Greetings from Logan where a glorious fall is shifting to winter. We broke the record low in Logan for Oct. 10 by 7 degrees; quite a dramatic start to ski season. And, the 2019-20 academic year is in full swing.

Student numbers are up a bit from previous years, but our 5% annual growth rate seems to have subsided. Student clubs are vibrant with recruiting activities. Over 20 undergraduates participated in poster presentations, session talks, and team competitions at the joint meeting of The Wildlife Society and American Fisheries Society organizations in Reno in early October. We had a chance to see many old friends and colleagues at the QCNR social during the meetings. Visits from Ray Duesser, former Department Head, Tom Annear (MS Fisheries and Wildlife ‘81) and Clair Stalmaker were highlights of the event. In addition to our student’s return, the kokanee run above Porcupine Reservoir saw increased numbers.

We look forward to a successful fall semester with the kickoff of new programs in international research opportunities for undergraduates, Great Salt Lake research, and enhancements in our programs in recreation resources. Best regards for a happy and productive fall season.

Chris Luecke, Dean
QCNR Student Leaders Organize USU Climate Strike

Excerpts from an article written by Lara Gale

Hundreds of Utah State University students and faculty walked away from business as usual on September 20 into a cold autumn rainstorm, bound for the campus quad. They were joining an estimated 4 million people around the globe in a strike for the future of the planet.

QCNR undergraduate students and campus strike organizers Maria Catalano and Rachel Chamberlain learned about the upcoming strikes through social media. They were determined that the USU student body should have the opportunity to participate in the historic event.

“We wanted people to know that, yes it’s happening all over the world, but it’s happening at USU, too,” Chamberlain said.

Chamberlain serves as the QCNR Senator for the USU student government, and Catalano is president of the QCNR student council and co-president of the Student Organization for Society and Natural Resources. Setting aside extracurricular activities and sleep, they spent days organizing speakers, reaching out to local and campus leaders and putting up fliers, and caught up on assignments at night.

“It’s scary to act until you do it,” Catalano said. “Then it’s exciting and you want to do more.”

They see their peers all across campus elevating the urgency of the global conversation about climate change. The strike wasn’t about persuasion or influence, it was about bringing people together and making some noise.

“A lot of people really care about these things, we’re just amplifying their voices,” Chamberlain said.

QCNR faculty advisors are supportive of Chamberlain and Catalano’s efforts, Natural Resources Professor Patrick Belmont sympathizes with the sentiment of the Strike for Climate movement. “I support them because we’re at a point where we need some significant disruptions in the system,” he said. “The sooner those come, the smoother they’ll be.”

At the gathering in September, he advised the crowd to keep the conversation going.

“The path forward is to bring more people into the mix,” he said. “Most people want to be part of the solution. The most important thing we can all do is talk about it in all kinds of environments — at the dinner table, with our friends.”
NR Field Days
Lael Gilbert

Getting your shoes wet is optional, a teacher shouted as an enthusiastic mob of fourth-graders moved past her, prancing along the edge of a slow-moving Logan River. The students squatted, turning over rocks and poking in the shallows, searching for stonefly casements. One excitedly pointed out a tiny cluster of gravel stuck on the underside of a flat stone.

“Aquatic insects help us to know about the health of the river,” the adult volunteer explained. “Healthy environments have a lot of different kinds of insects, and polluted environments only have a few kinds.”

This was one stop for these students during the 20th annual Natural Resources Field Days in Logan Canyon, sponsored by the USU College of Natural Resources.

For two decades, Natural Resource Field Days has pulled Logan and Cache County students from their classrooms to learn more about the place they live. In the shady comfort of Guinevah-Malibu campground, this year’s program gave fourth grade students hands-on experience in ecosystem science including water quality, population dynamics and avian migration. Experts and university volunteers spend two weeks each year teaching kids about wildlife, soils, plants and watersheds. Approximately 2,500 students will participate this year.

This year students had plenty of opportunities to get their hands-on new experiences, including manhandling animal skulls, stroking pelts and using a suction tube and a dichotomous key to identify aquatic insects.

Fourth graders aren’t the only ones picking up new information about the natural environment. Hands-on learning is helping teachers better understand these systems. High-quality environmental education helps people to make connections in their own life, incorporate different perspectives, and become engaged problem solvers.

TWS & AFS Conference

For the first time ever, the Wildlife Society and the American Fisheries Society held a combined conference in Reno, Nevada. Faculty and students from the Quinney College presented numerous papers and posters. Our undergraduate students competed well in the Wildlife Quiz Bowl. QCNR hosted a social on Monday evening where alumni, faculty, and students could connect and visit.

Alumni Rylee Jensen and Maggie Hallerud presented posters on Modeling Carnivore Interactions and Global Conversation. Emma Doden, a QCNR graduate student presented her poster on Beaver Ecology and Stream Restoration. (see photo). Undergraduate students Ryan West, Kenen Goodwin and Erin Butikofer also participated in the poster sessions.
Unstable Wind and Solar?
Team your clean energy with small nuclear reactors

Lael Gilbert

After 50 years of concentrated effort, we still aren’t very adept at predicting wind, said Doug Hunter, Chief Executive Officer of Utah Associated Municipal Power Systems (UAMPS). Wind is notoriously difficult to forecast, with patterns shifting drastically within days and minutes. When you depend on wind to produce power, this becomes a problem.

The volatile nature of wind energy creates difficulties for utilities relying on wind turbines. If energy production suddenly drops, managers have to scramble to keep the load balanced — or it means blackouts for their customers. And solar isn’t much more reliable, susceptible to overcast weather and battery limits on overnight energy needs.

But mercurial or not, communities are slowly shifting to carbon-neutral sources for their power supplies. The solution for filling low-energy gaps? Small modular nuclear reactors, Hunter said in a recent presentation sponsored by Quinney College of Natural Resources.

Renewable energy still makes sense, but roller-coaster dips in renewable power supplies are problematic. UAMPS is investigating the possibility of building small modular nuclear reactors at the Department of Energy’s National Laboratory near Idaho Falls, Idaho. These small plants would provide a consistent source of electricity.

When he says small … Hunter means smaller. Traditional nuclear power plants are 300-400 feet tall and 200 feet in diameter. The proposed reactors would be 75 feet tall and 15 feet in diameter, with some of the bulk underground. Their modularity means building portable units in factories, and shipping the completed system to an operating location, rather than building them on site.

The proposed design is a 50 megawatt, pressurized water reactor and high pressure steel containment, called the NuScale Power Module. Twelve of these units, each with its own dedicated steam turbine generator, could be combined in a single 600 megawatt power plant that may be safer than existing designs, less costly, and reliable, said Hunter.

These modular reactors would also produce a smaller amount of solid waste, Hunter said, which would likely be stored on site. The U.S. Department of Energy would be responsible for their eventual removal, he said. Despite the potential drawbacks, the waste from nuclear energy is more manageable than carbon emissions created by other forms of energy production, and would be the “lesser of two evils” for long-term environmental health, Hunter said.
Colorado River Science Speaker Series

Thanks to the generous support of David Bonderman, the Center for Colorado River Studies has launched the Colorado River Science speaker series. The series was held in communities along and near the Colorado River and its tributaries and is intended to bring thoughtful speakers into Utah communities whose citizens are engaged in public policy about the future of the Colorado River. The Center organized a half day “Future of the Colorado River” symposium last fall. In April, the Center brought Jonathan Thompson to Moab to discuss his book River of Lost Souls: the science, politics, and greed behind the Gold King mine disaster. In July, Dr. Vic Baker spoke on “History of the Great Floods of the Colorado and Green Rivers”, and in September, the Center brought Mike and Jenny Fiebig of American Rivers to the Moab Festival of Science to talk about their 2018 hiking and boating trip from the headwaters of the Green River down the Colorado to Mexico. Additionally, the Center coordinated with the Escalante Canyons Arts Festival to host Jim Aton and Heather Hansman to discuss their recent books on Colorado Plateau science and policy. Dr. Jack Schmidt, director of the Center, also spoke about the future of the Colorado River at the Festival. For more information on the speaker series, go to http://qcnr.usu.edu/coloradoriver/.

Alumni Spotlight: Thomas C. “Tom” Annear

Emily Blake

We are proud to announce that Tom Annear, QCNR Alumni ’81, has been elected into the National Fisheries Management Hall of Excellence and received the Carl R. Sullivan Excellence in Fisheries award in response to his internationally significant contributions to instream flow science. Tom earned his MS in Wildlife Ecology at USU in ’81 then offered his expertise as a Special Project Biologist, Instream Flow Supervisor, and Water Management Supervisor for the Wyoming Game and Fish Department for over 37 years. Tom developed protocols for Wyoming’s instream flow program that are still in use today. To read more about Tom’s work and instrumental contributions to instream flow science, visit qcnr.usu.edu/stay_connected/alumni.
Development

New Development Director - Emily Blake

Emily joined QCNR in September as the new Director of Development. She will oversee all fundraising efforts and in-kind donations in relation to the QCNR. Emily is a third generation QCNR graduate and is proud to represent her alma mater in this role.

Prior to her role at USU, Emily was the Interim Executive Director at the Allen and Alice Stokes Nature Center in Logan Canyon where she was responsible for fundraising efforts, staff and organization management, and public outreach. In her time away from work you’ll find Emily enjoying the many recreational opportunities Cache Valley provides. From trail running in the dry months to cross country skiing in the wet months, Emily is happy to live and recreate in such a beautiful place.

New Initiatives

Here at Quinney College of Natural Resources, we are committed to providing exceptional experiential learning and research opportunities for our students. These experiences allow students to apply classroom techniques and theories to today’s most pressing natural resources questions. Our students travel to diverse ecosystems in the Barrier Reef in Australia, Latin America, and across the US. While many scholars are interested in these opportunities, not all have the financial resources to make these research experiences a reality. Kenen Goodwin, a Fisheries and Aquatic Sciences major, was able to participate in the Great Barrier Reef course last year through generous alumni donations. Kenen and classmates were able to observe sea turtle hatchlings make their way to the ocean, watch hunting mackerel shoot out of the water, and explore various parts of the coral reef while applying classroom tools in the real world. Kenen reported the course to be, “… very practical and hands-on. (We conducted) final group research projects where we spent several days designing our studies, collecting and analyzing our data, and finally presenting our projects and results to the class.”

We are proud to prepare our students to be tomorrow’s global leaders in research, policy creation, and environmental planning. Join us in investing in tomorrow by supporting QCNR students in experiential international research.

Contribute today:
qcnr.usu.edu/college/giving/experiential_learning

Or send your contribution by check to:
Quinney College of Natural Resources
Utah State University
5200 Old Main Hill
Logan, Utah 84322-5200

We greatly appreciate the generosity of our donors and friends that continue to support tomorrow’s leaders. - Emily
Sad Farewells

Fee Busby

Mike Kunhs

Dr. Fee Busby, one of QCNR’s most popular and effective teachers, retired this summer after 26 years at USU as a range extension specialist, a Dean, and finally as a professor in Wildland Resources who reached a large number of our students. A plaque now is affixed to a post in our atrium above the table that he usually sat at when he met with students. It says “On this spot Dr. Fee Busby helped hundreds of natural resources students find their direction by talking and listening (and laughing)” (the latter referring to his loud and distinctive laugh that made it easy to know where he was). His face is etched on the plaque in an “I want YOU” Uncle Sam pose, framed by two favorite range plants, bitterbrush and side oats grama. Those plants signify his long-time passion – rangeland plant identification, that many students learned from him as they prepared to compete at local and national SRM meetings. We are now going through our first semester without Fee’s teaching and his laughter, and we miss him.

Good Luck Brendan

Dr. Brendan Murphy, a post-doctoral research associate in Patrick Belmont’s lab, is leaving us to begin a new stage in his career as an Assistant Professor of Watershed Sciences in the new School of Environmental Science at Simon Fraser University in British Columbia. Brendan was an exceptional post-doc at QCNR serving as a principle investigator on an NSF award to develop modeling tools to assess post-fire sediment dynamics to inform land use managers. Dr. Murphy was also first author on an influential paper published in Earth’s Future describing how our narrow historical perspectives on wildfire has contributed to our underestimation of future fire risks. We wish Brendan well in his new pursuits and look forward to following his career.
Nov 9: Un-Logger’s Ball, 7PM - The Cache Venue

Nov 25: QCNR Award Nominations Open

Dec 11: QCNR Holiday Party, 4PM - NR Atrium

Dec 1 - Jan 10: Scholarship Applications Due

March 30 - April 4: NR Week

April 18: QCNR Awards Banquet

For details on these and other upcoming events please visit:

www.qcnr.usu.edu