



# Kemp's Point

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News from the University of Wisconsin-Madison's Kemp Natural Resources Station

## Expecting the Unexpected

By Christopher Roelandt

I expected my field season to *not* go the way it was planned — field seasons never do. When I left for Kemp Station in mid-March from my home in southern Michigan, most of the snow there had already melted, exposing much of the ground in the woods. Male American woodcock (*Scolopax minor*) had already been performing their evening sky dance displays in my neighbor's open field for over two weeks. My expectation was that birds would soon be arriving to my study sites in northern Wisconsin....boy was I wrong!

Spring 2018 was the pilot season for my master's thesis research. My research looks at the validity of a new technique for assessing the quality of habitat for woodcock. The woodcock is a small woodland bird with a spring courtship display that can be

witnessed in the late evening in openings that border young forests. Woodcock are migratory and spend winters in the southeastern part of the United States and in spring can be found in the northeastern U.S. and into Canada. Popu-

lations of woodcock have been declining since the late 1960's at a rate of approximately 1% annually. Declines in young-forests and changes in land use in their northern/southern range and along their migration routes have likely contributed to this decline. Management projects for woodcock and other young-forest species are costly and require a great deal of resources. With this in mind, the goal of my project is to create a technique that can easily be used by land and wildlife managers to assess the quality of habitat at the end of a management project.

When I arrived at Kemp Station it was very evident that I was a little too early. The forest surrounding the Station still had about two feet of snow and many of the side roads, which I needed to traverse, were still snow covered and impassable. Regardless, I decided to stick to the plan and visit sites I expected birds to use for courtship this spring. On my first evening out I was hoping to hear a male woodcock performing his evening display of peenting and the sky dance. With the light fading from the sky and the frigid air somehow becoming even colder, I had yet to hear a sound besides my teeth chattering. For the next few days this story repeated itself. Making a hard decision, I drove back home to southern Michigan for a few days until the weather turned and until, hopefully, birds would begin to arrive.

When I returned to Kemp Station, two weeks had passed since my initial arrival. I learned there had been a siting of a male woodcock displaying near one of my study sites. With high hopes, I headed to the site. But, again, I had no luck and this continued for the next few



Chris holds the first woodcock captured during the spring field season.

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days. I began to think that maybe I didn't even know what a woodcock sounded like! Then my luck finally changed. As if someone had hit the light switch, the birds arrived at one of my research sites. There seemed to be males peenting and chasing each other everywhere. Unfortunately, on this particular night I had not brought any of my mist nets along for capturing birds. But I made plans to return the next evening with nets and my amazing volunteer, Vanessa.

Once again, with hopes high, Vanessa and I strategically set out mist nets in areas where we believed the male woodcock would display. As the sun slid below the horizon we could hear male woodcock start their calls. Every time a male would head to the sky to display another male was close behind making a "cackling" sound, as if to say this was his spot. Somehow, that night, every bird was able to evade capture in one of our nets. Although disappointed with our lack of success, Vanessa and I were excited that the birds had arrived, and the field season was now underway. But Mother Nature had other plans, and that came in the form of twenty plus inches of snow. This freshly laid covering of snow postponed the capture of the first bird of the season for nearly another week.

I finally caught the first bird on Friday, April 20<sup>th</sup>. My



*Snow was common at study sites. As the sun disappears on the horizon, Chris sets up a mist net.*

wife, who had come to help with the project for a couple weeks, was hiding in the brush keeping an eye on one of the two nets we had set out that evening. As I crouched in the snow near the other net, I heard her whisper loudly, "We got one!" A lone male had come to the net to investigate what he thought was another male bird intruding his territory – it was really just a recording of a male. His interest got the



*Patience and steady hands are required to untangle a bird from the mist net.*

best of him. He became entangled in what I can only imagine he thought was the largest spider web he had ever tried to fly through. After carefully removing the bird from the net I began the process of collecting the necessary data needed for my research.

I started by fitting the bird with a small metal band issued by the USGS Bird Banding Lab. The band has a unique number so the bird can be identified in the future. Once fitted with the band, I collected morphological measurements and physical characteristics needed to determine the sex and age of the bird. Next was the blood sample collection — this was the first woodcock that I had collected a blood sample from so I was slightly nervous. To collect the sample, I made a small poke with a hypodermic needle at the brachial vein on the inside of the bird's wing. Then I was able to collect the necessary amount of blood using a small capillary tube.

With the blood sample collected, I made sure the bird was in good condition to be on his way. I placed him in some brush at the side road and waited. It wasn't long, and he was back on his feet. He gave a quick look around and then went airborne, back to safety. This first bird of the season was important. The monkey was off my back and I knew that I would continue to capture birds.

As the field season continued, my success at capturing woodcock had some ups and downs. This included

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## Mushroom Fans Gather for Inaugural Fungi Festival

One couple traveled four hours to attend Kemp Station's inaugural fungi festival, an extended outreach program held in late August. The event began Friday evening with an introductory fungi lecture by Dan Lindner, Research Plant Pathologist with the USFS Forest Products Lab. The evening concluded with Anne Small of the Northstate Mycological Club, discussing the common mushrooms of the north woods.

Saturday morning began with a foray in the forest at Kemp Station. Participants brought back hundreds of fungi samples for everyone to examine and discuss. After lunch, Lindsey Bender, Chief Mycologist at Field & Forest Products, gave a presentation about cultivating gourmet and medicinal fungi. One lucky person went home with a prize from Lindsey -- a tabletop kit for growing mushrooms at home!



A cooking demonstration by Dan and Anne included tips on cleaning and storing mushrooms, along with favorite methods of preparation. To close out the day, Dan gave a presentation about fungi and wildlife, and shared details about his research on White Nose Syndrome, a disease caused by a fungus that affects hibernating bats.

The event was attended by over 60 people, both novices and seasoned mushroom hunters alike. And the most commonly asked question of the festival? "Can you eat it?" 🍄



### Expecting... (Continued from Page 2)

dealing with a merlin, a small species of falcon, that, whenever I turned on the play back speaker used to lure male woodcock to the nets, would swoop down from the sky hoping to catch a plump woodcock for dinner. Once the merlin found himself tangled in a net. It turned out it was a male, banded in 2006 near Duluth, Minnesota. That merlin was one of the oldest known individuals for this species, tying the previous record of 11 years 11 months. This was a neat discovery, and made up for some of the grief the merlin caused me.

Although the weather did not cooperate and made accomplishing my research goals difficult, the season was a success. My volunteers and I were able to band and collect samples from over forty different male woodcock. But the greatest success was that we were able to overcome the adversity that challenged us during this first season. I am amazed at what we were able to overcome and I am looking forward to whatever challenges may come our way in spring 2019. 🍄

*Chris is a master's student at the University of Michigan. Dr. Amber Roth, who has a long history at Kemp Station, is one of the advisors on this project.*





## My Summer “Vacation”

By Calvin Stokes

During the summer of 2018 I worked as an intern for the Clean Boats Clean Waters (CBCW) outreach program. The objective of the internship was to survey boaters in an effort to raise awareness of aquatic invasive species in lakes, and ultimately, to help prevent the spread of these invasive species.

One other intern and I were lucky to have the responsibility of operating the first mobile decontamination unit in Vilas County. The decontamination unit is a heated high-pressure washer on a trailer which we took to four lakes in Vilas County.



*The decontamination unit was posted at four lakes in Vilas County throughout the season, three of which were verified to have spiny water fleas. The water fleas presence was suspected at the fourth lake. Boaters were offered free decontamination services before and after their launch. At right, Calvin uses the high-pressure washer on a boat.*

Throughout the summer we focused on Trout Lake, Star Lake, Plum Lake, and Big Muskellunge Lake. These lakes were targeted because of the presence, or suspected presence, of spiny water flea (*Bythotrephes cederstroemi*) and the level of boat traffic recorded from previous years. The decon unit sprays water at 3000 psi at 140 degrees Fahrenheit. This is known to be the most effective way of controlling the spread of the spiny water flea and other invasive species. We were posted at the boat landings for 9 hours a day and spoke with every boater that came along.

Since this was the first mobile unit in the county, we anticipated a more hesitant response from boaters. In the beginning, most boaters we encountered shied away from our offer to “decontaminate” their boat because it was something new. As a result, for the first few weeks we educated the public about the decon unit and why it is important. This seemed to pay off because we saw an increase in the amount of interested boaters towards the end of the summer.

Overall, the decon unit was a success. On a typical day we were able to speak with a few boaters and spread awareness about protecting the lakes. We encountered many boaters who were very receptive to the decontamination process; afterall, we were offering a free boat wash!

In addition to working with the decontamination unit, I also did outreach at boat landings about aquatic invasive species in general. These are mainly plants



that can be carried from one lake to another on boats. The other interns and volunteers in the CBCW program did this work exclusively, talking to people at boat landings throughout the county.

Another part of my internship was participating in a group bat monitoring project. We used echolocation monitors to survey bat populations at three different lakes. We spent at least an hour at each lake, either walking along the shore or paddling on the lake, collecting the echolocation data. White Nose Syndrome

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**"Vacation"...** (Continued from Page 4)

has had an effect on bat populations in Wisconsin and this monitoring helps scientists know what species of bats are foraging in the area. It also gives some idea of population of the different species.

Before I arrived Kemp Station I did not know what to expect from this internship, and I definitely did not expect Kemp Station to be what it is. I quickly



learned that the internship was both incredible and fun, and that Kemp Station is an oasis for nature lovers.

On the property, Kemp has over one mile of shore, many acres of land, several different types of ecosystems, a variety of wildlife, and a mix of very nice people coming and going from week to week. On top of that, there are two johnboats and two canoes that are available for use when you stay there. My fellow interns and I would say that we have a great gig because "we work at a beautiful boat landing all day, talk to boaters, look for certain invasive species, go fishing (on our down time), and then return to Kemp where it feels like we're on vacation."

We regularly met new people staying at Kemp who had fun stories, great personalities, and introduced us to opportunities out there for people interested in natural resources. In addition to the new people we met, there were some others that enjoyed the property with us: bald eagles. There were many eagles that loved to perch on the big red pines right between the residence hall and the lakefront at

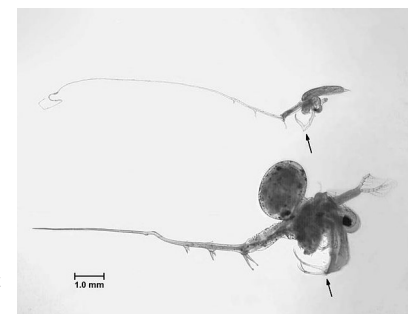


*Clean Boats Clean Waters interns and volunteers receive training at the start of the boating season on aquatic invasive plant identification. They also learn how to speak with boaters about how to inspect their boats for AIS and why this is important for the health of lakes.*

Kemp. To some, that might not seem like a big deal, but I think I can speak for everyone staying there with me that it was incredible to see those big birds looking over Kemp every day. Almost every morning we woke up to eagles and every night we would fall asleep to the loons.

It was such a cool feeling to be surrounded by all the wildlife and all the amazing people. It was uncommon for me to have a very stressful day on the job, but when I did, I knew that Kemp was there waiting for me. On behalf of myself and the other CBCW interns, I want to say thank you to the staff at Kemp Station for all that you do — you all truly make it a perfect place to spend a summer. 🐼

*If you are interested in learning more about the Clean Boats, Clean Water program, or would like to participate as a volunteer in any part of the state, you may contact Catherine Higley for more information. Catherine is the Lake Conservation Specialist for the Vilas County Land & Water Conservation Dept., 715-479-3738, [cahigl@vilascountywi.gov](mailto:cahigl@vilascountywi.gov).*



*spiny water flea*



## Kemp Profile: Jalene LaMontagne

**Hometown:** I am from Canada and grew up as a military brat moving around a lot. I currently live in Chicago, IL.

**Position:** I am an Associate Professor in the Department of Biological Sciences at DePaul University.

### Educational background & area of study:

I received my BSc in Ecology and MSc in Conservation Ecology from the University of Calgary, and my PhD in Environmental Biology & Ecology from the University of Alberta. For my PhD research I spent summers doing fieldwork in Yukon, Canada looking at the impacts of variation in cone production by white spruce trees on red squirrel populations, and in the process I became more interested in diving deeper into understanding what the trees were doing.

### How is your research funded?

I have received funding through grants at my university and support from the National Science Foundation (NSF).

### What question does your field research answer?

My research focuses on describing the patterns and understanding the drivers of mast seeding in conifer trees, with a focus on white spruce.

Mast seeding is defined as the

synchronous production of highly variable seed crops over time by a population of plants, and it occurs in a number of species and all around the world. Highly variable means that most years relatively few seeds are produced with only an occasional huge, bumper crop of seeds. It is thought that this reproductive pattern could occur in order to allow seeds to escape predators like squirrels, birds and insects. Low seed production years keep seed predator populations low and then the predators are overwhelmed in bumper crop years, so more seeds can become trees.

A key part of mast seeding is that it is believed to be highly synchronous among regions because weather acts as a cue, and between individuals, because individual trees should suffer seed losses if they produced a large seed crop in a low seed year, and over long periods of time that should be selected against. My earlier research has shown that within populations there is variation across some individuals within a population, and that some trees are not synchronous with even their neighbor tree.

My lab is currently working on questions of: How synchronous are white spruce across scales? What is causing variation in the patterns of reproduction? What are the consequences of being asynchronous?

I have field sites set up in three regions: the northwoods of WI,



the Huron Mountains of MI, and near Cloquet, MN. Within these regions, I have a total of 18 sites with almost 1000 individually tagged white spruce trees that are monitored every summer (since 2012 for WI and MI; 2015 for MN).

### Why is this research valuable?

Mast seeding patterns seen in plants influence a variety of other species that rely on the seed as food, including seed-eating songbirds and small mammals. The seed is also important for forest regeneration. Songbirds sometimes show large irruption events when they show up at people's birdfeeders outside of their typical range when there is a really low seed year in the boreal forest. For example, birders are reporting this fall that red-breasted nuthatches have shown up quite far south, but they didn't last year – incidentally, 2017 had a large white spruce mast event and so this year cone production was really low. If we can understand the drivers of mast seeding, it will allow us to understand factors that influence species that rely on the seed produced as well.





## Describe a typical day of field work:

I always have a field crew with me, and we usually visit two sites a day (I have six sites in WI). When we get to the site we will find our tagged trees (each tree has a unique ID number), and we count the number of new cones on each tree. We do that by standing in one spot and using binoculars counting the new green cones in the top third of the crown. If there are more than 200 cones then a photo is taken with a digital camera and the cones are counted later. When I was a PhD student I came up with a way to estimate the total number of cones from a photo. At each site we also download data from a logger that records temperature every two hours, year round. We collect cones from trees when we are able, so that we can relate cone size and the number of seeds to the number of cones produced. Every couple years we'll measure the diameter of all of the trees that we have because tree size influences the number of cones they can produce. We also listen for the rattle call of red squirrels while we're working, since they feed on the seeds, to get an index of their population size.

## What is the greatest challenge you've faced on this project?

In the northwoods I have 360 white spruce trees tagged across six sites. In 2014 we noticed that at three sites many of the trees had been hit hard by an insect defoliator and looked pretty bad. I was really concerned that we were going to lose all those trees and that the insect would spread to all six sites and -- worst case scenario -- kill all the trees that I've tagged. That's not good when you're doing long-term research. One thing we noticed is that some of the trees that were initially impacted by the insect have survived, while others died. I've been going back with my field crew every year since then to monitor the trees and now I have a graduate student (Abby Leeper) working on an NSF-funded project looking back



at the data we have on cone production by individual trees, and collecting tree cores to look at growth, to see if there are relationships between surviving the insect outbreak and prior investment into reproduction or growth. In this case, this challenge turned into a good research opportunity.

## What have you enjoyed most about this research project?

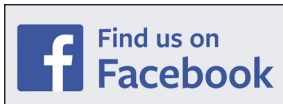
I love conifer forests and being outside, and spending time in the northwoods reminds me of home. I won't ever complain about the ability to snack on some wild fruit while working. As far as the project itself goes, I am always excited to get to the field to collect data and see what's happening with the trees. In the evenings, it's really nice to come 'home' to Kemp. The facilities at Kemp are really high quality, and eating dinners out on the deck with the view of the lake and listening to the bald eagles is lovely. 🍓



*UW-Madison students in Dr. Caitilyn Allen's "Tropical & Midwest Agriculture and Conservation" course learned about bog biology from Wisconsin DNR scientist Dr. Susan Knight at Kemp Station's Jyme Lake bog in September.*



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## Lobster Mushroom (*Hypomyces lactifluorum*)

Easy to identify, with its red-orange coloration and a mild “fishy” odor, what we know as the lobster mushroom is not really a mushroom at all. This popular edible is “created” when a parasitic ascomycete fungus grows on *Russula* or *Lactarius* species of mushrooms. The ascomycetes include most molds, mildews, and yeasts, the fungal component of most lichens, and a few large forms such as morels and truffles. According to mycologist Tom Volk, “the red crust on the outside is the stromatic sterile tissue of the ascomycete (*Hypomyces*), and the white flesh on the inside is the flesh of...” the *Russula* or *Lactarius* mushroom. The shape of the lobster cap is often concave, providing a good dirt and bug collection vessel, so cleaning before eating can be time consuming and tedious. Lobster mushrooms can also be very irregular in shape. Foragerchef.com recommends that “... a proper lobster mushroom should be heavy like a paperweight. If the mushroom feels light like styrofoam, has a strong fishy odor, or a pronounced purple color they’re too old...” and are best left where found, often under or near hemlock trees, making Kemp Station a likely place to find them. It is often asked if the fungus could parasitize a poisonous mushroom and look like a lobster mushroom, causing illness. Tom Volk states this is conceivable, “However, the lobster mushroom has been eaten for hundred of years without any known problems. If you eat this mushroom you’re taking a very, very slim chance of there being a problem, in my opinion.” If you enjoy wild edibles, get to know the lobster mushroom.

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