

# Kyle R. Christianson

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## Education

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- Ph.D.**, Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins, CO 2019  
Adviser: Dr. Brett Johnson  
Dissertation topic: "The effects of climate change on high elevation lake ecosystems"
- B.S.**, Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins, CO 2013  
Adviser: Dr. Kurt Fausch

## Professional Experience

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- Post-doctoral research scientist in aquatic ecology, University of Colorado, Boulder, CO May 2019 -
- Graduate Research Assistant, CSU, Fort Collins, CO May 2014 - Aug 2015, Aug 2017-May 2019
- Fellow Grant Trainee, NSF IGERT I-WATER Program, CSU, Fort Collins, CO Aug 2015-Aug 2017
- Field and laboratory technician, Colorado Parks and Wildlife, Fort Collins, CO Sept 2013-May 2014
- Work-study intern, Larval Fish Laboratory, Colorado State University, Fort Collins, CO Aug 2010-May 2013
- Field and laboratory technician, Fisheries Ecology Laboratory, CSU, Fort Collins, CO May 2012-Aug 2013
- Field technician, Larval Fish Laboratory, CSU, Dinosaur National Monument, CO May-Aug 2011
- Biological Science Aid, USDA Forest Service, Tiller, OR May-July 2010

## Teaching Experience

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- Lead Co-Instructor, Design of Fish and Wildlife Studies (FW551, online) 3 credits, CSU, Fort Collins, CO Fall 2018
- course description: "Non-mathematical introduction to the design of research studies used in fish, wildlife, and conservation biology. Fundamental concepts about sampling studies, controlled experiments, quasi-experiments, monitoring studies, observational studies, and the associated philosophies of science are covered."
- Lead Co-Instructor, Applied Sampling of Fish and Wildlife Studies (FW552, online) 3 credits, CSU Spring 2018; 2019
- course description: "Survey sampling theory and mathematical techniques, including distance sampling, with emphasis on wildlife and fish studies."
  - developed tutorials teaching the application of R statistical software for data analysis and modeling
- Graduate Teaching Assistant, Fishery Science (FW401), CSU, Fort Collins, CO Fall 2014
- Guest lecturer, Fishery Science (FW401), CSU, Fort Collins, CO Dec 2014
- Guest lecturer, Ichthyology (FW301), CSU, Fort Collins, CO Feb 2014

## Peer-reviewed Publications

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- Oleksy, I., W. Beck, R. Lammers, C. Steger, C. Wilson, **K. R. Christianson**, K. Vincent, G. Johnson, P. Johnson, and J. Baron. *In review*. Warm, dry summers and variation in snow control phytoplankton dynamics in high-elevation lakes. *Ecography*.
- Christianson, K. R.** and B. M. Johnson. *In review*. Combined effects of early snowmelt and climate warming on mountain lake temperatures and fish energetics. *Arctic, Antarctic, and Alpine Research*.
- Christianson, K. R.**, B. M. Johnson, and M. B. Hooten. *In press*. Compound effects of water clarity, inflow, wind and climate warming on mountain lake thermal regimes. *Aquatic Sciences*.

Moser, K., J. Baron, J. Brahney, B. Oleksy, J. Saros, B. Hundey, S. Sadro, J. Kopacek, R. Sommaruga, M. Kainz, A. Strecker, S. Chandra, D. Walters, D. Preston, N. Michelutti, F. Lepori, S. Spaulding, D. Hik, **K. R. Christianson**, J. Melack, and J. Smol. 2019. Mountain lakes: eyes on global environmental change. *Global and Planetary Change*.

**Christianson, K. R.**, B. M. Johnson, M. B. Hooten, and J. J. Roberts. 2019. Estimating lake-climate responses from sparse data: an application to high elevation lakes. *Limnology and Oceanography*. doi: 10.1002/lno.11121

Carim, K. J., **K. R. Christianson**, K. M. McKelvey, W. M. Pate, D. B. Silver, B. M. Johnson, B. T. Galloway, M. K. Young, and M. K. Schwartz. 2016. Environmental DNA marker development with sparse biological information: a case study on Opossum Shrimp (*Mysis diluviana*). *PLoS One*. Doi:10.1371/journal.pone.0161664

Silver, D. B., B. M. Johnson, W. M. Pate, **K. R. Christianson**, J. Tipton, J. Sherwood, B. Smith, and Y. Hao. 2016. Effect of net size on estimates of abundance, size, age, and sex of *Mysis diluviana*. *Journal of Great Lakes Research* 42:731-737.

Wolf, J. M., B. M. Johnson, D. B. Silver, W. M. Pate, and **K. R. Christianson**. 2016. Freezing and fractionation: effects of preservation on carbon and nitrogen signatures of some limnetic organisms. *Rapid Communications in Mass Spectrometry* 30:562-568.

Vigil, E. M., **K. R. Christianson**, J. M. Lepak, and P. J. Williams. 2015. Temperature effects on hatching and viability of juvenile Gill Lice, *Salmincola californiensis*. *Journal of Fish Diseases*. doi: 10.1111/jfd.124222

**Christianson, K. R.**, K. A. Loria, P. Blanken, N. Caine, and P. T. J. Johnson. *In Prep*. Trends in lake ice phenology at high elevation compared to high latitude and global estimates. Prepared for *Limnology and Oceanography Letters*.

## Technical Reports

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Silver, D., W. Pate, **K. Christianson**, and B. Johnson. 2018. A study to determine the fate of *Mysis* Shrimp in Cheesman Reservoir, CO. Prepared for Denver Water.

Lepak, J. and **K. Christianson**. 2014. Evaluating and enhancing Colorado's trophy Largemouth Bass and Walleye opportunities. Colorado Parks and Wildlife annual agency report, Lake and Reservoir Research.

**K. Christianson** and B. Johnson. 2013. Response of midge larvae to the exclusion of predation in Dillon Reservoir, CO. Senior undergraduate independent research study. Fisheries Ecology Lab, Colorado State University.

## Presentations (\*oral presentation, \*\* poster presentation)

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\* **Christianson, K.** 2019. Climate change and mountain lakes: what's the big deal? Department of Ecology and Evolutionary Biology Lunch and Learn Seminar Series, University of Colorado, Boulder.

\* **Christianson, K.** and B. Johnson. 2018. The effects of climate change on high elevation lake ecosystems. FWCB Graduate Faculty Seminar Series, CSU.

\* **Christianson, K.**, B. Johnson, M. Hooten, and J. Roberts. 2018. Using sparse data to estimate lake warming in the Southern Rocky Mountains. Association for the Sciences of Limnology and Oceanography Annual Meeting.

\* **Christianson, K.** 2018. High elevation lake fisheries in a changing climate. Colorado Trout Unlimited – Rocky Mountain Flycasters.

\*\* **Christianson, K.**, B. Johnson, and D. Silver. 2017. Reduced snowpack may compound effects of climate warming on high elevation lakes. North American Lake Management Society Annual Meeting.

\* Johnson, B., D. Silver, W. Pate, and **K. Christianson**. 2017. *Mysis diluviana* responses climate and dam operations in three montane reservoirs. North American Lake Management Society Annual Meeting.

\* **Christianson, K.**, B. Johnson, and D. Silver. 2017. Drought may compound effects of climate warming on high elevation lakes. Western Division of The American Fisheries Society Annual Meeting.

- \* Johnson, B., D. Silver, W. Pate, and **K. Christianson**. 2017. *Mysis diluviana* responses to severe drought in three montane reservoirs. Western Division of The American Fisheries Society Annual Meeting.
- \*\* Barby, C., **K. Christianson**, and B. Johnson. 2017. Utility of Landsat 8 to detect water clarity in lakes. Undergraduate Research Symposium, CSU.
- \* **Christianson, K.**, B. Johnson, and D. Silver. 2017. Climate effects on high elevation lakes: the influence of lake specific parameters. Hydrology Days, CSU.
- \* **Christianson, K.**, B. Johnson, D. Silver, B. Galloway, and W. Pate. 2016. High elevation lakes in a changing climate. Hydrology Days, CSU.
- \*\* **Christianson, K.**, B. Johnson, D. Silver, W. Pate, B. Galloway, and K. Carim. 2016. Using eDNA to detect *Mysis diluviana* in lentic systems. CO-WY chapter meeting of the American Fisheries Society, Laramie, WY.
- \* **Christianson, K.**, B. Johnson, D. Silver, and W. Pate. 2015. Detection of *Mysis diluviana* using environmental DNA (eDNA). *Mysis diluviana* Collaborative Workshop, Rubenstein Ecosystem Science Lab, University of Vermont.
- \*\* Vigil, E., **K. Christianson**, and J. Lepak. 2014. Temperature effects on hatching and viability of juvenile gill lice. CO-WY chapter meeting of the American Fisheries Society, Laramie, WY.
- \* **Christianson, K.**, J. Lepak, A. Treble, C. Myrick, and B. Swigle. 2014. Enhancing Colorado's trophy Largemouth Bass through management. CO-WY Chapter Meeting of the American Fisheries Society, Laramie, WY.
- \* **Christianson, K.**, J. Lepak, A. Treble, C. Myrick, and B. Swigle. 2014. Evaluating and enhancing Colorado's trophy Largemouth Bass opportunities. CSU subunit of The American Fisheries Society meeting, CSU, Fort Collins, CO.
- \* **Christianson, K.**, J. Lepak, A. Treble, C. Myrick, and B. Swigle. 2014. Evaluating and enhancing Colorado's trophy Largemouth Bass opportunities". Colorado Parks and Wildlife Biologist and Researchers Annual Meeting, Loveland, CO.
- \*\* **Christianson, K.** and B. Johnson. 2013. Response of midge larvae to the exclusion of predation in Dillon Reservoir, CO. Undergraduate Research Symposium, CSU.

## Conferences Attended

Association for the Sciences of Limnology and Oceanography, Victoria, British Columbia, Canada	Jun 2018
North American Lake Management Society, Denver, CO	Nov 2017
The American Fisheries Society - Western Division Annual Meeting, Missoula, MT	May 2017
High Elevation Lakes Workshop, USGS John Wesley Powell Center for Analysis and Synthesis, CO	Mar 2017
Society for International Limnology (SIL) Conference, Turin, Italy	Aug 2016
North Central Climate Science Center Open Science Conference, CSU, Fort Collins, CO	May 2015
American Fisheries Society CO-WY Chapter Conference	2014; 2015; 2016; 2018; 2019
Hydrology Days, Colorado State University	2016; 2017
<i>Mysis diluviana</i> Collaborative Workshop, Rubenstein Ecosystem Science Lab, University of Vermont	Oct 2015

## Professional Service

Organizer, IWATER Fellows networking and collaborative dinner, CSU	Mar 2017
<ul style="list-style-type: none"> <li>organized logistics for an integrative dinner to discuss future collaborations among IWATER Fellows</li> </ul>	
Mentor, undergraduate independent study, CSU	Feb 2016-May 2018
Committee member, FWCB Department Seminar Selection Committee, CSU	Sep 2015-May 2016
<ul style="list-style-type: none"> <li>selected and invited speaker for seminar series (Dr. Hillary Young, UC-SB)</li> <li>organized logistics for invited speaker (speaker meetings, graduate student luncheon, faculty dinner)</li> </ul>	
Journal Co-Reviewer with Dr. Brett Johnson	Jan 2015
<ul style="list-style-type: none"> <li>Canadian Journal of Fisheries and Aquatic Sciences (1)</li> </ul>	
Member, Student Chapter of American Fisheries Society, CSU, Fort Collins, CO	Sep 2009-Present

- student liaison of the society (2012)
  - organized a river clean up and kids fishing day event
- Member, Colorado State University Bass Fishing Team, Fort Collins, CO Feb 2011-May 2013
- Vice President of the team (2012-2013)
- Participant, Alternative Break Program, SLICE, Colorado State University Dec 2012-Jan 2013
- traveled to remote Samburu, Kenya to assist and engage in activities in two women's villages
  - interacted and taught school children

## Professional Societies

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Association for the Sciences of Limnology and Oceanography (ASLO)	Feb 2018-Present
North American Lake Management Society (NALMS)	Aug 2017-Present
International Society for Limnology (SIL)	Apr 2016-Present
Global Lakes Ecological Observatory Network (GLEON)	Dec 2015-Present
American Fisheries Society (AFS)	Jan 2014-Present

## Honors and Awards

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Robert J. Behnke Rocky Mountain Flycasters Research Fellowship (\$4,800), CSU	2017
Charles and Sandra Van Riper Graduate Travel Award (\$1,000), CSU	2016
Best Student Poster Award, CO-WY Chapter of The American Fisheries Society	2016
National Science Foundation IGERT I-WATER Fellowship Award (\$93,000), CSU	2015-2017
Best Poster Award, Co-author, CO-WY Chapter of The American Fisheries Society	2014
Outstanding Senior, Department of Fish, Wildlife, and Conservation Biology, Colorado State University	2013
National Udall Scholar (\$5,000), CSU	2012
American Fisheries Society Memorial Scholarship, CSU	2011
Rhioridan Memorial Scholarship, CSU	2010
Western Undergraduate Exchange Scholarship (\$40,000)	2009-2013
Eagle Scout, Troop 229, Fargo, ND	2006

## Training and Certifications

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Hazardous Waste Training Certification, CSU	Sep 2011-Present
North Central Climate Science Center Climate Modeling Workshop, CSU, Fort Collins, CO	May 2015
Aquatic Nuisance Species Inspection and Decontamination, Colorado Parks and Wildlife	2014; 2015; 2016
Gill Lice Inspection Training, Colorado Parks and Wildlife, Fort Collins, CO	2013

## Technological Skills

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- Geographic Information Systems (GIS)
- ArcGIS including ArcMap and ArcScene
    - Spatial interpolation including IDW and kriging techniques using point location SONAR data
    - Remote sensing: Landsat 7, Landsat 8, MODIS
- Statistical analysis and modeling
- R using RStudio
    - Taught R basics via online tutorials (FW552)
    - Bayesian statistical methods using MCMC techniques (rjags)
    - Generalized linear mixture models (GLMM)
    - The General Lake Model (GLM)
    - Fish Bioenergetics 4.0
  - SAS 9.4
    - Multiple regression, ANOVA, ANCOVA

#### Webpage construction

- Understanding of HyperText Markup Language (html)
  - Built webpage for class project (Concepts in GIS)

#### Microsoft Office

- Highly proficient with Word, PowerPoint, Access, and Excel