

IOWATER

Volunteer Water Quality Monitoring

Project AWARE 2005 – More Than Meets The Eye . . .

by Dr. Jim Colbert

The numbers tell only part of the story. From June 18 to June 25 almost two hundred volunteers and over thirty DNR staff participated in the 3rd Annual Project AWARE. As many as 105 people a day paddled canoes or kayaks and picked up trash on about 96 miles of the Little Sioux River in northwest Iowa. Enough trash was collected to fill almost 24 dump trucks including fifty tires, 125 metal fence posts, a livestock watering tank, twenty 55-gallon barrels, a hog feeder, stoves, televisions, computers, washing machines, car seats, and, yes, even the kitchen sink. Over 95% of the trash, including over three tons of scrap metal, was recycled.



Bill Graham



Removing trash from our rivers with canoes, shovels, picks, ropes and leather-gloved hands is a lot of hard, tiring, wet and muddy work, and is certainly a good thing to do. Trash tends to attract yet more trash so working to remove it improves the appearance and recreational value of our rivers and instills a deep sense of pride and ownership in the volunteers. But, trash is just the "tip of the iceberg." The most important issues facing our rivers and streams in Iowa are high sediment and high nutrient levels in the water. These issues are not as obvious as trash and are much harder to fix.



Jackie Neely

The Little Sioux River was, unfortunately, a very clear example of both of these major issues. Measurements made by the IOWATER staff accompanying Project AWARE indicated high levels of nitrate and phosphate in the river water. These nutrients come from both urban and rural settings including municipal waste treatment facilities, lawns, row crop fields, and livestock. Miles of the Little Sioux River were accessible to cattle that left eroded banks, trampled sandbars, and numerous deposits of "nutrients" (i.e., manure) in their wake. While by no means the only source

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...from IOWATER's Coordinator

While Dr. Colbert's article is fundamentally a Volunteer Viewpoints editorial, it headlines this issue because I feel that Jim really taps into the root of Project AWARE.

The Iowa DNR is committed to "leading Iowans in caring for our natural resources." "Leading" implies someone is following. Those who follow need to have trust in those who lead. Effective leaders build trust by listening to those who follow, which means that in order for communication to be effective, those who follow must be willing to speak up and be heard.

As citizens, the more informed, knowledgeable, and "aware" we are, the better we'll be able to help care for our natural resources, and the better we'll be able to communicate with those who are leading us in caring for them. This involvement is critical as Iowa meanders down the path towards a healthier environment.

The DNR is continually encouraging and facilitating public forums that promote open discussion on environmental topics, many of which are posted on the department website (www.iowadnr.com) at the bureau level. As more Iowans become engaged in the physical process of caring for our natural resources through projects like AWARE, it is my hope that more Iowans will become active in public meetings, share their questions, comments, concerns, and help us effectively lead in the caring for our natural resources.

From the home office in Sioux City, where the Big Sioux meets the Big Muddy, happy monitoring!

Brian Soenen

The New Guy – Darren Fife Snapshot Event Coordinator

Darren's primary duties include coordinating snapshot events and assisting with IOWATER workshops. Darren will also develop snapshot reports and any GIS material related to snapshot sampling statewide. He graduated from Drake University in 2005 with a BS degree in Environmental Science and is currently pursuing a BA in Environmental Policy. Prior to coming to the Water Monitoring Section, Darren worked with GIS applications for the DNR Forestry Bureau digitizing for Land Stewardship plans.

Welcome aboard, Darren!

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of elevated nutrient levels in the Little Sioux, allowing cattle access to the riverbank also diminishes the recreational value of the river – particularly when one is there, in part, to get out of the canoe and pick up trash along the stream.

Detecting elevated nitrate and phosphate levels requires chemical test kits. Detecting sediment in the water is much simpler. Just try to look through it. Nowhere along the length of the Little Sioux were we able to see more than a couple of inches into the dark brown muddy water – and some nights along the river the Little Sioux was our only option for “cleaning up” at the end of the day. Nearly every time we got out of our canoes to pick up trash we encountered deep black silt on the river bottom, sometimes up to our thighs. Sediment in our rivers, like nutrients, comes from multiple sources. Construction projects in urban areas when not properly designed can contribute substantial quantities of sediment. Erosion in row crop fields that are not properly managed can be a major source of sediment. A less appreciated source of sediment is erosion of the stream banks themselves. While stream banks have always eroded to some extent, they do so much more frequently now due to rapid entry of storm water into streams from urban storm sewers and agricultural drainage ditches and tiles. Virtually the entire 96-mile length of the Little Sioux that we paddled was bordered by eroding stream banks. My canoe partner and I actually SAW an approximately 10 foot high by 3 foot wide slab of stream bank fall into the river making a wave that crashed ashore on the mud bar across the river. The presence of all that additional sediment in the river was not even noticeable.

By the time we got to Cherokee, we had picked up a lot of trash in the Little Sioux. Due to the high muddy water, I’m sure that we missed a great deal more. But, the real product of Project AWARE isn’t trash, it’s people. People who are more “aware.” People who know more, and care more, about rivers. People who will help instill respect and caring for rivers in other people that they know. People who will help develop the political will in our state to fix the real problems faced by our rivers and streams.

Now is the time to CLASSIFY YOUR STREAM

If you know whether your stream is intermittent or perennial, let us know by completing the “Classify Your Stream” section in the data entry area for your site. Observations, narratives, or data that support your claim would also be helpful and much appreciated.

For more information about perennial and intermittent streams, review Chapter 9 (Defining Your Stream) of the IOWATER manual, which can be found in the “Publications” menu under “Manuals” at www.iowater.net.

Project AWARE staff would like to thank the many sponsors who made this event possible, the presenters who taught us along the way, the cooperating landowners and communities who supported us, and the hundreds of participants who make “us” who we are. We’ll see ‘ya on the river!

4th Annual Project AWARE • June 17th – 24th, 2006 • Stay tuned for more details...

www.iowaprojectaware.com



Announcing

2005 Iowa Winners

Poetry Best in Iowa

Alec Balmer
age 11
Peosta, IA

Jordan Kaiser
age 7
Eldridge, IA

Joe Morehead
age 14
Oto, IA

Chelsey Sugars
age 16
Fort Madison, IA

National finalists

Curtis Koch
age 13
Sabula, IA

Becky Miller
age 17
Decorah, IA

Catherine Porth
age 17
Burlington, IA

Sammantha Smith
age 13
Sabula, IA

Art Best in Iowa

Samantha Brus
age 11
Dubuque, Iowa

Crystal Cramer
age 16
Cedar Rapids, IA

Heather Gray
age 14
Burlington, IA

IOWATER's 3rd Annual

RIVER of WORDS

Poetry & Art

IOWA Competition 2006

As the day's last sliver of sunlight dances westward across the land, it reveals in each wetland, lake, & stream a reflection that cannot be described with earthly words. Perhaps these visual reflections are what draw us to lakes & rivers for our emotional reflections – the sights, the sounds, the serenity – there's something about water that captivates us & sets us free.

These reflections reveal our physical connections with water – our actions on land are directly reflected in our streams, rivers, & lakes. If we manage our land wisely, we can protect, preserve, & enjoy our aquatic resources forever. The first step to understanding the interconnectedness of our world is gaining a profound respect for the resources found within it, & the first step in acquiring this respect is spending time in & around our streams, rivers, & lakes – paddling, swimming, fishing, monitoring the quality of their waters – letting their reflections lead us to our own.

Each year, in affiliation with The Library of Congress Center for the Book, River of Words® conducts a free international poetry & art contest for youth on the theme of watersheds. The contest is designed to help youth explore the natural & cultural history of the place they live, & to express what they discover through poetry & art. Entries not chosen as finalists or grand prize winners in the international contest are returned to the IOWATER program, where they are judged in an Iowa statewide River of Words contest.

How I Wish...

How I wish my heart sang like the dawn...
Comforting the soul with every beat.
How I wish my mind glistened like the stars...
Creating wondrous dreams while I'm fast asleep.
How I wish my love flowed like a river...
Bringing life to all that it may meet
How I wish my life echoed like a forest...
Telling its story for the world to keep.

Catherine Porth
age 17
Burlington, IA
NATIONAL FINALIST

For entry forms for the 2006 International contest, contact:

IOWATER
Wallace State Office Building
502 E. 9th St.
Des Moines, IA 50319 - 0034
Phone: 515-205-8587
Email: iowater@iowater.net
www.iowater.net

Send entries by Feb.15, 2006 to:

River of Words
PO Box 4000 J
Berkeley, CA 94704 USA
Phone: 510-548-POEM (7636)

Volunteer viewpoints ... in their own words.



Waterloo 4th Graders Protect Cedar River Watershed From Pollution

Clark Porter, Ph.D.



I teach talented and gifted students at the Dr. Walter Cunningham School for Excellence in Waterloo. In May, my fourth grade students studied watersheds. After building a large model of a watershed out of sand, rock, concrete, and lego blocks (for human presence), studying the essential structural features of a watershed, and learning something about urban runoff, we engaged in a field study of two streams in our county.

One stream, Bontrager Creek, is located within a heavily managed watershed which drains residential and commercial property. The other watershed, an unnamed tributary of Virden Creek, is strictly rural. The students worked in two groups and compared the results from their respective watersheds. In the course of our investigation my students stumbled across far more than we originally anticipated.

The Virden Creek tributary had a healthy riparian zone, diverse habitats, and clearer water. Chloride levels were at 34 mg/L and the stream hosted a wide array of benthic macroinvertebrates from all tolerance categories. In contrast, Bontrager Creek water contained a chloride concentration of 56 mg/L, and we only found benthic macroinvertebrates from the pollution tolerant category. While exploring a pool that was upstream from our transect, we found a broken pipe protruding from a badly eroded bank. A rust-colored liquid was flowing from the pipe, across a small sand bar, and into the stream.

After discussing the data with my students, I reported our findings to the City of Waterloo. The broken pipe was investigated, a HAZMAT team was dispatched, city crews cleaned up the area, capped the pipe, and further testing was conducted. Test results revealed upstream chloride levels of 160 mg/L, and successive layers of rusty sediment below the pipe containing lead, selenium, and mercury. Although a fiber optic search was conducted, the precise source of these pollutants is not yet known.

Interestingly, the high chloride levels resulted not from the point source of the broken pipe, but from a private swimming pool located near a storm sewer that drained into this stream. The pool owner was identified and informed about regulations regarding proper disposal of swimming pool water.

This was an excellent experience for my students. Because of their investigation and discoveries, city officials were able to eradicate two significant sources of pollution in this watershed. Equally important, my students learned that the actions of informed citizens, regardless of their age, really can make a difference.

We'd like to hear from you, so **send us a note...** about your IOWATER activities, thoughts, and ideas **...in your own words.**

Special thanks to Gabriel Evans, Russell Jones, Rebecca Cassell, Joshua Jordan, Paris Smith-Walker, Stephanie Anderson, Casey Lindecrantz, and Nicholas Payton – fourth graders who are protecting and improving Iowa's water quality.

Upcoming events

... snapshot sampling & more.



Sept. 23-24 (Fri-Sat); Upper Iowa River Clean-up; Contact: Deb Keefe at (877) 787-2267 or keefe@earthlink.net

Sept. 24 (Sat); Beaver Creek Watershed Snapshot
Contact: Steve Witmer (515)727-7765 or switmer@ci.johnston.ia.us

Oct. 8 (Sat); Whitebreast Watershed Snapshot
Contact: Anne Hildebrand (515)961-5264
Anne.Hildebrand@ia.nacdnet.net

Oct. 11 (Tue); Scott County Snapshot
Contact: Sara Klindt (563) 326-6150 or Sara.Klindt@IA.nacdnet.net

Oct. 12 (Wed); Polk County Snapshot
Contact: Susan Heathcote (515)244-1194 or heathcote@earthwshare.org

Oct. 15 (Sat); IOWATER Fall Statewide Snapshot
Contact: Darren Fife (515) 281-6640 or darren.fife@dnr.state.ia.us

Oct. 15 (Sat); Old Mans/Clear Creek Snapshot
Contact: Dave Ratliff (319)354-1397 (day); (319)337-4445 (evening) or oldmancreek@qwest.net

Oct. 18 (Tue); Muscatine County Snapshot
Contact: Ellen Myers (563)263-2752 or emyers@ci.muscatine.ia.us

Oct. 19 (Wed); Cedar County Snapshot
Contact: Dave Meyer or rockcrk@netins.net

Oct. 22 (Sat); Wapsi River Watershed
Contact: Vicki Wilson (319) 827-1690 or mvw@jtt.net

Nov. 12 (Sat); Volunteers in Natural Resources Conference, Des Moines; Contact: Brian Soenen at (515) 205-8587 or iowater@iowater.net

Feb. 16-17, 2006 (Thu-Fri); Water Monitoring Conference, Ames; Contact: Mary Skopec at (319) 335-1575

IOWATER 2005 Level I Workshop Schedule

Date & Time	Location	Contact	Phone	E-mail
Sept 9 (5-9 PM) Sept 10 (9 AM - 3 PM) @Grimes Farm & Conservation Center	Marshalltown	Diane Pixler 2349 233 rd St Marshalltown, IA 50158	(641) 752-5490	dpixler@co.marshall.ia.us
Sept 16, (5-9 PM) Sept 17, (9 AM - 3 PM) @ Oak Grove Park	Sioux County	Sioux Co. Conservation (712) 552-3057 4051 Cherry Ave. Hawarden, IA 51023		snaturalist@acsnet.com
Sept 30 (5-9 PM) Oct 1 (9 AM- 3 PM) @Nahant Marsh	Quad Cities	Jody Patterson 1717 West 12th Street Davenport, IA 52804	(563) 323-5196	patterson@putnam.org

IOWATER 2005 Advanced Workshops*

**You must have attended a Level 1 workshop to participate in an advanced workshop.*

Benthic Macroinvertebrate Indexing and Bacteria Monitoring Workshops:

Date	Location	Topic & Time
Aug. 27	Heartland RC&D Office (Polk County)	Bacteria (8 AM - 12 PM)
Aug. 27	Heartland RC&D Office (Polk County)	Benthic (1 PM - 5 PM)
Nov. 5	Lime Creek Nature Center (Mason City)	Bacteria (8 AM - 12 PM)
Nov. 5	Lime Creek Nature Center (Mason City)	Benthic (5 PM - 10 PM)

To register, contact Jackie at (515) 281-4476 or Jacklyn.Neely@dnr.state.ia.us, or visit www.iowater.net.

IOWATER

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502 E. 9th St.
Des Moines, IA 50319



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please contact Jackie and we'll remove you
from our mailing list.*

You & your guest are invited

at no cost to you - IOWATER volunteers only

5th Annual

Volunteers in Natural Resources Banquet

Saturday, November 12th

Time to be announced (midmorning to afternoon)

Science Center of Iowa (Des Moines)

RSVP to Brian Soenen by October 28th, 2005

by calling 515-205-8587 or e-mailing iowater@iowater.net

Include your e-mail and/or telephone number with your RSVP.

*Space is limited. Registrations will be taken on a first-come,
first-served basis. You will be notified of your status prior to the conference,
& a program agenda & directions will be sent to you at that time.*

www.iowater.net