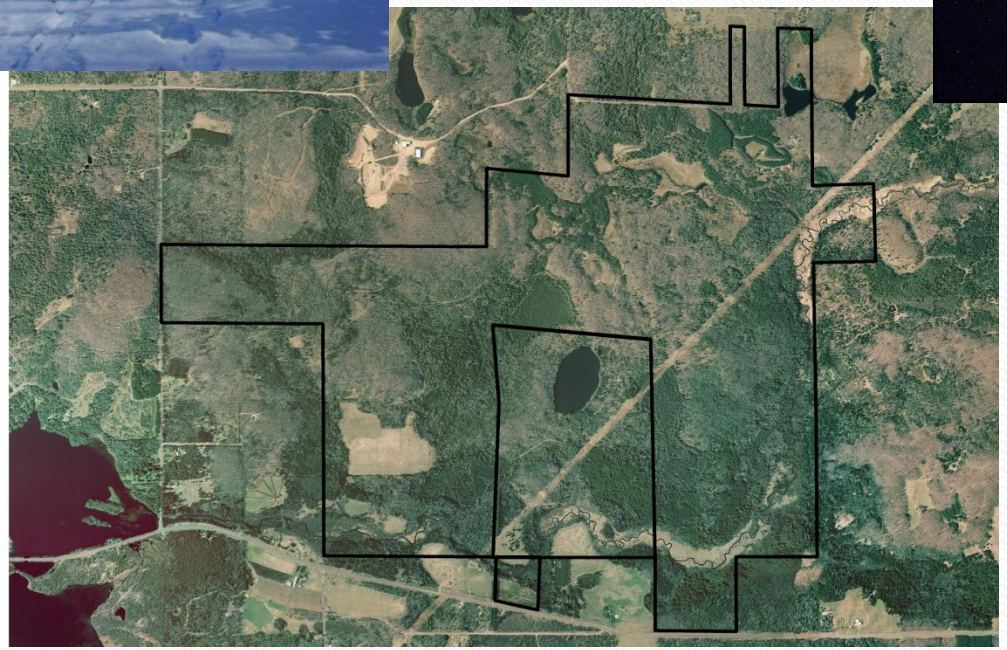
- Review of monitoring data gathered during visits to rivers and on floats.
- Kid-directed identification of issues important to them
- Kid–directed action plan to raise community awareness of issues

Community Presentations

- Rhinelander Youth-led presentation at community school.
- LDF youth group chosen for LDF Tribal Stewardship Award for presentation and display on issues facing Bear River
- Hoped for ongoing data gathering and exchanges as a model for other locations in Wisconsin.
- Local TV coverage of events

- 1,400 acres, Northern Forest, Lincoln Co.

UWSP Treehaven



Treehaven Summer Session

- Preceded by “Clam Lake”, “Camp Susan”.
- 6 weeks, mandatory
- 100+ students (x 2 sessions)
- Multidisciplinary/ Forestry (2), Water, wildlife, Soils (2).
- “hands on” (“1st exposure” for most).
- 6 credits/1 per week
- “Crew” Concept

Water 380

- Streams- 2 days
- Lakes- 2 days
- Final Exam + Practical exam

- Monitoring/identification/sampling
- Tools/skills and techniques
- Identification: aquatic plants/invertebrates/fish

Stream Day One

- Stream table Mapping
- Chemical Testing- (“Hach Kit”)
- Plant ID
- Invertebrate ID- “Surber Box”, D Nets
- Seine nets
- Data loggers (2010?)

Stream Day 2

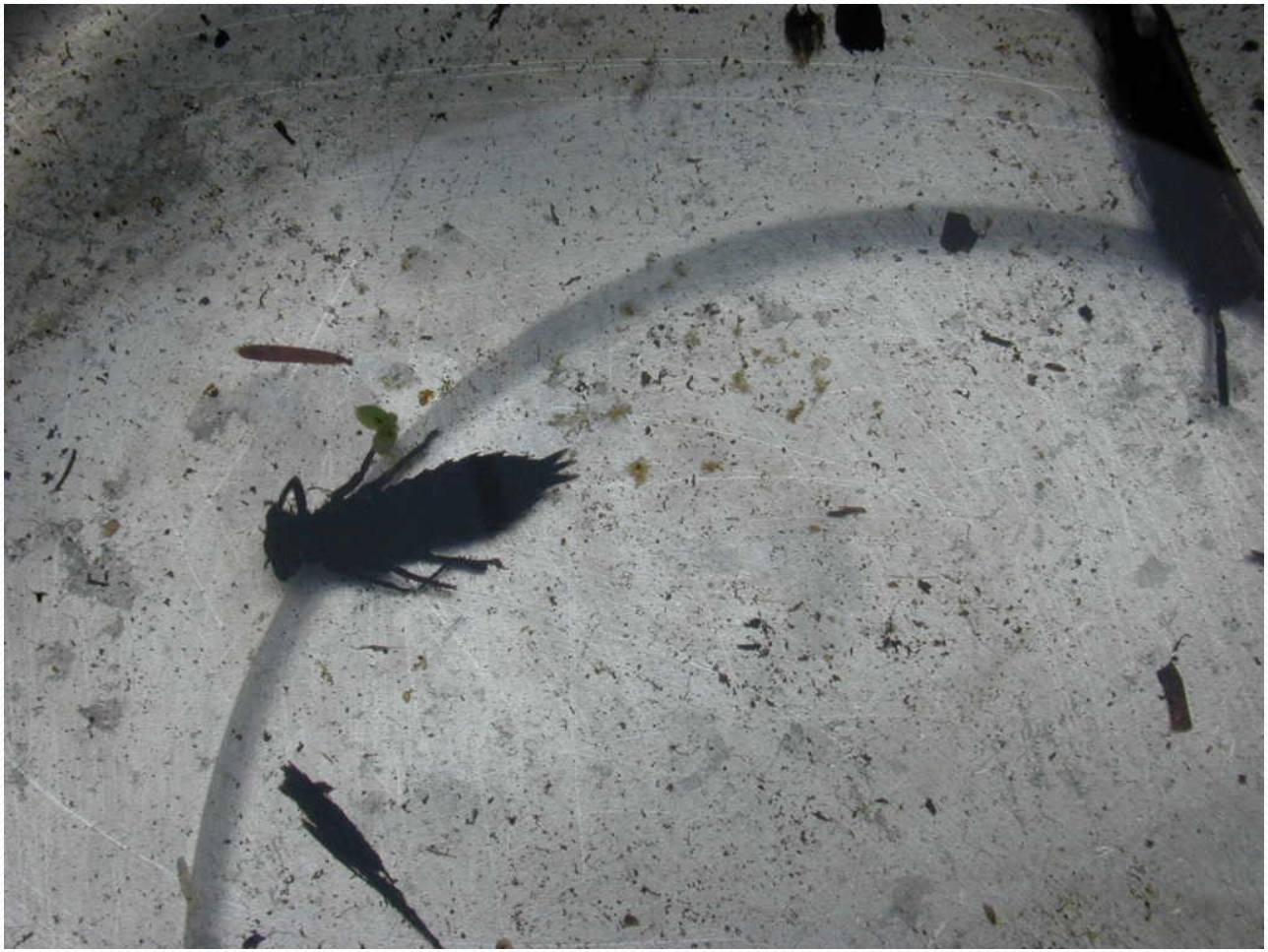
- Electroshocking (400 yds./ 8 students)
- Velocity Meter
- Plant, invertebrate i.d.
- Stream improvements (with permits- alder brushing, half log wing dams/covers, native plantings)

Lake Day 1 and 2

- Day One: invertebrates, plants, seine nets. Fyke nets,

- Day Two; lake mapping, YSI Probe,
- Electroshocking!

Invertebrates



Fish!

Stream Table Mapping

Electroshocking!

Aquatic Plant I.D.

- Textbook guide (WAL “Through the Looking Glass”!)
- Identification on exams
- “Desiccation” issue
- Samples in Classroom
- Pulling, hooks, rakes, hands!

Last Day

- Plant test!
- Knowledge, Skill Sets, Appreciation and Memories!

“Pathways to Point” UWSP Freshman Wilderness Orientation Program

- 1 week long wilderness trips- backpacking, canoeing.
- Leave No Trace Principles and Practices
- 10 incoming freshman, 1 student leader, 1 faculty leader
- “Activities” in PM related to college life/expectations
- 1 College credit upon return to UWSP in Fall Semester
- Lifelong friendships, increased retention.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In Summary…

- Youth and Water area “Perfect Fit”
- Start with fun, positive experiences to build appreciation
- Use appreciation as basis for further study and understanding.
- Find avenues for youth to express views and projects to make a positive change.