



# LIMNOLOGY NEWS

University of Wisconsin- Madison  
College of Letters and Science



Number 13

Summer/Fall 2005

## ***From the Director's Desk, Fall 2005***

Dear Friends:

This year's newsletter is a bit later than many as we've waited for some developments of interest to our readers. A very active field season is winding down. Gear is stowed and the laboratory work is in full swing. Monitoring Lake Mendota from my window reveals that the combination of continuing food web effects and a summer drought (no run-off!) will have produced one of the better water quality years in decades. We've had very few major bluegreen blooms. Early in the summer our LTER program was the focus of a site visit team from NSF. The outcome was very favorable and the North Temperate Lake program continues to be ranked among the very best of the LTER network.

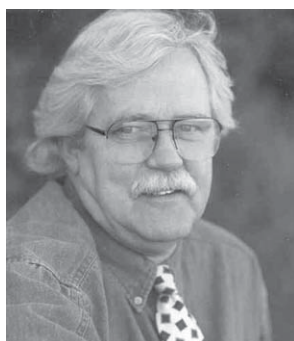
Major changes have occurred in our administrative staff. Following Sarah Carter's move to Wisconsin DNR and after prolonged search we found an excellent new Assistant Director in Marilyn Larsen whose history includes an Urban and Regional Planning degree from UW and experience with the lake management program at WDNR. Linda Holthaus retired after 23 years at the CFL. Her legacy is detailed inside these pages. We found her replacement in Anne Murphy-Lom. Both Marilyn and Anne came from positions with UW-Extension. Their experience with the UW System is invaluable and Marilyn has expanded our collaboration with WDNR while Anne is coordinating the redesign of our website. A new, improved CFL home on the web will appear soon.

Features in this edition include a report from one of our distinguished alumni. Rob Striegl takes us on his career journey to date. Jake Vander Zanden's project in Mongolia has received substantial press and we've reproduced one article from Wisconsin Week. Steve Carpenter provides an overview of a novel project involving experimental assessment of the sources of carbon that fuel food webs in our northern lakes. Contrary to the textbook descriptions, much of the carbon present in fishes derives from the adjacent forests. Moving to the global scale, Steve and his associates have labored for the past four years in preparing the Millennium Assessment Report. Elena Bennett, who did a postdoc with this group, offers an overview of that program.

In addition to the special features above, we highlight individuals recognized through awards and, of course, this year's news about graduations and migrations. Having recently learned that Warren Stuntz passed away, we honor him in a section recognizing his career.

I've saved a special announcement for last. On Monday, 8 May, we will accomplish a long-sought goal by staging a special dedication ceremony. The Laboratory of Limnology will be formally named the Arthur Davis Hasler Laboratory of Limnology in honor of Art's leadership in developing this place and its programs.

In all, it's been a productive and expansive year at CFL. We thank you for your interest in our people, their programs and your continued support to our efforts.



Sincerely,

Jim Kitchell  
Director, Center for Limnology  
Hasler Professor of Zoology

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## Chasing Carbon

*By Rob Striegl, Ph.D. 1988, Armstrong*

As I was rushing to a plane in Denver International Airport last December, I heard a voice call, “Hey Striegl!” It was Jim Kitchell. My first surprise was that Jim even recognized me, since we hadn’t seen each other for several years and I had obviously walked right past him in a traveler’s daze. My second surprise was that we were both headed to UC Santa Barbara on the same plane, but for different workshops. When asked if we could sit together on the small plane, the flight attendant replied that they “could use more weight in the back,” so we were set to shoot the bull for the next couple of hours while admiring the scenery of the Southwest out the window. This was the first time that Jim and I were able to visit for more than a few minutes since I left Madison for USGS in Colorado and it was great to catch up on news of past and current students, old profs, CFL science, Jim’s fishing trips, and deranged Wisconsin deer hunters. About a month later I heard from Jim again, asking me to write these few words. It appears that taking a research job with the feds and actually managing to stay in research, without becoming a manager or a bureaucrat, must be something of a novelty.

It’s pretty cliché, but I decided that I wanted to study lakes someday when I was about 12. That dream came true as an undergrad when I landed a summer job with the US Forest Service working in the Boundary Waters Canoe Area Wilderness. I kept that job through my undergrad and early grad school years and, when I finished my MS in Biology at University of Illinois, I moved to northern Minnesota to work with clear water in quiet places



on assorted water quality monitoring studies. A couple of years later, the reality of a new family and the need for a steady job set in, and I accepted my first position with USGS. In a very short time that winter, I went from collecting water samples off of a ski plane in the wilderness to sampling the green and brown waters of Chicagoland. The change was a little too much for me and I realized that if I was going to work in the places I enjoyed, then I better go back to school. Two summers later, I had the pleasure of meeting many of the CFL and Water Chemistry (now Environmental Chemistry and Technology) bunch at a meeting near Minocqua, most notably Dave Armstrong and Tom Frost. Shortly thereafter, Dave decided that I might not be too much of a risk as a graduate student, so over the course of the next year I arranged to take leave from my job in Illinois and was off to Madison.

As many can attest, CFL and Water Chemistry were great places to be in the 1980s. For me, it was wonderful to be back at a university after six years. In addition, there was a great bunch of graduate students, post docs, and faculty to interact with. To top that off, the Miller-Time Committee did its best to meet every Friday with the mission of building a statistical database on the quality of the world’s beers. It was also a time when my science interests took on an interdisciplinary character and I decided to focus my research on the interfaces among chemistry, biology, and hydrology. To the water chemists, I was the guy that TA’d Limnology and Fish Ecology and had my desk at CFL, but was Dave Armstrong’s student. At CFL, I was the guy that knew something about biology, but had a lab in Water Chemistry. After seeing a lecture on  $^{14}\text{CO}_2$  transport and geochemistry at Weeks Hall one day, I abandoned my thoughts of studying contaminants in fish and decided to work with carbon biogeochemistry. As my graduate work neared completion, I was offered a position with the USGS National Research Program (NRP) in Denver and I have been here ever since.

Research in the NRP is grouped into six disciplines: Surface Water Hydrology, Ground Water Hydrology, Surface Water Chemistry, Ground Water Chemistry, Sediment Transport and Geomorphology, and Ecology. Although many of our scientists prefer to keep their research focused within their discipline, I believe that the beauty of the organization is its ability to conduct interdisciplinary studies. I was first hired into the Ground Water Chemistry discipline to interface with Ed Weeks’ Groundwater discipline project, “Field Application of Unsaturated Zone Flow Theory.” Consequently, much of my early work focused on  $\text{CO}_2$  and  $\text{CH}_4$  dynamics of arid unsaturated zones. Desiring to work with carbon cycling in wetter places, I had the good fortune of initiating my own long-term research project, “Biogeochemical Interactions at Environmental Interfaces” in the Ecology discipline in 1992. Since then, my project’s research has included studies of C cycling and surface-atmosphere flux of  $\text{CO}_2$  and  $\text{CH}_4$  in tall grass prairie, boreal forest, mountain soils and wetlands, and north temperate and boreal lakes. Although my research group continues our long-term work in the desert and on lakes, most of my current research focus is on the effects of climate warming on subarctic carbon dynamics and on C export

from the Yukon River basin to the Bering Sea. In addition to its C-cycling component, the five-year Yukon River Basin project is conducting studies of the basic hydrology, nutrient and trace element cycling, and microbiology of the Yukon River and its major tributaries and headwater areas. Our hope is that future scientists will someday revisit our “turn of the century” study to better understand how climate change has affected hydrology and elemental cycling in high latitude ecosystems.

Thanks to Jim for the opportunity to say “Hi” to old CFL friends and to perhaps meet some new ones, and many thanks to all of you that expressed concern and support following my auto accident in 2001. I’m happy to report that I’ve healed well and that the screws are still holding, although I tend to prefer boat rides over mountain hikes nowadays. With the Yukon project winding down next year, my plan is to bring my field studies back to the lakes I love. It’s doubtful that we’ll have the opportunity to fund another multidiscipline science team in Alaska for a few years to come, so I see scaling down to less complex studies at established research sites as a good way to go. There is always opportunity for new graduate students and post docs to get involved with USGS studies, so feel free to call or write anytime.

*Rob Striegl graduated from the O & L program in 1988. He is currently Chief of the Biogeochemical Interactions at Environmental Interfaces Research Project, USGS National Research Program, Denver-Boulder, Colorado and Science Coordinator of the USGS Yukon River Basin project. He was the Assistant Research Advisor and Research Advisor for the Ecology Research Discipline of the USGS Water Resources Division from 1998-2004.*



## ***Limnology News***

*The University of Wisconsin-Madison Center for Limnology publishes Limnology News for its alumni and friends. Comments on the newsletter and future article ideas are welcome. On the web at <http://limnology.wisc.edu>*

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## ***From Madison to Mongolia: Researchers protect a giant fish***

*By Paroma Basu, U. W. Communications*

Biologist David Gilroy rides horseback on the frozen Uur River, a pristine body of water in the remote reaches of northern Mongolia. In the wild silence that blankets him, Gilroy listens for faint radio signals from below the river's surface.

A graduate student, Gilroy hopes this month to begin detecting signals from a legendary fish species, one that has captured the hearts of scores of anglers. The scientist is on the trail of the majestic taimen, the largest trout species in the world.



David Gilroy weighing a taimen during tagging.

Alongside fellow UW-Madison biologists and other American and Mongolian researchers, Gilroy is part of a five-year, \$2.3 million initiative - largely backed by the Global Environment Facility - that aims to protect the endangered taimen by encouraging sustainable fishing practices. To that end, the researchers want to learn everything about the giant fish, from its migration pathways to spawning locations and population levels.

Amidst a booming ecotourism industry in Mongolia - with wealthy anglers paying up to \$7,000 a week to catch taimen - the scientists launched the research project last year, in partnership with local nonprofit organizations, private fly-fishing outfitters and the nomadic peoples of the Eg-Uur watershed. Spearheaded by the Taimen Conservation Fund (TCF), a Mongolian faith-based nonprofit group, the goal is to empower local people and simultaneously promote awareness about the threatened fish and taimen-preserving fishing practices.

"The biology of taimen makes it sensitive to poaching," says Jake Vander Zanden, a UW-Madison limnology professor and co-leader of the taimen research effort in Mongolia. "The fish is vulnerable because it grows slowly, reproduces at a late age and is a top predator."

"Taking the taimen out of the river is like taking the wolf out of the forest," agrees Gilroy.

In fly-fishing circles worldwide, the taimen is shrouded in mystique. Known to locals as the "river god's daughter," taimen can reach up to six feet and weigh up to 200 pounds. The fish can literally "explode" out of the water, snapping up small mammals in its wake, says Gilroy. Once prevalent throughout Mongolia and Siberia, over-fishing and habitat destruction have hacked taimen populations. Now, Northern Mongolia's Eg-Uur River basin remains one of the last strongholds of healthy taimen populations.

Following detailed biological observations of the fish, Vander Zanden and Gilroy want to create a scientific framework that supports the creation of a catch-and-release fishing reserve. In catch-and-release fishing, sport anglers who catch taimen are obligated to return the fish to their native waters.

"A taimen is too valuable to catch just once," says Vander Zanden. "Why not return it to the river so that it remains a sustainable resource that will provide jobs to the local people and help tourism businesses earn profits [in the long term]?"



Eg-Uur Valley and camp area.

Vander Zanden says the approach is starting to pay off as people realize that TCF's blend of cultural preservation, natural resource management and species protection can be a win-win scenario for all interest groups.

As it stands, eco-tourism travel companies pay local resource management councils for permission to fish in protected areas. The councils, in turn, work with local government agencies, advocating for anti-poaching practices and catch-and-release fishing.

To boost protection efforts, TCF also works to revive religious and cultural values that stress the importance

of respecting nature. By recently helping to reconstruct a once-prominent monastery, for instance, conservationists hope that revitalized Buddhist practices can bolster taimen populations.

During the project's first year, the science team set up a research station and radio-tagged 50 fish. This year, the researchers will track the tagged taimen to start gathering clues about the fish and discern where populations may be most vulnerable, says Vander Zanden. "Ultimately, it's biology that will determine where the protection reserves should be," he says.

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## The Limnology Laboratory Receives a New Name

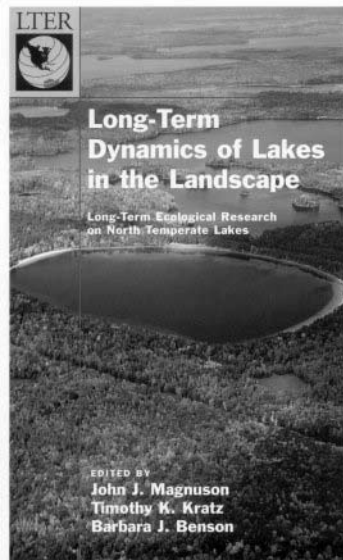
We are pleased to announce that the University of Wisconsin Board of Regents has approved the proposal for the Limnology Laboratory to be named the

*Arthur Davis Hasler Laboratory of Limnology*

A building dedication ceremony is being planned for spring 2006. Look for coverage of the event in our next edition of *Limnology News*.

### **New LTER Book**

You've been hearing about it! You may have even contributed to it...*Long-Term Dynamics of Lakes in the Landscape* (John Magnuson, Timothy Kratz, and Barbara Benson, eds) is now available through a book-seller near you!



An outline of the book may be found online at <http://lter.limnology.wisc.edu/draft.html>

### **Support the Center**

Private support from alumni and friends of the University of Wisconsin-Madison plays a crucial role in helping the University achieve continued excellence in teaching, research and public service. Gifts to the Center for Limnology provide important support for graduate and undergraduate students, visiting scholars, faculty research and facilities development. If you would like to make a donation to the Center, please contact Anne Murphy-Lom at 608-262-3304, or via e-mail at [ammurphylom@wisc.edu](mailto:ammurphylom@wisc.edu). You may also find more information about the Center for Limnology endowment programs, including how to make donations online, by visiting our website, <http://limnology.wisc.edu> and clicking on the Friends/Support link.

If you would like information on making a gift of securities or including the Center for Limnology in your estate plans, please contact Christopher Glueck, University of Wisconsin Foundation, 608-265-9952, or via e-mail at [chris.glueck@uwfoundation.wisc.edu](mailto:chris.glueck@uwfoundation.wisc.edu).



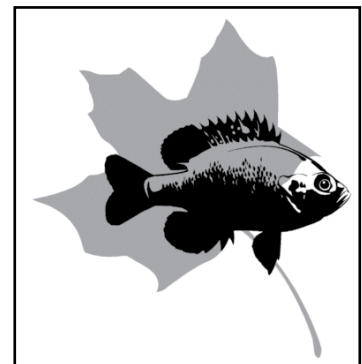
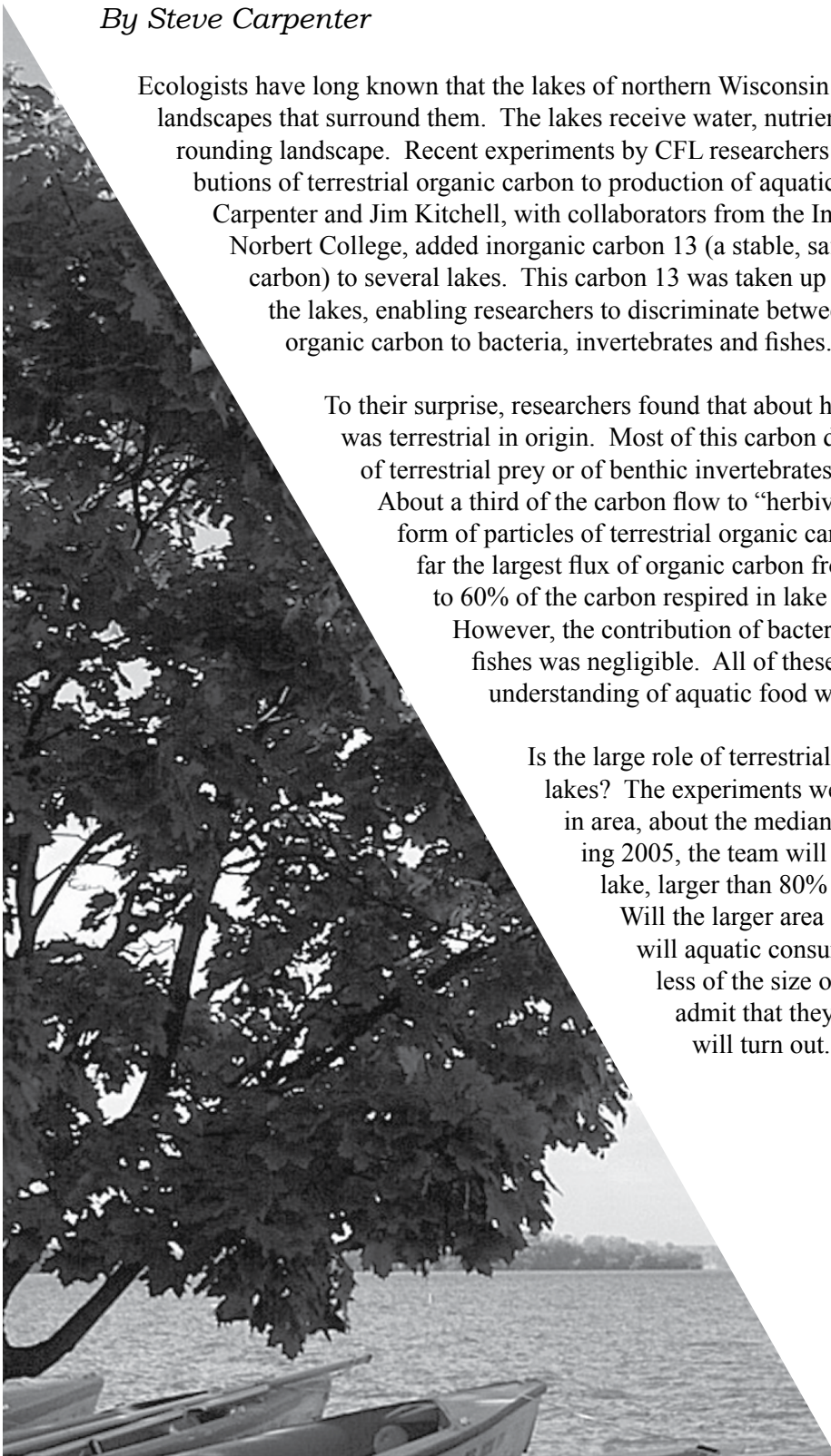
## ***Are Fish Made of Maple Leaves?***

*By Steve Carpenter*

Ecologists have long known that the lakes of northern Wisconsin are connected closely to the forested landscapes that surround them. The lakes receive water, nutrients and organic carbon from the surrounding landscape. Recent experiments by CFL researchers have shown many unexpected contributions of terrestrial organic carbon to production of aquatic consumers. The team led by Steve Carpenter and Jim Kitchell, with collaborators from the Institute of Ecosystem Studies and St. Norbert College, added inorganic carbon 13 (a stable, safe and naturally occurring isotope of carbon) to several lakes. This carbon 13 was taken up by phytoplankton and periphyton in the lakes, enabling researchers to discriminate between aquatic and terrestrial sources of organic carbon to bacteria, invertebrates and fishes.

To their surprise, researchers found that about half the carbon consumed by fishes was terrestrial in origin. Most of this carbon derived from direct consumption of terrestrial prey or of benthic invertebrates supported by terrestrial leaf litter. About a third of the carbon flow to “herbivorous” zooplankton occurred in the form of particles of terrestrial organic carbon. Dissolved organic carbon, by far the largest flux of organic carbon from land to the lakes, contributed 20% to 60% of the carbon respired in lake water, due to respiration of bacteria. However, the contribution of bacteria to production of invertebrates and fishes was negligible. All of these findings contradict conventional understanding of aquatic food webs.

Is the large role of terrestrial organic carbon confined to small lakes? The experiments were performed in lakes 1 to 3 hectares in area, about the median size for northern Wisconsin. During 2005, the team will repeat the experiment in a 30 hectare lake, larger than 80% of the lakes in northern Wisconsin. Will the larger area dilute the terrestrial contribution? Or will aquatic consumers orient to the shoreline, regardless of the size of the lake? Carpenter and Kitchell admit that they have no idea how the experiment will turn out.



## ***Linda Holthaus Retires from the CFL***

*By John Magnuson and Jim Kitchell*



Linda Holthaus retired in January 2005 after caring for the people and operations of the Center for Limnology for 23 years. Only the dedicated remain with us that long. Linda clearly put her mark on the way we interact, do business, and care for our facilities and each other.

Born and raised in Milwaukee, where her parents, the Zirbels, ran a bakery, she gained a life-long love for peanut butter squares. She came to UW-Madison, received a B.Sc. specializing in microbiology, and learned her growing appreciation of science through jobs in research laboratories and coordinating the Biology Core Curriculum Program. During that time Linda met and then married Walt Holthaus and spent the following ten years raising two children, Jennifer and Garrett. She began at the CFL as a part-time typist in 1982 and steadily advanced to Program Assistant Supervisor-Advanced in

2001. Over the years at CFL Linda did it all through the combination of skills, intelligence, patience and dedication. She received exceptional performance awards and played a leadership role on the campus in various classified staff councils and networks.

Her legacies at the Center include serving as our endowment coordinator when it began in 1984. She played a significant role in building the endowment to over \$3 million today. Our friends enjoyed hearing from Linda, attending lunches and events she organized. She made certain that the faculty and students showed their appreciation for gifts received. She cared beyond expectation; making personal visits, sending cards, and often reading poetry at bedside to Nash Williams, one of our long-time friends. Linda was key in the production of the Center's Newsletter, *Limnology News*. She has a respect for the environment around her, whether indoors or out. Our walls, halls, offices and bathrooms benefited from her notes to the janitorial staff. She proposed and coordinated the Center's Trash Day Party--a tradition of many years standing wherein we all collect the winter's trash from Muir Woods and the Lake-shore Path, with prizes awarded for biggest, most unusual, most useful, etc. Her legacy continues through this rite of Spring that results in a clean lake path and our preparation of the Hasler Garden for its annual show of native plants.

Linda recalls a conversation with Gerald Chipman when she began at limnology. Gerry was another long-term contributor to our program who retired in 1993. She speculated to him that she would only be here for a few years. Gerry responded that he thought she would be here longer than that. Many years later, Linda observed: "He was right. To have a job you enjoy, work with people you respect and who respect you, and to be in an environment where everyone functions as a team in a congenial atmosphere is a wonderful place to be."

Her retirement time is filled with family, friends, new pursuits and volunteer work. Earlier this year, Linda and Walt spent two weeks in Chile as part of a church group building housing facilities and are currently planning similar ventures to other exotic places. We know that Linda will continue to be a part of the life and times of the Center for Limnology. She currently serves on the planning committee for our Hasler Laboratory dedication scheduled for early May of 2006. We are grateful for the many benefits she brought in the past, and those she will continue to bring in the future.



Linda Holthaus, circa 1983

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## ***The Millennium Ecosystem Assessment: Scenarios for the Future of Ecosystem Services***

*By Elena Bennett*



Several researchers from the Center for Limnology (CFL) were involved with the Millennium Ecosystem Assessment (MA), a four-year international program designed to assess the state of the world's ecosystem services (the benefits people obtain from ecosystems). The MA was designed to meet the needs of decision makers and the public for scientific information concerning the consequences of ecosystem change for human well-being and options for responding to those changes. It was conducted by over 1,300 experts from 95 countries. The experts came from a wide variety of backgrounds, including many academic disciplines as well as from non-government organizations (NGOs), governments, businesses, environmental management, and international aid agencies.



The assessment consisted of four working groups: the Conditions and Trends team, which assessed the current state and recent trends in ecosystem services and human well-being; the Scenarios team, which developed a set of four scenarios about the next 50 years of ecosystem services and human well-being; the Response Options team, which assessed policies and other options for improving the state of ecosystem services and human well-being; and finally, the Multi-Scale team, which took on all of these tasks at regional scales around the world.

Steve Carpenter co-led the Scenario Development team with development economist Prabhu Pingali of the Food and Agricultural Organization (FAO) in Rome. Elena Bennett, postdoctoral researcher at the CFL, along with Monika Zurek of the FAO assisted them.



The Scenario Development team considered the possible evolution of ecosystem services during the twenty-first century by developing four global scenarios exploring plausible future changes in drivers, ecosystems, ecosystem services, and human well-being. These scenarios are not meant to predict or forecast the future, but rather to tell stories that highlight possibilities, and explore what would happen if certain choices were made.

The Scenarios show that aquatic resources are pivotal in future ecosystem change. Water supply and quality, aquatic biodiversity, and fisheries are highly sensitive to policy choices, and have strong feedbacks to human well-being.



Three of four detailed scenarios examined by the Scenarios Working Group suggest that significant changes in policies, institutions, and practices can mitigate some but not all of the negative consequences of growing pressures on ecosystems. However, the changes required are substantial and are not currently under way.

For more details on the scenarios or to read the actual story lines, go to:

<http://www.MAweb.org>.



# Apex Predators in Pelagic Ecosystems

By Jim Kitchell

The "Apex Predators" project started in 1998 with a grant from NSF's Biological Oceanography Program and will continue through 2007. The major goal is to understand fishery effects as causes of perturbation in the ecological processes that regulate structure and function of pelagic marine ecosystems. This general topic has become a focus of recent controversy based on assertions of major decline in all apex predators. In addition, we've addressed conservation issues revolving around bycatch of turtles, sharks and billfishes. While these topics may seem distant from limnological traditions, they are actually a direct extension of ideas and approaches developed through our work on Wisconsin lakes.

Our central approach is based on models at three scales: bioenergetics of individual species, predator-prey interactions, and food webs in an ecosystem context. Alternative management actions and their ecological effects are evaluated through simulation. These models derive from working group meetings held twice each year, typically a winter meeting at the NMFS facilities in Honolulu and a summer meeting at a northern Wisconsin field station. Those occur in parallel with related efforts sponsored through the National Center for Ecological Analysis and Synthesis (NCEAS, see Francis and Kitchell at <http://www.nceas.ucsb.edu>).

The core group involved for the past several years in-

cludes Chris Boggs (NMFS), Carl Walters and Steve Martell (UBC), Tim Essington (University of Washington) and Jim Kitchell. Other participants have joined us over time as we've developed models for the Central Pacific and other large ecosystems such as the Baltic Sea (with Sture Hansson) and Lake Superior (with Tom Hrabik). Through the NCEAS collaborations we have added the Eastern Tropical Pacific, the North California Current, the Gulf of Alaska and the Eastern Bering Sea. CFL graduate students and postdocs involved in these projects include Sean Cox (now at Simon Fraser), Chris Harvey and Isaac Kaplan (both now at NMFS in Seattle) and the current graduate students, Olaf Jensen and Jeff Watters. Recent recognition of our work includes the fact that Tim Essington and Jim Kitchell were invited to make presentations to a currently-active National Research Council panel convened to evaluate the ecosystem effects of fisheries. A single strong message derives from the many published works of our Apex Predator groups--fisheries are among the most powerful causes of ecological change on the planet.



## CFL Welcomes New Staff

Some new faces you'll see around the Laboratory for Limnology: Marilyn Larsen (right) is our new Assistant Director, and spends much of her time assisting researchers with their projects; Anne Murphy-Lom (upper left) has assumed the duties of Center Administrator, managing the office and assisting with staff appointments and benefits; and Mary Possin (lower left) now guides graduate studies and outreach for the Limnology and Marine Sciences and Environmental Chemistry and Technology programs.

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## Noteworthy/Awards

**Elena Bennett** (PhD 2002, Carpenter) received a “Champion of Dane County Waters” award from the Dane County Lakes and Watershed Commission. The awards recognize outstanding contributions toward the protection and improvement of water resources in Dane County, Wisconsin. Dr. Bennett was recognized for her comprehensive study of phosphorus levels in county soils which was instrumental in the development of local ordinances banning the use of phosphorus fertilizers for residential yard use.



Elena Bennett

**Zeb Hogan** (postdoc, Vander Zanden) was awarded the United Nations Environment Programme/Convention on the Conservation of Migratory Wild Animals Thesis Award, sponsored by the National Geographic Deutschland and Deutsche Lufthansa.

### Student Awards

**Kristy Rogers** (Limnology & Marine Science, Stanley) won the 2004 Academic Press Award for best oral presentation in applied research at the 52nd annual meeting of the North American Benthological Society for her presentation entitled “Algal and metabolic responses to dam removal in Boulder Creek, Wisconsin.”

**Pieter Johnson** (Zoology, Carpenter), **Brian Roth** (Zoology, Kitchell), and **Norman Mercado-Silva** (Zoology, Vander Zanden) were all recipients of 2004 Vilas Travel Awards, awarded by the UW Graduate School.

**Amy Kamarainen** (Zoology, ) has been awarded a National Science Foundation Graduate Research Fellowship. Additionally, she received a research award from the Davis Fund in the Department of Zoology.

The Chase Noland Undergraduate Award recipient for summer 2005 was **Owen Langman**. Under the guidance of Tim Kratz, Owen worked on the sensor network in Taiwan.

Anna Grant Birge Awards were given to **David Gilroy** (Limnology and Marine Science, Vander Zanden), **Olaf Jenson** (Limnology and Marine Science, Kitchell), **Stuart Jones** (Limnology and Marine Science, Graham/McMahon), **Pieter Johnson** (Zoology, Carpenter), and **Eunsoo Kim** (Botany, Graham/Sharkey).

**Matt Van de Bogert** received a John Jefferson Davis Travel Award from the UW Zoology Department this spring for travel to the 2005 American Society of Limnology and Oceanography summer meeting in Spain.

### Graduations and Migrations

**Caitlin Gille** (MS 2005, Kitchell)

Thesis: “A Mass-balance and Bioenergetics Approach to Modeling  $^{13}\text{C}$  Uptake and Tissue Turnover Rates in Fishes.”  
Caitlin has accepted a position with the Wisconsin DNR.

**Jeff Jorgensen** (MS 2004, Kitchell)

Thesis: “Growth Potential, Host Mortality and Size of the Parasitic Phase of Sea Lamprey (*Petromyzon marinus*) in Lake Superior.”  
Jeff worked for Wisconsin Dept. of Natural Resources and then moved on to a position with the National Marine Fisheries Service in Seattle.

**Isaac Kaplan** (PhD 2004, Kitchell)

Thesis: “Ecosystem Modeling of Marine Populations.”

Isaac won a National Research Council postdoctoral award and has accepted a postdoctoral position with the National Marine Fisheries Service in Seattle.

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**Abby Popp** (MS 2005, Stanley)

Thesis: "Longitudinal Patterns of Carbon, Chlorophyll, and Nutrients in the Wisconsin River."

Abby has accepted an internship through the Environmental Careers Organization, working at the Monitoring and Indicators branch of EPA's Great Lakes National Program Office in Chicago.

**Cailin Orr** (MS 2002, PhD 2005, Stanley)

Thesis: "Ecological and Geomorphic Responses of Rivers to Restoration."

Cailin has accepted a postdoctoral research associate position at the University of North Carolina

**Kristy Rogers** (MS 2005, Stanley)

Thesis: "Temporary downstream benthic responses to small dam removal."

Kristy will be continuing in the UW L&MS program to pursue her PhD.

**Brian Roth** (MS 2001, PhD 2005, Kitchell)

Thesis: "An Investigation of Exotic Rusty Crayfish—Interactions in Lake Food Webs: the Sparkling Lake Biomanipulation."

Brian has moved to a postdoctoral appointment with the Coastal and Fisheries Science program at Louisiana State University in Baton Rouge.

**Elena Bennett** (PhD 2002, Carpenter). Elena has accepted a faculty position at McGill University School of Environment Montreal, with a joint appointment in McGill's Department of Natural Resource Sciences Macdonald Campus (Quebec).

**Jeff Cardille** (post doc, Turner, Carpenter, Foley) will be moving to Montreal to accept a position as a Postdoctoral Fellow with the GRIL (Groupe de Recherche Inter-universitaire en Limnologie), working primarily with Yves Prairie, Paul DelGiorgio, and former CFL postdoc Beatrix Beisner. Jeff will be located at the University of Quebec at Montreal.

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## ***In Memory of Warren Stuntz***

Warren Stuntz passed away on November 25, 2000. Warren received an MS (1973) and Ph.D. (1975) in Zoology at the University of Wisconsin-Madison working with John Magnuson on the thermal ecology of fishes. As a graduate student, Warren was also an active participant in our research cruises off Cape Hatteras on fish distribution in relation to the Gulf Stream front. After graduation, Warren entered the controversial world of bycatch and fisheries with the National Marine Fisheries Service, first in California on the Tuna-Dolphin problem and then in Mississippi on the sea turtle-shrimp fishing problem. His paper on the turtle-dolphin issue was critical to decisions on using turtle excluder devices on all shrimp trawls. Warren is survived by his wife Beverly who lives in Mississippi and works for the Navy in Pascagoula; his daughter Kelly who lives with her husband in Cumberland, Wisconsin; and his son Michael who lives in Madison.



Warren Stuntz as a grad student



## ***Limnology Photos Go Online***

During the past year the Center for Limnology Library staff was busy creating a digital photo archive to help celebrate the history of limnology in Wisconsin and to share the photos in our collection with others worldwide. The collection was the idea of former center librarian Kimberly Babcock. Babcock spearheaded the project and collaborated with Vicki Tobias of the University of Wisconsin Digital Collections Center. The UWDC scanned the pictures for the project and also hosts the database.

The image collection is a depiction of three generations of limnological research in Wisconsin. The collection mainly focuses on the important pioneers of limnology, Dr. Edward A. Birge, Chancey Juday and Arthur D. Hasler, research laboratories, and field equipment. A significant portion of the 125 images are from the photo archives of the Center for Limnology Library. Additional photos of historical significance were obtained by permission from the Wisconsin Historical Society archives. Comments or questions can be emailed to the library staff at [limlib@mailplus.wisc.edu](mailto:limlib@mailplus.wisc.edu). The collection is viewable at the web address: <http://digital.library.wisc.edu/1711.dl/UW.LimnHist>



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