from the Chief

It is mid-September as I write this, and the fall Semester is in full swing at our Units. Fall is also the time when many organizations in the conservation community meet. Last week I attended the Annual Meeting of the Association of Fish and Wildlife Agencies in Tampa, Florida (AFWA). This is an extremely important meeting for USGS and Coop Unit leadership as virtually all state fish and wildlife agency directors and senior staff, and federal agency and NGO counterparts attend. The National Cooperators Coalition (NCC) met and the focus of the meeting was the fiscal year 2019 and 2020 budgets for the Coop Units. Efforts are underway by the NCC to get the Senate mark for the 2019 budget raised to match the House mark, which would increase the Coop Unit budget by over $1.9 million, allowing us to fill a large proportion of our current vacancies.

Tom Edwards, AUL-Utah put on a highly successful workshop on species distribution models (SDMs) at AFWA. The 4-hour workshop laid the groundwork for two training modules Tom will be delivering with support from AFWA and the U.S. Fish and Wildlife Service.

The first training module will be designed for state and federal biologists who are, or will be constructing SDMs. The second module will be for managers and decision makers and will be designed to allow them to critically evaluate SDMs that come before them, allowing them to assess their reliability and utility in conservation actions and decisions.

Much effort is being spent on addressing questions coming from the Department and the Director’s office on grants and reimbursable funding. John Thompson has been doing a stellar job responding to inquiries, but this additional scrutiny has significantly slowed the approval of research work orders. We are doing the best we can, and ask for your patience as we work through this new level of oversight.

Several Coop Unit scientists were part of a team that travelled to the Peruvian Amazon as part of a State Department-sponsored effort in August. The workshop, titled Charting pathways to prosperity: a workshop to identify and promote science-based infrastructure standards in the Amazon was designed to bring U.S. scientists together with Peruvian and Columbian scientists and policy makers to identify gaps in our knowledge of impacts of proposed development projects on the ecology of the Amazon basin, and identify science needs.

Nereyda Falconi, PhD candidate at the Massachusetts Unit who is studying Andean bears in Peru with Dr. Tom Lovejoy, U.N. Special Envoy.
A number of research concept papers were developed, and the goal is to have U.S. and Peruvian scientists collaborating on these. Hopefully, with support from the Peruvian government, Peruvian students will be able to pursue graduate work at our Coop Units to address some of these science needs.

The hiring process is underway for vacant positions at the Washington, Arkansas, Idaho, and Wisconsin-Wildlife Units. We anticipate at least two other hiring packages will be initiated prior to year’s end.

The next few months will be critical ones as we monitor the actions of Congress. Our hope is that both houses will pass a budget with the House mark intact. Stay tuned!

–John Organ

from the Deputy Chief

So, school has started (can tell by the traffic around here) along with football at all levels. Doesn’t look like fall here yet, but starting to feel it a little in the air.

The operative word here in HQ is Clearance. As most of you know, all grants to universities or NGOs now require clearance by either the USGS Director (under $50K), or the Secretary of Interior (>50K). As such, all our RWOs must have this clearance before they can be obligated by Acquisitions and Grants for your projects. What this means for you is delays in getting things awarded – sometimes significant delays of 4-6 months. What this means for us at HQ is significantly more work for Missy, Brenda, Derek and yours truly as we must enter a variety of information for each project into several information systems, and also respond to questions that come from either the Director’s Office or Interior – or often both. We try to anticipate any questions they could possibly have when we develop and enter the write-ups, but they never cease to amaze us with what kinds of details they want to know. We appreciate your patience as we work through these requirements.

The RGE Review Team that I am serving on continues to make excellent progress in developing our suggestions for revamping the RGE process. Currently we have a group of about 40 scientists that have agreed to beta test a new proposed format for the RSR. These RSR’s will be reviewed this fall either by a mock panel or as a one-off mock review by a regular RGE panel. We will then do a survey of both RSR developers, and panel members to determine the ease of development and effectiveness of the document. We will be doing another update for the ELT in November and hope to have all changes adopted and a new process up and running for the Fall 2019 RGE cycle.

Finally, I am sure (if you have been checking your USGS email!) that you have seen that USGS will transition from the DOI Learn system to DOI Talent in the near future. Before this happens, it is strongly suggested that you go into DOI Learn and download or print your learning
transcript. This is just in case all records do not transfer properly into the new system. It would be a real bummer if you had to take any training over because the record was lost.

Wishing you all a safe and healthy fall, hope you can find the time to go out and crunch some leaves.

—John Thompson

**AO’s Corner**

By the time you receive this Catch-Up we will have closed out FY 2018. Phew…What a year!

I want to thank all our units for helping us get all our RWO clearances submitted and being patient as we waited for clearance to be approved. Missy, Derek, Brenda, and JT work tirelessly to answer the endless follow-up questions they receive from DOI and continually check in on the status of clearances as we try to move our projects along.

This has been a busy year, unlike any other I’ve ever experienced. Mix the clearance requirements with the fact that allocations weren’t received until just a few months ago and you had the recipe for disaster and I’m proud to say, we survived (for the most part)! I know many projects were held up and frustrations ran high at times but supporting the excellent work you all do and knowing how much you all appreciate what we do, makes its all worth it.

Since my last Catch-up we have brought on a career student intern, Christine Nguyen. Nick Oris has also been hired full time, following his detail in CRU HQ earlier this year, to support the units formerly supported by Suzanne Cartagirone. Nick and Christine have both quickly become important members of the CRU HQ team and we’re so happy to have them!

The current SmartPay2 contract for Federal charge cards expires November 29, 2018. All employees with a federal charge card can expect to receive new charge card(s) from Citibank. The new Citibank cards will not be integrated so if an employee has both purchase and travel authority, they will receive two new cards, one for travel and one for purchases.

Around the middle of November Citibank will mail new Citi® charge card(s). If your new card is not received by November 25, 2018, notify your CRU HQ Admin Tech. Your card will be available for use beginning November 30, 2018, and your existing JPMorgan Chase SmartPay2 card will be deactivated.

Our 2019 Program Announcement has been approved and you should be seeing a memo from CRU HQ (if you haven’t already) announcing the FY’19 Funding Opportunity Number. With that number, and approved clearances, you can start submitting FY’19 RWOs.

We look forward to a successful Fiscal Year 2019!

—Shana Coulby

**Outreach Spot**

Dawn Childs is accepting 2018 Unit Annual Reports, 2018 Cooperative Reports, and 2018 Newsletters. Please email the reports to Dawn dchilds@usgs.gov (the preferred format is Microsoft Word). No Deadline. Thank you.

As mentioned in the last Coop Catchup, Dawn Childs created a story map of the 2017 Cooperative Fish and Wildlife Research Units Year in Review. Please note the two URLs and please feel free to share:

**Website, social media, internet, iPad, iPhone, other devices:** [http://usgs.maps.arcgis.com/apps/MapTour/index.html?appid=d05672b9cb5a452283bce48ceec73795](http://usgs.maps.arcgis.com/apps/MapTour/index.html?appid=d05672b9cb5a452283bce48ceec73795)


**Coop Units on social media:**

Twitter: [https://twitter.com/USGSCoopUnits](https://twitter.com/USGSCoopUnits)

Facebook: [https://www.facebook.com/CRU1935/](https://www.facebook.com/CRU1935/)

Instagram: [https://www.instagram.com/usgscoopunits/](https://www.instagram.com/usgscoopunits/)

TUMBLR: [http://usgscoopunits.tumblr.com/](http://usgscoopunits.tumblr.com/)

Please send science stories and images to dchilds@usgs.gov.

**Personnel potpourri**

**Staffing News:**

**Additions:**
- Univ. Admin
  - Melody Trapani, FL Unit
  - Brenna Byler, SC Unit

**Losses:**
- Federal
  - Brad Griffith, AK Unit

- Univ. Admin
  - Tina Anderson, MTW Unit
  - Gay Hale, FL Unit
  - Donna Christen, WIW Unit
Personnel potpourri:

RGE Promotions:
- Wes Larson, WIF Unit
- Mike Mitchell, MTW Unit
- Mark Wipfli, AK Unit
- Conor McGowan, AL Unit
- Melanie Culver, AZ Unit

Recent Awards

KANSAS AND TEXAS

David Haukos (UL-Kansas) and Clint Boal (AUL-Wildlife, Texas) were awarded The Wildlife Society's, 2018 Wildlife Publications Award – Edited Book for the volume "Ecology and Conservation of Lesser Prairie-Chickens". Published by CRC Press in the Studies of Avian Biology series.

NORTH CAROLINA

NC Unit Graduates Honored with College Alumni Awards

Two NC Unit graduates were honored with NC State University, College of Agriculture and Life Sciences, Outstanding Alumni Awards. Christian Waters (MS 1997, Joe Hightower Advisor) was awarded the 2018 Outstanding Alumni Award, and Steve Midway (MS, 2008, Tom Kwak and Derek Aday, Co-advisors) received the 2018 Outstanding Young Alumni Award.

LOUISIANA AND MARYLAND

Dr. James W. Wiley who had supervised at both the Louisiana and Maryland Unit before retiring has been awarded the Skutch Medal for Excellence in Neotropical Ornithology. Wiley is recognized for his significant contributions to the scientific literature that have aided in the conservation of a wide range of imperiled Neotropical species in the Latin American-Caribbean region. He was one of the founding members of the Society for the Conservation and Study of Caribbean Birds (SCSCB), and served as the editor of The Journal of Caribbean Ornithology between 1988 and 2004.

For full article go to Wiley Award
Christian pursued a career as a fisheries biologist with the NC Wildlife Resources Commission, and over the years assumed additional responsibilities to become the Chief of the Inland Fisheries Division.

Steve continued his education with a doctorate degree from University of North Carolina at Wilmington and is currently an Assistant Professor in the Department of Oceanography and Coastal Sciences at Louisiana State University.

Christian and Steve presented a joint Applied Ecology Departmental seminar on September 7 on their professional experiences, and then College alumni, friends, faculty, and staff gathered at the NC State Alumni Center to celebrate these honors.

We’re proud of the success and impact that our NC Unit graduates achieve after fledging. Congratulations to Christian and Steve!

**Ted Simons is Onward and Upward!**

Ted Simons wound up the paid stage of his 35-year career as an avian ecologist and unit scientist!

The NC Unit and our cooperators and friends celebrated Ted’s retirement at a lunch reception on campus May 23. Many of Ted’s former students, who are now leading professionals in the field, returned to Raleigh for the celebration, as well as Unit Supervisor, Barry Grand.

We thanked Ted for all his accomplishments, collegiality, and friendship in formal remarks and social discussions. An additional honor for Ted is that he was named the NC Governor’s 2018 Natural Resources Scientist of the Year!

Ted received the award at a dinner reception sponsored by the NC Wildlife Federation at the Research Triangle Embassy Suites Hotel.

Ted’s research has improved species and community conservation and monitoring programs and the management of protected areas, through a better understanding of wildlife habitat relationships and sampling methods.

In recognition of his accomplishments and professional stature internationally, Ted was also elected as a fellow of the American Ornithologists Union, an elected member of the Waterbird Society Executive Council, and he received the National Scientific Excellence Award from the U.S. Geological Survey. In retirement, Ted will migrate with his wife Pam between North Carolina and Wisconsin, where they’ll enjoy E-biking, stand-up paddle boarding, and other outdoor adventures! Congratulations, Ted!

**Meetings & Events**

**Unit Scientists, Unit Cooperators, and State Agencies Collaborate on Standardized Approaches to Harvest Regulation Evaluations**

Unit scientists (Kansas, Arizona, Nebraska), state Unit cooperators (Kansas, South Dakota), and other state agency fisheries biologists (Illinois, Michigan, Ohio) will participate in a full-day (18 talk) symposium entitled “Using Standardized Assessments to Evaluate Harvest Regulations: Advancing Science-based Fisheries Management.” The organizers of the symposium are Joseph Conroy, Jeremy Pritt (Ohio Department of Natural Resources); Martha Mather, (Kansas Cooperative Fish and Wildlife Research Unit); and, John Dettmers (Great Lakes Fishery Commission).

This symposium is relevant to state Unit cooperators for several reasons. Anglers are a core constituency of state resource agencies. Fisheries managers are tasked with maintaining sportfish populations that provide satisfactory angling opportunities. Of the options that are available to alter populations and ultimately influence angler
satisfaction, fisheries managers most often use harvest regulations (size or creel limits). However, when and where harvest regulations work is not completely understood, and, at times, regulations do not have the expected effect. In this symposium, we seek to identify criteria on which to base standardized assessments for harvest regulation evaluations in order to summarize what we know / do not know about harvest regulation effectiveness and to identify matches/mismatches between regulations and population characteristics.

The symposium will have coauthored overview talks by Scott Bonar (AZ Unit), Kevin Pope (NE Unit), and Martha Mather (KS Unit), as well as, by fisheries professionals from other institutions. In addition, state agencies in the North Central Division of the American Fisheries Society will review common approaches to harvest regulation evaluations. The intended outcome of the symposium is to identify common interests, needs, and future collaborative projects.

Standardized evaluations of harvest regulations can yield the same benefits to fisheries managers as standardized population assessments. As such, this symposium is an opportunity to identify relevant research and technical assistance needs of state Unit fisheries cooperators. The symposium will take place in Cleveland, OH, January 27-30, 2019.

**NEBRASKA**

**Sportsperson Summit**

The Nebraska Unit in conjunction with the University of Nebraska–Lincoln, and the Nebraska Game and Parks Commission hosted the Nebraska Sportsperson Summit, a two-day event held at the Lied Lodge in Nebraska City, NE, July 31-August 1, 2018. The purpose of the Nebraska Sportsperson Summit was to bring together a wide-range group of professionals to discuss three important questions:

What is the value of understanding sportspersons to natural resource management?
What do we know about sportspersons in Nebraska and beyond?
What more do we need to know about sportspersons?

The Summit was composed entirely of invited presentations with attendees representing a diversity of natural resource professionals, including participates from:

- Kansas Department of Wildlife, Parks and Tourism
- Lower Platte South Natural Resource District
- Missouri Cooperative Fish and Wildlife Research Unit
- National Wild Turkey Federation
- Nebraska Cooperative Fish and Wildlife Research Unit
- Nebraska Game and Parks Commission
- North Carolina Wildlife Resources Commission

Presentations were designed to inform, and provoke participants to engage in discussion. Broad topics of discussion included Vision of Sportspersons, Sportsperson’s Identities and Values, Sportspersons as Predators (predator-prey dynamics), Sportspersons Across the Landscape, and Managing Sportspersons. The Summit comprised of more than 60 attendees. In addition to thought-provoking discussions, attendees were provided demonstrations on utilities of several, recently developed apps, including the Pheasant Habitat App and the Sportsperson Database App. The planned, next step is to develop a Sportsperson Working Group to build on the success of the Summit and further explore the three key questions.

**14th North American Arctic Goose Conference**

The Nebraska Unit co-hosted with the Nebraska Game and Parks Commission, Rainwater Basin Joint Venture, University of Nebraska–Lincoln, University of Nebraska–Kearney, and Ducks Unlimited–Nebraska, the North American Arctic Goose Conference. The conference is the largest goose-focused meeting in North America and is an international event devoted to research and management of geese and their habitats.

**Kudos to Our Students and Postdocs**

**GEORGIA**

Tiffany (Vidal) Cunningham, PhD student advised by Brian Irwin (AUL-Georgia), recently received the Robert L. Kendall Best Paper in Transactions of the American Fisheries Society award for her 2017 paper “Using Variance Structure to Quantify Responses to Perturbation in Fish Catches”. Co-authors on the paper included Brian
Irwin, and Tyler Wagner (AUL-Pennsylvania) as well as collaborators from Cornell University and Michigan State University. The DOI Northeast Climate Adaptation Science Center funded the associated project. The best-paper award was presented to Tiffany at the 2018 American Fisheries Society in Atlantic City, NJ.

2019 John A. Knauss Marine Policy Fellowship

Alicia Wilson, MS student advised by Clint Moore (AUL-Georgia), was selected as a finalist for the 2019 John A. Knauss Marine Policy Fellowship. Alicia will spend a year serving in marine policy-related positions in the federal legislative or executive branches in Washington, D.C. Alicia joins a class of 62 fellows selected competitively from the Sea Grant programs of the U.S. Alicia’s thesis work investigated linkages between extreme high tides and loggerhead sea turtle nest placement and hatching success.

Massachusetts

Virginia Martell, MS student advised by Allison Roy (AUL), received the Best Student Wildlife Presentation for her presentation, “The effect of probiotics on the growth and survival of a freshwater mussel,” at the Northeast Fish and Wildlife Conference in Burlington, VT in April 2018.

Meghna Marjadi, PhD student advised by Allison Roy, was awarded a $1,000 UMass Graduate School Predissertation Research Grant to conduct pilot research for her work on juvenile river herring.

Matthew Devine, PhD student advised by Allison Roy, received an $800 travel award to attend the annual American Fisheries Society meeting in Atlantic City, NJ in August 2018.

NEBRASKA

Pheasant project web-based App

A new application from the University of Nebraska–Lincoln will allow the state's wildlife managers to examine how virtually manipulating land cover in a region could affect pheasant populations and how much such efforts might cost. Although the Pheasant Habitat Simulator was created to help the Nebraska Game and Parks Commission bridge the gap between game-bird habitat research and land management for the species, Lyndsie Wszola and her colleagues built it as an open-source app.

“This is not just a pheasant app,” said Wszola, research associate with the Nebraska Unit in the School of Natural Resources at Nebraska. “It is a framework. Because it is open-source, we're interested in seeing people use it in new ways. We want to see how it grows and progresses.”

The Pheasant Habitat Simulator allows users to manipulate various factors to show habitat suitability. It also shows each Nebraska county as a pixelated grid, representing six land-cover types and accounting for how suitable the land cover is to pheasant populations. Users can manipulate the ratios while in the background; the app uses a statistical model of pheasant-habitat relationships in Nebraska to translate the change in land cover to that of pheasant suitability. On the user side, a visual representation of their decisions’ consequences is displayed. A second tab shows the estimated costs of those actions, which are tied to average land-use values based on county-level data.

Traditionally, building this type of app would cost an organization thousands of dollars, rendering it unaffordable for many organizations. But manipulating the open-source application requires only time and ingenuity. The app was designed using Shiny, a software package for the open-source statistical programming language R, and it
will be updated based on user feedback as long as the tool is useful. Lyndsie Wszola completed her graduate program with the NE Coop Unit. Her advisor was Joseph Fontaine, AUL.

Women in Science

Nebraska Coop Unit’s students Jessica Burnett and graduate Hannah Birgé were among those included in the 2017 winter edition of the Association for Women in Science- AWIS magazine. The group aims to identify, develop, and support female leaders and underrepresented groups in the natural resource sciences by providing professional advancement opportunities through workshops, mentorships and interdisciplinary collaborations. Another goal is to build department and faculty hiring opportunities for the collectives and develop better communication among its members using listservs, newsletters and social media. The University of Nebraska–Lincoln is an institutional partner of the Association for Women in Science

SNR Meritorious Graduate Student Award

Vicki Simonsen, and Jessica Burnett PhD were selected to receive the 2018 School of Natural Resources Meritorious Graduate Student Award.

The award is given annually to one master’s and one doctoral student in the School of Natural Resources. This year, the committee chose to recognize Simonsen, a master’s student, and Burnett a doctoral student for their academic achievements, research, and teaching contributions, leadership accomplishments, service and personal qualifications. Simonsen and Burnett each received a $500 stipend and their names are included on a plaque that hangs in Hardin Hall.

It is worth mentioning that for a third straight year a Coop Unit student is the recipient of the SNR Meritorious Award. Last year, Coop Unit student Hannah Birgé received the doctoral level and Lyndsie Wszola received the master’s level award.

Joseph Fontaine, assistant unit leader, received the 2018 Best Presentation Award from the South Dakota Chapter of the Wildlife Society.

SOUTH DAKOTA

Samantha Fino (PhD student) was awarded the 2018 Bonnycastle Fellowship in Prairie Ecosystem Studies from Ducks Unlimited Canada. This prestigious Fellowship provides funding to support Sam’s research and is renewable for up to 3 years. Samantha also received the 2018 C. David Ankney and Sandi Johnson Waterfowl and Wetlands Graduate Research Scholarship. This scholarship honors the memory of Dr. Dave Ankney, who was a well-known and extensively published waterfowl ecologist from Ontario, Canada.

Aaron Sundmark (PhD student) received the 2018 Lloyd Fredrickson Memorial Scholarship from the Department of Natural Resource Management at SDSU. This award recognizes the Department’s outstanding PhD student in Fisheries Travis Rehm (MS student) received the Department’s 2018 Outstanding Graduate Student Award (fisheries) for excellence in scholarship and service. Joseph Mrnak (MS student) was a 2018 recipient of the John E. Skinner Memorial Award presented at the recent meeting of the American Fisheries Society in Atlantic City, NJ. The “Skinner” award is one of the most prestigious student awards presented by the American Fisheries Society.

International Activities

NEBRASKA

Jessica Burnett received the Irvin A. and Nelson E. Memorial Fellowship award from the University of Nebraska–Lincoln and the National Academy of Sciences travel award for travel to International Institute for Applied Systems Analysis (IIASA). This summer she worked at IIASA in Laxenburg, Austria, in a highly competitive
research program where 53 out of 293 applicants were accepted as part of the Young Scientists Summer Program (YSSP). During this program Drs. Craig Allen and Dirac Twidwell (UNL), Brian Fath (IIASA), and Elena Rovenskaya (IIASA) supervised Burnett as she researched advanced novel methods for detecting rapid changes in communities via dimensionality reduction.

Two field experiments have been conducted since January 2018 with preliminary fire models conducted in BehavePlus, (Windows based fire management application to calculate fire behavior), and one manuscript is in its final stages before submission to a scientific journal.

The first field experiment involved collecting thermal imaging data on extreme prescribed fires conducted in the Loess Canyons Biologically Unique Landscape (BUL). Information from these prescribed fires expanded on similar data collected in 2017 and will be used to validate future experimental investigations on extreme fire effects in grasslands as well as provide evidence for increased wildfire risk in juniper-invaded grasslands.

The second field experiment was also conducted in the Loess Canyons BUL with the objective of quantifying rates of juniper recovery following extreme fire. This project was led by an undergrad student I advised that was enrolled in the USDA REU (research experience for undergrads) program. Data from the second field experiment show that Eastern Redcedar re-invades woodlands previously collapsed by extreme fire at surprisingly fast rates. Multiple mathematical fire models have been conducted in BehavePlus to quantify ember transport distances to better inform prescribed fire designs. Model outputs from these simulations will be used to quantify the maximum ember transport distance and likelihood of spotfire occurrence in large-scale prescribed fires.

Research Briefs

NEBRASKA
Managing Redcedar Invasion of Nebraska Grasslands

Eastern Redcedar is the most rapidly expanding woody plant species in the Great Plains and is now recognized as the number one threat to Nebraska’s rangelands by the Nebraska Conservation Roundtable. The impacts of redcedar invasion in grasslands are wide-ranging, including reducing grassland bird diversity and abundance, decreasing livestock production by 75%, reducing small mammal and insect diversity, and costing Nebraska Public Schools over $2,440,000 from 2006-2016. The objective of this grant is to assess the vulnerability of Nebraska’s grasslands to redcedar invasion, and develop predictive tools that enhance the potential to implement landscape interventions that (1) prevent the spread of redcedar trees or (2) restore degraded wildlife habitat following transformation to a redcedar-dominated state.

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WISCONSIN
WICFRU Works to Address Low Natural Reproduction of Muskellunge in Green Bay

Muskellunge were once extirpated from lower Green Bay and the Fox River, but re-introduction efforts have resulted in a world-class muskellunge fishery that attracts anglers from across North America. However, the fishery remains largely reliant on stocked fish and establishing a self-sustaining population is a recovery goal for many agencies affiliated with Green Bay.

The Wisconsin Cooperative Fishery Research Unit in collaboration with the Wisconsin DNR, the Fox River-Green Bay Natural Resources Trustee Council, University of Wisconsin-Green Bay local angler groups, and professional guides are working to unravel some of the mysteries associated with muskellunge spawning success.

Using a combination of acoustic and radio telemetry, WICFRU staff identify muskellunge spawning locations which are subsequently sampled for both eggs and young muskellunge to determine what habitat conditions result in successful hatching. Side-scan sonar mapping is used to determine the availability of this critical habitat within Green Bay and its tributaries. Sixty adult muskellunge will be implanted with transmitters to achieve these goals. Information obtained from the study will be used by
resource agencies to develop future habitat improvements and to guide stocking strategies that may result in greater utilization of available habitat.

A pair of muskellunge located during spawning on the Fox River near Green Bay, Wisconsin.

**UTAH**

**The Lake Effect**

The lake is not quite at the top of the world, but it’s close! Located above the tree line 150 miles south of the Beaufort Sea, a five-hectare lake sits covered in ice for nine months out of the year. It could be any of the hundreds of arctic lakes that dot the region, but this one is the site of a risky experiment led by Phaedra Budy, Utah Unit Leader, she wants to warm its frigid water by two degrees—or more, if plans go well.

“The real driver is climate change.” Budy says, “Climate change is happening most rapidly across the globe in the Arctic.”

In 2017, the National Oceanic and Atmospheric Administration issued its annual Arctic report card. And it was grim. Despite a cooler that average spring and summer that allowed Arctic sea ice to rebound slightly, the report concluded that when taken in context, “the Arctic environmental system has reached a new normal.” That new normal includes warmer air temperatures and thawing permafrost, a layer of frozen soil, which historically, has served as a natural sequestration site for carbon and mercury. These elements have been stored in roots of partially decayed plants on the tundra for millennia. Rising temperatures threatens to unlock them.

More atmospheric carbon further exacerbates global warming already underway, and more mercury in the environment, and element toxic to humans, could accumulate in fish consumed by native populations. Budy, co-head of the lakes division at the Arctic Long Term Ecological Research (LTER) station in Alaska, focuses on a different part of the equation—how warming affects aquatic ecology. She wondered how to mimic the effects of climate change in a natural system rather than rely on modeling along.

She knew scientists have artificially warmed other types of sites on the tundra before, prompting her team in the Fish Ecology Lab to brainstorm methods for heating an entire lake. They examined previous studies for clues, but not one had tried pumping heat into a lake before—at least, no one who shared their efforts with the scientific community.

Phaedra Budy, UL Utah, Gathering data by an arctic lake.

“The initial reaction from a lot of people is ‘That’s crazy; that’s not going to work,’” says Stephen Klobucar, a postdoctoral student who assisted with developing the initial study proposal.

To read the full article go to: The Lake Effect

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**Extras**

**FLORIDA**

The Florida Unit gives a shout out to Ruby Valeton, North Carolina Unit Business Service Coordinator, for spending a week with us to help train our new Administrative Specialist, Melody Trapani. Ruby’s training materials, organization, and wealth of knowledge were all excellent. Thank you so much, Ruby!

In addition to welcoming Melody, the Unit thanks Gay Hale, for her seven years of dedicated work and wish her well in her new position.
MASSACHUSETTS
Celebrates its 70th Anniversary

The Massachusetts Unit celebrated its 70th Anniversary in May this year at its annual Cooperators Meeting. The Unit was established in 1948 (at that time, the Massachusetts Cooperative Wildlife Research Unit), with William Sheldon as its first Leader. The Fisheries Unit was established in 1963, and the two Units were combined in 1990. Over the past seven decades some 18 wildlife and fisheries scientists served as leaders and assistant leaders, and over 210 students graduated with MS or PhD degrees, many of whom went on to prominent positions in the profession.

The celebration took place at the Massachusetts Division of Fisheries and Wildlife’s state-of-the-art, energy self-sufficient field headquarters in Westborough, MA. Over 80 were in attendance. Activities included speed talks by Unit graduate students on their current or newly completed research projects, two talks by Unit alums Dr. Ken Elowe and Dr. Mike Jones on how the Unit program influenced their careers, posters (including several illustrating the history of the Massachusetts Unit and the Unit program, and one that listed the names of all of the students who completed graduated degrees in the past 70 years), and presentations on the “Hallmarks of Wildlife and Fisheries Science” followed by a lively audience-wide discussion. Sessions were moderated by Dr. Kathy Zeller and Dr. Sean Sterrett, Unit postdocs, and Dr. Allison Roy, AUL-Fisheries.

In attendance, in addition to Unit Coordination Committee members, students and faculty, and state and federal agency employees, were Dr. Mark Tisa, Acting Director of MDFW (recently promoted to Director), Dr. Joseph Larson, Chair of the state’s Fisheries and Wildlife Board, regional supervisor Dr. Mike Tome, and Unit Chief Dr. John Organ.

The meeting was followed by lunch and a time to mingle and talk, as well as to partake in some green-frosted cake. Tome pointed out that the frosting on the cake was not an accurate representation of USGS green, to which DeStefano responded by just eating another piece.

NEBRASKA

We are in a new era. The organizational guardians of our natural resource legacy face unprecedented challenges in a rapidly changing landscape. The urgent need for significantly increasing leadership capacity within natural resource organizations is unparalleled. The National Conservation Leadership Institute (NCLI) is one of the most far-reaching professional development initiatives ever undertaken within the natural resource conservation community, providing an unparalleled experience for developing extraordinary leadership at that right moment in history.

Kevin’s right moment in history occurred this year, with his selection and participation as a NCLI fellow of Cohort 12. Kevin was one of 36 fellows in this cohort, which came from all over the country and from all kinds of organizations. The first residency of this cohort was held October 2017 in Shepherdstown, West Virginia, and the second residency was held June 2018 on the South Rim of the Grand Canyon. Kevin is most appreciative of the opportunity with the support of the U.S. Geological Survey.

The immersive training in the core tenants of Adaptive Leadership was powerful and provocative…more importantly, it was empowering. One of the most tangible outcomes of Kevin’s experience was a life-renewal of self-care. A less tangible, but nonetheless important, outcome of Kevin’s experience was a new vison and understanding
of the CRU Program. There are always opportunities to exhibit leadership!

Send your News to:
Utah Cooperative Fish & Wildlife Research Unit
Quinney College of Natural Resources
Utah State University
5290 Old Main Hill
Logan, UT 84322-5290
e-mail: shauna.leavitt@usu.edu
Phone: 435-797-7565

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Your suggestions on topics/sections are welcome.

Cover-page photo from the Utah Unit
Photographer: Colton Finch

Fall 2018 Photo Competition:

Topic: My pet enjoying the great outdoors

Winner: Jim Reynolds, Emeritus Unit Leader, AK
Unit: Alaska

Here is the story and a couple additional photos to accompany the winning photo on the next page.

I bought “the girls” in 2007 for excursions into the Ruby Mountains where I lived near Elko Nevada.

During winters I took them to Arizona where we trekked in the Superstition Mountains. My Nevada daughter and her children named them Tina (whiteface; after Napoleon Dynamite) and Dalai (blackface; after the Dalai Lama).

They were both good packers except Dalai would always try to get ahead of me on the trail so I put Tina right behind me to keep Dalai in line. Llamas are stand-offish (like a cat with hooves), but I still felt very close to them.

I lost Dalai to an Arizona rattler in 2015, a traumatic event. Llamas are very herd-social and my situation prevented me from getting another companion for Tina. So, that same year, I found a home for her at a ranch for retired llamas in northern Nevada.

I assumed that Tina would always be an old maid but in 2017, at age 19, she gave birth to a son who was named Turner by the ranch owner. A llama giving birth at age 19 would be like a 75-year-old woman giving birth! Last year, I went out to see mother and son (pic attached). Earlier this year, Tina died of old age and Turner has been accepted into the herd.

***See winning photo and honorable mentions on the following pages***

Thanks to all who submitted photos!
1st Place

Jim Reynolds enjoying the Ruby Mountains with his two llamas Tina and Dalai.
Honorable Mentions:

Find the kitty! Smokey, a seven-year-old Blue Russian female enjoying an afternoon of mischief at Pioneers Park in Lincoln, NE. She is the fur grandbaby of Wilma Gerena, NECRU Administrative Assistant.
Maiah Diel's (Administrative Staff-Kansas Unit) pup helping with field research.