

THE IOWA CITIZEN MONITOR

VOLUME 1, NO. 3 FALL 2000



Turn the Page...

Rich Leopold – IOWATER Coordinator

My apologies to Bob Seger for borrowing the name of one of his more famous songs, but I felt this was an appropriate heading for this newsletter. Summer is over, and for me it's time to "turn the page" and head back to the office to contemplate what happened this last season and what's next.

Here is an attempt to summarize IOWATER Watershed Tour 2000. This information was gathered from 214 surveys returned by workshop participants. This is an impressive 40.8% return rate!

- There are 524 IOWATER Level I Citizen Monitors trained from 202 towns/cities and 87 counties in Iowa.
- On the question of what needs to be changed within IOWATER, there were references to reducing team building and media training, more computer training, more field time, more help in coordinating and locating monitoring sites, and expanded chemical testing.
- On the question of what needs to remain the same within IOWATER, most comments were very positive, advising us to keep up the current direction and continue expanding the program as quickly as possible. Participants felt the training team was approachable, sincere, well

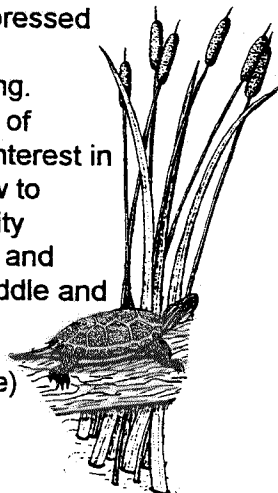
organized, and enthusiastic (good for our egos!). Many commented on the hands-on approach of training and the ease and simplicity of IOWATER's methods. Many also appreciated the equipment.

- As far as media attention, IOWATER was also a hit, with television network coverage in almost every major market across the state and 126 feature newspaper articles!

The future direction of the program, as directed by the trained citizen participants of IOWATER this past season, will be based on some of the indicators listed here.

- Over one third want to continue their training to become an IOWATER Level II Citizen Monitor!
- Over one quarter want to continue training in soil monitoring and lake/pond/wetland monitoring.
- Over twenty percent expressed interest in more benthic macroinvertebrate training.
- A significant percentage of participants expressed interest in continued training in how to complete a QAPP (Quality Assurance Project Plan) and additional training for middle and high school teachers.

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Turn the Page, continued.

Keep in mind that this is YOUR program and these survey results are being used to develop next year's workshop schedule. The winter issue of this newsletter will include the finalized training schedule for next year. What a tremendous outpouring of interest and willingness to take responsibility of natural resource issues on a local level! IOWATER will continue, with your constant input, to carry the voice of the citizen monitor to places where that voice needs to be heard.

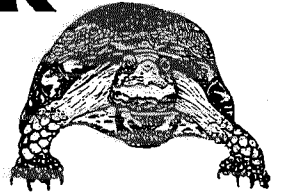
IOWA STATE FAIR VOLUNTEERS THANK YOU!

The debut showing of IOWATER at the Iowa State Fair on August 10-20 was a success! The booth, located in the Iowa DNR building southwest of the grandstand, featured IOWATER equipment and a large state map with colored pins representing all the trained IOWATER Level I Citizen Monitors.

This provided an impressive backdrop to our booth, but the more important part of the set-up was actual citizen monitors talking to fair-goers and putting a human face on the IOWATER program. These 18 volunteers spread the message of IOWATER to thousands of people, and more than 130 names were added to the IOWATER mailing list. Without further delay, here is the honor roll: Angela Catron, Dieter Dellman, Jean Dow, Phyllis Goodman, Bernie Hoyer, Heather Jobst, Niki Jobst, Steve Klein, Kathleen Leopold, Dan Malloy, Rayner Marchal, Mary McCarthy, Sean McCoy, Kristina Ostler, Lynette Seigley, Amber Shinn, Connie Skinner, and Barbara Tagami.

THANK YOU! THANK YOU! THANK YOU!

IOWATER Action!



Monitors in the Water

On August 26, several IOWATER monitors participated in a snapshot sampling of the Cedar River watershed. Water samples were collected from 62 sites from the Minnesota border to the confluence of the Cedar and Iowa rivers near Columbus Junction in Louisa County. The purpose of the sampling was to determine water quality under low-flow conditions and the extent of water contamination in the Cedar River and its tributaries. The collected samples were brought to a lab and analyzed for nitrate, ammonia, phosphate, fecal coliform bacteria and atrazine. The IOWATER monitors who participated include Dale Adams, Bruce Burroughs, Mike Flaherty, Nick Frost, Judie Krebsbach, Bob Malick, Ken Thiry and Regina Thiry.

Bob Bassett and Joe Wingert were recently featured in the August issue of *Water Watch*, a newsletter for the Maquoketa River Watershed. Between the two of them, they are monitoring 13 IOWATER sites in the Maquoketa River Watershed! To assist in the effort, they are actively recruiting additional volunteers from the community.

Recruitment events and press releases organized by IOWATER monitors have taken place in Sac County (thanks to Shane Vondracek), Boone County (thanks to Barbara Krumhardt), Davis and Van Buren counties (thanks to Southeast Iowa Citizens for Community Action), and Winnebago County (thanks to Winnebago County Conservation Board).

School initiated IOWATER monitoring in the news includes Starmont High School (thanks to Dennis Miller), Prairie High School (thanks to Sharon Bender), Wilton High School, West Liberty High School, West Branch High School and Middle School, and North Cedar Middle School (thanks to David Bozaan of North Star Steel, and Cargill).

Conservation And Environmental Education Excellence Awards Program



Know of a person, program, or organization that deserves recognition for their conservation and environmental education (EE) efforts? Nominations are being accepted for the Iowa Association of Naturalists and the Iowa Conservation Education Council's 2000 Conservation and Environmental Education Excellence Awards Program

Award categories are:

- *Aldo Leopold EE Award*: for lifetime achievement in EE excellence and leadership
- *Bohumil Shimek Environmental Educator Award*: for outstanding efforts by an environmental educator
- *Chris Holt Youth EE Award*: for an outstanding EE program for youth or by youth
- *"Ding" Darling EE Award*: for outstanding EE program or event which informs and educates the general public

IOWATER 2000 Top Ten Town List

Rank	Town	IOWATER Monitors
1/2.	Ames	25
1/2.	Davenport	25
3.	Dubuque	22
4/5.	Decorah	20
4/5.	Des Moines	20
6.	Iowa City	15
7/8.	Sioux City	9
7/8.	Waterloo	9
9/10.	Forest City	8
9/10.	Bloomfield	8

*Honorable mention (with 6 each): Cedar Falls, Clarion, Council Bluffs, Estherville, Iowa Falls, and West Des Moines.

- *Sylvan Runkel EE School Award*: for outstanding whole-school EE program
- *Outstanding County Conservation Board EE Program* (pop. < 35,000 or pop. > 35,000): for excellence in EE programming by a county conservation board
- *Frederic Leopold EE Award*: for outstanding EE efforts by business, industry, or labor
- *Ada Hayden Conservation Education Award*: for outstanding efforts to educate about preservation, land management, or natural resource conservation

Submission deadline is December 1, 2000. Award forms should not exceed three pages. Self-nomination is permissible. To receive a nomination form, contact:

Pamela Holz
IAN/CEC Awards Committee
P.O. Box 889, Courthouse
Washington, IA 52353
319/653-7765
conservation@co.washington.ia.us



Guest Editorial

Fishing for Answers

Steve Veysey – President, Hawkeye Fly Fishing Association

For a quarter of a century the Hawkeye Fly Fishing Association has been working side-by-side with the Fisheries division of DNR to improve stream habitat, stabilize and restore banks, and create in-stream structures for cover and spawning. We've worked on warm-water and cold-water streams. We've helped purchase riparian land and equipment so that the fisheries people could work more effectively. We're proud of our accomplishments and the many friends made along the way.

In recent years our members have become increasingly concerned about the effects of intensive agricultural practices in the watersheds of high quality and fragile streams. Spills and fish kills. We decided that we could no longer restrict our conservation activities to stream improvement projects, the benefits of which could be wiped out by one careless (or continuous) act. It was time to start looking up the slopes at what was happening in the watershed. We looked... and we didn't much care for what we saw.

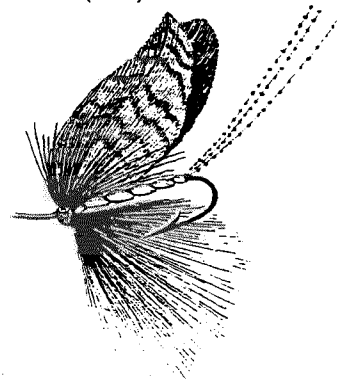
Almost immediately we became embroiled in the French Creek controversy. Four thousand hogs in one large confinement operation; 1.7 million gallons of manure being spread annually on four disposal fields that all drain into French Creek. The best wild-trout stream in Iowa is imminently threatened.

After meeting with Susan Heathcote, research director of the Iowa Environmental Council, we became aware of a new program under development that would train and equip volunteer monitors to become watchdogs of Iowa's rivers, lakes and streams. We jumped at the chance to participate. Within our organization (over 400 members) we formed a Fisheries and Environment Protection Committee and divided the state into four quadrants. Each quadrant has a team leader and several

assistants. At last count we had eighteen members trained through the IOWATER program and are monitoring more than a dozen cold and warm water streams. The number seems to grow each week. And so does the controversy.

Earlier this year we became aware of an attempt to downgrade the use designation of the upper end of a trout stream, South Cedar Creek, to accommodate a request by the local municipal waste treatment facility which was having chronic difficulty meeting the requirements of their NPDES wastewater permit. If only the stream classification could be downgraded, they argued, those pesky permit violations would disappear, and it wouldn't cost the city a dime. Solve the permit problem but ignore the pollution problem. To make a long story short, we used our new IOWATER training and equipment to sample the stream at six locations. We presented our data and our arguments in writing and in person to the Environmental Protection Commission, and we were successful in stopping the reclassification.

In addition to joining the IOWATER program, we have taken what we feel is the next logical step. We have become involved in the discussion and revision of Iowa's water quality standards. The opportunity exists NOW for environmental and conservation groups to have serious input into the formulation of water quality criteria, stream use designations, and implementation procedures (lacking up till now) for the "anti-degradation" clause mandated by the federal Clean Water Act of 1972. If some of this sounds strange to you, I challenge you to educate yourself and to get involved. Decisions being made around the tables in conference rooms in Des Moines will define every aspect of what we are all trying to do... improve the quality of our rivers, lakes and streams. For more information and to make your voice heard, call Ralph Turkle of the Iowa DNR at (515) 281-7025.



WE ARE NOT ALONE!

The Volunteer Monitor

The Volunteer Monitor is a free national newsletter highlighting the wide variety of watershed-monitoring activities conducted by volunteers across the nation. These activities range from performing chemical tests and identifying benthic macroinvertebrates to surveying vegetation, watching out for exotic invaders, and monitoring construction site runoff.

Newsletter articles feature practical, how-to information on such topics as techniques and equipment, uses of volunteer data, building stewardship, and assuring high-quality data. The newsletter covers volunteer monitoring

of all water body types (stream, lake, estuary, wetland, ocean) and also includes news updates and resource listings.

Each issue focuses on a theme—for example, "Monitoring Fauna" (Spring 2000), "Youth Projects" (Fall 1999), or "Restoration" (Spring 1999). While accessible to the layperson, the articles are also of interest to professionals. Subscribers include volunteer monitors, teachers, agency staff members, consultants, university professors, and environmental organizations.

The Volunteer Monitor is supported by a grant from the U.S. Environmental Protection Agency (US EPA), Office of Wetlands, Oceans, and Watersheds, and is now in its 12th year of publication. Back issues are available for a small charge. For a free subscription, please contact:

River Network
520 SW 6th Avenue, Suite 1130
Portland, OR 97204-1535
volmon@rivernetwork.org

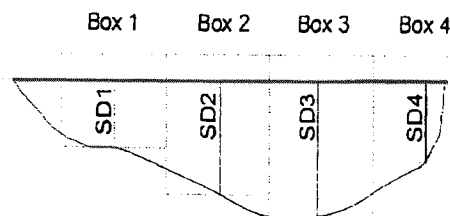
The newsletter is also on EPA's Website
at www.epa.gov/owow/volunteer/vm_index.html



How to Calculate Stream Velocity and Flow

When stream width, depth, and velocity measurements are submitted to the IOWATER database, average stream depth and velocity, and total flow are automatically calculated for you. Many have requested that we provide the formulas used. For all the teachers, naturalists, and those that just can't accept the easy way, here are the calculations:

SD = Stream Depth (in meters; SD₁ is the stream depth at spot 1)
 1, 2... = Spots along the stream transect
 N = Number of spots along the transect
 W = Width of box at each spot; 1 meter is used
 SV = Stream Velocity (1 meter divided by seconds measured; meters per second)
 * = Multiplier
 ÷ = Divider



Cross-sectional view of a stream.

Average Stream Depth (meter)

Average Stream Depth = $[SD_1 + SD_2 + SD_N] \div N$

Total Flow (cubic meters per second or m³/s)

For total flow, imagine a box placed around each spot on your stream transect. A flow is determined for each box and summed for all boxes. Flow of each box is calculated by multiplying the width of the box at each spot (1 meter) by stream depth (which you measure) by the velocity of the spot (in the field you measure the number of seconds it takes for the tennis ball to travel one meter; velocity is one meter divided by the number of seconds). The flow of each box is in cubic meters per second (m³/s). The flow of each box is added together to give total flow.

Total Flow = $(W_1 \cdot SD_1 \cdot SV_1) + (W_2 \cdot SD_2 \cdot SV_2) + (W_N \cdot SD_N \cdot SV_N)$

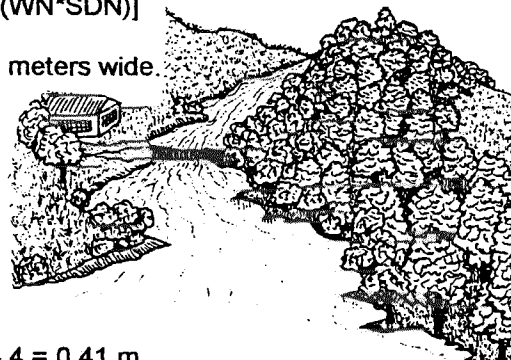
Average Stream Velocity (meters per second or m/s)

Average stream velocity is calculated by dividing total flow by the cross-sectional area of your transect. The cross-sectional area is determined by calculating a cross-sectional area for the box at each spot of your transect and then summing the cross-sectional areas.

Average Stream Velocity = $\text{Total Flow} \div [(W_1 \cdot SD_1) + (W_2 \cdot SD_2) + (W_N \cdot SD_N)]$

EXAMPLE: Physical measurements for Jack Creek, which is 4.2 meters wide

	Stream Depth (meters)	Stream Velocity (meters/seconds)
Spot 1	0.21	1 meter/8 seconds (0.125)
Spot 2	0.45	1 meter/4 seconds (0.25)
Spot 3	0.62	1 meter/3 seconds (0.33)
Spot 4	0.35	1 meter/7 seconds (0.143)



Average Stream Depth = $(0.21 \text{ m} + 0.45 \text{ m} + 0.62 \text{ m} + 0.35 \text{ m}) \div 4 = 0.41 \text{ m}$

Total Flow = $(1 \text{ m} \cdot 0.21 \text{ m} \cdot 0.125 \text{ m/s}) + (1 \text{ m} \cdot 0.45 \text{ m} \cdot 0.25 \text{ m/s}) + (1 \text{ m} \cdot 0.62 \text{ m} \cdot 0.33 \text{ m/s}) + (1 \text{ m} \cdot 0.35 \text{ m} \cdot 0.143 \text{ m/s}) = 0.39 \text{ m}^3/\text{second}$

Average Stream Velocity = $\text{Total Flow} \div \text{Cross-Sectional Area}$

Average Stream Velocity = $0.39 \text{ m}^3/\text{second} \div [(1 \text{ m} \cdot 0.21 \text{ m}) + (1 \text{ m} \cdot 0.45 \text{ m}) + (1 \text{ m} \cdot 0.62 \text{ m}) + (1 \text{ m} \cdot 0.35 \text{ m})] = 0.24 \text{ m/s}$

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Net Notes

Lynette Seigley – Research Geologist

Correction to Stream Depth. The summer issue of *The Iowa Citizen Monitor*, incorrectly stated that stream depth needed to be submitted as centimeters, not meters. Stream depth should be submitted as **METERS**, just as the measurements are recorded on your field sheet. Sorry for the confusion!

IOWATER Sites and Data. As of 10/6/00, a total of 270 sites located in 50 counties have been registered, and 200 of the sites have data! In the database, there are 180 biological, 390 chemical/physical, and 160 habitat records.

ODBC Error. Some of you have been seeing this when doing a Final Submit: **[Microsoft][ODBC Microsoft Access Driver] Syntax error in INSERT INTO statement.** Our database is having problems when many users are submitting data at the same time. This also happens if there is heavy traffic on the server where our database is located. If this happens, you have two options: (1) hit the back arrow key at the top of the screen. Your Final Submit page will reappear. Wait a few minutes and hit the Final Submit button again or (2) submit your data at a later time. As a word of advice, the IOWATER web site doesn't receive as many accesses during the morning as it does during the afternoon. We apologize for this inconvenience and in the near future, we plan to move the database to a different server that will be unaffected by multiple users.

Search Option by IOWATER monitor? Currently, the database can be searched by site, county, and HUC 8 or 11 watersheds. We are considering a search option by IOWATER monitors. Would it be useful to know which sites are being monitored by whom? Replies encouraged!

Changes to Site Names or Data. As more sites are added to the IOWATER database,

you may decide you'd like to change your site name to distinguish it from other sites on the same stream. If this occurs, or if you need to make corrections to your data, contact me at 319/335-1598
lseigley@igsb.uiowa.edu

MAC Attack! For those of you who have MACs and use Netscape as your browser, there now is a version of Internet Explorer that is available for MACs. A link to download the program is available on the On-Line Database portion of the IOWATER web site, or can be downloaded at <http://www.microsoft.com/mac/products/ie/>

Coming Soon - Netscape Users. The IOWATER database was initially designed for Internet Explorer (we had to start somewhere). As a result, some of the information is not visible when using Netscape, such as the data logs in the View Data section. This is a problem, and the voices of Netscape users have been heard! We are working on developing a View Data option for Netscape users and plan to have it available by the end of October.

Log-In Page Reappearing? After entering your IOWATER monitor ID and password and going to Submit, the log-in page reappears. What's going on? This happens in Internet Explorer if your "per-session cookies" has been disabled. Confused? Here's the fix.

1. Open up Internet Explorer
2. Click on Tools
3. Select "Internet Options"
4. Click on the Security Tab
5. Change the "security level for this zone" by clicking on the "Customs Level" button
6. Scroll down the security settings to "Allow per-session cookies (not stored)"
7. Change from Disable to Enable

Dangerous Cookies? The use of Cookies has been in the news lately and some of you may be hesitant to enable them. Doing this in IOWATER isn't a concern since these will not be stored on your PC. They temporarily hold information while on the IOWATER site and automatically delete after 15 minutes of inactivity or if you exit IOWATER. They are not accessible to any other web site and cannot be used to track your activity on the Internet. We care about your security!

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