

## **CURRICULUM VITAE for RACHEL L. MALISON**

**7 July 2020**

Flathead Lake Biological Station

The University of Montana

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### **EDUCATION**

Ph.D., Systems Ecology, 2013. The Flathead Lake Biological Station, Department of Biological Sciences, The University of Montana, Missoula, Montana. Advisor: J.A. Stanford

M.S., Biology, 2008. Department of Biological Sciences, Idaho State University, Pocatello, Idaho. Advisor: C.V. Baxter

B.A., Biology, 2004. Department of Biological Sciences, The University of Montana, Missoula, Montana. Davidson Honors College Graduate.

### **PROFESSIONAL EXPERIENCE**

#### *Program Manager of Monitoring Montana Waters (M2W)*

The Flathead Lake Biological Station (FLBS), University of Montana (2020-Present). My M2W position oversees a program to assist with water quality monitoring efforts in Montana.

#### *Postdoctoral Scholar*

The Flathead Lake Biological Station (FLBS), University of Montana (2017-Present). My postdoctoral position is part of a Dimensions of Biodiversity NSF Grant studying the vulnerability of stoneflies in river floodplains.

#### *Marie Curie Fellow and Research Ecologist*

Norwegian Institute for Nature Research (2014–2017). I researched the influence of Eurasian beavers on juvenile Atlantic salmon and trout in rivers near Trondheim, Norway.

#### *Graduate Research Assistant*

The Flathead Lake Biological Station, University of Montana (2008-2013). Research for my PhD dissertation was conducted in the Yukon Delta National Wildlife Refuge in partnership with the US Fish & Wildlife Service. Research focused on the influence of beavers on juvenile Pacific salmon populations in a large river floodplain.

#### *Graduate Research Assistant*

Department of Biological Sciences, Idaho State University (2005-2008). Research for my MS was conducted in the Frank Church Wilderness and focused on the effects of wildfire on stream-riparian linkages.

#### *Undergraduate Research Field Assistant*

The Flathead Lake Biological Station, University of Montana (2004). Research and monitoring data collection was conducted on the Kitlope River, BC as part of the Salmonid Research Observatory Network.

## TEACHING EXPERIENCE

*The University of Montana* (2019, 2018). Guest Lecturer, Flathead Lake Biological Station. Course: Conservation Ecology.

*The University of Montana* (2017). Guest Lecturer, Flathead Lake Biological Station. Course: Drone Remote Sensing.

*The University of Montana* (2013). Co-instructor, Flathead Lake Biological Station. Course: Field Ecology.

*The University of Montana* (2012). Graduate Teaching Assistant, Flathead Lake Biological Station. Course: Field Ecology

*The Glacier Institute*, Montana (2012). Field Instructor, Course: Middle Fork River Ecology by Raft

## PUBLICATIONS

*Peer-reviewed publications:*

**Malison, R.L.**, A. DelVecchia, A. Woods, B.K. Hand, G. Luikart, and J.A. Stanford. 2020. Tolerance of aquifer stoneflies to repeated hypoxia exposure and oxygen dynamics in an alluvial aquifer. *Journal of Experimental Biology*, <https://doi.org/10.1242/jeb.225623>

**Malison, R.L.**, B.K. Ellis, A.G. DelVecchia, H.N. Jacobson, B.K. Hand, G. Luikart, H.A. Woods, M. Gamboa, K. Watanabe, and J.A. Stanford. 2020. Remarkable anoxia tolerance by stoneflies from a floodplain aquifer. *Ecology*, <https://doi.org/10.1002/ecy.3127>

Sexton, E.K., C.J. Sergeant, A.R. Westwood, J.W. Moore, A.R. Westwood, D.V. Chambers, M.V. McPhee, S.G. Nagorski, Sarah L. O'Neal, J. Weitz, A. Berchtold, M. Capito, C.A. Frissell, J. Hamblen, F.R. Hauer, L. Jones, G. Knox, R. Macnair, **R.L. Malison**, V. Marlatt, J. McIntye, N. Skuce, and D. Whited. 2020. Canada's mines pose transboundary risks. *Science* **368** (6489), 376-377, [10.1126/science.abb8819](https://doi.org/10.1126/science.abb8819).

**Malison, R.L.** and D.J. Halley. 2020. Ecology and movement of juvenile salmonids in beaver-influenced and beaver-free tributaries in the Trøndelag province of Norway. *Ecology of Freshwater Fish*, <https://onlinelibrary.wiley.com/doi/10.1111/eff.12539>

Jordan, S., B.K. Hand, S. Hotaling, A. DelVecchia, **R. Malison**, C. Nissley, G. Luikart and J.A. Stanford. 2019. Genomic data reveal similar genetic differentiation in aquifer species with different dispersal capabilities and life histories. *Biological Journal of the Linnean Society*, <https://doi.org/10.1093/biolinnean/blz173>

**Malison, R. L.**, K.V. Kuzishchin and J.A. Stanford. 2016. Do beaver dams reduce habitat connectivity and salmon productivity in expansive river floodplains? *PeerJ* 4:e2403, <https://doi.org/10.7717/peerj.2403>

**Malison, R. L.**, L. Eby, and J.A. Stanford. 2015. Juvenile salmonid growth, survival, and production in a large river floodplain modified by beavers (*Castor canadensis*). *Canadian Journal of Fisheries and Aquatic Sciences* **72** (11): 1639-1651, [10.1139/cjfas-2015.0147](https://doi.org/10.1139/cjfas-2015.0147).

Jackson, B.K., S.M.P. Sullivan, C.V. Baxter and **R.L. Malison**. 2015. Stream Riparian Ecosystems. Chapter 5 in *Nature's Phoenix: The Ecological Importance of Mixed Severity Fire*, D.A. DellaSala and C. Hanson, eds. Elsevier.

**Malison, R.L.**, M.S. Lorang, D.C. Whited, and J.A. Stanford. 2014. Beavers (*Castor canadensis*) influence habitat for juvenile salmon in a large Alaskan river floodplain. *Freshwater Biology* **59** (6):1229-1246.

Jackson, B. K., S.M.P. Sullivan, and **R.L. Malison**. 2012. Wildfire severity mediates fluxes of plant material and terrestrial invertebrates to mountain streams. *Forest Ecology and Management* **278**:27-34.

- Malison, R.L.** and C.V. Baxter. 2010. The fire pulse: wildfire stimulates flux of aquatic prey to terrestrial habitats driving increases in riparian consumers. *Canadian Journal of Fisheries and Aquatic Sciences* **67**(3): 570-579.
- Malison, R.L.**, J. Benjamin, and C.V. Baxter. 2010. Measuring adult insect emergence from streams: the influence of trap placement and a comparison with benthic sampling. *Journal of the North American Benthological Society* **29**(2): 647-656.
- Malison, R.L.** and C.V. Baxter. 2010. Effects of wildfire of varying severity on benthic stream insect assemblages and emergence. *Journal of the North American Benthological Society* **29**(4): 1324-1338.

*Selected publications in review and in prep:*

- Jager, H.I., J.W. Long, **R.L. Malison**, B.P. Murphy, A. Rust, L. G.M. Silva, R. Sollmann, Z.L. Steel, M.D. Bowen, J. Dunham, J. Ebersole, R. Flitcroft. In prep. Resilience of terrestrial and aquatic fauna to historical and future wildlife regimes in western North America.
- Ritter, M. N., S. Jordan, B. Hand, **R.L. Malison**, S. Lower, G. Luikart, and J.A. Stanford. In prep. Population structure and connectivity of a groundwater crustacean across northwestern Montana aquifers. Target journal: *Freshwater Science*.
- Malison, R.L.**, B.K. Hand, E. Winter, J.G. Giersch, S. Amish, J.A. Stanford, and G. Luikart. In prep. Adaptive variation and gene flow in mainstem and tributary stonefly (Plecoptera) species. Target journal: *Molecular Ecology*
- Malison, R.L.**, S. Hotaling, J.L. Kelley, J.G. Giersch, C. Muhlfeld, J.A. Stanford, G. Luikart, and B.K. Hand. In prep. Tolerance of alpine stoneflies to a changing climate: local adaptation and gene flow on mountaintops. Target Journal: *Global Change Biology*

*Dissertation and Thesis:*

- Malison, R.L.** 2013. Ecology of juvenile salmon in large floodplain rivers: The influence of habitat modification by beavers (*Castor canadensis*) on salmon growth and production. Ph.D. Dissertation, The University of Montana, Missoula, MT.
- Malison, R.L.** 2008. Effects of wildfire on aquatic insect assemblages, emerging adult insects, and riparian consumers in a wilderness watershed. M.S. Thesis, Idaho State University, Pocatello, ID.

**REPORTS (non-refereed)**

- Malison, R.L., T. Bansak, J.A. Stanford, and D. Gillikin (2012). Addressing AYK's Hypothesis #1: Change in suitability or productivity of freshwater habitat used for spawning and rearing is an important contributor to the decline of AYK-region Chinook salmon stocks. Prepared for the Chinook Salmon Synthesis Workshop of the AYK Chinook Salmon Workshop Arctic, Yukon Kuskokwim Sustainable Salmon Initiative, Anchorage, AK, May 2-3, 2012.
- Malison, R.L., J.A. Stanford, and S.L. O'Neal (2008). Population Status and Ecology of Brown Trout: Rio Grande, Tierra Del Fuego, Argentina, 2008 Season. Prepared for Nervous Waters of Argentina and Estancia Maria Behety.

**PAPERS PRESENTED**

*Primary presenter:*

- Malison, R.L. (2019). From beavers to climate change: investigating factors influencing stream communities. Invited presentation at the Bucknell University Biology Seminar, Nov 21, Lewisburg, PA, USA.
- Malison, R.L., H.E. Harris, M. Schenk, B.K. Jackson, S.M.P. Sullivan, G.W. Minshall, C.V. Baxter (2019). Resilience of linked stream-riparian organisms to high-severity wildfire in Idaho's Salmon River

- basin. National joint meeting of the American Fisheries Society and The Wildlife Society, Sep 29 –Oct 3, Reno, NV, USA. Invited presentation in the special session on “Fire Resilience: Can Fish, Wildlife, and Humans Adapt to Shifts in Wildfire Disturbance?”
- Malison, R.L., H.N. Jacobson, A.G. DelVecchia, B.K. Hand, M. Gamboa, B.K. Ellis, G. Luikart, and J.A. Stanford (2019). Aquifer stoneflies (Plecoptera) are tolerant of anoxia and hypoxia compared to benthic species. Society for Freshwater Science, May 19-23, Salt Lake City, UT, USA.
- Malison, R.L., B. Hand, J.A. Stanford, G. Luikart (2019). Adaptation of groundwater stoneflies to alluvial aquifers. MARC, Apr 12-14, Polson, MT, USA.
- Malison, R.L. and J.A. Stanford (2018). The influence of beavers on juvenile salmon ecology: Do beavers negatively impact freshwater habitat for Chinook? Annual meeting of the Western Division of the American Fisheries Society, May 21-24, Anchorage, Alaska. Invited presentation in the special session on “Understanding the drivers of Chinook salmon decline in Western Alaska and exploring new approaches to sustainable salmon management and stakeholder engagement.
- Hand, B.K., Malison, R.L., DelVecchia, A., J.A. Stanford, and G. Luikart (2018). Predicting Biodiversity Vulnerability to Climate Change: Integrating Phylogenetics, Genomic, and Functional Diversity in River Floodplains. UNVEIL, June 2, Polson, MT, USA.
- Malison, R.L., B.K. Hand, G. Luikart, J.A. Stanford, and A.G. DelVecchia (2017). Predicting biodiversity vulnerability to climate change: Integrating phylogenetic, genomic, and functional diversity in river floodplains. MARC, Apr 7, Polson, MT, USA.
- Malison, R.L. (2017). Eurasian beavers influence the ecology of juvenile Atlantic salmon and sea trout at small spatial scales but are unlikely to negatively impact salmon and trout populations in Norway. Norwegian Institute for Nature Research Akvatisk lunsjeseminar, Jan 18, Trondheim, Norway.
- Malison, R.L. (2017). Do Eurasian beavers negatively impact Atlantic salmon and sea trout populations in Norway? Norwegian Ecological Society Meeting, Jan 13, Oslo, Norway.
- Malison, R.L. (2015). Eurasian beavers impact the movement of Atlantic salmon and sea trout in Norway. Advances in the Population Ecology of Stream Salmonids IV, May 25, Girona, Spain.
- Malison, R.L. (2015). The impact of Eurasian beavers on Atlantic salmon and sea trout in Norway. The State of the Beaver Conference, Feb 19, Canyonville, OR, USA.
- Malison, R.L. (2014). The influence of beavers (*Castor canadensis*) on river floodplain habitat and juvenile Pacific salmon in the Kwethluk River, AK. Norwegian Institute for Nature Research Akvatisk lunsjeseminar, May 7, Trondheim, Norway.
- Malison, R.L. (2013). The influence of beavers on river floodplain habitat and juvenile Pacific salmon in the Kwethluk River, AK. Beaver-Salmonid Working Group Annual Meeting, October 25, via Skype to Scotland.
- Malison, R.L. and J.A. Stanford (2013). The influence of beavers on aquatic habitats, macroinvertebrates, and juvenile salmon ecology in a large Alaskan river floodplain. Society for Freshwater Science National Meeting, May 23, Jacksonville, FL, USA.
- Malison, R.L. and J.A. Stanford (2013). The influence of beavers on river floodplain habitat and juvenile salmon ecology in the Kwethluk River, AK. The State of the Beaver Conference, Jan 24, Canyonville, OR, USA.
- Malison, R.L. and J.A. Stanford (2012). Juvenile salmon habitat use, growth, and production in a large Alaskan river floodplain dominated by beavers. American Fisheries Society National Meeting, August 21, Minneapolis, MN, USA.
- Malison, R.L. and J.A. Stanford (2012). Juvenile salmon habitat use, growth, and movement in a large Alaskan river floodplain dominated by beavers (*Castor canadensis*). International Society for River Science Web-based Meeting, June 10-24, Online: <http://riverscience.wordpress.com/>
- Malison, R.L. and J.A. Stanford (2012). Juvenile salmon habitat use, growth, and production in a large Alaskan river floodplain dominated by beavers (*Castor canadensis*). Society for Freshwater Science National Meeting, May 23, Louisville, KY, USA.

- Malison, R.L. (2012). Juvenile salmon ecology, habitat use, and growth in the Kwethluk River. Kuskokwim Area Interagency Fisheries Meeting, March 28, Anchorage, AK, USA.
- Malison, R.L. (2012). Beavers (*Castor canadensis*) in a floodplain riverscape: The influence of an ecosystem engineer on floodplain habitat and juvenile salmon. Organismal Biology and Ecology Seminar, February 22, The University of Montana, Missoula, MT, USA.
- Malison, R.L. and J.A. Stanford (2012). Juvenile salmon ecology, habitat use and growth in a large Alaskan river floodplain dominated by beavers (*Castor canadensis*). American Fisheries Society, February 9, Helena, MT, USA.
- Malison, R.L. (2011). Distribution, abundance, and growth of juvenile salmon in a large floodplain river modified by beavers (*Castor Canadensis*). Organismal Biology and Ecology Seminar, February 2, The University of Montana, Missoula, MT, USA.
- Malison, R.L. and J.A. Stanford (2010). Salmonid ecology in a large floodplain river with beavers. Graduate Student and Faculty Research Conference, April 24, The University of Montana, Missoula, MT, USA.
- Malison, R.L. (2010). Salmonid ecology in a large floodplain river with beavers (*Castor Canadensis*). Student chapter of the American Fisheries Society, April 22, The University of Montana, Missoula, MT, USA.
- Malison, R.L. (2010). Salmonid ecology in large floodplain rivers with and without beavers (*Castor Canadensis*). Organismal Biology and Ecology Proposal Seminar, March 10, The University of Montana, Missoula, MT, USA.
- Malison, R.L., J. Chaffin, and J. A. Stanford (2009). Use of beaver ponds by salmonids in western Alaska. North American Benthological Society, May 21, Grand Rapids, Michigan, USA.
- Malison, R.L. and C.V. Baxter (2008). Streams affected by wildfire of varying severity differ in aquatic insect assemblage structure and emergence. North American Benthological Society, May 25-30, Salt Lake City, Utah, USA.
- Malison, R.L. (2008). Effects of wildfire on aquatic insect assemblages, emerging adult insects, and riparian consumers in a wilderness watershed. Department of Biological Sciences Thesis Defense, February 19, Idaho State University, Pocatello, USA.
- Malison, R.L. and C.V. Baxter (2008). Comparison of Benthic and Emergent Insect Community Composition Affected by Wildfires of Varying Burn Severities. American Fisheries Society, February 7, Post Falls, Idaho, USA
- Malison, R.L. and C.V. Baxter (2007). The "fire pulse:" Effects of wildfire on periphyton, benthos, insect emergence, and riparian predators in a wilderness watershed. Intermountain Conference on the Environment, Idaho State University, Pocatello, Idaho, USA. September 18-19, 2007.
- Wilkinson, R.L. and C.V. Baxter (2007). The "fire pulse:" Effects of wildfire on periphyton, benthos, insect emergence, and riparian predators in a wilderness watershed. North American Benthological Society, June 5, Columbia, South Carolina, USA.
- Wilkinson, R.L. and C.V. Baxter (2007). Aquatic-terrestrial connectivity in a wilderness watershed: Do emerging insects and riparian predators increase following wildfire? American Fisheries Society, February 22, Boise, Idaho, USA.
- Wilkinson, R.L. and C.V. Baxter (2006). Aquatic-terrestrial connectivity in a wilderness watershed: Do emerging insects and riparian predators increase following wildfire? North American Benthological Society, June 8, Anchorage, Alaska, USA.
- Wilkinson, R.L. (2006). Aquatic-terrestrial connectivity in a wilderness watershed: Do emerging stream insects fuel riparian food webs following wildfire? Departmental of Biological Sciences Proposal Seminar, February 2, Idaho State University, Pocatello, ID, USA.
- Wilkinson, R.L. (2004). Galapagos Film Festival, Missoula, Montana. Presentation of documentary film, "Conservation of the Diving Dragons."

*Co-authored presentations:*

- Jackson, B., M. Sullivan, and R.L. Wilkinson (2007). Impacts of wildfire on riparian plant communities and stream food webs in a wilderness setting. Ecological Society of America, August 5-10, San Jose, California, USA.
- Baxter, C.V., R.L. Wilkinson, P. Della Croce, J.H. Braatne, G.W. Minshall, and C.E. Torgersen. (2007). Pattern and process in a Central Idaho wilderness riverscape: land-water linkages and the fire pulse. Invited presentation at Symposium "Landscapes to Riverscapes: Bridging the Gaps Between Research and Management of Stream Taxa and Their Ecosystems," University of Idaho, Moscow, Idaho. May 15-16, 2007.
- Beck, J., R.L. Wilkinson, and C.V. Baxter. (2005). Burned areas are visited by more bats than unburned areas. North American Symposium On Bat Research, October 21, Sacramento, California, USA.
- Beck, J., R.L. Wilkinson, and C.V. Baxter. (2005). Burned areas are visited by more bats than unburned areas. Intermountain Conference on the Environment, September 13, Idaho State University, Pocatello, ID, USA.

## GRADUATE STUDENTS

### *Bucknell University*

Megan Ritter                      M.S. Student (committee)                      2018-present

## GRANTS RECEIVED

- Conserving biota by conserving water: the effects of beaver dam analogs on aquatic insect communities in headwater streams. 2020. W.A. Franke Fresh Water Conservation Initiative. Principle Investigators: B. Colman, R.L. Malison, and L. Eby. \$39,444.
- Mapping the spatial and temporal thermal trends of the Kuskokwim and Aniak Rivers. 2020. Alaska Sustainable Salmon Fund. Principle Investigators: D. Whited, R.L. Malison, and D. Gillkin. \$93,769.
- Alpine stonefly physiology and local adaptation: How can we manage for imperiled species at high elevations? 2019. Department of the Interior Northwest Climate Adaptation Science Center Research Fellowship. Principle Investigators: B. Hand and R.L. Malison. \$53,139.
- Effects of changing stream temperatures on Montana stonefly communities. 2019. Montana Water Center Faculty Seed Grant. Principle Investigators: H.A. Woods and R.L. Malison. \$15,000.
- Monitoring of spawning salmon and sea trout in Gråelva, Stjørdal. 2015. Fylkesmannen I Nord-Trøndelag. Principle Investigator: R.L. Malison. \$2,800.
- Do beavers negatively impact the Atlantic salmon and sea trout resource? 2014-2016. Marie Curie International Incoming Fellowship (IIF), European Union. Principle Investigator: R.L. Malison. \$332,672.
- Dr. Robert L. Gilbertson Scholarship, UM. Spr. '13, Spr. & Fall '12, Spr. & Fall '11, Fall '10. R.L. Malison. \$2600.
- Montana Institute on Ecosystems PhD Fellowship. Spring 2012. R.L. Malison. \$8700.
- MT NSF EPSCoR Large River Ecosystem Fellowship. Spring 2011. R.L. Malison and J.A. Stanford. \$6800.
- UM, Bierman Research Endowment. Fall 2009 and Spring 2010. R.L. Malison. \$2950.
- ISU, Department of Biological Sciences. '08, '07, Spr. & Fall '06 & '05. R.L. Malison and C.V. Baxter. \$500.
- ISU, Graduate Student Research and Scholarship Committee. Dissemination Grant. Fall 2006. R.L. Wilkinson and C.V. Baxter. \$500.
- ISU, Biological Graduate Student Association. 2006 & 2007. R.L. Wilkinson and C.V. Baxter. \$200.
- ISU, Office of Research. 2006. R.L. Wilkinson and C.V. Baxter. \$150.
- ISU, Graduate Student Research and Scholarship Committee. Research Grant. Fall 2006. R.L. Wilkinson and C.V. Baxter. \$1000.

## **PROFESSIONAL SERVICE**

*Invited Reviewer* (2011-Present). *Ecology, Ecosystems, Environmental Entomology, Freshwater Biology, Journal of Freshwater Ecology, Journal of Applied Ecology, Journal of Arid Environments, Marine and Freshwater Research, Annales Zoologici Fennici, Transactions of the American Fisheries Society, Punjab University Journal of Zoology, Forest Ecology and Management, Ecology of Freshwater Fish.*

*Grant Proposal Reviewer* (2017-Present). National Science Foundation – Arctic Natural Sciences.

*AFS Chapter Secretary* (2005-2006). ISU Portneuf River Student Chapter.

## **UNIVERSITY SERVICE**

*Committee Member* (2017-2019). Graduate and Postdoctoral Programs Committee, Flathead Lake Biological Station, The University of Montana.

*Committee Member* (2017-2019). Undergraduate Programs Committee, Flathead Lake Biological Station, The University of Montana.

*Committee Member* (2005-2007). Biology Graduate Student Association, Department of Biological Sciences, Idaho State University, Treasurer (2005-2006).

## **SYNERGISTIC ACTIVITIES AND OUTREACH**

*Presenter* (2020). Presented about the Flathead Lake Biological Station and river ecology research to the Bigfork Rotary. 20 May 2020.

*Presenter* (2020). Presented research on river floodplains and stoneflies at the “Science Quenchers” event held by the Whitefish Lake Institute. 17 Jan 2020.

*Salmonids Focal Group Lead for “Advancing Scientific Knowledge of Mining Impacts on Salmonid-Bearing Watersheds”* (Oct 23-27 2019) – engaged a diverse network of science and policy experts to address mining impacts on salmonids.

*Member of the Transboundary Rivers Scientific Advisory Committee* (2019 – present) – provide advice on transboundary research between Alaska and Canada on the effects of mining on freshwater systems.

*Co-organized International genetics course* (ConGen 2019 & 2020) on Population Genetic Data Analysis for graduate students, postdocs, and faculty in Montana. Class website: (<http://www.umt.edu/sell/cps/congen/>).

*Mentorship of young scientists* (2017 – present) – Mentored undergraduates, recent graduates, graduate students and volunteers that have taken part in my research program. 2017: Supervised 4 volunteers (Kridde Whitmore, Garrett Frandson, Megan Ritter, Wesley Sigl) and 1 intern (Hailey Jacobson). 2018: Supervised 4 volunteers (Erin Lee, Melanie McMillan, Hailey Jacobson, Taylir Schrock), 3 interns (Brenna Previlige, Faith Breen, Eliza Keksi), and 2 employees (Kridde Whitmore, Wesley Sigl). 2019: Supervised 3 volunteers (Haley Dole, Dan Harvey, Lexi DeLisle), 1 employee (Julia Cotter), and 2 interns (Clara Monkowski, Grant Marshall).

*Presenter* (2019). Presented to the North Fork of the Flathead River Landowners Association group about stoneflies and floodplain ecology.

*Presenter* (2019). Science on Tap - Flathead, presentation of “Ecology of river floodplains and their hidden groundwater stoneflies” to the local community.

*Presenter* (2018). Presented to the Kalispell chapter of Trout Unlimited about Floodplain Ecology.

*Lecturer* (2017 and 2018). Led field educational days for different groups (FLBS interns and middle school students) on the Nyack floodplain, MT, to teach students about river and floodplain ecology.

*Presenter* (2019, 2018, 2017, 2013, 2012, 2008). Taught adults and children about aquatic insects and river/floodplain ecology at the annual Flathead Biological Station Open House.

*Presenter* (2013). Guest lecture to 7-8<sup>th</sup> graders for a Montana Junior High School career day.

*Presenter* (2009, 2010). USFWS Yukon Delta National Wildlife Refuge Science Camp. Annually taught native students about river ecology on the Kwethluk River.

*Montana Science Fair Judge* (2003, 2004, 2012, 2018). Judged biological science projects for the Montana Science Fair.

*Committee Member* (1998-2008). Rocky Mountain Elk Foundation, Selkirk Crest and Southeast Idaho Chapter Committees, Idaho. Main duties include assisting with preparation and operation of annual banquets to raise funds for conservation.

*Guest Presenter* (2006). Pocatello Greenway Riverfest, Idaho. Volunteered with the ISU Stream Ecology Center, teaching children and adults about stream ecology.

*Community Environmental Fair Presenter* (2006-2007). Pocatello, Idaho. Volunteered with the ISU Stream Ecology Center to teach children and adults about stream ecology and aquatic insects living in the Portneuf River.

*Classroom Instructor and Festival Assistant* (2003). Clark Fork Watershed Festival, Community Watershed Education Experience, University of Montana, Missoula, Montana. Participated in a semester-long community watershed class, conducted classroom visits with 6<sup>th</sup> graders, and served as a guide for the Watershed Festival on May 1<sup>st</sup>, 2003.

## **HONORS AND HONOR SOCIETIES**

Department of the Interior Northwest Climate Adaptation Science Center Fellow (2019-2020)  
Marie Curie International Incoming Fellow (2014-2016)  
Montana Institute on Ecosystems Fellow (2012)  
American Fisheries Society – EOS Travel Award (2012)  
Society for Freshwater Science Endowment Award (2012)  
American Fisheries Society Finalist for Best Student Paper (2012)  
North American Benthological Society Presidents Award (2007)

## **PROFESSIONAL AFFILIATIONS**

American Fisheries Society  
Ecological Society of America  
Society for Freshwater Science  
Rotary Club of Bigfork