

Laboratory of Limnology  
Lake Mendota

# LIMNOLOGY NEWS

University of Wisconsin- Madison  
College of Letters and Science



Trout Lake Station  
circa 1935

Number 11

Summer 2002

## From the Director's Desk, June 2002

Dear Friends:

Preparing this year's newsletter allowed me to review how the Center has continued to develop over the last year. Much has happened. In the limited space of this edition, we've tried to offer you an ensemble of highlights. Among those is an introduction to our newest faculty member, Jake Vander Zanden, who joined us last fall and is settling in to his new responsibilities. We'll visit with one of our alumni, Cliff Kraft, who takes us on a unique journey through the development of his career. We'll also update you on three of our research efforts: the dam removal program led by Emily Stanley, the large-scale experimental studies that form the core of the BioComplexity program, and some good news on mercury concentration trends in Little Rock Lake, which comes from a joint venture of long-term studies involving the Center and the Wisconsin DNR.

Special recognition appears in several forms. One of those is the newly announced Thomas M. Frost Prize, which will be awarded at the annual meetings of the Ecological Society of America. Another is as a thank you to one of our alumni, Ken Malueg, and his wife Sally, who generously created an endowed scholarship fund for the Center. Its benefits will continue for generations to come. Our undergraduates, graduate students and postdocs continue their strong record of accomplishment, and our alumni continue to find success in exciting teaching and research positions around the world. I invite you to read more about all of these in the following pages.

We have also experienced some losses this year. I am sorry to report that Ross Horrall died in September 2001. Ross received his Ph.D. in 1962 and was mentored by Arthur Hasler with whom he did important work on homing in salmon. We are also saddened by the death of Patricia Kaeser in December 2001. Patricia was the wife of William V. Kaeser, architect for the Lake Mendota Laboratory and namesake of the popular William V. Kaeser Visiting Scholar Endowment Fund, which allows our graduate students to bring internationally known scholars to the Center each year. Richard E. Juday died in February 2002. He was the son of Chancey Juday, a pioneer in North American limnology. Richard was a Professor of Chemistry at the University of Montana for many years. He was instrumental in establishing our Chancey Juday Limnological Data Endowment Fund.

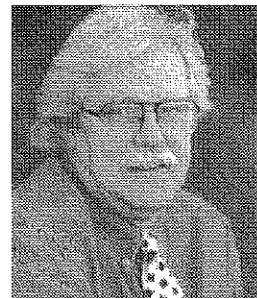
New faces continue to enhance and diversify our Center. Among those are Jim Rusak, our new site coordinator for the North Temperate Lakes LTER; Pam Fashingbauer, who leads the office staff at the Trout Lake Station; and three new technical appointments: Michelle Parara and Scott VanEgeren who've joined the Biocomplexity program, plus Ted Cummings now rounds out the core staff for the Madison Lakes component of LTER.

I will close with a major highlight. At its annual meeting in June of this year, the American Society of Limnology and Oceanography named John Magnuson as recipient of the Lifetime Achievement Award. Congratulations to John for a richly deserved recognition!

Welcome to this year's sampler of news from the Center for Limnology.

Sincerely,

James F. Kitchell, Director, Center for Limnology



## Jake Vander Zanden joins CFL and Zoology Faculty in 2001

By Jake Vander Zanden

At long last, I'm settling into my new home at the Center for Limnology and the Zoology Department. My wife Helen Sarakinos and I made the eventful cross-America drive from Davis, CA in July of 2001, providing a few weeks to get re-acquainted with Wisconsin before the onset of teaching the Limnology course in September – I say re-acquainted because I am a native of nearby Neenah, Wisconsin. Needless to say, I'm absolutely thrilled to be back in my home state as a faculty member at the Center for Limnology!

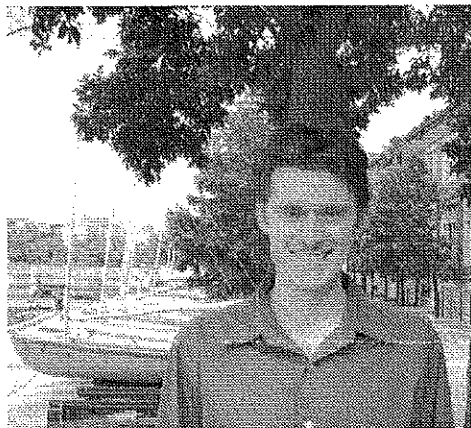
My sinuous career path included undergraduate studies at Miami of Ohio and McGill University where I studied Geography and Environmental Sciences. A summer job working for Joe Rasmussen at the Biology department at McGill turned into a Master's, which led to a Ph.D. in 1999. My work at McGill focused on the use and applications of stable isotopes to studies of aquatic food webs, and touched upon a variety of topics, including contaminant bioaccumulation, invasive species impacts, and patterning food chain length in lakes. My graduate training at McGill University developed my analytical and critical thinking skills, and provided a strong foundation for studies of lake ecosystems.

Following my Ph.D., I received a Nature Conservancy David H. Smith Conservation Postdoctoral Fellowship to work at the University of California – Davis. Davis is an ecologist's paradise, and provided opportunities to work with some fine ecologists, including the late Gary Polis, Charles Goldman, and Peter Moyle. Collaboration was a key theme at Davis – so many exciting and unique research opportunities during a short postdoctoral foray. While my previous work focused solely on lakes, my postdoctoral work allowed me to branch out and study floodplains, rivers, and alpine lakes. Not only did I work on a suite of new organisms and systems, but through my connections with The Nature Conservancy, I developed an interest in aquatic conservation that continues to the present.

Since my arrival in Madison, I've kept busy teaching "Limnology" and "Ecology of Fishes." I have also taken on two graduate students, Norman Mercado-Silva, who is studying rainbow smelt impacts in northern Wisconsin lakes, and Katie Hein, who is heading the whole-lake crayfish removal experiment in Sparking Lake. Recent CFL Ph.D. Karen Wilson is doing a short postdoctoral stint with me in the summer of '02, before she moves to Carleton College, while Sudeep Chandra (UC Davis) arrives in Dec '02 as a postdoc. I'll divide my time this summer between a few research interests. One project will focus on the impacts and occurrences of invasive species (rainbow smelt, spiny water flea, rusty crayfish) in inland Wisconsin lakes. A second will examine the consequences of benthic-pelagic linkages in lakes. Finally, I will be working on food web perspectives on fisheries restoration in the Great Lakes. Much of this research is collaborative and draws from the expertise of many colleagues.

While not doing limnology I spend time traveling and participating in a variety of outdoor activities such as hiking, bird watching, and biking. Most recently though, fixing up our newly purchased near east side home has kept me quite occupied. In addition, I've long been interested in music, and played bass guitar on two recently released studio CDs, "A Terrible Beauty's" by Berkeley, CA based recording artist, *Jeff Pitcher* (now *Above the Orange Trees*), released in 2001, and "Star Witness" by Montreal band *The Snitches*, released in Spring of 2002 on Universal Records.

In all, I've thoroughly enjoyed my first year at UW Madison and look forward to many more! While the view from the CFL is undoubtedly great, the best attributes of the CFL are the collaborative spirit and the wonderful staff, students, and faculty. These are exciting times at the Center for Limnology, and I'm delighted to be a part of it!!



### Limnology News

The University of Wisconsin-Madison Center for Limnology publishes Limnology News for its alumni and friends. Comments on the newsletter articles and article ideas are welcome. On the Web at <http://limnology.wisc.edu>. Editors: Jim Kitchell, Denise Karns, Linda Holthaus.

### Contact:

Limnology News  
Center for Limnology  
680 North Park Street  
Madison WI 53706.

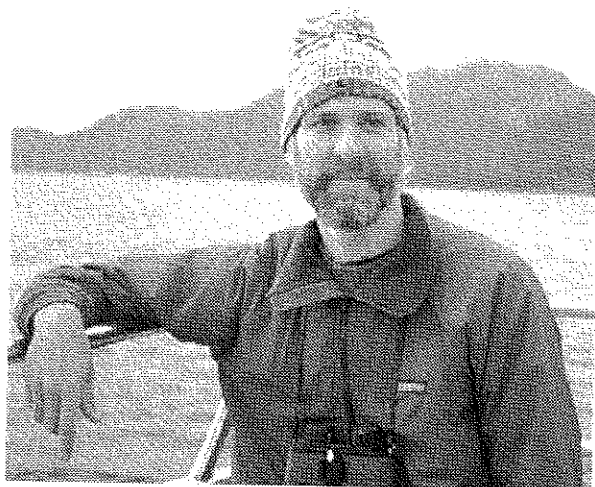
Phone: 608-262-3014

Fax: 608-265-2340

Email: [limnology@mhuh.limnology.wisc.edu](mailto:limnology@mhuh.limnology.wisc.edu)

## Cliff Kraft — It's never too late to pursue the academic fast-life

by Cliff Kraft, Ph.D., 1991, Kitchell



My journey as a limnologist began in my hometown of Gary, Indiana, an urban accident-waiting-to-happen on the shores of Lake Michigan. The industrial strength of post-WWII America provided the makings of a good education until I reached high school in the late 1960s, when the city and much of American culture imploded. I headed east to Cornell University in the early 1970s, which I had happened to visit during a high school summer in Buffalo, NY (yes, I savored urban hot spots). Cornell was the most beautiful place I had ever seen and had been recently a hotbed of familiar racial turmoil so my college choice was made without much additional thought.

As an undergraduate I benefited from a great liberal arts education and veered towards plant ecology, under the influence of Robert Whittaker and his associates. But when considering graduate school, someone suggested that aquatic ecology offered more career opportunities (who knows if this was true?), so was pointed in the direction of UW-Madison. I should also mention that Art Hasler visited Cornell during my junior year, and I spent an evening sitting before a fireplace listening to him share stories with me and two faculty members. This led me to visit the Limnology Lab during winter break 1974-75, intending to meet with Hasler and John Magnuson as prospective advisors. Upon arrival at the lab, I was told that Hasler was near retirement so was steered down the hall to Jim Kitchell. Jim and I spent the first 30 minutes of my "interview" reminiscing about Gary, Indiana, our shared birthplace. With an additional bit of scholarship fortune, my academic course was

charted and I spent much of the next 20 years professionally rooted in Wisconsin.

For my Master's degree (1975-77) I studied sculpins, drifting for long hours in Lake Michigan with other students who became lifelong friends and colleagues. These and other CFL associates from the next 20 years are too numerous to name, but suffice it to say the renamed "Center for Limnology" remained a central part of my life. Yes, after my Master's degree I drifted back east to dabble in a public policy program at M.I.T., then I swung west to work in California coastal planning for three years. But in 1981, the compass finally took me back to my adopted Wisconsin homeland to work for the UW Sea Grant Program. I spent the next 17 years conducting Great Lakes outreach programming from the UW-Green Bay campus, helped raise three boys (plus numerous gardens and animals from many phyla), learned how frustrating it is to work on old houses, earned a Ph.D. again with Jim Kitchell and finally became a Packer fan, which might have been my greatest challenge given my Chicagoland roots.

Throughout this period, I maintained close ties with Center for Limnology personnel, thereby benefiting from nearly 20 years of continuing education in aquatic subjects. Better yet, my UW Sea Grant affiliation also provided me with ready access to good computers and diverse research disciplines. I was fairly content in Green Bay and thought I preferred to avoid the scientific "fast lane," since I was relatively successful making the most of limited opportunities available at a small campus with few resources. Nevertheless, after receiving my Ph.D. in 1991, I made several attempts to land academic faculty positions without attracting much interest. Then as I was becoming convinced that I would no longer bother applying for such positions, the winds shifted and I was suddenly blown back to Cornell.

This was a very odd twist of fate, given that I had never looked back to the Ivy League. I didn't sit around at night wearing Cornell red, singing the alma mater, and drinking single-malt whiskey while reminiscing about the good ole' days on College Ave. If you had quizzed my boys (then ages 13, 11 & 9), they couldn't have told you where I first attended college (I can almost hear them say, with amazement, "You mean you didn't go to Madison?!"). Then here I was, forced to retrace my steps and remind myself what Cornell was like, which was pretty good.

### **Cliff Kraft — Continued**

So at age 45, I became an assistant Professor at a place with fairly imposing standards. I was wise enough to know that this was the point in life where I was supposed to rediscover all the things that I had given up while first pursuing the academic fast-life. Re-plumb a house, milk goats, become passionate about obscure hobbies. But I had already done that while in my 20s and 30s, having successfully rebelled long enough to live much of my life backwards. And how many people get to truly re-fashion themselves in mid-life?

During the past four years I've indulged in all sorts of new opportunities, working in streams and remote Adirondack lakes while becoming familiar with trout, and near-trout, lifestyles. I now oversee Cornell University's Little Moose Field Station near Old Forge, New York, which has served as a launching point for diverse studies of Adirondack aquatic ecosystems with a primary focus on conservation and restoration of native brook charr. An intense ice storm in 1998 provided me with an opportunity to become involved in a study of wood deposition in streams, as well as investigations of large-scale patterns of fish and in-stream habitat distributions within large watersheds. In recognition of my CFL roots, I am also involved in a large-scale removal of non-native smallmouth bass from a 260-ha Adirondack lake, both in an attempt to rehabilitate the trout fishery in that lake as well as evaluate other ecosystem impacts resulting from this manipulation.

The other half of my academic appointment involves conducting fisheries extension programs, similar to my former Sea Grant responsibilities. These efforts are designed to improve the management of all New York fisheries in waters as different as farm ponds and Lake Ontario since I believe that a few basic principles apply to managing all fish populations. You can get an overall flavor of what I'm up to by looking at my web sites beginning at: <http://www.dnr.cornell.edu/facstf/kraft/kraft.htm>

I'm smart enough now to know that I'm fortunate to be doing what I'm doing, since I'm largely motivated by the fact that I'm having fun. This is a privilege. And I also know that I'm fortunate to be grounded by the fact that I'm doing useful work that matters to people from all walks of life, from the richest fly-fishing types to blue-collar anglers on the banks of the Delaware. I've never forgotten that I'm a product of the urban American melting pot, and know what is both good and bad about that. As I watch my boys begin to prepare themselves for some sort of journey, I'm glad that I was humbled long enough that this Cornell nonsense can't go to my head. But it sure is enjoyable.

## **ESA Establishes Thomas M. Frost Prize**

In August 2002, the Aquatic Section of the Ecological Society of America will present the first annual Thomas M. Frost Award for Excellence in Graduate Research. This prize, initiated in 2001, honors Tom, his commitment to aquatic ecology, and to graduate education. While serving as the Director of the Trout Lake Biological Station, Tom served as mentor to Mike Sierszen (Ph.D. 1988), Daniel Schneider (M.S. 1986, Ph.D. 1990), Maria Gonzalez (M.S. 1988, Ph.D. 1992), Janet Fischer (M.S. 1994, Ph.D. 1997), Shelly Arnott (Ph.D. 1998), and Beth Sanderson (M.S. 1994, Ph.D. 1998). The Frost award will be given to a graduate student or recent graduate for a publication resulting from the student's dissertation research that makes a novel and important contribution to aquatic ecology. The award is made possible through the generous contribution and enthusiastic support of over 70 members of the limnological community. The initial round of submissions is currently being evaluated by the Frost Award Committee. The truly excellent quality of the nominees is providing the committee with a difficult decision-making challenge. The recipient will receive an honorary plaque and a cash prize at the annual meeting in Tucson, Arizona.

For further information about the award, contact:

The Ecological Society of America  
1707 H St, NW  
Suite 400  
Washington, DC 20006  
Fax: (202)83378775  
Email: [membership@esa.org](mailto:membership@esa.org)

To make a contribution to the Thomas M. Frost Award Fund, send a check directly to ESA. Clearly indicate on the check that it is for the "Frost Fund." You may also make a contribution when you renew your ESA membership by checking "Frost Award" on the membership form under the "Contributions" category.

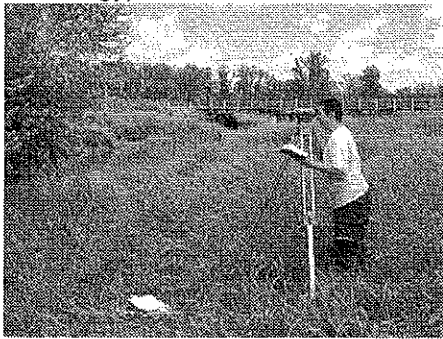
Interested in receiving Limnology News electronically? Contact Denise Karns at [dkkarns@wisc.edu](mailto:dkkarns@wisc.edu)

# Dam It! Studying dams and dam removal in Wisconsin

by Emily Stanley

As a society, we have a love-hate relationship with dams. Throughout much of the history of the U.S., construction of dams was a crucial part of economic development. These structures provided power, water, flood control, and recreation needed by developing communities. In Wisconsin, enthusiasm for dam building was fostered by the Milldam Act of 1840, which encouraged the use of hydropower to fuel the state's economic growth. There are now nearly 4,000 dams, or 1 dam every 14 river kilometers in the state. Unfortunately, time has taken its toll and transformed many of these structures from productive sites of commerce to safety risks. With this legacy of abundant and deteriorating dams, the Wisconsin Department of Natural Resources (WDNR) has taken what many other states consider to be a radical and progressive stance--and that is to be willing to remove these aging structures. As a result, Wisconsin now leads the nation in the number of dam removals. Under WDNR's guidance, more than 60 dams have been removed over the past three decades, one third of which were decommissioned since 1993. To date, and reflective of the national trend, most of the removed dams have been relatively small structures. This high rate of removal has made Wisconsin a focal point and potential source of information for dam removals elsewhere, including the western USA where proposed removals of large structures are currently being debated.

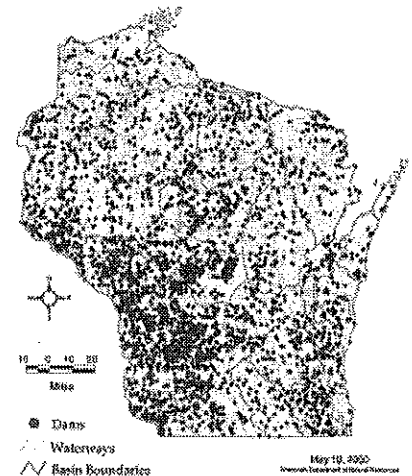
Despite the relatively large number of removals and the attention the process is now receiving, there have been remarkably few studies of the ecological effects of small dams and the changes resulting from their removal. Indeed, prior to 2000, there was only a single published article (Kanehl et al. 1997) that quantified physical and biological changes following dam removal (co-authored by John Lyons, M.S. 1981, Ph.D. 1984). Over the past two years, Martin Doyle (a Ph.D. student in Geology from Purdue University), Cailin Orr (M.S. student in Limnology), collaborators at WDNR, and I have been documenting the changes that occur when dams are



Carolyn Antonie, Chase Noland Scholar 2001, surveys vegetation on impoundment

removed. Our work has focused on the fate of sediments accumulated behind dams, how formerly impounded river reaches handle incoming and stored nutrients following removal, and plant community development on newly exposed sediment surfaces. We have studied several rivers, but none more intensively than the Baraboo River. With the extraction of a total of seven dams, including four removals between 2000-2001, the Baraboo River holds the distinction of being the longest mainstem river restored to a free flowing state. As of October 2001, 120 miles from the headwaters in Elroy, to the Baraboo's confluence with the Wisconsin River is open for canoes and fish alike for the first time since 1859. Our research on this and other rivers reveals that most sediment transport occurs within the first year post-removal. Macroinvertebrate communities responded rapidly to dam removal; within one year, communities in formerly impounded reaches were no different than those in unimpounded sections of the river. Vegetation grows quickly on exposed reservoir sediments, however, it may take more than 20 years for a stable riparian plant community to become established at these sites. The "take-home" messages for water quality has been more complicated. It has led us to ask questions about the relationship between the physical form of the river channel and the ability of a river to process nutrients such as nitrogen and phosphorus, which is the focus of our current work. This research has been supported by enthusiastic partnerships with Sand County Foundation, WDNR, and the River Alliance of Wisconsin, and by grants from the Bradley Fund for the Environment, National Science Foundation, FishAmerica, and the Environmental Protection Agency.

## Wisconsin Dams



Wisconsin Dams, May 2000  
Wisconsin DNR



Removal of last dam (Linen Mills) on Baraboo River, October 2001

## Dam Removal — Continued

While these studies have revealed several valuable insights about changes caused by dam removal, they have also helped us see what we do not know about rivers. The large number of existing dams in the state create a linked network of lentic and lotic habitats, and ecological relationships between reservoirs and river reaches are poorly understood. While dam removal may be considered a practical management action, we have come to view decommissioning as a valuable ecosystem experiment in which we can study the relationship between physical changes and subsequent ecological responses. With almost 4,000 dams in the state, we should have many more opportunities to understand and manage how the coming and going of dams shape ecological processes in Wisconsin riverways.

Kanehl, P.D., J. Lyons, and J.E. Nelson. 1997. *Changes in the habitat and fish community of the Milwaukee River, Wisconsin, following removal of the Woolen Mills Dam. North American Journal of Fisheries Management* 17:387-400.

## Biocomplexity Program Update

by Barbara Martinez

This was an exciting and productive year for the NSF-sponsored Biocomplexity program for research on interactions of riparian land, people, and lakes in northern Wisconsin. The program is led by limnologists Steve Carpenter and Tim Kratz, and includes Jim Kitchell, John Magnuson, plus eight other faculty members from various disciplines at UW Madison. The Biocomplexity home page provides a more detailed overview of the program, personnel and accomplishments. It is located at <http://biocomplexity.limnology.wisc.edu>.

The BioComplexity group held a meeting at Trout Lake station this past winter where researchers presented highlights and plans from each of the four major Biocomplexity projects: cross-lake comparisons, Sparkling Lake whole-lake manipulations, coarse woody debris (CWD) manipulation, and ecological economics. These power-point presentations are included on the website.

The cross-lake comparison group spent the 2001 field season collecting data from thirteen lakes in Vilas County on riparian vegetation, riparian and littoral CWD, fish and crayfish populations, and macrophyte communities. The goal is to understand the range of variability that exists among these biological variables across lakes on a gradient of human development and landscape position. More fieldwork is currently underway on additional lakes in Vilas County.

During the summer of 2001, researchers began removing rusty crayfish and rainbow smelt from Sparkling Lake. Both are invasive species in Vilas County, and their presence in Sparkling Lake

caused changes in the lake chemistry and native aquatic communities. The goals of this team are to cause a collapse in the smelt and crayfish populations which would allow predators to maintain the invaders at low population levels and to study the response of the lake ecosystem to this removal. The team is entering its second season of removal work.

This summer researchers will begin a whole-lake removal of CWD on Little Rock Lake. They are interested in how the whole-lake manipulation of CWD will influence fish size, growth, population structure, abundance, and a number of behavioral characteristics. In addition, Camp Lake will be surveyed before a planned addition of CWD in 2003. This team has a lot of fieldwork lined up and the data gleaned from their work will be an invaluable aid to the lakeshore zoning discussion currently very active in the northern highlands lake district.

Finally, the ecological economics group is working on modeling lakeshore development in Vilas County. The model ultimately seeks to uncover the negative interactions (direct and indirect) associated with lakeshore development. It also aims to find the effect of a one-policy tool—zoning—on development.

A number of models related to BioComplexity are also in progress. Check out the BioComplexity website for detailed information on the programs methods, data, and progress.

*Photo: Katie Hein and her crayfish friends, summer 2001, Sparkling Lake*





## Acid Rain and Mercury in Little Rock Lake: Research Update from TLS

By Tim Kratz and Carl Watras

Little Rock Lake is a small, pristine seepage lake in Vilas County about 5 km from the Trout Lake Station. In 1984 it became a national research site for investigations into the environmental consequences of acid rain and airborne mercury pollution. Over the intervening years, scientists from North America, Australia, Europe and South America have cooperated on biogeochemical and ecological studies of Little Rock Lake.

In 1984, the lake was divided into two basins of roughly equal size using a reinforced plastic barrier. One basin of the lake has been used for experimental purposes while the other basin, known as the reference basin, has remained undisturbed as a natural monitor of environmental change. Since human access to the lake is restricted, and since no outboard motors or other disturbance have been allowed, several potentially confounding variables have been minimized.

Current research on Little Rock Lake is overseen cooperatively by the WI DNR and the Center for Limnology. Carl Watras, a DNR scientist, and Tim Kratz, Associate Director of the CFL, direct projects from the Trout Lake Station in Boulder Junction. They recently reported some good news for Wisconsin's environment, based on a series of studies that is being published in several technical journals.

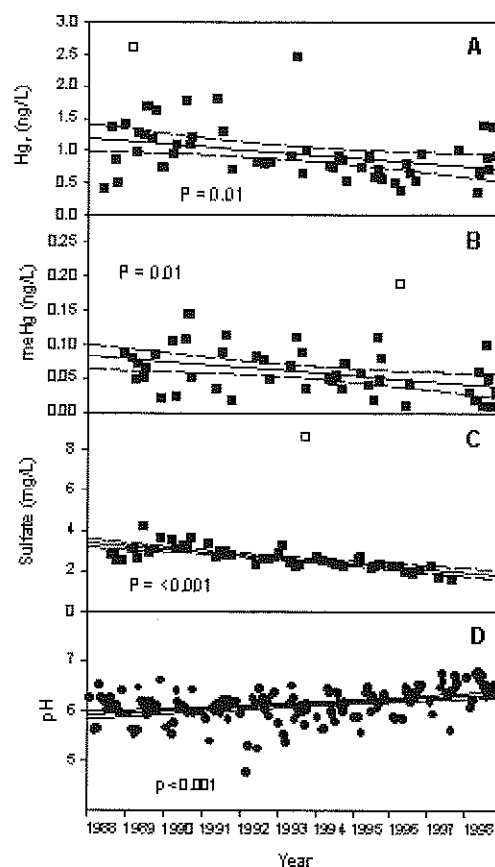
Although studies on the experimental basin have received the most attention to date, scientists are now finding that data from the reference basin show some interesting and potentially promising trends. Left untouched as a monitor of environmental change, the reference basin is showing signs that acid rain, and perhaps airborne mercury contamination, are on the decline in northern Wisconsin.

In a study published last year in *Environmental Science and Technology*, the Trout Lake scientists reported statistically significant declines in mercury and acidity in the water of the reference basin, beginning in about 1988. Furthermore, trends in the lake water paralleled trends in precipitation, which the DNR monitors as part of a national atmospheric deposition network. The rain has steadily become less acidic and it may also contain less mercury - and the lake appears to be responding to reduced inputs from the airshed.

The decreasing acidity of precipitation and lake water both correlate with a contemporaneous decline in sulfur emissions from coal-burning power plants, as mandated by state and federal law dating to 1970. In the wake of the Federal Clean Air Act, sulfate deposition has declined significantly across the eastern US. As a result, many lakes have shown some sign of improvement - but the long term data record for Little Rock Lake is compelling evidence that the legislation has had positive effects over a relatively short time frame.

The data record for mercury is not as long as the acidity record, but it is also showing a gradual decline in both lake water and rainwater. And along with these declines, there has been a decline in fish mercury as well. The parallel trends suggest that changes can propagate through the ecosystem quickly. They also suggest that one key to controlling mercury in fish is to control mercury in rain. These results will soon be published in the journal *Science of the Total Environment*.

In the most recent study of mercury in Little Rock Lake, DNR and CFL scientists have attempted to determine more precisely the lake's response-time to changes in mercury deposition. Over a period of seven years, they compared the seasonal cycle of Hg in rain to seasonal changes of Hg in lake water. The results showed that when atmospheric Hg deposition to the lake increased during the spring rains, mercury concentrations in the lake went up. When Hg deposition declined during autumn, mercury in the lake went down. The lake water appears to be responding to atmospheric changes over a time scale of weeks. Such a rapid response indicates that improvements in the lake could quickly follow improvements in air quality. Unfortunately, they also indicate that conditions could deteriorate just as quickly.



Trends for Mercury ( $Hg_T$ ), methyl mercury ( $MeHg$ ), Sulfate, and Acidity (pH) in the Little Rock Lake reference basin. Note that mercury, methyl mercury and sulfate have declined, while pH has increased significantly. (Source: Watras, C.J., K.A. Morrison, R.J.M. Hudson, T.M. Frost and T.K. Kratz. 2000. *Environ. Sci. Technol.* 34:4051-4057)

## Little Rock Lake — Continued

It is not yet clear why mercury in rain cycles seasonally, or why it has been declining — or if the decline will continue. But the studies on Little Rock Lake emphasize the need for long term environmental research to address such questions. Because nature is fickle and subject to simultaneous perturbations, piecemeal data are rarely sufficient to describe or diagnose patterns of change in the environment. The recent acid rain and mercury data from Little Rock Lake are encouraging. They document the value of strong public policy and careful planning for the future.

---

## Endowment News

by Linda Holthaus

Recently we received a call from a former graduate student, Kenneth W. Malueg, and his wife, Sara, indicating that they wished to establish an endowed scholarship fund at the Center for Limnology. Ken and Sally worked with the UW Foundation and us to set up a Memorandum of Agreement establishing the Kenneth W. Malueg Limnology Scholarship Fund. The scholarship will support graduate students studying limnology of lakes with preference being given to students studying in the field away from the Madison area.

Ken Malueg received his master's degree, under the direction of Arthur Hasler, at the University of Wisconsin in 1963. His thesis, "A Study of the Vertical Distribution of Phytoplankton with Respect to the Effects of Lime Treatment," investigated the biology of the phytoplankton in two portions of an experimentally divided lake (Peter and Paul) in Gogebic County, Michigan, near the border of

northern Wisconsin. Ken continued his studies with Arthur Hasler and, in 1966, was awarded the Ph.D. degree. His thesis, "An Ecological Study of *Chaoborus*," focused on the life cycle and diel vertical migratory habits of this organism. Most of Dr. Malueg's work was conducted on Tub Lake in Chippewa County, northwestern Wisconsin.

Thanks to the generosity of donors such as Drs. Ken and Sally Malueg and their family, the Center for Limnology is able to maintain a margin of excellence in our ability to recruit and train graduate students.

For more information about the Center for Limnology Endowment contact Linda Holthaus (608-262-3304, holthaus@wisc.edu) at the Center for Limnology or Teresa Midthun (608-263-2134, teresa.midthun@uwfoundation.wisc.edu) at the UW Foundation.

---

## Noteworthy



**James Rusak** has been appointed as the new **Site Coordinator for LTER at Trout Lake Station**. Jim is an alumnus of the University of Guelph (BS majoring in Marine Biology), Lakehead University (MS under Douglas Morris), and York University (Ph.D. under Norman Yan and Donald McQueen). Most recently Jim completed a post doctoral fellowship at the University of Regina under P.R. Leavitt where he used paleolimnology to investigate lake biology and ecology. Jim brings with him a great deal of experience in aquatic ecology, and we look forward to his participation in the Center and LTER activities.

**John J. Magnuson** was presented with the **Lifetime Achievement Award by the American Society of Limnology and Oceanography** at their Annual Meeting in Victoria, British Columbia, Canada, in June 2002. John's award recognizes his extensive and effective service to the limnological and oceanographic communities including leadership in national and international programs that have strengthened both science and policy and for his seminal approaches to the community ecology of lakes and lake districts. The award was established to recognize and honor major, long-term achievements in the fields of limnology and oceanography, including research, education and service to the community and society. Emphasis in selection is given to established aquatic scientists whose work is recognized for its importance and long-term influence. Previous recipients have been: Kenneth H. Mann (1994), Clifford H. Mortimer (1995), Ruth Patrick (1996), Alan R. Longhurst (1997), Karl Banse (1998), Charles S. Yentsch (1999), Ramon Margalef (2000), and Jack Vallentyne (2001).



**The Center** has been notified by NSF that the **North Temperate Lakes Long-Term Ecological Research** grant will be funded for 6 more years. Congratulations to all the LTER team! Check out their continuing achievements at via the internet at <http://limnosun.limnology.wisc.edu> .

## Student Awards

**Garry Peterson** (post doc, Carpenter) has been awarded a prestigious David H. Smith Fellowship from the Nature Conservancy.

**Pieter Johnson** (graduate student, Carpenter) won a best student paper award at the Society for Vertebrate Biology meeting in Hood River, OR, April 2002.

**Elena Bennett** (MS 1999, PhD 2002, Carpenter) recently won a best student presentation award from the Soil Ecology Section of the Ecological Society of America for her presentation at the ESA conference, August 2001. Her presentation "Soil phosphorus concentrations along an urban-rural gradient in Dane County, Wisconsin" was based on some of her dissertation research. She writes of her research "Runoff of upland phosphorus (P) into lakes is a key pollutant leading to eutrophication, a serious problem for many lakes. Understanding the magnitude and location of soil P accumulation in watersheds is a critical step toward managing runoff of this pollutant. I examined the usefulness of urban-rural gradients, an emerging paradigm in urban ecology, for predicting soil P concentrations across a rapidly urbanizing agricultural watershed in southern Wisconsin. Most of the factors that were expected to drive differences in soil P concentrations (e.g., soil type, slope, topography, land use, land cover, and fertilizer and manure use) were found to be poor predictors of soil P. There was a significant relationship between soil P concentration and each of the urban-rural gradients, but these relationships explained only very little of the variation in soil P concentrations. Soil P concentration, unlike some other ecosystem properties, is not well predicted by urban-rural gradients. Stay tuned for further examination of models to predict the location and variability of soil P in my next papers!!"

**Norman Mercado-Silva** (graduate student, Vander Zanden) received an award from the **Charlotte Stein Graduate Student Travel Fund** to attend the Second International Symposium on Livebearing Fishes in Queretaro, Mexico.

The **Anna Grant Birge Award** recipients for 2002 include **Paula Allen** (Zoology, Dodson), **Mara Finkelstein** (Limnology, Hotchkiss), **Dawoon Jung** (Zoology, Dodson), **Suzanne Kercher** (Botany, Zedler), **Gemma May** (Zoology, Lee), **Norman Mercado-Silva** (Zoology, Vander Zanden), **Brian Roth** (Limnology, Kitchell), **Greg Sass** (Zoology, Kitchell), **Theo Willis** (Limnology, Magnuson), and **Edward Young** (Engineering, Hoopes).

**Caitlin Gille** and **Stacey Lischka** both received prestigious **Hilldale Awards** for this summer. Caitlin is working with the Cascade project and Jim Kitchell on predator-prey interactions. Stacey is working with John Magnuson on the smelt removal program in Sparkling Lake.

**Chase Noland Award** recipients for Summer 2002 are undergraduates **Noah Lottig** and **Emily Ruell**. Noah, working under the direction of Dr. Emily Stanley, is studying the dynamics of riverine ecosystems, especially those related to nitrogen. Emily Ruell's project (under the direction of Dr. Carolyn Lee) is "Testing for Selection During Hybridization Between Orconectes Spp."

Undergraduates **Taryn Clark** and **Jim Coloso** received **Juday Awards** for Summer 2002. Taryn, under the guidance of John Magnuson, is studying "Trends and Coherence of Lake Ice in the Great Lakes Region." Jim, under the guidance of Tim Kratz and Paul Hanson is studying "Automated Measures of Lake Metabolism."

The 2002 Center for Limnology recipients of the **National Science Foundation Research Experiences for Undergraduates** awards involved students from three Center projects:

- **Biocomplexity Project:** **Patrick Hermann** investigated the impact of intense harvest on crayfish predation by fishes. **Jerome Weis** is monitoring largemouth bass nest site selection and its relationship to coarse woody debris.

- **Long-Term Ecological Research Project: Jeremy Chacon** is focusing on host-parasite relationships. **Kira Novakofski** is studying environmental templates and their role in determining the structure of microbial communities.
- **Microbial Observatory Project: Brian Belz** is measuring respiration and primary production in several northern lakes. **Stuart Jones** is studying algal succession in Crystal Bog and its effect on bacterial community composition.

## Graduations

**Bennett, Elena** (PhD 2002, Carpenter) Elena's thesis title was "Patterns of Soil Phosphorus: Concentrations and Variability Across an Urbanizing Landscape." Elena will be continuing on as a post doc at the Center with the Millennium Ecosystem Assessment project.

**Beard, Thomas Douglas** (PhD 2002, Carpenter) studied "The Roles of Recruitment, Angler Effort Response, Angler Perception, and Exploitation Limits in Structuring Regional Walleye Fisheries in Northern Wisconsin." Doug will be continuing on with the Wisconsin DNR Fisheries.

**Derring-Green Wassell, Rebecca** (MS 2002, Potter) studied "Assessing the Role of Habitat Variability in Structuring the Benthic Insect Community in WI Streams. She is now in Ellensburg, Washington, doing outreach and education for the Forestry Service.

**Wilson, Karen** (Zoology, PhD 2002, Magnuson) Karen's thesis title was "Impacts of the invasive rusty crayfish (*Orconectes rusticus*) in northern Wisconsin Lakes." Karen will be working as a post doc with Jake Vander Zanden prior to assuming her duties on the faculty of Carleton College this fall.

## Migrations

**Beisner, Beatrice** (post doc, Carpenter) has accepted a faculty position in the Department of Zoology, University of Guelph, Guelph, Ontario.

**Cox, Sean** (post doc, Kitchell) has accepted a position as Assistant Professor in the School of Resource and Environmental Management at Simon Fraser University, Burnaby, British Columbia.

**Finlay, Jacques** (post doc, Stanley) Jacques has moved to Boulder, CO on an NRC post-doc with Rob Striegl (UW-Water Chemistry Alum) at USGS. This is a stop-over on his way to a faculty position in the Department of Ecology, Evolution, and Behavior at University of Minnesota.

Center for Limnology  
University of Wisconsin  
680 North Park Street  
Madison WI 53706-1492

Nonprofit Org. U.S. Postage PAID Permit No. 658 Madison, WI
---

Address Service Requested