Bonderman Field Station at Rio Mesa
THE UNIVERSITY OF UTAH

Winter 2016/2017 Update

Director's Note

As 2016 comes to a close and we set off into 2017, it is nice to look back at some of the news and happenings that have contributed to another successful year at Rio Mesa. The following pages provide just a glimpse of the activity at the field station.

The obvious big news to report this year is our new name! The University of Utah officially took ownership of the Rio Mesa field station property in December of 2015, and in September 2016 the University of Utah Board of Trustees officially approved the name change of the former Rio Mesa Center to the Bonderman Field Station at Rio Mesa. The new name recognizes the generous donation of the property by Mr. David Bonderman, while maintaining the sense of place that current users of the Rio Mesa property have come to identify. Although our name has changed, our mission remains the same: To promote and inspire environmental scholarship on the Colorado Plateau.

We continue to support research and education in the sciences, arts, and humanities. The past few years have seen consistent growth of the user base at the station. In addition to the steady use by University of Utah faculty and students, we see users from several other institutions including, Northern Arizona University, Colorado Mountain College, Western State Colorado University, Colorado Mesa University, Utah Valley University, American International School of Utah, and Salt Lake Center for Science Education, just to name a few. Recent research projects at the station have included work in ornithology, fisheries, anthropology, geology, native/invasive plant interactions, and installation art. We even had a theater researcher develop a play specific to the Rio Mesa property! The range of activities at the station and the community of scholars with ties to the station continues to grow, and we are proud of the unique experience that the Bonderman Field Station at Rio Mesa provides to all visitors.

We look forward to seeing you at the station in the coming year! Please let us know if there is anything we can do to facilitate a visit, or make your time at the Bonderman Field Station at Rio Mesa better.

---Zach Lundeen, Director

Sights and Scenes of Bonderman Field Station at Rio Mesa

View looking east near entrance to Bonderman Field Station at Rio Mesa, October 2016.

New ADA ramp and deck on Deck House, Spring 2016.

One of several new signs in native plant demo garden.

Raised-bed rare plant and pollinator demonstration garden.

Birds caught and banded at the Rio Mesa banding station (courtesy of Sekercioglu Lab).

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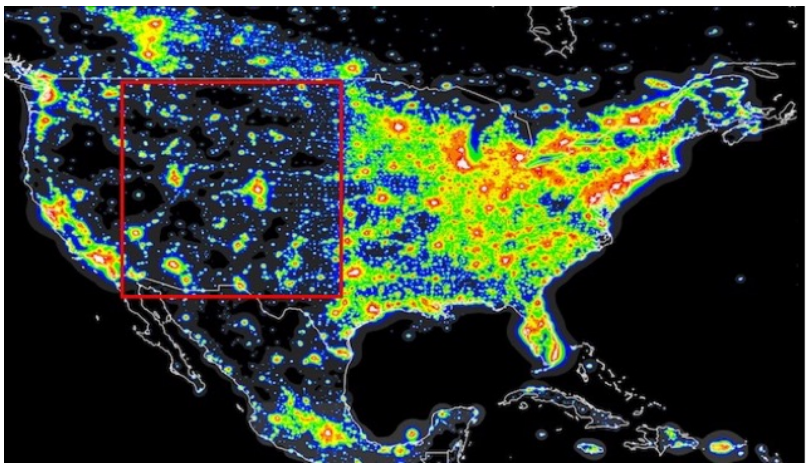
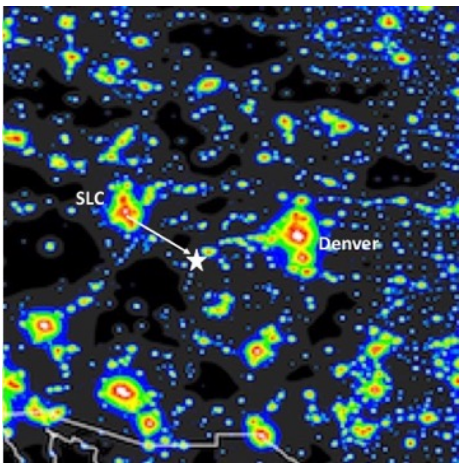
STARGAZING AT RIO MESA

A favorite activity at the Bonderman Field Station at Rio Mesa is taking advantage of the station's lack of light pollution to observe the night sky. We have a new 10" Dobsonian telescope at the station and staff with appropriate training to offer groups the opportunity to identify and view celestial objects with clarity and detail that rivals all but the very best Dark Sky areas in the continental United States. (Photos by James Dumas)

Star on blow up map of light pollution in U.S. (bottom right) indicates approximate location of Bonderman Field Station at Rio Mesa.





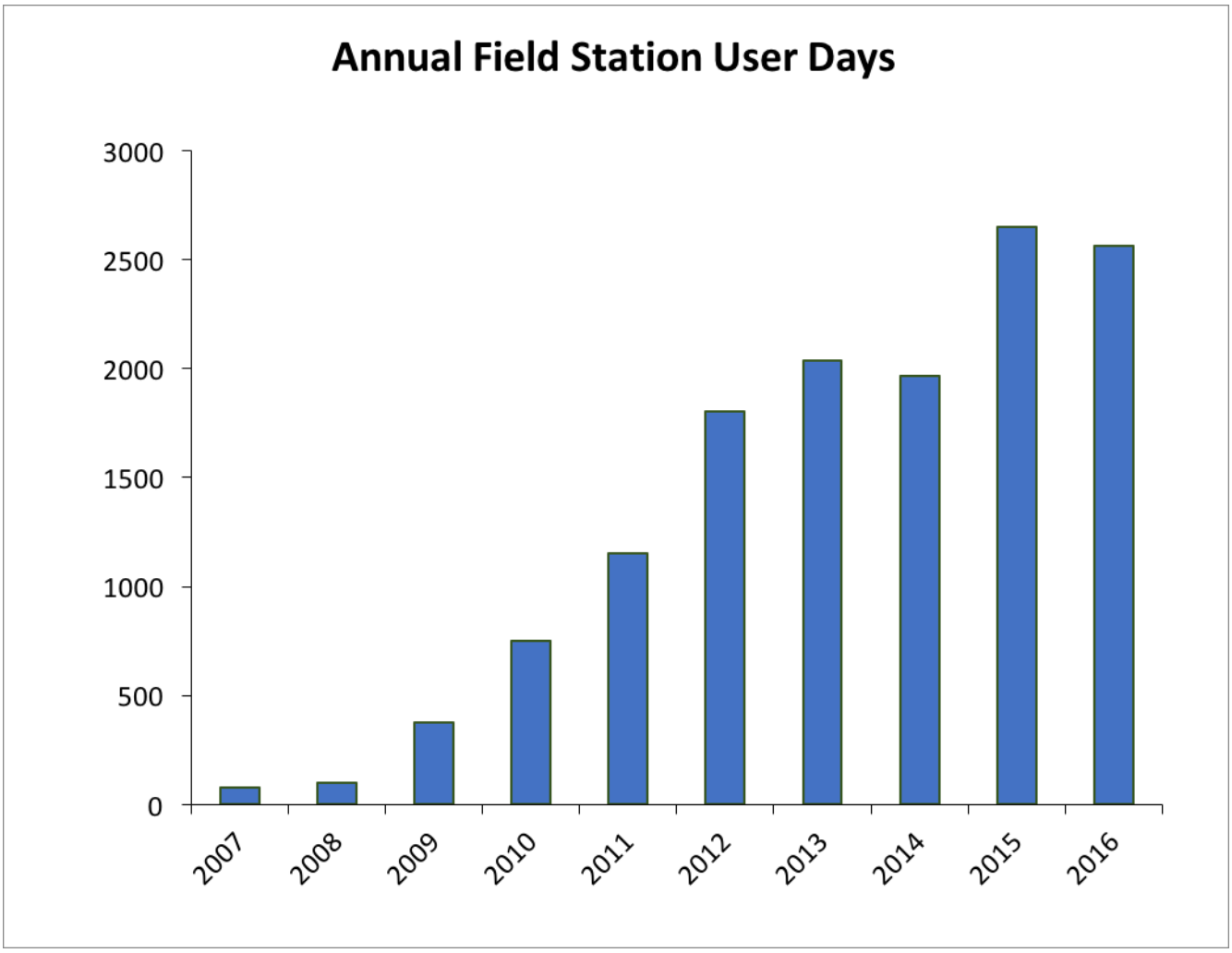
Educational Organizations/Courses in 2016

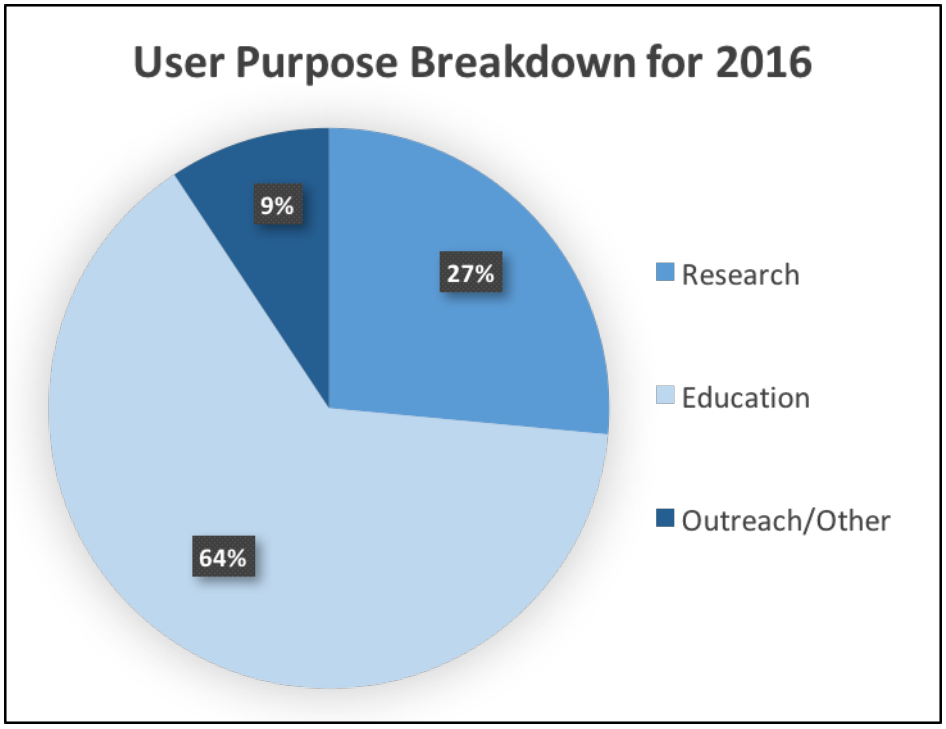
- American International School of Utah
  - Environmental Humanities/Art
  - Environmental Science
- Salt Lake Center for Science Education
  - Environmental Outdoor Explorations Experience
  - AP Environmental Science
- Utah Valley University
  - Honors Colloquium Excursion
- Western Colorado State University
  - Geomorphology
  - Geology Field Experience
- Southwest Conservation Corps
  - Dolores River Restoration Partnership Corps Training
  - Dolores River Restoration Partnership Rapid Monitoring Training
- SOLO Schools
  - Wilderness First-Aid/Wilderness First Responder Certification
- Women's Wilderness Institute
  - Jumping Mouse-Gathering of the Guides
- Colorado Mountain College
  - Restoration Biology
- Northern Arizona University
  - Doris Duke Conservation Scholars Program
- University of Utah
  - Entomology (BIO)
  - Computational Paleobiology (BIO)
  - Biography of an Urban Stream (BIO)
  - Plant Systematics (BIO)
  - Plant Form and Function (BIO)
  - Environmental Humanities Seminar (EHUM)
  - Human Ecology (ANTH)
  - Site, Space, and Environments (ART)
  - First Ascent Scholar Outdoor Recreation Class (BUS)
  - Environmental Studies Capstone (ENVST)

Staff Highlight

Hau Truong (Site Manager)

For most visitors to Bonderman Field Station at Rio Mesa, the first person they will encounter is our Site Manager, Hau Truong. Hau has been with the field station since 2011 and has been instrumental in its success over the last several years. Hau conducts the introductory safety orientation for all groups, assists with group logistics, offers educational discussions and hikes, acts as our onsite emergency first-responder, and oversees the maintenance and operation of the facilities at Rio Mesa on a day-to-day basis, among other things. He is also our resident horse-shoe and volleyball expert… don't let him fool you! Hau's diverse knowledge and skillset are invaluable assets to the station.


Annual Field Station User Days
3000
2500
2000
1500
1000
500
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016


User Purpose Breakdown for 2016
9%
27%
64%
Research
Education
Outreach/Other

2016 Research Awards

Bonderman Field Station at Rio Mesa offers two research award programs, one targeted at undergraduates, and one directed at graduate students and junior faculty at the University of Utah. The Undergraduate Research Fellowships support projects consistent with the mission and values of the field station, from any academic discipline, and provide up to $1000 of funding for undergraduate research projects at Bonderman Field Station at Rio Mesa. The undergraduate awards are distributed to a faculty advisor, but the research is expected to be student led. The Rio Mesa Young Scholar Program, directed at graduate students and junior faculty, provides awards up to $3000 and is offered to help initiate new research at Rio Mesa. Details on both programs, including application materials and deadlines, can be found at www.riomesa.utah.edu.

2016 Undergraduate Research Fellows

Chloe Betts (Biology)

Chloe has been conducting a study using a network of camera traps set up on, and adjacent to the Rio Mesa property to catalog and describe mammal and bird populations in the area.

Brock James (Anthropology)

Brock's project, *"A Novel Application of Modeling Theory to The Study of Toolstone Procurement and Usage in The Dolores River Area*" involves conducting archeological surveys in the area to learn more about where and how stone tools were used by prehistoric human populations in the Dolores River Valley.

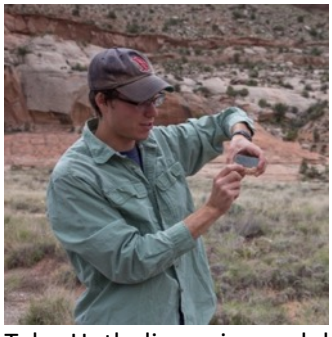
Kali Scott (Theater)

Kali's project, *The Midas Touch: A Narrative Exploration of Humanity's Relationship to the Earth,* Involves the development of an immersive theatrical experience for a Rio Mesa audience. Kali has previously performed at Rio Mesa as part of another theater project, *The In-Between*, developed by former Rio Mesa Young Scholar awardee, Julie Rada.

2016 Rio Mesa Young Scholar Award Recipients

Tyler Huth (Geology)

Tyler is conducting a study of Colorado Plateau paleoclimates using soil carbonates. His project includes collection of carbonate pendants from soils at Rio Mesa, as well as an in depth in-situ monitoring/calibration study of soil and soil gas variables.



Tyler Huth discussing and demonstrating his research for audience at outreach event.

Outreach

A couple of times each year Bonderman Field Station at Rio Mesa hosts weekend outreach events to introduce the University of Utah campus community and the local community from Grand County to the research and education opportunities offered at Rio Mesa, as well as providing opportunity for the recipients of the Field Station research awards to exhibit their work. Typically, attendees of the outreach weekend arrive Friday evening, have dinner and an evening presentation, then enjoy some campfire banter. Saturday, attendees can sign up for three or four 1.5-hour workshops on native plants, entomology, geology, archaeology, art, or other topics (as available), and then after dinner enjoy a night of stargazing. Sunday morning, everyone has breakfast and can either head home, or spend some time hiking and enjoying the solitude of Rio Mesa.

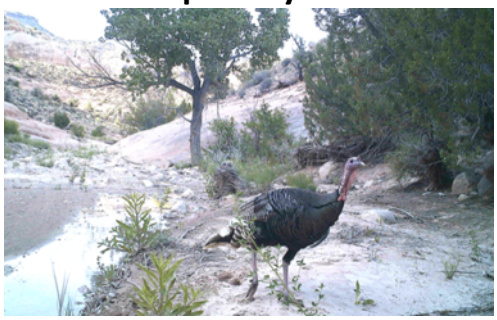
Bonderman Field Station staff also attend events in the Moab community to bring educational opportunities to public and inform them about some of the activities at the station.

Research Highlights

Bird Banding Station

Since 2011, the Çağan Şekercioğlu Lab (University of Utah, Biology Department), in partnership with Bonderman Field Station at Rio Mesa, has operated a bird banding/monitoring station during the spring and fall migration seasons. Weekly reports from the banding station that summarize the numbers and types of birds captured, banded, and observed are posted on the field station website (www.riomesa.utah.edu), along with some fantastic pictures of the feathered friends being studied. The project has been a great outreach tool for Bonderman Field Station at Rio Mesa, and is generating a valuable long-term data set for the scientific community.

Camera Trap Study



Another project being conducted out of the Şekercioğlu Lab is a camera trap survey on the Rio Mesa property, and in the adjacent box canyons. The project work has primarily been conducted by undergraduate research fellowship recipients, Mandy Van Leeuwen and Chloe Betts. A network of approximately 20 cameras has been used to catalog wildlife, determine approximate numbers, and identify specific environments most frequented by the wildlife.

Riparian Tree Garden

Thanks to funding from the BLM's Colorado Plateau Native Plant Program, Bonderman Field Station at Rio Mesa was able to install fencing and irrigation infrastructure to support a 7-acre, 4000-plant study of riparian tree species. The multi-year project is being conducted by research partners at Northern Arizona University, USGS, and the Desert Botanical Garden (Phoenix, AZ). The project's goals are to assess genotype effects on climate adaptation and potential intra-species gender bias in climate stress mortality. The garden infrastructure will also support nested studies of native forbs and grasses.

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The administrative home of Bonderman Field Station at Rio Mesa is the Office of the Vice President for Research (Dr. Andrew Weyrich, VP). Inquiries and comments can be directed to the Field Station Director, Dr. Zachary Lundeen, by phone ((801) 585-3177), or email (z.lundeen@utah.edu). Information can also be found on the web at www.riomesa.utah.edu .

Field Station Staff

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Oscar Duncan	Maintenance Assistant	

Advisory Committee

Lynn Bohs (Biology)
Sylvia Torti (Honors)
Steven Dickman (IACUC)
Amanda Smith (Mechanical Engineering)
Sarah Bush (Biology)
Shane Macfarlan (Anthropology)
Thure Cerling (Geology & Geophysics)
Jeffrey McCarthy (Environmental Humanities)
Wendy Wischer (Art)
Alice Whitacre (Legal Counsel)