

Kemp's Point

A newsletter of the Kemp Natural Resources Station
Volume 7, Number 1 - Spring 2006

Fisheries Instruction at Kemp: Where Students are Immersed in Learning

The concept of “one stop shopping” is nothing new. Big box stores where you can buy groceries and clothing, get your hair cut and do your banking prove it's something consumers demand. “One stop shopping” is what Michael Bozek, Professor of Fisheries and Research Unit Leader at the University of Wisconsin-Stevens Point, needs for a unique group of graduate students. And Kemp Station meets that need. Each spring and fall, graduate students with the Wisconsin Cooperative Fishery Research Unit come to Kemp Station for field experiences specifically tailored to the many facets of their graduate education and careers.

The Cooperative Research Units Program is a unique collaboration among states, universities, the federal government and a non-profit organization. The 40 units in the program are jointly supported by the US Geological Survey, host universities, state natural resource agencies, the Wildlife Management Institute and the US Fish and Wildlife Service. Coop Units conduct research on renewable natural resource questions, participate in the education of graduate students destined to join the natural resource profession, provide technical assistance and consultation to parties who have interests in natural resource issues, and provide various forms of continuing education for natural resource professionals.

The mission of the UWSP Research Unit includes research, education, and outreach in Fisheries and Limnology. Graduate students with the Unit conduct a wide variety of research including:

- assessing the effects of development in watersheds and along lake shores on aquatic environments;
- quantifying fish habitat;
- understanding the ecology of aquatic ecosystems;
- and conservation genetics of fish.

Bi-annual instruction at Kemp Station facilitates the mission by providing supplemental workshops on boat safety, SCUBA techniques, research project development and critiquing, research proposal writing, professional paper presentation, and equipment operation and inspection. You could say that's a lot of shopping to be done in one place....but all can be done at Kemp, or more specifically, at the Station's boathouse, where the second floor serves as a classroom.

The Kemp boathouse and surrounding bay provide an ideal setting for teaching boat safety. The relatively isolated bay reduces boat traffic and waves during training which allows students to concentrate on honing their boat handling skills; a buoy course in the bay tests their high-speed, open-water driving skills while the boathouse tests their slow speed maneuvering. “Many boaters have few of these on-water skills, particularly the slow speed maneuvering. We teach students how to

use the boat properly, such as docking without using hands to grab rails or docks, high-speed evasion and boat control techniques, and launching and landing



Above: Mike Bozek (left) helps a student with his slow speed maneuvering next to the boathouse dock. Right: A piece of field equipment is tested inside the boathouse.



(Continued on Next Page)

Fisheries Instruction (Continued from Page 1)

boats,” says Bozek. Moving indoors, the classroom provides for the audio-visual and written portions of the boat safety class.

Other on-water training includes a field practicum on cold water survival, a spring favorite just after ice-out! Students and faculty, using survival suits, practice individual and group techniques to reduce thermal loss while in the water and practice post-accident decision-making, critical to coldwater survival.

Many projects that the Research Unit conducts, requires data collection using SCUBA and here again the boathouse setup is ideal. In spring, the classroom is used to review diving protocols before the students’ field season starts and for planning the actual training dive. Equipment checks of all gear can be conducted quickly and divers can enter the water from either the dock or shoreline. Sometimes an added reward to the training dive is finding old bottles or other treasures. The fall dive is used to inspect and test gear, identifying any necessary repairs before storing equipment for winter.

Classroom workshops held at Kemp teach students about various aspects of research, management, and professionalism in Fisheries and Limnology. “We focus on training the next generation of aquatic biologists,



Students prepare for SCUBA training. While some bask in the warm sun (right), others (above) grin with anticipation of cold water.



teaching skills critical to their future roles as natural resource professionals,” says Brian Sloss, Assistant Professor of Fisheries and Assistant Research Unit Leader. Each year graduate students present professional papers at a variety of national and regional resource management meetings. While at Kemp, students learn and practice proper presentation techniques and learn to constructively critique each other. “It appears to pay off,” says Sloss, “as our students have won the best student paper award at the Midwest Fish and Wildlife Conference,” and at other meetings. “What they learn at Kemp clearly stays with them for life,” adds Bozek, as many former students continue presenting their research findings at professional meetings long into the future.

Students learn how to develop research proposals for their graduate work and external funding and newcomers are brought up to speed quickly as they propose their projects before their peers for review. Occasionally guest speakers are invited to provide unique perspectives on natural resource management of the north. In all, the mix of activities and training helps develop better and safer graduate students and, ultimately, resource professionals.

Students come from around the country and their research is conducted throughout the state. Meeting at Kemp allows students to acclimate to their new work settings while learning about their projects and research in general. The Lake Tomahawk locale increases the intangibles as well. Students develop a strong appreciation of Wisconsin’s resources, and they view them differently after spending a few spring and fall sessions at Kemp. Moreover, Kemp allows students to physically get away from their projects and school demands for a few days each year, bond with their colleagues and the environment, and contemplate what’s important to them before returning to the real world of graduate school and beyond.

According to Bozek, the combination of a helpful staff, excellent facilities, and a great setting makes this student training efficient, rewarding, and enjoyable. “It’s as if Kemp were designed with our program in mind.” Or maybe it’s just one stop shopping. 🐼

Kemp’s Point - Volume 7, Number 1

Published semi-annually by the University of Wisconsin-Madison’s Kemp Natural Resources Station. To receive this free newsletter, update your address, or receive a back issue contact:

*Karla Ortman, Editor
Kemp Natural Resources Station
8031 Kemp Woods Road
Woodruff, WI 54568-9643
(715) 358-5667
kemp@calshp.cals.wisc.edu*

This newsletter is also available as a PDF at the Kemp website, www.kemp.wisc.edu.



Wild Wonders

Life in the Sand

The USDA Natural Resources Conservation Service recently completed the Wisconsin Soil Survey. In recognition, the governor has proclaimed 2006 Wisconsin's Year of Soil. In the proclamation, it's stated that "soil resources of the state are critical to the health and welfare of the state's citizens, its recreational resources, agricultural productivity, and industrial base."

Indeed, soil is one of our most important natural resources and plays a number of vital roles on earth. Soil provides support to structures. Rain water and soluble matter is routed and sorted with the aid of soil. Nutrients are stored and cycled in soil. And soil sustains plant and animal life both above and below ground.

A soil survey is a detailed report of soils in an area. It includes maps that show soil boundaries and descriptions of soil characteristics. And now, if you have access to the Internet, you can view soil survey data on-line with the Web Soil Survey. This site works on the same premise as other mapping websites – enter an address and you'll be shown an aerial map. On the map, you can mark off an area in which you'd like to view the soil map. This is a neat and easy way to learn exactly what soil types exist in any location.

I looked up my home on the Web Soil Survey and wasn't surprised by the descriptions of the soils – sandy loam and stony. My husband and I often joke about "living in the sand." But I've come to appreciate the unique habitat it provides. The properties of soil determine what lives above and below the surface. Our yard is home to some common, yet interesting plants that make a living "in the sand."

Bracken Fern (*Pteridium aquilinum*)

This fern is especially common in my neighborhood and maybe in yours too. It is a native perennial and its leaves, or fronds, die each fall, with new fronds growing directly from the rhizome in spring. A rhizome is a horizontal underground stem by which

the plant reproduces, as the rhizome creeps along, growing underground, sending up new shoots. The creeping rhizomes are why we often see bracken fern present in large patches. Reproduction also occurs by spores produced by the sori that grow on the underside of the fronds. The spores travel by wind and where they land on bare ground, will grow a new fern. It was once thought that, if the spores of the bracken fern were gathered on St. John's Eve, it would make the possessor invisible. St. John's Eve is June 23, in case you'd like to give it a try.

Bracken fern is a fierce competitor against other plants. It is a pioneer species that is shade intolerant, but tolerates shade enough to survive in light areas of old growth forests. It is one of the first ferns to appear in spring or after a fire. Its rhizomes grow beneath roots of trees and other plants and when the fronds are first up in spring, they can block light to later emerging plants. In the fall dead fronds form a mat of litter that not only bury and block out other plants, but also insulates its own rhizomes from frost when there is no snow cover.

Bracken's relationship with fire is intriguing. Fire removes bracken's competitors. But its primary adaptation to fire is the deep growing rhizomes which sprout vigorously after a fire, before other plants have a chance. Bracken spores establish best in alkaline soil, which is created by the fire. Finally, the fern itself promotes fire as it creates a highly flammable layer of dried fronds each fall.

In addition to being competitive, bracken fern is also a survivor. Fossil evidence suggests bracken fern has had at least 55 million years to evolve and perfect antidisease and antiherbivore chemicals. Bitter tasting chemicals produced by the plant reduce grazing, are thought to act as fungicides, and may protect the plant from disease. It is also resistant to human control attempts, including many herbicides and mechanical control methods. The most effective form of control has been repeated removal of aboveground growth which eventually exhausts the food reserves in the rhizomes.

Despite the bitter chemicals produced by the plant, it is still utilized for food. Ants feed on sugars secreted

(Continued on Next Page)



Wild Wonders (Continued from Page 3)

by nectaries on the plant; in fact, bracken fern hosts a relatively large number and variety of herbivorous insects. In many countries, bracken fern has long been part of the human diet. Spring shoots, or fiddleheads, are used fresh, pickled or dried and the rhizomes are roasted and eaten as a vegetable or ground into flour. However, the International Agency for Research on Cancer (IARC) classifies bracken fern as “possibly carcinogenic to humans.” This is based on evidence from experimental animal studies. Regardless, the fern is grown commercially as food or herbal remedy in Canada, the US, Siberia, China, Japan and Brazil.

But bracken fern is not all bad. During the Middle Ages it was considered so valuable, it was used to pay rents. It can be used as roofing thatch and as fuel when a quick, hot fire is needed. In Wales, bracken is used for winter livestock bedding since it is more absorbent, warmer and easier to handle than straw. Finally, this fern increases soil fertility by bringing more phosphate, nitrogen and potassium into circulation through litter leaching and stem flow.

Low Sweet Blueberry (*Vaccinium angustifolium*)

I've come to really appreciate this understory plant growing on our sandy land! A handful of wild blueberries provides a burst of flavor like no other and, for me, takes me back to childhood when I was toted along on blueberry picking trips with Mom & Dad and Grampa & Gramma. They picked buckets of berries and I contributed little, other than serving as official taster.

You'll need to pick these tasty berries early or you might lose out to our wild neighbors. Red fox, raccoon, red squirrel, red backed vole and many species of mice and chipmunks all feed on the fruit. Several birds join in the eating frenzy — robin, crow, ruffed grouse, scarlet tanager, black-capped chickadee and thrushes. But the fruit isn't the only part of the plant in demand. In winter, flower buds are eaten by ruffed grouse. Black bear, eastern cottontail, and white-tailed deer feed on the foliage. In fact the reproductive success of black bears has been correlated to annual blueberry crops.

Blueberry reproduces both by seed and by rhizomes.

Seeds are dispersed by the birds and mammals that eat them. However, vegetative reproduction by rhizomes is the primary way this plant regenerates. In fact, low sweet blueberry can be propagated from hard, semihard, and softwood cuttings, and from rhizome segments. Cuttings generally root within 6 weeks and those taken in fall and winter often root best.

First flowers appear on plants when they are about 4 years old. Wild bees are the key pollinators; however, shrubs with few flowers may not attract pollinators and therefore won't produce fruit. Other factors that influence fruit production include weather conditions, climate, light intensity, genetic factors and nutrient levels at the time of bud initiation. Competing weeds can shade the plants, potentially reducing fruit production.

Like bracken fern, low sweet blueberry also gets along well with fire. Older, declining plants are removed by the fire and followed by vigorous sprouting from plant stems and rhizomes. In addition, rhizomes that have received a “heat treatment” from a fire tend to produce more shoots. While fruit is not produced the year of the burn, the next three years tend to have abundant fruit production.

Sweetfern (*Comptonia peregrina*)

This is one of those plants that is easily overlooked and unappreciated unless one takes the time to notice it. Sweetfern grows 1 to 4.5 feet tall, and what makes this plant unique is its fragrance. Tear a few of its fernlike leaves and you'll discover a spicy scent. These leaves can be used as potpourri and historically have been used to make tea to relieve symptoms of dysentery.

Despite the name, sweetfern is not a true fern, but a seed-bearing plant. Sweetfern produces catkins (unisexual flowers without petals) in a cluster at the ends of branches. Seeds grow in a fruit that looks like a green burr, ripening in the fall. As a wildlife food source, this plant's usefulness is limited. Flickers have been observed eating the fruits. Reportedly, in Minnesota, moose browse the plant in winter and spring, and white-tail deer browse it in winter.

(Continued on Next Page)



Wild Wonders *(Continued from Page 4)*

Sweetfern is much more useful as cover for wildlife, such as cottontail rabbits and ruffed grouse. Prairie chickens and sharp-tailed grouse use it for nesting cover.

Like bracken fern and blueberry, sweetfern forms thickets mainly by spreading rhizomes. Propagation by seed is less common, although the seed can remain viable in the soil for as long as 70 years.

Sweetfern grows in sun or partial shade in well-drained, dry, acid, sandy or gravelly soils, and is often found growing in openings within coniferous forests. It also does well in this environment because the plant fixes nitrogen and is drought tolerant.

As you see, even abundant, common looking plants having intriguing characteristics. Take some time to look closely at your habitat, what's growing in it and

what your soil looks and feels like. When you travel to other areas, and you need not go far, notice what's different there, compared to where you live. You'll appreciate even more the abundant wild wonders that surround you. 🐿

Internet Resources:

Web Soil Survey:

<http://websoilsurvey.nrcs.usda.gov/app/>

USDA Forest Service:

<http://www.fs.fed.us/database/feis/index.html>

(This links you to the Fire Effects Information System which summarizes and synthesizes research about living organisms in the United States—their biology, ecology, and relationship to fire.)

Tom Steele Receives Friend of Forestry Award

The “Friend of Forestry Award” was established in 1999 to recognize outstanding contributions and service to the state forestry program by those outside of the Wisconsin DNR Division of Forestry. State Forester Paul DeLong honored Kemp Superintendent, Tom Steele, during a lunch awards ceremony on February 1, 2006 as part of the DNR Division of Forestry Statewide Training Conference in Appleton.

Paul noted that Tom has provided tremendous and exceptional service to the Division of Forestry for many years. Tom spearheaded the effort to get land managers to work together and develop a common language when working on resource management issues. This agreement, known as the Wisconsin Accord was endorsed by many agencies (Federal, State, County etc), and essentially says that all these agencies would use the habitat classification system as a common language and a means to share information. The Wisconsin Accord was developed at Kemp Station.



Tom with Paul DeLong (left) and Tim Mulhern (right)

Tom worked closely with DNR personnel to develop the first prototype of the Plan Trac program that is today the basis for Wisconsin's private lands tax law tracking system. Most of Tom's work can still be seen in the current version of PlanTrac which is being used by DNR and consultant foresters statewide. Tom was one of the key players who worked on a fire tower study which analyzed the effectiveness of fire towers and their value in forest fire detection in Wisconsin.

Truly a friend of forestry, truly a deserved award.
Congratulations Tom!



Mead Residence Hall Dedication Planned for July 27

Mark your calendar for July 27. That's when Kemp Station and the College will dedicate the Station's new Mead Residence Hall. Construction crews were busy all winter and the result is an outstanding facility that will promote natural resources research and education for decades to come. The new building will provide year-round accommodations for 24 scientists and students living and working in the Northwoods. Included are sleeping quarters, kitchen & dining room, meeting facilities, deck & patio, and library & lounge.



It has taken a while but this new building has been worth the wait. It is a grand facility that not only advances the mission of Kemp Station, but also recognizes our unique setting and history. For example, the building makes ample use of stone, wood and windows to help bring the outside in. Already, researchers and students are eager to call the residence hall home. It will be used this summer to host a diverse group of scientists, ranging from biologists studying Northwoods loons to ecologists investigating sustainable forest management.

If you are interested in supporting natural resources research and education in the Northwoods, we ask that you consider a gift. Your financial support will ensure that scientists are able to conduct important environmental research and that students receive an exceptional educational experience. Also, your gift will be matched dollar for dollar thanks to a special challenge fund, so your generosity will go twice as far. Thank you for your consideration and we look forward to seeing you on July 27.

-Tom Steele

The residence hall would not have been possible without the generous support of the community. This project is a public-private partnership. A grant from the National Science Foundation got us started, but it has been the generosity of the Northwoods that has made this building a reality. For example, the Station received a major gift from the Mead Family for whom the facility is named. Although we have been exceptionally successful with our fund-raising, we still have a short way to go. To date, we have secured 90% of the project funds but need to raise an additional \$90 thousand.

PS: Formal invitations will be mailed out later this summer so please keep an eye on your mailbox. And if you have questions or comments in the meantime, as always, drop us a note or give us a call. 🐿️



Kitchen and dining room.



Karla Ortman Recognized by University

Kemp Station is pleased to announce that Karla Ortman has won a 2006 Classified Employee Recognition Award (CERA). Each year, UW-Madison formally recognizes five individuals for outstanding service to the public, students, and scientists. Chancellor John Wiley presented the award at Olin House, the Chancellor's Residence, on April 26. In his remarks, Chancellor Wiley complimented Karla on her outstanding service, particularly with respect to natural resources outreach. He noted that Karla has taken the Wisconsin Idea – the concept that the boundaries of the University are the boundaries of the State – and made it a reality. Chancellor Wiley also thanked Karla for her dedication, leadership, and innovation. Dick Straub, Associate Dean for Research in the College of Agricultural & Life Sciences



Karla celebrates with her family outside the Olin House.

(CALs), says, “Karla consistently promotes excellence, not only in herself but among her colleagues. She is a wonderful ambassador for Kemp Station, CALs, and the University.” This is the second outstanding service award that Karla has received. In 2004, she won a CALs Classified Staff Award.

Congratulations, Karla – well done! 🐾

-Tom Steele

Kemp Natural Resources Station -- Mead Residence Hall Project Pledge Form

Name: _____

Address: _____

City/State/Zip: _____ Phone: _____

I/we wish to join other friends and alumni in enhancing the teaching, research and outreach programs at the Kemp Natural Resources Station by contributing as indicated below to the Mead Residence Hall project.

____ Enclosed is my/our contribution to the Mead Residence Hall project:
 ___ \$5,000 Eagle ___ \$1,000 Loon ___ \$500 Chickadee ___ Other \$ _____

____ I/we wish to pledge \$ _____ each year for _____ years beginning in _____ (year).
 Please remind me/us of the annual amount I/we have pledged in _____ (month).

____ Please charge \$ _____ to my: ___ Master Card ___ Visa ___ American Express

Card number _____ Exp Date ____/____

Cardholder's Name (please print) _____

Cardholder's Signature: _____

Please make your gifts payable to the **UW Foundation-Mead Residence Hall Project**
 UW Foundation, US Bank Lockbox, PO Box 78807, Milwaukee, WI 53278-8807



Kemp Natural Resources Station
8031 Kemp Woods Road
Woodruff, WI 54568-9643

In This Issue.....

Fisheries Instruction.....Page 1
Wild WondersPage 3
Mead Residence Hall....Page 6
2006 Outreach Program.... Insert

