Jerry O’Neal National Park Service Student Fellowship  
Applications are now being accepted for the Jerry O’Neal Fellowship for work in Glacier National Park, Grant-Kohrs Ranch NHS, and Little Bighorn Battlefield NM. The fellowship aims to provide educational assistance for students seeking to understand natural and cultural resources issues and how these interact with human values. Special consideration will be given to proposals that address the following:

1. natural resource issues such as aquatic ecology, terrestrial ecology, fire ecology, invasive plants, and climate change  
2. cultural resource issues, such as history and architectural studies, cultural landscape reports, ethnographic research and archeology  
3. social science that informs resource management about a natural or cultural topic and/or that addresses visitor impacts to park resources

Competition is open to graduate students or superior upper division undergraduate students at RM-CESU universities and colleges only. Awards range from $1000-5000. Applications must be submitted electronically by February 17, 2015. For details on the application process please visit http://www.cfc.umt.edu/CESU/files/Announcements/ONeal_announcement_15.pdf

Boyd Evison Student Fellowship for research in the Greater Yellowstone
The Grand Teton Association offers a fellowship of up to $10,000/project for graduate studies in the Greater Yellowstone Ecosystem, including Grand Teton and Yellowstone National Parks, the John D. Rockefeller, Jr., Memorial Parkway, and surrounding lands. Emphasis areas are lesser-known ecosystem elements such as air and water; geologic or other processes; plants, insects, reptiles, amphibians, fungi; natural soundscapes; and social science related to public understanding of natural resources use or management.

Graduate students pursuing either a Master's or Doctoral degree are invited to submit proposals on the application form by February 13, 2015.
NPS Cultural Resource Specialist, Pei-lin Yu, moves on Boise State University  Dr. Pei-Lin Yu served as the RM-CESU Cultural Resource Specialist with the National Park Service at the University of Montana for almost five years. She took a new position on the faculty of the Department of Anthropology, Boise State University beginning in August 2014. Pei-Lin is an archeologist who served the parks of the Intermountain Region and beyond in getting research and technical assistance done with our RM-CESU partner universities and colleges. While at the RM-CESU she was most influential in putting together a consortium of researchers and outreach specialists from the University of Colorado Boulder, University of Wyoming, Salish Kootenai College, and two tribes (Blackfeet and CSKT) on a climate change project in Glacier National Park. She facilitated a number of archeology field schools in parks of the Rocky Mountains, including field experiences for native students. In her new position she is enjoying teaching large archeology survey courses and specialized graduate seminars. She plans to start field work in 2015 on the archeology and anthropology of peoples of Taiwan. She will continue to work with the RM-CESU by participating in an "outreach" trip to some of our new tribal college partners. And, with any luck, she may be able to convince the folks at Boise State University to join the RM-CESU.


A number of projects facilitated through the RM-CESU agreement were represented in the oral and poster sessions, included presentations on the social science behind grizzly bear management in Yellowstone, fire history of Jackson Hole, ice patch archeology field investigations in the Greater Yellowstone, and a number of presentations on the ecological implications of climate change in the Greater Yellowstone ecosystem.

In addition to concurrent oral sessions and an afternoon poster session, the meeting was unique in presenting manager and scientist panel discussions to allow for the sharing of management perspectives on the use of science. The featured speaker on Tuesday evening, giving the A. Starker Leopold Lecture, was Dr. Monica Turner, University of Wisconsin, on the topic of "Fires and Beetles and Climate, Oh My!, Science, Management and Conservation in Yellowstone." Dr. Turner and her colleagues have followed the changes in Yellowstone’s terrestrial ecosystems since the 1988 fires. For more information about all of the keynote speakers at the conference, please go to  http://www.nps.gov/yell/parkmgmt/12th-biennial-keynote-speakers.htm


Photos from the conference can be seen at http://www.nps.gov/yell/parkmgmt/upload/conference-photo-collage.pdf
Colorado State University Team works with Natural Sounds scientists in the National Park Service to accomplish Acoustic Research through the Rocky Mountains CESU

Elk, owls, coyotes, and snowmobiles all can be heard on the Colorado State University campus lately. The sounds are coming from a listening laboratory where students participate in a research project being jointly conducted by CSU and the National Park Service to analyze acoustic data recordings to inform management of national parks across the country.

This RM-CESU partnership allows the NPS to get more data analysis done, while providing an educational experience for students and research associates at CSU.

“Sounds, or the lack of them, play a significant role in visitor experiences and wildlife behaviour in parks,” said Cecilia White, a CSU research associate for the project. “Acoustic research is a growing field in natural resources sciences and has a variety of important applications from conservation to tourism.”

CSU is collaborating with the NPS Natural Sounds and Night Skies Division (NSNSD), headquartered in Fort Collins, CO to study detailed park audio recordings that provide valuable clues to wildlife and human park activity and their interactions. The audio data are collected through recording systems that are installed by NSNSD in selected parks for about a month at a time. Information on the NSNSD projects can be found at http://www.nature.nps.gov/sound/index.cfm

NSNSD is part of the Natural Resource Stewardship & Science Directorate of the NPS and uses science, engineering, and technology to understand, restore, maintain, and protect acoustical environments and naturally dark skies throughout the National Park System. The CSU researchers currently involved with the program are Ken Wilson, George Wittemyer, and Kevin Crooks with the Department of Fish, Wildlife, and Conservation Biology, and Lisa Angeloni with the Department of Biology. Engineering aspects of sound detection and recording have made use of CSU’s expertise in the Department of Electrical and Computer Engineering, through work with Mahmood Azimi-Sadjadi.

For more details on the park projects and to hear some audio clips, please go to http://warnercnr.colostate.edu/fwcb-news-and-events/news-headlines

Task agreement information for projects with CSU can be viewed at http://www.cfc.umt.edu/cesu/Projects/NPS/default.php
PARTNER NEWS & EVENTS

Announcements:

Montana State University: Highway administration selects MSU’s Western Transportation Institute to lead new centers The Western Transportation Institute at Montana State University has been awarded two grants from the Federal Highway Administration to establish and lead two new transportation centers. The two major federal grants will establish new centers for training, education, research and workforce development.

“The Western Transportation Institute is a leader in cutting edge transportation research,” said Sen. Jon Tester. “I am pleased WTI won these awards to make our roads safer and train the next generation of transportation workers.”

Now in its 20th year, WTI is part of the MSU College of Engineering and is the nation’s largest federally sanctioned university transportation center focused on rural transportation issues.

“We are pleased that the Western Transportation Institute will take a nationally prominent role in saving lives in rural America, as well as training the current and future transportation workforce,” said Steve Albert, WTI executive director.

With $4.8 million over four years in federal funding and support from partner organizations, WTI will lead and house the new Rural Safety Center for Excellence. The center will offer training, technical support and information to transportation practitioners around the country, with the ultimate goal of helping them reduce serious injuries and fatalities on the roads that they manage. Read more here: http://www.montana.edu/news/15280/highway-administration-selects-msu-s-western-transportation-institute-to-lead-new-centers

University of Wyoming: UW Researchers Secure NSF Grant to Research Night Storm Behavior University of Wyoming atmospheric science researchers recently secured a $1.15 million National Science Foundation (NSF) grant to study storms that occur at night in the southern Great Plains.

Bart Geerts, a UW professor in the Department of Atmospheric Science, will lead the Plains Elevated Convection at Night (PECAN) project that involves 14 universities and eight research labs across the country and internationally. Zhien Wang, a UW professor of atmospheric science and the Templeton Faculty Fellow, and Tom Parish, a UW professor and department head of atmospheric science, will serve as co-principal investigators of the research project.

The research will be conducted in Kansas, Nebraska and Oklahoma during June and July 2015, and will deploy King Air, UW’s research aircraft that is equipped with radar and lidar. In addition to funding King Air ($400,000) for those two months, the grant will pay for research, salaries, travel and publications ($750,000) during the next three years,
says Geerts, who will head the project with David Parsons, director of the School of Meteorology at the University of Oklahoma.

The overall $10.2 million project, funded primarily by NSF, also involves participation from the National Oceanographic Atmospheric Association (NOAA), NASA and the Department of Energy (DOE). Read more: http://www.uwyo.edu/uw/news/2014/12/uw-researchers-secure-nsf-grant-to-research-night-storm-behavior.html

**National Park Service: Park Science volume 31(1) Special Issue 2014 is now available online**

*Park Science* volume 31, number 1, focuses on biological diversity discovery, science, and management. In general articles are about bioblitzes, all-taxa biodiversity inventories, nonvascular plant and invertebrate inventories (including pollinators), cultural site biodiversity, technology applied to bioblitzes, and bioblitz- or biodiversity-related social and physical science research. It is well illustrated and, at 124 pages, is the longest issue in the 34-year history of *Park Science*. [http://www.nature.nps.gov/ParkScience](http://www.nature.nps.gov/ParkScience)

**Grand Teton's Sue Consolo-Murphy Earns Prominent Award for Work as Natural Resource Manager** National Park Service Director Jon Jarvis announced that Sue Consolo-Murphy, chief of Science and Resource Management at Grand Teton National Park, was selected as recipient of the 2013 Director's Award for Natural Resource Management. This recognition acknowledges excellence in the areas of conservation leadership and resource management and salutes individual accomplishments in natural resource preservation by Park Service Employees across the Nation Park System.

Consolo-Murphy was presented with the 2013 Director's Award for her oversight of complex natural resource programs and for her work in an environment of focused concerns for key park resources. Consolo-Murphy, who in 2008 was the NPS Intermountain Region’s winner in the same category, was recognized again at the regional and now nation level for her work in four key resource areas:

- Restoration of aquatic and terrestrial ecosystems in Grand Teton
- Innovative use of partnerships to get research and resource management projects completed
- Support of ecosystem-level monitoring and resource management through work with four significant cooperator: the Greater Yellowstone Inventory and Monitoring Network, Greater Yellowstone Coordinating Committee, Interagency Grizzly Bear Committed and Great Northern Landscape Conservation Cooperative
- Groundbreaking resource management in climate change research, adaptation planning and communication and social science.

Consolo-Murphy is also universally recognized by her peers as a consummate professional, supportive mentor, and ardent advocate for resource stewardship.

**New NPS Wilderness Chief Selected** Roger Semler has been named the chief of the Wilderness Stewardship Division in WASO. He succeeds Garry Oye, who retired last July.

The person in this position is recognized as the National Park Service wilderness policy and management expert, and is the principal advisor to the director for decisions affecting the 44 million acres of lands managed as wilderness in the National Park Service system.
“We’re excited to have Roger join the team here in WASO,” said Associate Director for Visitor and Resource Protection Cam Sholly. “As we celebrate the 50th anniversary of the Wilderness Act, I’m confident that Roger has the right blend of experience to take this program to the next level.”

Semler had been the assistant administrator and chief of operations for Montana State Parks, where he was responsible for overseeing operations in 56 state parks with a staff of 100 employees. He previously worked in numerous NPS assignments at the park and regional levels, including chief of operations in Gates of the Arctic National Park and Preserve, wilderness manager in Glacier National Park; and positions as a district or subdistrict ranger managing wilderness. He also served as the NPS Leave No Trace coordinator from 1994 to 2000, and is a past recipient of the Director’s Wilderness Stewardship Award (1998).

“It is an honor to be selected for this job and return to the NPS,” said Semler. “I’m looking forward to working with the great NPS team and the many partners and stakeholders that make wilderness stronger for the future.”

Semler also had experience managing wilderness policy and issues for several non-governmental organizations and has managed parks and outdoor recreation programs as a regional park manager for the State of Montana.

Semler has a bachelor’s degree in geology from Western State College in Gunnison, Colorado. He begins his duties in WASO in January.

**Calendar of Events:**

**March 4-5, 2015:** Rocky Mountain National Park’s Continental Divide Research Learning Center Biennial Research Conference “Honoring the past, celebrating the present, and inspiring the future.” Estes Park, CO. [http://www.nps.gov/rlc/continentaldivide/research-conference.htm](http://www.nps.gov/rlc/continentaldivide/research-conference.htm)

**March 17-19, 2015:** 2015 Crown Managers Partnership Forum -Climate, People & Invasive Species: Taking Collective Action to Assure Trans-Boundary Landscape Health in the Crown of the Continent Ecosystem, Lethbridge Alberta. The Crown Managers Partnership (CMP) is a voluntary multi-jurisdictional, trans-boundary partnership formed in 2001 by a collection of agencies seeking to demonstrate leadership in addressing the environmental management challenges in the Crown of the Continent region. The annual CMP Forum is an opportunity for participants to share information and explore opportunities for improved interagency cooperation. [www.crownmanagers.org](http://www.crownmanagers.org)

**TRAINING AND COURSE OPPORTUNITIES**

University of Montana offers online course - Managing Recreation Resources in Wilderness

PTRM 407 Management of Recreation Resources (3 credits Undergraduate) and PTRM 562 Managing Recreation Resources in Wilderness Settings (3 credits Graduate) will be offered online with a facilitated discussion group led by instructor Kari Gunderson. Invited guest instructors may include Carhart Wilderness Training Center staffs, academics, and working wilderness managers. The online format enables students to work through the course efficiently while benefiting from discussion with other students, agency managers, and academics.

This course examines recreation management in a wilderness setting. Upon successful completion of this course, students will understand wilderness management strategies to address visitor use, visitor experiences, measuring and monitoring biophysical and social impacts, communicating effective wilderness education, interpretation, information, and conceptual approaches to communication, search and rescue protocol, and law enforcement.
**Dates:** February 2 thru May 22, 2015  
**Registration deadline:** Wednesday, January 21, 2015. There course will be capped at 16 students needs 8 students to run. Register early to reserve a spot. For more information (course objectives, costs, books), please visit [http://wmdep.wilderness.net/407_562.htm](http://wmdep.wilderness.net/407_562.htm)

**Water in the West Coursera A MOOC Course**  
Announcing a Coursera Massive Open Online Course (MOOC) on "Water in the Western United States." This is a general, basic college-level survey of the topic, with an emphasis on the Colorado River Basin and on relevant climate science.

Anyone who is interested can learn more can sign up here: [https://www.coursera.org/course/waterwestus](https://www.coursera.org/course/waterwestus)

If you’re not familiar with MOOCs, they are completely free to take and require nothing more than an internet connection. After signing up, you are not obliged to take the entire course (or even start it), although we’d certainly appreciate it if you did!

Note also that this course was announced by the White House as one of numerous efforts developed in response to their "Climate Education and Literacy Initiative (see p. 5 of the fact sheet here: [http://www.whitehouse.gov/sites/default/files/microsites/ostp/climateed-dec-3-2014.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/climateed-dec-3-2014.pdf)).

**FUNDING OPPORTUNITIES**

**Deadline for the 2014 Whitebark Pine Student Research Grant EXTENDED.** We know you’re out there … students working on whitebark pine … so why didn’t you submit a proposal to the Whitebark Pine Ecosystem Foundation (WPEF) for our Student Research Grant? We did not receive any requests for funding before our deadline, so we have EXTENDED the deadline to **January 30, 2015**.

The mission of the WPEF is to "promote the conservation of whitebark pine and other high elevation five needle white pine ecosystems through education, restoration, management, and research." In support of this mission, the WPEF offers an annual research grant of $1000 to either an undergraduate student who is writing a thesis or graduate student (MS or PhD) conducting research on whitebark pine. Relevant areas of research include, but are not limited to: threats to whitebark pine, including mountain pine beetle, white pine blister rust, successional replacement, and climate change (only in whitebark ecosystems); interactions with wildlife, such as Clark’s nutcracker or other birds, red squirrels and bears; restoration strategies for whitebark pine, including both field operations and nursery seedling production; and ecosystem level impacts of whitebark pine die-off.

Monies can only be used for travel expenses for field work, or consumable research supplies. Grants shall not be used to buy equipment that will be used beyond the duration of the project (and thus would be retained by the lab in which the student works).

Please submit a short (two single-spaced pages at most, not including references) proposal covering:

1. The purpose and need for the research.
2. A brief description of the study plan and methods, including expected dates of data collection and thesis completion.
3. Expected outcomes of the research.
4. A brief explanation of how the money will be spent.
5. Contact information and academic affiliation of the student.

In addition to the proposal, applications should include a CV as well as a letter of recommendation from the student’s research advisor.
Grant recipients will be expected to publish a summary of their research in a future issue of Nutcracker Notes, and are encouraged to present at one of the WPEF annual science meetings. All applicants are encouraged to join the WPEF, and the grant recipient will receive a free subscription to Nutcracker Notes for one year.

Please send application materials (electronic only) to Cyndi.smith9@gmail.com by January 30th, 2015

STUDENT OPPORTUNITIES

Climate Change Youth Leadership Opportunities in the National Park Service

The George Melendez Wright Young Leaders in Climate Change (YLCC) program manages paid internships in which undergraduate or beginning graduate students work for approximately 12 weeks on projects in research, interpretation, park operations, policy development, or other fields. During the internship, students apply critical thinking and problem solving skills to climate change challenges and communicate with diverse stakeholders. Interns who successfully complete the YLCC, an approved Direct Hire Authority Internship program, will be eligible to be hired non-competitively into subsequent federal jobs once they complete their degree program. These jobs would be in the Department of Interior (DOI), NPS, or one of the other bureaus within the DOI. An intern must qualify for the job in order to be hired non-competitively. Applications are accepted from early December 2014 until late January 2015. For more information, visit: http://parksclimateinterns.org/index.php/internships/

2015 Park Break Sessions will Explore Science, Cultural Resources

Are you a graduate student thinking about a career in parks, protected areas, and cultural sites? Park Break is an all-expenses-paid, park-based field seminar for students like you. Park Break puts you in a national park unit for a week’s worth of field and classroom activities in close collaboration with park scientists and scholars, managers and administrators, and partner organizations. Organized since 2008 by the George Wright Society in conjunction with the U.S. Geological Survey and the National Park Service, Park Break is a learning experience that you’ll find nowhere else. Learn more here: http://www.georgewright.org/parkbreak

2015 Selway-Bitterroot Frank Church Wilderness Ranger Internship

The Selway-Bitterroot Frank Church Foundation, in partnership with the U.S. Forest Service and Montana Conservation Corps, will be offering a minimum of six Wilderness Ranger Internship positions in the Selway-Bitterroot and Frank Church-River of No Return Wilderness areas during the summer of 2014 for students enrolled in wilderness management, recreation management or natural resource management academic programs. Application deadline is February 27, 2015. http://www.selwaybitterroot.org/wp-content/uploads/WildernessRangerInternship2015.pdf

Donald G. Willems Scholarship, named for an eminent Montana water professional, is sponsored by the Montana Section of the American Water Works Association, the professional organization of the drinking-water industry. Any Montana university student planning a career in a water field is eligible. Deadline to apply is March 15, 2015. Application information is available from the MTAWWA website http://www.montana-awwa.org/scholarships/

JOB OPPORTUNITIES

Assistant Professor: Natural Resources Science, Haub School of Environment and Natural Resources, University of Wyoming, Laramie, WY (screening will begin 2/20/2015)

Assistant Professor of Freshwater Ecology, Montana State University, Bozeman, MT (screening will begin 2/16/2015)

Assistant/Associate Professor - Director, Institute for Outdoor Recreation and Tourism, Utah State University, Logan, UT MT (screening will begin 2/15/2015)
Assistant/Associate Professor – Water, Department of Civil and Environmental Engineering, Colorado State University, Fort Collins, CO (closes 2/1/2015)

Assistant Professor of the American West, History and Philosophy, Montana State University, Bozeman, MT (screening will begin 1/31/2015)

Assistant Professor in Geosciences, Colorado State University, Fort Collins, CO (closes 1/23/2015)

Post-doctoral Fellow (forecasting the effects of climate change on the distribution and abundance of big sagebrush in order to inform sage grouse management across the Intermountain West), Utah State University, Logan, UT (screening will begin 1/19/2015)

Assistant or Associate Professor - Science Education in Biology, Colorado State University, Fort Collins, CO (closes 1/19/2015)

Assistant Professor - Native American Studies, Montana State University, Bozeman, MT (screening will begin 1/15/2015)

Program Head, Landscape Architecture, University of Idaho, Moscow, ID (screening will begin 1/14/2015)

Assistant Professor Bioinorganic Chemistry, Department of Chemistry and Biochemistry, University of Montana, Missoula, MT (screening will begin 1/15/2015)

Director of Wildlife Biology Program, College of Forestry and Conservation, University of Montana, Missoula, MT (screening will begin 1/15/2015)

For details on job opportunities visit [http://www.cfc.umt.edu/cesu/Postings/Jobs.php](http://www.cfc.umt.edu/cesu/Postings/Jobs.php)

**MEETINGS OF INTEREST**

March 25-27, 2015: **Science for Parks, Parks for Science: The Next Century**, UC Berkeley. The goal of the summit is to envision and contribute to strategies for science for parks and science using parks, for the coming decades. Participants will build on the historic linkage that has continued to grow between NPS and scientists at leading universities and other organizations around the world. [http://www.parksforscience.berkeley.edu/](http://www.parksforscience.berkeley.edu/)


If you would like to post an announcement in the next RM-CESU Newsletter or on the website, please contact the RM-CESU Coordinator at rmcesu@cfz.umt.edu.