

University of Wyoming – National Park Service Research Station

42nd Annual Report, 2019



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2019 UW-NPS Research Station Personnel

Michael Dillon, Director
Brian Barber, Guest Director
Bonnie Robinson, Office Manager
Shawna Wolf, Office Assistant
Gordon Richman, Facilities Superintendent
Bruce Cameron, Facilities Staff
Ben Read, Facilities Staff
Anna Cressman, Summer Staff
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2019 Proposal Review Committee

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Center for Resources
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Hillary Robinson, Deputy Chief
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Yellowstone National Park

Director's Column

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During the period of this report the University of Wyoming-National Park Service (UW-NPS) Research Station supported and administered research in the biological, physical and social sciences and cultural resources performed in national parks, national forests and surrounding areas in the Greater Yellowstone Ecosystem. The UW-NPS Research Station solicited research proposals from university faculty, governmental research scientists and non-governmental research organizations throughout North America via a request for proposals. Research proposals addressed topics of interest to National Park Service scientists, resource managers, and administrators as well as the academic community. Studies conducted through the Station dealt with questions of direct management importance as well as those of a basic scientific nature.

The Research Station continues to administer a small grants program to fund research addressing applied and basic scientific questions, often related to park management. Research proposals are reviewed and evaluated by the Research Station's proposal review committee, which is composed of University faculty and National Park Service representatives and is chaired by the Director of the UW-NPS Research Station. Research contracts are usually awarded by early April.

The UW-NPS Research Station operates a field station facility at the AMK Ranch on Jackson Lake in Grand Teton National Park. The Research Station provides researchers in the biological, physical and social sciences and cultural resources an enhanced opportunity to work in the diverse aquatic and terrestrial environments and the cultural resources of Grand Teton National Park, Yellowstone National Park and the surrounding Greater Yellowstone Ecosystem. Station facilities include housing for up to 60 researchers, wet and dry laboratories, a library with internet access, boats, and shop facilities. The research station is available to researchers working in the Greater Yellowstone Ecosystem regardless of funding source, although priority is given to individuals whose projects are funded by the Research Station.

A summary of the 2019 users and activities at the Station is included below. Additional information about the UW-NPS Research Station, including the current year's Request for Proposals, housing and facilities request forms, summaries of past and current research, upcoming seminars and other events, and location information, can be found at the station's web site: <http://uwnps.org/>.

Availability of Research Project Reports

The following project reports have been prepared primarily for administrative use. The information reported is preliminary and may be subject to change as investigations continue. Consequently, information presented may not be used without written permission from the author(s). Reports from past research at the Research Station are available online. For reports 1954, go to the Jackson Hole Research Station Archives (<https://journals.uwyo.edu/index.php/jhrs/issue/archive>), and for reports 1977-present, visit the UW-NPS Research Station Archives (<https://journals.uwyo.edu/index.php/uwnpsrc/issue/archive>).

2019 UW-NPS Research Station Users and Activities Summary (2,245 total user days)

NOTE: Due to construction the station was only open for a partial season

▲ Funded by the UW-NPS seed grants program

★ Direct impact on UW: direct involvement of UW faculty or students

■ Direct impact on WY: direct involvement with or addressing priorities of state agencies

Research projects with residence at the station

27 research teams from 1 to 52 researchers studying diverse topics such as Photography, Geology, Ecology, and History from UW, and 16 other colleges, universities, high schools and federal and state agencies – 1,199 user days

- ★ University of Wyoming – Small Mammal Response to Fire – 10 researchers – 70 days
- ★ University of Wyoming – Landscape Photography – 5 researchers – 10 days
- ★ University of Wyoming – Monitoring Snake River Cutthroat Trout – 4 researchers – 162 days
- ★ University of Wyoming – Long-term Avian Monitoring Pilot – 4 researchers – 8 days
- ▲★ University of Wyoming – Bedrock Seismic Testing – 2 researchers – 8 days
- ★ University of Wyoming – Limnology/Stream Ecology – 2 researchers – 18 days
- Boise State University – Bats and Light Pollution – 9 researchers – 154 days
- ▲ Brandeis University – Live and Historical Context of John Dudley Sargent and his Family – 1 researcher – 4 days
- Clayton High School & Illinois State University – Behavioral Ecology of Research Crickets – 6 researchers – 78 days
- Colorado State University – Pollinators – 52 researchers – 79 days
- Colorado State University – Pollinator Hotshots – 4 researchers – 40 days
- Frostburg State University – River Otter Research – 3 researchers – 15 days
- Idaho State University – Teton Fault Geomorphology – 4 researchers – 60 days
- ▲ Idaho State University – Landslide Mapping – 2 researchers – 4 days
- Idaho State University – Teton Fault Trenching – 1 researcher – 2 days
- Leave No Trace Center for Outdoor Ethics – Attitudes and Behaviors Regarding Waste in National Parks – 4 researchers – 40 days
- Montana State University – Butterfly and Plant Conservation Under Environmental Pressures – 10 researchers – 197 days
- Montana State University – Climate Change and Pollinators – 4 researchers – 54 days
- National Park Service – Colter Bay Lighting Upgrade – 2 researchers – 26 days
- Princeton University – Impact of Human Use on Mammalian Species Habitat in the Greater Yellowstone Ecosystem – 1 researcher – 33 days
- ▲ SUNY Brockport – Concessions at GTNP – 2 researchers – 21 days
- United States Department of Agriculture – White Nose Syndrome in Brown Bats – 3 researchers – 3 days
- University of Colorado Boulder – Changing Riverscapes: Understanding Carbon Dynamics in River Floodplains – 3 researchers – 6 days
- University of Wisconsin-Madison – Fire Ecology – 2 researchers – 6 days
- University of Wisconsin-Madison – Fuels Map for Grand Teton NP – 3 researchers – 51 days
- US Geological Survey – Fisheries Research with Yellowstone Cutthroat Trout – 1 researcher – 1 day
- ▲ Utah State University – Forecasting Eco-Evolutionary Dynamics in the Northern Blue Butterfly (*Lycæides Idas*) – 4 researchers – 40 days

Classes and field research courses

8 classes in Geology, Public Land Management, Ecology, Visual Arts, and Photography from UW, and 6 other universities and community colleges – 745 user days

- ★ University of Wyoming, Haub School – Public Land Management Law and Policy – 26 students/3 instructors – 377 days
- ★ University of Wyoming Visual Arts Department – Outdoor Studio – 13 students/1 instructor – 56 days
- Chadron State College – Geology Field Camp – 10 students/2 instructors – 36 days
- Laramie County Community College – Geology of the Grand Tetons and Yellowstone National Parks – 13 students/2 instructors – 90 days
- Oklahoma City University – Ecology of Greater Yellowstone – 8 students/2 instructors – 60 days
- University of Nebraska – Lincoln – Geoscience Pedagogy – 17 students/3 instructors – 40 days
- University of Arkansas at Little Rock – Field Ecology – 8 students/1 instructor – 18 days
- West Virginia University – Photography/Environment – 14 students/3 instructors – 68 days

Workshops and meetings

3 workshops and meetings on high altitude exercise, linguistic anthropology, and animal transplantation for the University of Wyoming – 100 user days

- ★ University of Wyoming – High Altitude Exercise Effects – 69 days
- ★ University of Wyoming – Linguistic Anthropology in Primary Education – 20 days
- ★ University of Wyoming – Animal Transplantation – 11 days

Interns resident at the station

2 interns co-funded by UW and GTNP and selected competitively for work with GTNP staff, and 1 guest intern working on environmental data – 127 user days

- EDI, Environmental Data Initiative – 36 days
- ▲■ GTNP/UWY – Cultural Resources in Science & Resource Management Division – 67 days
- ▲■ National Park Service – Human Dimensions of Natural Resources – 25 user days

Residencies

3 residencies in writing and music composition from UW and Idaho State University – 60 user days

- ★ University of Wyoming – Writing: Environmental/Nature Writing – 29 days
- ★ University of Wyoming – Music Composition: Extremophiles – 30 days
- Idaho State University – Writing: The History of Mountain Guiding in the Park – 1 day

Harlow Summer Seminars – UW-NPS Research Station at the AMK Ranch

Weekly seminars and special events from mid-June to mid-July with a \$5 donation for a BBQ dinner followed by a seminar – 4 events in 2019 drew an average audience of 95 members of the general public from the Jackson Hole/Greater Yellowstone Area

- ***The Bees Just Keep Coming! Adventures with the Migrating Giant Honey Bees of Thailand***
Will Robinson, Casper College, Casper, WY (June 13)

■ **AMK Research Expo**

Simone Durney, Kurt Fristrup, Jeff Baldock, Anna Cressman, Craig Garzella, Hunter Cole; researchers housed at the AMK (June 20)

■ **For Everything There Was a Season – Retracing Craighead’s Footsteps to Track Phenology Shifts in the Tetons**

Trevor Bloom, The Nature Conservancy, Lander, WY; Northern Rockies Conservation Cooperative, Jackson, WY (June 27)

■ **How Wyoming’s Big Game Make their Epic Migrations**

Jerold Merkle, University of Wyoming, Laramie, WY (July 11)

Outreach

3 outreach areas in tours, facilities use, and OBFS – 141 day visitors

Organization of Biological Field Stations, Auction winner – July 1-5

- Day visitors – Tours, facilities day use (Meetings, boats)