**CURRICULUM VITAE**
University of Idaho

**NAME:** Karla Corrinne Bradley Eitel **DATE:** 1/25/2019

**RANK OR TITLE:**
Research Associate Professor
Director of Education, McCall Outdoor Science School

**DEPARTMENT:** Natural Resources and Society
**OFFICE LOCATION AND CAMPUS ZIP:** McCall Field Campus, 83638

**OFFICE PHONE:** (208) 301-4794
**EMAIL:** keitel@uidaho.edu
**WEB:** www.uidaho.edu/cnr/moss

**DATE OF FIRST EMPLOYMENT AT UI:** 2009

**DATE OF TENURE:** untenured

**DATE OF PRESENT RANK OR TITLE:** 2015

**EDUCATION BEYOND HIGH SCHOOL:**

**2003 – 2007** **Ph.D.:** Natural Resources, Department of Conservation Social Sciences, University of Idaho, Moscow, Idaho
**Advisors:** Dr. Steve Hollenhorst (Major), Dr. Charles Harris, Dr. James Gregson, Dr. John Haskin
**Focus:** Curriculum theory for the preparation of environmental educators; place-based pedagogies; philosophies of education; qualitative research methods
**Dissertation:** Curriculum theory in four graduate residencies for the preparation of environmental educators: a critical philosophical inquiry

**2007 – 2008** **M.Ed.** Curriculum and Instruction, Department of Curriculum and Instruction, University of Idaho, Moscow, Idaho
**Advisor:** Dr. Jerine Pegg
**Focus:** Assessment and evaluation in field science education
**Project:** The development of an authentic assessment tool for the McCall Outdoor Science School

**2002 – 2003** **M.S.:** Department of Conservation Social Sciences, University of Idaho, Moscow, Idaho
**Advisors:** Dr. Charles Harris (Major), Dr. Keith Russell, Dr. Steve Hollenhorst and Dr. Tom Trotter
**Focus:** Program Evaluation for Residential Environmental Education; pedagogy of place-based education and field-science education.
**Thesis:** An evaluation of the Beverly Johnson Leadership Project at Teton Science School

**2001 – 2002** **Academic Certificate:** Environmental Education, Teton Science Schools, Jackson, Wyoming; 30 graduate credits through Utah State University.
**Focus:** Pedagogy of place-based education; curriculum design; field ecology and place-based science education.

**1991 – 1995** **B.A.** Studio Art (Highest Honors) and American Studies, *cum laude*
Williams College, Williamstown, Massachusetts
**Focus:** sculpture and installation art, critical theory, 20th century art, architecture and

popular culture

**EXPERIENCE:**

| | |
|---|---|
| 2003 – present | **Director of Education**, McCall Outdoor Science School, University of Idaho |
| 2015 – present | **Research Associate Professor,** Natural Resources and Society, University of Idaho |
| 2009 – 2015 | **Research Assistant Professor**, Conservation Social Sciences, University of Idaho |
| 2007 – 2009 | **Instructor**, Conservation Social Sciences, University of Idaho |
| | **Program Evaluation Specialist**, Palouse-Clearwater Environmental Institute |
| 2003 – 2007 | **Graduate Teaching Assistant**, Conservation Social Sciences, University of Idaho |
| 2003 – 2005 | **Crew Leader,** Student Conservation Association, Alaska and Idaho |
| 2001 – 2002 | **Field Instructor,** Teton Science Schools, Jackson, Wyoming |
| 2000 – 2001 | **Field Leader**, AmeriCorps Member, NorthWest Youth Corps, Eugene, Oregon |
| 1999 – 2000 | **Assistant Site Supervisor**, AmeriCorps Member, Portland Habitat for Humanity, Portland, Oregon |
| 1995 – 1999 | **Associate Director**, Works of Art for Public Spaces |

**TEACHING ACCOMPLISHMENTS:** (Academic and Extension teaching)

**Areas of Specialization:** Culturally responsive STEM education, STEM Identity, environmental education, field-science education, place-based education.

**Current Courses Taught:**

NRS 562 Field Science Teaching, Fall, 2003 – present (2 credits)
NRS 563 Place-based Education, Fall, 2003 – present (3 credits)
NRS 564 Teaching EE in a Winter Environment, 2017 – present (2 credits)
NRS 567 Teaching Practicum in EE, Fall, 2003 – present (2 credits)
NRS 568 Teaching Practicum in EE, Spring, 2007 – present (2 credits)
NRS 569 Teaching Practicum in EE, Summer, 2009 – present (2 credits)
NRS 505 PD: Environmental Education, Fall, Spring and Summer, 2009 – present (var. credits)
ENVS 101 Environmental Science (3 credits), 2012 - present
ENVS 102 Field Experiences in Environmental Science, 2012 - present (1 credit)

**Past Courses Taught:**

CSS 505 PD: Adventures in Bioenergy – present (var. credits)
CSS 505 PD: Adventure Learning through Water and MOSS, Summer, 2012 – present (2 credits)
CSS 504 Special Topics: Social Science Research Methods, Spring 2015 – Spring 2016 (2 credits)
CSS 559 Seminar: Proposal Development, Spring, 2013 – Spring 2016 (1 credit)
CSS 566 Advanced Field Ecology Course Design, Spring, 2013 – 2015 (5 credits)
CSS 561 Ecological Inquiry, Spring, 2007 – 2012 (2 credits)
CSS 491 Wilderness Leadership for Personal Growth, Spring, 2005 (3 credits)

*Teaching Assistant*

CSS 304 Field Studies in Conservation Social Science (Spring 2004,2005,2006)
CSS 572 Human Dimensions of Restoration Ecology (Spring 2004)

**Students Advised:**

University of Idaho—USGS-MOSS PhD Climate Communication Fellows
Caitlin Rushlow (2016)
Ben Soderquist (2016)
Karie Boone (2017)
Ileana Freytes-Ortiz (2017)
Mark Robbins (2017)

Major Advisor

| | |
|---|---|
| *Active* | Carter, Marcie (PhD) |
| | Smith, Hannah (PhD) |
| | Franke, Oliviah (MS) |
| | Branigan, Emily N. (MNR) |
| | Bullock, Kelsey A. (MNR) |
| | Drake, Zachary T. (MNR) |
| | Griffith, Alexander F. (MNR) |
| | Hudson-Heck, Ellen A. (MNR) |
| | O'Leary, Casey R. (MNR) |
| | Stewart, Hannah B. (MNR) |
| *Graduated* | |
| *Summer 2019* | Uh, Christina (MS) |
| | White Temple, Ethan (MS) |
| | Sirois, Hannah (MNR) |
| | Hurshman, Kelsee (MNR) |
| | Fisher, Sarah (MNR) |
| | Campbell, Leslie (MNR) |
| Summer 2018 | |
| | Carron, Amanda (MS) |
| Fall 2017 | Goodwin, Kaytlyn (MS) |
| | Richards, Kori (MS) |
| Spring 2017 | Isaccson, Ava (MS) |
| Fall 2016 | Faulkner, Hailey |
| | Froehly, Mike |
| | Guess, Brooke |
| | Knudson, Becca |
| | Perrin, Sadie |
| Fall 2015 | Blashcka – Wilson, Chris |
| | Boyles, Aaron |
| | Faulkner, Megan |
| | Fliney, Ashlee |
| | Harris, LaKysha |
| | Kelly, Emma (co-MP) |
| | St. Onge, Justin |
| Spring 2015 | Ridgeway, Hanna |
| | Seipel, Ben |
| Fall 2014 | Barbour, Laura |
| | Bauder, Sheralyn |
| | Hoffman, Joanna |
| | Smith, Luke |
| | Wickham, Ben |
| | Willadsen, Eric |
| | Williams, Janeen |

| | |
|---|---|
| Spring 2014 | Deters, Claire Elaine |
| | Harfmann, Dawn M. |
| | McGraw, Caitlin Ann |
| | Kochevar, Elizabeth Ann |
| Fall 2013 | Adams, Joy Jean |
| | Martin, Kelly Anne |
| | Shier, Christa Elizabeth |
| Spring 2013 | Schaaf, Daniel |
| Fall 2012 | Begly, Sara Allyson |
| | Gallimore, Jacqueline |
| | Gray, Lin Avens |
| | Honzay, Philip John |
| | Lao, Shin-Ping Cynthia |
| | Lobdell, Adra |
| | Longberry, Taryn Beth |
| | Loomis, Hillary Elspeth |
| | O'Brien, Christopher Ian |
| | Peterson, John A |
| | White, Kerry |
| Spring 2012 | Schechter, Hannah Eve |
| Fall 2011 | Rose, Chelsea |
| | Arnold, David Michael |

**Committee Membership**

*Doctoral students*
Matsaw, Sammy (Water Resources; Major Advisor: Dr. Chris Caudill), in progress
Stelck, Luella (Education; Major Advisor: Dr. Brant Miller), graduated Fall 2018
Lysne, Steven John (Education; Major Advisor: Dr. Brant Miller), graduated Summer 2015
Schon, Jennifer A. (Education; Major Advisor: Dr. Brant Miller), graduated Spring 2015

*M.S. students*
Swift, Charles Eliot (Major Advisor: Dr. Kerri Vierling), graduated
Perreault, Lauren (Major Advisor: Dr. Elowyn Yager), graduated Summer 2011
Newman, Jennie (Major Advisor: Dr. Steve Hollenhorst), graduated Spring 2011
Young, Richard (Major Advisor: Dr. Troy Hall), graduated Spring 2010
Goetzelman, Rachael (Major Advisor: Dr. Anne Kern), graduated Spring 2011

**Courses Developed:**

| | |
|---|---|
| NRS 559 | Proposal Development |
| CSS 505 | PD: Adventures in Bioenergy |
| CSS 505 | PD: Adventure Learning through Water and MOSS |
| CSS 562 | Field Science Teaching |
| CSS 563 | Place-based Education |
| CSS 561 | Ecological Inquiry |
| CSS 566 | Advanced Elements of Field Ecology Course Design |

**Guest Lectures:**

"Methods in Experiential Environmental Education." Fulbright Enrichment Program on Interdisciplinary Environmental Studies. McCall Field Campus. University of Idaho. November

14th , 2015.

## SCHOLARSHIP ACCOMPLISHMENTS:

### Publications, Exhibitions, Performances, Recitals:

#### Refereed/Adjudicated:

Olsen, S., **Eitel, K.,** Miller, B., Cohn, T., Smith, R. (In review). Assessing teachers' environmental citizenship before and after a teacher workshop: A case study from a social ecological systems perspective. *Journal of Science Teacher Education*.

Dixon, R. A., Wheeler, A., Eitel, K.B., Eitel, J., Davis, M. (accepted). Using UAV in a Culturally Responsive STEM Curriculum. Technology and Engineering Teacher.

Engels, M., Miller, B., Squires, A., Jennewein, J., Eitel, K. (2019). *The Confluence Approach: Developing scientific literacy through project-based learning and place-based education in the context of NGSS.* Electronic Journal of Science Education.

Dixon, R. A., Eitel, K., & Zhu, Y. (2019). Developing STEM Identity of Nez Perce Students: Identifying Entry-Level Competencies for Forestry and Fire Management. *Journal of Research in Technical Careers, 3* (1). https://doi.org/10.9741/2578-2118.1045

Hougham, R., Gotch, C., Schon, J., **Eitel, K.** Hendrickson, D. (2019). Development of an energy literacy measure for middle school students. *Journal of Sustainability Education 19.*

Mackenzie, S. H., Son, J. S., & **Eitel, K.** (2018). Using outdoor adventure to enhance intrinsic motivation and engagement in science and physical activity: An exploratory study. *Journal of outdoor recreation and tourism*, *21*, 76-86.

Son, J. Mackenzie, S., **Eitel, K**, & Luvaas, E. (2017). Engaging youth in physical activity and STEM subjects through outdoor learning as outdoor adventure education. *Journal of Outdoor and Environmental Education, 20*(2*), xx–xx.*

St. Onge, J.P. & **Eitel, K.B**., (2017) Increasing active participation and engagement of students in circle formations. *Networks: Online Journal for Teacher Research.*

St. Onge, J. S., & **Eitel, K**. (2016). Increasing Middle School Students' Energy Literacy. *Research in Outdoor Education, 14*(1), 41-63.

Delparte, D. M., Richardson, R., **Eitel, K**., Matsaw, S., & Cohn, T. (2016). Promoting Geoscience STEM Interest in Native American Students: GIS, Geovisualization and Reconceptualizing Spatial Thinking Skills. *International Journal of Learning, Teaching and Educational Research*, *15*(5).

Dickerson-Lange, S. E., **Eitel, K. B**., Dorsey, L., Link, T. E., & Lundquist, J. D. (2016). Challenges and successes in engaging citizen scientists to observe snow cover: from public engagement to an educational collaboration. *Journal of Science Communication*, *15*(01), A01-1.

Squires, A., Jennewein, J., Engels, M., Miller, B.G., **Eitel, K**. (2016). Integrating watershed science in high school classrooms: The Confluence Approach. Clearing Magazine, 7(1), 14 – 17.

Parsons, R., Eitel, J., Whitney, B., Magney, T., **Eitel, K.,** Vierling, L., (2015). Connecting the Dots: Lasers link students to their 3D world. Science Scope, submitted December 2014.

Anderson, C. L., Miller, B. G., **Eitel, K. B**., Veletsianos, G., Eitel, J., Hougham, R. J., (2015). Exploring techniques for integrating mobile technology into field-based environmental education. *Electronic Journal of Science Education*, 19(6).

Miller, B.G., Cox, C.J., Hougham, R.J., Walden, V.P., **Eitel, K.B**., Albano, A. (2015). Adventure Learning as a curricular approach that transcends geographies and connects people to place. *The Curriculum Journal*, 26(3).

Hougham, R.J., **Eitel, K.B**., Miller, B.G., (2015). Technology-enriched STEM Investigations of Place: Using Technology to Extend the Senses and Build Connections to and between Places in Science Education. *Journal of Geoscience Education*, 63(1).

**Eitel, K. B.,** Hougham, R. J., Laninga, T., Fizzell, G., Schon, J. & Hendrickson, D. (2015).

Teacher Professional Development for Energy Literacy: A comparison of two approaches. *Journal of Sustainability Education*, 8(1).

Schon, J.A**., **Eitel, K.B**., Hougham, R.J., Hendrickson, D. (2015). Creating a research to classroom pipeline: closing the gap between science research and educators. *Journal of Sustainability Education*, 8(1).

Hougham, R. J., Hollenhorst, S., Schon, J., **Eitel, K.,** Hendrickson, D., Gotch, C., Laninga, T., James, L., Hough, B., Schwartz, D., Preslley, S., Olsen, K., Hasselbach, L., Langitt, Q., Moslemi, J. (2015). Education at the Speed of Research: an overview of the NARA approach to BioEnergy Literacy. *Journal of Sustainability Education,*8(1).

Hendrickson, D., Corrigan, K., Keefe, A., Shaw, D., Jacob, S., Skelton, L., Schon, J**., Eitel, K.B.,** Hougham, R.J. (2015). Global Sustainability: An Authentic Context for Energy Education. *Journal of Sustainability Education*, 8(1).

Veletsianos, G., Miller, B., **Eitel, K.,** Eitel, J., Hougham, J., & Hansen, D. (2015). Lessons Learned from the Design and Development of Technology-Enhanced Outdoor Learning Experiences. *Tech Trends.*

**Eitel, K.B**., Wilhelm, F.*, Parsons, R**., Eitel, J.U.H. (2014). Lakes Alive! *Science Scope*. 38(2), 22 – 29.

Schon, J.**, **Eitel, K.B**., Bingaman, D***., Miller, B.G., Rittenburg, R.** (2014). Little leaders in conservation. *Science & Children*. 51(9), 48-54.

Schon, J.**, Hougham, R.J., & **Eitel, K.B**. (2014). The value of a tree. *Science Scope*. 37(7), 27 – 35.

Lysne, S.J., Miller, B.G. & **Eitel, K.B.** (2013). Two-Year Community: Exploring Student Engagement in an Introductory Biology Course. *Journal of College Science Teaching*. 43(2)

Goldberg, A.R., Davis, J.C., **Eitel, K.B**. (2013). Bringing authentic landscapes into the classroom: Using erosion models to connect science and engineering practices. *Science Scope.* 37(4).

Miller, B. G., Hougham, R. J., & **Eitel, K. B.** (2013). Adventure learning in action: Practical enactment strategies for educators. *Tech Trends*, 57.4.

**Eitel, K.B.,** Hougham, R.J., & Miller, B.G., Schon, J. & LaPaglia, K. (2013). Upload/download: Empowering students through technology-enabled problem-based learning. *Science Scope*. 36(7).

Magney, T. S., **Eitel, K.B**., Eitel, J.U.H**.**, Schon, J., Jansen, V.S., Rittenburg, R.A., Vierling, L.A. (2013) Keeping a (Digital) Eye on Our Planet's Clock. *The Science Teacher*. 80(1).

Eitel, J.U.H., Vierling, L.A., Long, D.S., Litvak, M., & **Eitel, K.B**. (2011). Simple assessment of needleleaf and broadleaf chlorophyll content using a flatbed color scanner. *Canadian Journal of Forest Research,* 41, pp. 1 - 7

Bingaman, D. & **Eitel, K.B.** (2010). Boulder Creek Study. *Science & Children*, 47(6), pp. 52 – 57

**Peer Reviewed/Evaluated:**

Miller, B. G., Hougham, R. J., Cox, C., Walden, V., & **Eitel, K. B**. (2014). Adventure Learning @ the Learning Sciences. In J. L. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 3*, (pp. 1509-1510). *Boulder, CO: International Society of the Learning Sciences.*

Hougham, R.J., Miller, B.G., **Eitel, K.B**., Hogue Mackenzie, S., Stafford Son, J., Thompson, G. (2013). Adventure Learning to Promote GreenSTEM Education and Physical Activity in Schools. *Published proceedings of the 13th Annual Symposium for Experiential Education Research.* Denver, Colorado.

Hougham, R. J., **Eitel, K. B**., & Miller, B. G. (2012). AL@: Combining the strengths of adventure learning and place based education. *Clearing Compendium* (pp 38-41).

Miller, B. G., Hougham, R. J., & **Eitel, K. B**. (2012). AL@UI: Connecting people to places for meaningful learning. *Proceedings of Society for Information Technology & Teacher Education International Conference 2012* (pp. 672-677). Chesapeake, VA.

Veletsianos, G., Miller, B., **Eitel, K.B.,** Eitel, J.U.H., Hougham, R.J. (2012). Localizing Adventure Learning: Teachers and Students as Expedition Leaders and Members. *Proceedings of Society for Information Technology & Teacher Education International Conference 2012* (pp. 2164-2169). Chesapeake, VA

**Other:** (reports, proceedings, papers, citations and references, performances)

Hougham, R. J., Schon, J.A., **Eitel, K.B.**, & Hollenhorst, S.A. (2012). Education at the Speed of Research: Communicating the Science of Biofuels. *Published Proceedings of the Sun Grant Initiative.* New Orleans, LA.

Eitel, J.U.H., Hollenhorst, S., **Eitel, K.B**. et al. (2012). A Strategic Plan for the Development of a Field Research Station at the University of Idaho's McCall Field Campus.

Eitel, K.B. (2004) The Beverly Johnson Leadership Project: An Evaluation. Report prepared for Teton Science Schools, Jackson, Wyoming.

**Refereed/Adjudicated (currently scheduled or submitted):**

**Presentations and Other Creative Activities:** (i.e. slide sets, web pages, video productions, etc., provide date and location)

Rushlow, C.R.*, Soderquist, B.*, Cohn T.C., Eitel, K. 2017. Invited guest post on climate communication in the blog The Plainspoken Scientist . American Geophysical Union.

***Web Sites***

2012 –2018 Co-supervised development of MOSS Adventure Learning website used as an outreach tool for parents, teachers and students in MOSS residential programs; funded by NSF CI:TEAM project titled "Adventure Learning through water and MOSS", Award #1135577

2012 – 2017 Co-creator and manager of MOSS Teachers Adventure Learning website (teachingadventurelearningatmoss.wordpress.com) for McCall Outdoor Science School professional development workshops; funded by NSF EPSCoR Research Infrastructure Improvement (RII) Award #EPS-0814387 and USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2010 - 2013 Co-creator and manager of a cyberlearning website (cyberlearning.mossidaho.org) for the McCall Outdoor Science School to provide resources for learning about water resources in a changing climate and the creation of a student/citizen scientist network in Idaho. Recently received funding as a sub-award through NSF EPSCoR Research Infrastructure Improvement (RII) Award #EPS-0919514.

***Curricula***

*Building a Culturally-connected STEM Identity through UAVs and Remote Sensing (developed 2017)*
This curriculum is a collaboration between the Nez Perce Tribe education program and MOSS. The focus of the program is the development of scientific identity within the context of cultural knowledge and Indigenous ways of knowing, using remote sensing and UAVs as tools of inquiry. Curriculum is aligned to competencies for entry level positions in Forestry and Fisheries, Next Generation Science Standards, and the Nez Perce Cultural Standards for learning.

*Upward Bound STEM Residential Program Curriculum (developed 2009, last updated 2017)*

Ten-day residential program for high school students involved in the UI UBSTEM program. Focuses on science inquiry, science identity, college identity and readiness. Aligned to ENVS 101-102 curriculum and offered for dual enrollment credit.

*HOIST Residential Program Curriculum (developed 2009, last updated 2017)*
Four-day curriculum for high school students involved in the UI HOIST program. Focuses on science identity, science inquiry skills, storytelling and interweaving Indigenous and Western science approaches.

*McCall Outdoor Science School Residential Programs Curriculum (developed 2003, last updated 2016)*
Week-long residential program curriculum for middle school students. Focuses on scientific inquiry skills, community skills, and sense of place. Aligned to Common Core English Language Arts and Math Standards and Next Generation Science Standards.

*Adventures in Bioenergy (developed 2012, updated yearly)*
Four-day intensive bioenergy workshop for high school teachers, focused on bioenergy literacy, critical thinking and problem-based pedagogy. Funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

*MOSS Imagines Tomorrow Webinar Series (developed 2013, updated yearly); series of webinars delivered over seven months each year with new topics every month*
Series of webinars designed to develop energy literacy in teachers coaching teams for the high school problem-solving competition *Imagine Tomorrow* sponsored by Washington State University. Funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

*Place-based Bioenergy Literacy (developed 2012, update yearly)*
*Co-created curriculum for high school students and teachers enrolled in MOSS summer programs*. Funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

*Water Resources in a Changing Climate: curriculum for middle and high school students (developed 2009, updated yearly through 2013*) Co-created curriculum for summer programs for under-served jr. high and high school students, engaging students in ongoing research projects concerning water resources in a changing climate. Program currently serves 240 students per year. Funded by NSF EPSCoR Research Infrastructure Improvement (RII) Award #EPS-0814387.

**Professional Meeting Papers, Workshops, Showings, Recitals:** (provide date and location)

**Workshops Organized**

**Mentoring Conference, Boise, ID, February 8 – 9, 2016**
Co-authored proposal and served on planning committee for this workshop hosted by the Idaho Diversity Network. Students, staff and faculty from five Idaho institutions attended.

**Innovation Working Group, McCall, ID, August 31 – September 1, 2015**
Wrote proposal to fund and co-organized IWG focused on Diversity and Mentoring in Higher Education. 15 participants attended. Formed the Idaho Diversity Network as a result of our efforts.

**Tri-State Cyberlearning Summit, Jemez Springs, NM January 26 – 29, 2012**

Co-organizer and facilitator of the Tri-State Cyberlearning Summit with collaborators from Nevada and New Mexico EPSCoR. 50 participants came together to share work and develop new partnerships, including a collaborative NSF proposal submitted in March, 2012.

**Invited Talks**

**Eitel, K.B.** (2016)**.** *Building STEM Identity through Place-based Science in the Boulder Creek Watershed.* Invited presentation (keynote) at the Moab Festival of Science. Moab, UT, September 24, 2016.

**Eitel, K.B.,** Salant, P., Fizzell, G. and Bingaman, D. (2013). *Building STEM Identity through Place-based Science.* Invited presentation at the Engagement Scholarship Conference. Lubbock, Texas, October 8 – 9, 2013.

**Eitel, K.B.** (2012). *Environmental Literacy and STEM, Are they natural partners?* Idaho Environmental Education Association Conference. Invited keynote panel participant. Boise, ID

**Eitel, K.B.,** (2010). *McCall Outdoor Science School: People, Programs and Practices*, Engaging America's Talent: National Science Foundation Outreach Conference, Little Rock, AR

**Eitel, K.B**. and Vierling, L. (2009) *McCall Outdoor Science School: Engaging Students as Scientists*, Idaho NSF EPSCoR Statewide Meeting, Moscow, ID

**Professional Meeting Papers**

**Eitel, K**., Cohn, T., Seven, K., Eitel, J., Vierling, L., Uh, C., White Temple, E., Davis, M., Dixon, R., Carter, M. (2018), Integrating Cultural and Scientific Identities at DRONE Camp: an Indigenous Environmental Science Course for High School Students. Abstract ED11C-0736 presented at 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.

Rushlow, C.R.*, Soderquist, B.*, Cohn T.C., Eitel, K. December 12-16, 2016. Recognizing the importance of conversation between experts and non-experts in science communication. Professional Talk, AGU Annual Meeting. San Francisco.

**Eitel, K.** More Than Knowledge: Promoting Critical Thinking and Values Exploration to Increase Energy Literacy. National Extension Energy Summit, Seattle, WA, April 8 – 10, 2015.

**Eitel, K.,** Schon, J., Vierling, L. and Fizzell, G. Developing STEM Identity through Place-based Field Science Inquiry. Idaho Conference on STEM Education Challenges and Innovative Solutions: Overcoming STEM Education Barriers in Rural States, Boise, ID, 28 May 2014

Vierling, L.A., Penney, S., **Eitel, K.,** Benner, S., Busche, C., Green, C., Hernandez, J., Lindquist, E., Makings, D., Miller, B., Smith, R., and Solomon, M. 2014. ONEIdaho: How Idaho's Experimental Program to Stimulate Competitive Research (EPSCoR) is Bridging the Gap Between the Classroom and STEM Careers. Idaho Conference on STEM Education Challenges and Innovative Solutions: Overcoming STEM Education Barriers in Rural States, Boise, ID, 28 May 2014.

**Eitel, K.B.,** Miller, B.G., Veletsianos, G., Eitel, J., O'Hair, M., Schon, J. and Hougham, R.J. (2012). *Adventure Learning Through Water and MOSS – a novel approach to engaging K-12 students in climate change issues*. Poster presented at American Geophysical Union Fall Meeting, San Francisco, 3 - 6 December, 2012.

Hougham, R.J., Miller, B.G., Cox, C., Walden, V. & **Eitel, K.B.** (2012). *Communicating Science Research to High School Students in the Arctic: Adventure Learning @ Greenland*. Poster presented at American Geophysical Union Fall Meeting, San Francisco, 3 - 6 December 2012.

White, T., Ames, D., **Eitel, K.B**., Miller, B.G., Hougham, R. J., Torgrimson, J. *Development of Cyberlearning Materials to Support Field Science Programs and Environmental Education*. Poster presented at 4th Annual EPSCoR Western Consortium Tri-State Meeting; April 2 - 5, 2012; Sun Valley, ID.

Miller, B. G., Hougham, R. J., & **Eitel, K. B**. (2012). *AL@UI: Connecting people to places for meaningful learning.* Society for Information Technology & Teacher Education (SITE) Annual International Conference, Austin, TX.

Veletsianos, G., Miller, B. G., **Eitel, K.,** Eitel, J., & Hougham, R. J. (2012). *Localizing adventure learning: Teachers and students as expedition leaders and members.* Society for Information Technology & Teacher Education (SITE) Annual International Conference, Austin, TX.

**Eitel, K.B**. and Goetzelman, R. "A multi-tiered approach to service learning", North American Association for Environmental Education National Conference, Portland, OR, October 2009

**Eitel, K.B**. "Assessing Inquiry Skills in a Nonformal Setting", North American Association for Environmental Education National Conference, Portland, OR, October 2009

**Eitel, K.B.,** (2006), "Curriculum theory for graduate residencies in environmental education", Residential Environmental Learning Center National Conference, Jackson, WY,

**Eitel, K.B**. and Fizzell, G.F (2006), "Standing on the shoulders of giants… sometimes", North American Association for Environmental Education National Conference, St. Paul, MN,

**Eitel, K.B** (2004), "Evaluating the Beverly Johnson Leadership Project", North American Association for Environmental Education National Conference, Anchorage, AK, October 2004

**Grants and Contracts Awarded:** (provide principal and co investigators, title, sponsor, funding dates, amount)

**Eitel, K**. (PI), Eitel, JUH (Co-PI), Cohn, T. (Co-PI), Wolfenden (Co-PI). 2019. Building STEM Identity through the Use of Tools. University of Idaho Office of Research and Economic Development. $7,000.

**Eitel, K. (PI),** Kochevar, E. (Co-PI). 2019. Local Learning: collaborative partnerships to promote place-based STEM education. McCall-Donnelly Education Foundation. $10,000.

**Eitel, K** (PI), Eitel, JUH (Co-PI), Cohn, T (Co-PI), Vierling, L (Co-PI). 2016. ITEST: Building STEM Identity and Career Interests in Native American Students By Using Unmanned Aerial Vehicle (UAV) and Remote Sensing Technologies. National Science Foundation Award #1513349. $1,101,523.

Miller, BM (PI), **Eitel, KB** (Co-PI), and Eitel JUH. (Co-PI). 2012. CI:TEAM Demo: Adventure Learning through Water and MOSS. National Science Foundation Award #1135577. $170,811.

Hollenhorst, S. and C. Baxter, J. Gosz, **K. Bradley Eitel**, L. Vierling. 2011. University of Idaho McCall Field Campus Planning. National Science Foundation Award #1034850. $25,000.

Cavalieri, R. P. , Wolcott, M. P. , Ahring, B. , Bahr, D. F. , Barber, M. E. , Cook, R. , Englund, K. R. , Kern, M. A. , Kirchhoff, H. , Lamb, B. K. , Lewis, N. R. , and Yadama, V. UI Subward: Laninga, T, Brooks, R. and **Eitel, K.** 2011. The Northwest Advanced Renewables Alliance (NARA): A New Vista For Green Fuels, Chemicals And Environmentally Preferred Products (EPPs), USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.U.S. Department of Agriculture. $31,600,000. (MOSS portion $2,912,883.84)

Eitel, K.B. 2011. Expansion of an Existing CyberLearning Infrastructure. Sub-award under National Science Foundation Award #EPS-0919514. $10,000.

Eitel, K.B. 2010. MOSS Cyberlearning Materials. Sub-award under National Science Foundation Award #EPS-0919514. $20,000

Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2009. Scholarship Support for MOSS Graduate Students. DeVlieg Foundation. $16,000.

Fizzell, G., S. Hollenhorst and K. Bradley. 2009. Valley County Outreach Programs. Perc H. Shelton and Gladys A. Pospisil Fund of the Idaho Community Foundation. $2,500.

Westerfield, L. and S. Hollenhorst, G. Fizzell, K. Bradley. 2009. K-12 Residential Outdoor Science Program General Support. Steve Leuthold Family Foundation. $10,000.

Fizzell, G., S. Hollenhorst and K. Bradley. 2009. Southwest Idaho Learning Initiative. Whittenberger Foundation. $5,000.

Bradley, K. 2008. Service Learning in CSS 565. University of Idaho Service Learning. $650

Westerfield, L. and G. Thompson, K. Bradley, G. Fizzell. 2008. Developing a Leave No Trace curriculum for MOSS. $10,000

Westerfield, L. and C. O'Brien-Feeney, K. Bradley. 2008. Service-Learning and Research with McCall High School. New Belgium Brewing Company. $3,000

Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. Community Energy Partnership - Energy Audits. UI Extension Community Development Grant. $4,366.

Westerfield, L., and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. MOSS Graduate Student Travel to

Taylor Ranch. UI Taylor Ranch. $1,000.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. General Support for MOSS K-12 Programs. Charlotte Martin Foundation. $10,000.
Bradley, K., S. Hollenhorst, L. Westerfield, G. Fizzell. 2007. Developing Authentic Assessment Tools for Effective K-12 Education. Paul G. Allen Foundation. $60,000.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. Scholarship Support for MOSS Graduate Students. DeVlieg Foundation. $16,000.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. Support for McCall-Donnelly School Programs at MOSS. Perc H. Shelton & Gladys A. Pospisil Shelton Foundation, Idaho Community Foundation. $3,000.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. Community Energy Partnership - Energy Audits. Idaho Community Foundation - Walter & Leona Dufresne Fund, Idaho Community Foundation. $1,500.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. McCall-Donnelly High School Programs at MOSS. Mountaineers Foundation. $3,000.
Westerfield, L. and S. Hollenhorst, K. Bradley, G. Fizzell. 2007. Underwriting K-12 Outreach Program in the Treasure Valley of Idaho. Lightfoot Foundation. $2,500.

**SERVICE:**

**Major Committee Assignments:**
Environmental Education Certificate Assessment Committee – Chair
Executive Team, McCall Outdoor Science School – Member
University of Idaho Research Council – Member
CNR Leadership Team – Faculty Representative

**Professional and Scholarly Organizations:**
Idaho Diversity Network
- Founding member, 2015 - current

Idaho Environmental Education Association
- Member, 2009 - current
- Board of Directors, 2009 – 2013
- Vice-president, Board of Directors, 2012 – 2013

National Science Teachers Association
- Member, 2009 – current

**Outreach Service:**

**2017 – 2019 Lapwai Drone Project**
**Developed and assisted in implementation of school-year program at Lapwai High School.** Curriculum focuses on development of scientific identity within the context of cultural knowledge and Indigenous ways of knowing, storytelling and using remote sensing and UAVs as tools of inquiry. Approximately 60 students participated in 15 hours each of curriculum.

**2017 - 2019 ITEST "Drone Camp"**
Developed and implemented a five-day program for high school youth from Lapwai, Orofino, Kamiah and Kooskia, the majority of whom are enrolled members of the Nez Perce Tribe. Focus of the program is the development of scientific identity within the context of cultural knowledge and Indigenous ways of knowing, using remote sensing and UAVs as tools of inquiry. The program is a collaboration between the Nez Perce Tribe and the University of Idaho, with two Nez Perce tribal members as graduate students on the project, two elders of the Nez Perce Tribe, and 14 staff members from Cultural Resources, Fisheries, Forestry and Fire Management and the Education Program at the Tribe. Approximately 40 students served.

**2009 – present HOIST residential program at MOSS**
Since 2009 I have collaborated with the HOIST program on the design and implementation of a field

science program for Native American high school youth. This program has evolved significantly over the years and now emphasizes students' identity as scientists, Indigenous science practice, and holistic learning that is culturally responsive and inclusive. Approximately 15 students served per year.

**2009 – present STEM Access Upward Bound residential program at MOSS**
Ten-day residential program for high school students involved in the UI UBSTEM program. Focuses on science inquiry, science identity, college identity and readiness. Aligned to ENVS 101-102 curriculum and offered for dual enrollment credit. Approximately 20 students served per year.

**2009 – present Service-learning with Donnelly Elementary**
Since 2009 I have worked with Ms. Deirdre Bingaman and her 5th grade class at Donnelly Elementary School in rural Donnelly, ID to study the health of their local watershed and plan and implement restoration projects. This work has been conducted through my course CSS 563, Place-based Education. It is a service-learning experience for my graduate students who learn how to conduct school-based field science education and for the 5th grade students who complete their science curriculum through studying and collecting data on Boulder Creek. Approximately 20 students served per year.

**2009 - 2015 MOSS Teacher Institute**

The MOSS Teacher Institute is a series of inquiry-based, place-based workshops for middle and high school teachers to explore current research in biofuels, climate change and water resources. Workshops funded through USDA, NSF EPSCoR and NASA, 2-3 workshops per year since 2008. 277 teachers served since 2009.

2015 *MOSS Imagines Tomorrow,* webinar series November 2014 – May 2015
25 teachers, series of 7 webinars funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture. Partnered with NARA scientists and energy educators to deliver online interactive lectures and discussions on topics ranging from soil productivity to effective coaching, Life Cycle Analysis and transportation logistics of biofuels supply chains.

2014 *Adventures in Bioenergy,* McCall, Idaho, June 16 – 20, 2014
17 teachers on site, 19 teachers following online. Funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2013 *MOSS Imagines Tomorrow,* webinar series November 2013 – May 2014
30 teachers, series of 7 webinars funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2013 *Adventure Learning through biofuels, water and MOSS*, McCall, Idaho, June 17 - 21;
14 teachers on site, 61 online participants, funded by NSF EPSCoR Award #EPS-0919514 and USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2012 *MOSS Imagines Tomorrow,* McCall, Idaho, October 9 – 11;
14 teachers, funded by USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2012 *Adventure Learning through biofuels, water and MOSS*, Twin Falls, Idaho, June 25 - 28;

13 teachers on site, 49 online participants, funded by NSF EPSCoR Award #EPS-0919514 and USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2012 *Adventure Learning through biofuels, water and MOSS*, McCall, Idaho, June 18 – 22; 19 teachers on site, 60 online participants, funded by NSF EPSCoR Award #EPS-0919514 and USDA Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

2011 *Water Resources in a Changing Climate*, McCall, Idaho, June 23 - 26
15 teachers, funded by NSF EPSCoR Award #EPS-0919514

2011 *Water Resources in a Changing Climate*, McCall, Idaho, February 25 - 27
11 teachers, funded by NSF EPSCoR Award #EPS-0919514

2010 *Water Resources in a Changing Climate*, McCall, Idaho, June 21 - 28
27 teachers, funded by NSF EPSCoR Award #EPS-0919514 and NASA

2010 *Water Resources in a Changing Climate*, McCall, Idaho, February 26 – 28
14 teachers, funded by NSF EPSCoR Award #EPS-0919514

2009 *Water Resources in a Changing Climate*, McCall, Idaho, June 26 - 28
25 teachers, funded by NSF EPSCoR Award #EPS-0919514

**2003 – present** ***McCall Outdoor Science School K12 programs***

Principle manager of the curriculum and educational operations for residential place-based, inquiry-driven outdoor science programs that take place at the University of Idaho Field Campus in McCall. More than 35,000 K12 students have participated in these programs since 2003.

Students served:

| Program Year | # of residential students | # of outreach students | Total # of students |
|---|---|---|---|
| 2003-04 | 410 | 0 | 410 |
| 2004-05 | 413 | 0 | 413 |
| 2005-06 | 628 | 961 | 1589 |
| 2006-07 | 752 | 1715 | 2467 |
| 2007-08 | 801 | 2381 | 3182 |
| 2008-09 | 672 | 2294 | 2966 |
| 2009-10 | 1093 | 1577 | 2670 |
| 2010-11 | 1182 | 1056 | 2238 |
| 2011-12 | 1322 | 571 | 1893 |
| 2012-13 | 1469 | 1134 | 2603 |
| 2013-14 | 1587 | 1131 | 2718 |
| 2014-15 | 1673 | 1029 | 2702 |
| 2015-16 | 1731 | 1547 | 3278 |
| 2016-17 | 1909 | 1723 | 3632 |
| 2017-18 | | | |

| | | | |
|---|---|---|---|
| 2018-19 | | | |
| 2019-20 | | | |
| TOTAL | **15642** | **17119** | **32761** |

**Honors and Awards:**

*Individually Received:*

2014 University of Idaho Award for Excellence in Outreach and Engagement

2011 Outstanding Continuing Education and Service, College of Natural Resources, University of Idaho.

*Awarded to MOSS for work I was significantly involved in:*

2018 University Economic Development Association Award of Excellence in Talent + Place

2015 NAAEE UL Innovative Education Award

2013 Regional Prize, W.K. Kellogg Foundation Engagement Scholarship Award

2012 Grand Prize, J.A. and Kathryn Albertson Foundation ID21 Award

**PROFESSIONAL DEVELOPMENT:** (workshops and seminars attended)

**Administration/Management:**

| | |
|---|---|
| 2015 | BEETLES Workshop on Excellence in Outdoor Science Education |
| 2012 – 2013 | University of Idaho Leadership Academy |