

## **CURRICULUM VITAE OF JEFFREY ARRON FALKE (June 2017)**

**Address:** Alaska Cooperative Fish and Wildlife Research Unit  
University of Alaska Fairbanks  
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### **EDUCATION:**

PhD Colorado State University. 2009 (Fisheries Ecology)  
M.S. Kansas State University. 2004 (Biology)  
B.S. University of Missouri. 2000 (Fisheries and Wildlife)  
A.A. Longview Community College. 1995

### **EMPLOYMENT:**

2012-pres Assistant Leader, U.S. Geological Survey, Alaska Cooperative Fish and Wildlife Research Unit

2012-pres Assistant Professor, College of Fisheries and Ocean Sciences, Department of Fisheries, and Institute of Arctic Biology, University of Alaska Fairbanks

2010-2012 Postdoctoral Research Associate, Oregon State University

2009-2010 Postdoctoral Fellow, National Research Council / NOAA-Fisheries

2005 -2009 Graduate Research Assistant, Colorado State University

2003-2004 Graduate Research Assistant, Kansas State University

2001-2002 Fisheries Research Technician, Arizona Game and Fish Department

1999-2001 Fisheries Aide, Missouri Department of Conservation

### **RESEARCH INTERESTS:**

Freshwater fish ecology and conservation biology  
Ecology and evolutionary biology of salmonids  
Landscape and spatial ecology of freshwater ecosystems  
Climate change impacts on aquatic systems  
Impacts of introduced species on native aquatic fauna

### **COURSES TAUGHT:**

- *Physical Processes in Freshwater Ecosystems*, Fall 2015, Primary Instructor
- *Stream Fish Community Ecology*, University of Alaska Fairbanks, Fall 2013, Spring 2015 Primary Instructor
- *Fisheries Division Seminar*, University of Alaska Fairbanks, Spring 2014, Organizer

- *Ichthyology*, Colorado State University, Fall 2008, Primary Instructor
- *Design of Fishery and Wildlife Projects*, Colorado State University, Spring 2008, Co-Instructor
- *Undergraduate Research Experience*, Colorado State University, Spring 2008, Primary Instructor

#### **TEACHING ASSISTANTSHIPS:**

Fisheries Management, Kansas State University, Fall 2004  
Principles of Biology, Kansas State University, Spring 2004  
Botany, Kansas State University, Fall 2003  
Principles of Biology, Kansas State University, Spring 2003

#### **POST-DOCTORAL RESEARCHERS**

Dr. Brock Huntsman (Spring 2014 – Spring 2016)

#### **CURRENT GRADUATE STUDENTS:**

Chelsea Clawson (MS, expected 2017), Kristin Neuneker (MS, expected 2017), Chase Jalbert (MS, expected 2018)

#### **PAST GRADUATE STUDENTS:**

Kevin Fraley (MS, 2015), Allison Matter (MS, 2016), Morgan Sparks (MS, co-advised with Peter Westley, 2016), Eric Torvinen (MS 2017)

#### **CURRENT GRADUATE STUDENT SUPERVISORY COMMITTEES:**

Christina Baker (PhD, in progress), Ben Meyer (MS, in progress), Betsy McCracken (MS, in progress), Michelle Stratton (MS, in progress)

#### **PAST GRADUATE STUDENT SUPERVISORY COMMITTEES:**

Kurt Heim (MS, 2014), Bridget Borg (PhD, 2015)

#### **HONORS AND AWARDS:**

Finalist, American Fisheries Society Best Student Paper Award 2008  
Eugene Maughan Graduate Student Scholarship, Western Division AFS 2008  
Colorado-Wyoming Chapter AFS Memorial Scholarship 2008  
Jay Hokenstrom Memorial Scholarship 2008  
John E. Skinner Memorial Fund Award, American Fisheries Society 2004  
Kansas State University Division of Biology Student Travel Award 2004

## RESEARCH GRANTS:

U.S. Fish and Wildlife Service. *Chena River juvenile Chinook salmon large wood habitat mapping*. \$37,738. May 2017 – September 2018.

U.S. Geological Survey, Northern Rocky Mountains Science Center. *Landscape genetic diversity of native and invasive Northern pike in Alaska*. \$37,000. March 2017 – November 2018. Co-PIs Peter Westley and Andrés López.

Alaska Department of Fish and Game. *FY16 Sportfish base funding*. \$75,000. July 2016 – June 2017.

Alaska Department of Fish and Game. *FY15 Sportfish base funding*. \$75,000. July 2015 – June 2016.

U.S. Fish and Wildlife Service. *Chandalar River chum salmon riverscape-scale habitat assessment and monitoring*. \$128,000. January 2015 – May 2017.

Alaska Department of Fish and Game. *FY15 Sportfish base funding*. \$75,000. July 2014 – June 2015.

Western Alaska Landscape Conservation Cooperative. *Temperature, phenology, and embryo survival in Western Alaska sockeye salmon populations: the potential for adaptation to a warming world?* \$149,914. June 2014-December 2016. Co-PIs Peter Westley and Thomas Quinn.

Matanuska-Susitna Basin Salmon Habitat Partnership. *Characterization of resident rainbow trout seasonal habitats in Willow Creek, Alaska*. \$45,243. October 2013-May 2014.

Alaska Department of Fish and Game. *FY14 Sportfish base funding*. \$75,000. July 2013 – June 2014.

State of Alaska. *The role of environmental processes in structuring the distribution of Chinook salmon spawning and rearing habitats across a large Alaska river basin*. \$314,930. July 2013-September 2015.

Cooperative Research Units, U. S. Geological Survey. *Development and calibration of bioelectrical impedance analysis as a measure of energetic status of arctic grayling (*Thymallus arcticus*)*. \$38,710. August 2012-July 2014.

Cooperative Research Units, U. S. Geological Survey. *Dolly Varden Char bioelectrical impedance modeling*. \$10,000. August 2012-May 2013.

Alaska Department of Fish and Game. *FY13 Sportfish base funding*. \$75,000. July 2012 – June 2013.

Nevada Division of Environmental Protection. *Thermal criteria for Nevada coldwater stream fishes*. \$56,810. June 2012-July 2013. Co-PI Jason Dunham.

National Research Council. *Predicting life-history expression and production of juvenile steelhead (*Oncorhynchus mykiss*) based on landscape-riverscape processes: a framework for species conservation and management*. \$45,000. Jun. 2009 – Jun. 2010.

### **PROFESSIONAL ORGANIZATIONS:**

American Association for the Advancement of Science (2008-2009)  
American Fisheries Society (2000-Present)  
American Society of Ichthyologists and Herpetologists (2003-2004)  
Ecological Society of America (2012-Present)  
Society for Freshwater Science (2008-Present)  
Southwestern Association of Naturalists (2003-2004)

### **PROFESSIONAL SERVICE:**

- Western Division Representative, Student Subsection of the American Fisheries Society (2005-2007)
- President, Kansas State University Student Sub-unit, Kansas Chapter of the American Fisheries Society (2003-2004)
- Vice President, University of Missouri Student Sub-unit, Missouri Chapter of the American Fisheries Society (1999-2000)
- Member, University of Missouri School of Natural Resources Student Council (1998-1999)
- Session moderator, American Fisheries Society Annual Meeting, Lake Placid, NY (2006), Alaska Chapter Annual Meeting, Kodiak, AK (2012)
- Student Presentation Judge, Oregon Chapter American Fisheries Society Annual Meeting, Bend, OR (2011), North American Benthological Society Annual Meeting, Santa Fe, NM (2010)
- Poster Judge, American Fisheries Society Annual Meeting, Lake Placid, NY (2006), American Fisheries Society Annual Meeting, Anchorage, AK (2005), Front Range Ecology Symposium (2005), American Fisheries Society Annual Meeting, Madison, WI (2004)
- Manuscript reviewer for: *Aquatic Conservation: Marine & Freshwater Ecosystems; BioScience; Canadian Journal of Fisheries and Aquatic Sciences; Ecology of Freshwater Fish; Ecography; Ecological Applications; Environmental Biology of Fishes; Fisheries; Journal of Applied Ecology; River Research and Applications; Transactions of the American Fisheries Society; North American Journal of Fisheries Management; Landscape Ecology*
- Proposal reviewer for: *National Science Foundation*
- Member, National Center for Ecological Analysis and Synthesis Working Group “Spatial Statistical Models for Stream Networks: Synthesis and New Directions” (2011-2012)
- Member, Scholarship and Endowment Committee, Department of Fisheries and Wildlife, Oregon State University (2011-2012)
- Steering Committee, Chena River Watershed Summit, Spring 2013, Spring 2014

- Member, Technical Advisory Group, *Alaska Stream and Lake Temperature Monitoring Network*. 2014.
- Member, Technical Advisory Group, *Alaska Water Temperature Standards and Protocols*. 2014.
- Program Committee, Alaska Chapter American Fisheries Society Annual Meeting (Fall 2013)
- Seminar Committee, School of Fisheries and Aquatic Sciences, Fisheries Division, University of Alaska Fairbanks (Fall 2013 – Present)
- Member, Membership Committee, American Fisheries Society Parent Society (Spring 2014 – Present)
- Member, Graduate Committee, Fisheries Division, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks (Spring 2014 –Present)
- Core Team Member, University of Alaska Fairbanks Center for Salmon and Society (Fall 2014- 2015)
- Team Member, *Chena River Watershed Resources Action Plan* (Nov 2014 – April 2015)
- Executive Committee, E.S.C.A.P.E. *Engaging Salcha and Chena Area Partners on Ecosystems* (Spring 2015-Present)
- Western Division Representative, Education Section of the American Fisheries Society (2015-Present)
- Vice President, Alaska Chapter American Fisheries Society (2015-2017)
- President-Elect, Alaska Chapter American Fisheries Society (2017-Present)
- Member, Deans Research Working Group, College of Fisheries and Ocean Sciences , University of Alaska Fairbanks (2015-Present)

#### PEER-REVIEWED PUBLICATIONS:

27. Perkin, J.S., Gido, K.B., **Falke, J.A.**, Fausch, K.D., Crockett, H., Johnson, E.R., and J. Sanderson. *Accepted*. Groundwater pumping shrinks Great Plains stream fish assemblages. *Proceedings of the National Academy of Sciences of the United States of America*.
26. Sparks, M.M., Westley, P.A.H., **Falke, J.A.**, and T.P. Quinn. *Accepted*. Thermal adaptation and phenotypic plasticity in a warming world: insights from common garden experiments on Alaskan sockeye salmon. *Global Change Biology*.
25. Fraley, K.M., **Falke, J.A.**, McPhee, M.V., and A. Prakash. *Accepted*. Rainbow trout movement behavior and habitat occupancy are influenced by sex and Pacific salmon presence in an Alaska river system. *Canadian Journal of Fisheries and Aquatic Sciences*.
24. Huntsman, B.M., **Falke, J.A.**, Savereide, J.W., and K.E. Bennett. 2017. The role of density-dependent and –independent processes in spawning habitat selection by salmon in an Arctic boreal stream network. *PLoS ONE* 12(5): e0177467.
23. Myers, B.E., Lynch, A.J., Bunnell, D.B., Chu, C., **Falke, J.A.**, Kovach, R.P., Krabbenhoft, T.J., Kwak, T.J., and C.P. Paukert. 2017. Global synthesis of the projected and documented effects of climate change on inland fishes. *Reviews in Fish Biology and Fisheries* 27:339-361.

22. McGarvey, D. J., **Falke, J. A.**, Li, H. W., and J. L. Li. 2017. Fish assemblages. Pages 321-353. *In: Methods in Stream Ecology*, 3<sup>rd</sup> Edition. *Edited by* F. R. Hauer and G. A. Lamberti. Academic Press.
21. Fraley, K. M., **Falke, J. A.**, Yanusz, R., and S. Ivey. 2016. Seasonal movements and habitat use of potamodromous Rainbow Trout across a complex Alaska riverscape. *Transactions of the American Fisheries Society* 145:1077-1092.
20. Lynch, A. J., Myers, B. J. E., Chu, C., Eby, L., **Falke, J. A.**, Kovach, R. P., Krabbenhoft, T. J., Kwak, T. J., Lyons, J., Paukery, C. P., Whitney, J., and D. C. Fulton. 2016. Climate change effects on North American inland fish populations, assemblages, and aquatic communities. *Fisheries* 41:346-361.
19. **Falke, J. A.**, Dunham, J. B., Hockman-Wert, D., and R. Pahl. 2016. A simple prioritization tool to diagnose impairment of stream temperature for coldwater fishes in the Great Basin. *North American Journal of Fisheries Management* 36:147-160.
18. Flitcroft, R.L., **Falke, J.A.**, Reeves, G.H., Hessburg, P.F., McNyset, K.M., and L.E. Benda. 2016. Wildfire may increase habitat quality for spring Chinook salmon in the Wenatchee River subbasin, WA, USA. *Forest Ecology and Management* 359:126-140.
17. Heim, K. C., Wipfli, M.S., Whitman, M., Arp, C., Adams, J., and **J.A. Falke**. 2015. Environmental correlates of Arctic grayling seasonal movement on the Arctic Coastal Plain, Alaska. *Environmental Biology of Fishes* 99:49-65.
16. **Falke, J. A.**, McNyset, K. M., Flitcroft, R. M., Dunham, J. B., and G. H. Reeves. 2015. Climate change and vulnerability of bull trout (*Salvelinus confluentus*) in a fire-prone landscape. *Canadian Journal of Fisheries and Aquatic Sciences* 72:304-318.
15. Sloat, M.R., Fraser, D.J., Dunham, J.B., **Falke, J.A.**, Jordan, C.E., McMillan, J.R., and H. Ohms. 2014. Ecological and evolutionary patterns of freshwater maturation in Pacific and Atlantic salmonines. *Reviews in Fish Biology and Fisheries* 24:689-707.
14. Isaak, D. J., E. E. Peterson, J. M. Ver Hoef, S. J. Wenger, **J. A. Falke**, C. E. Torgersen, C. Sowder, E. A. Steel, M. J. Fortin, C. E. Jordan, A. S. Reusch, N. Som, and P. Monestiez. 2014. Applications of spatial statistical models to stream data. *WIREs Water* doi: 10.1002/wat2.1023.
13. **Falke, J. A.**, Dunham, J. B., McNyset, K. M., Jordan, C. E., and G. H. Reeves. 2013. Habitat complementation, ecological neighborhoods, and local factors predict the distribution and abundance of spawning steelhead trout (*Oncorhynchus mykiss*) in a large river network. *PLoS ONE* 8(11):e79232.
12. Peterson, E. E., Ver Hoef, J. M., Isaak, D. J., **Falke, J. A.**, Fortin, M., Jordan, C. E., McNyset, K., Montestiez, P., Ruesch, A. S., Sengupta, A., Som, N., Steel, A., Theobald, D. M., Torgersen, C. E., and S. J. Wenger. 2013. Modeling dendritic ecological networks in space: an integrated network perspective. *Ecology Letters* 16:707-719.
11. **Falke, J. A.**, Bailey, L. L., Bestgen, K.R., and K. D. Fausch. 2012. Colonization and extinction in dynamic habitats: an occupancy approach for an assemblage of fishes in a Great Plains river. *Ecology* 93:858-867.
10. **Falke, J. A.**, Fausch, K. D., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2011. Ecological futures for stream fishes along an intermittent Great Plains riverscape affected by drought and groundwater withdrawal for irrigation. *Ecohydrology* 4:682-697.

9. **Falke, J. A.**, Fausch, K. D., Bestgen, K. R., and L. L. Bailey. 2010. Spawning phenology and habitat use in a Great Plains stream fish assemblage: an occupancy estimation approach. *Canadian Journal of Fisheries and Aquatic Sciences* 67:1942-1956.
8. **Falke, J. A.**, Bestgen, K. R., and K. D. Fausch. 2010. Streamflow reductions and habitat drying affect growth, survival, and recruitment of brassy minnow *Hybognathus hankinsoni* across a Great Plains riverscape. *Transactions of the American Fisheries Society* 139:1566-1583.
7. **Falke, J. A.**, and K. D. Fausch. 2010. From metapopulations to metacommunities: linking theory with empirical observations of the spatial population dynamics of stream fishes. Pages 207-233. *In: Community ecology of stream fishes: concepts, approaches and techniques. Edited by K. B. Gido and D. A. Jackson. American Fisheries Society Special Publication 73.*
6. Gido, K. B., Schaefer, J., and **J. A. Falke**. 2009. Convergence of fish communities from the littoral zone of reservoirs. *Freshwater Biology* 54:1163-1177.
5. Dodds, W. K., Wilson, K. C., Rehmeier, R. L., Knight, G. L., Harper, S. W., **Falke, J. A.** Dalglish, H. J., and K. N. Bertrand. 2008. Comparing ecosystem goods and services provided by restored and native lands. *BioScience* 58:837-846.
4. **Falke, J. A.**, and K. B. Gido. 2006. Effects of reservoir connectivity on stream fish assemblages in the Great Plains. *Canadian Journal of Fisheries and Aquatic Sciences* 63:480-493.
3. **Falke, J. A.**, and K. B. Gido. 2006. Spatial effects of reservoirs on fish assemblages in Great Plains streams in Kansas, U.S.A. *River Research and Applications* 22:55-68.
2. Gido, K. B., **Falke, J. A.**, Oakes, R. M., and K. Hase. 2006. Fish-habitat relationships across spatial scales in prairie streams. *In: Influences of landscape on stream habitat and biological communities. Edited by Hughes, R., Seelbach, P., and Wang, L. American Fisheries Society Special Publication 48.*
1. Oakes, R. M., Gido, K. B., **Falke, J. A.**, Olden, J. D., and B. L. Brock. 2005. Predictive modeling of stream fish assemblages in the Great Plains, USA. *Ecology of Freshwater Fish* 14:361-374.

#### MANUSCRIPTS IN PREPARATION<sup>1</sup> OR UNDER REVIEW<sup>2</sup>:

- <sup>2</sup>Borg, B.L., Arthur, S.M., **Falke, J.A.**, and L.R. Prugh. Spatially explicit dynamics of wolf sightings in Denali National Park.
- <sup>1</sup>**Falke, J.A.**, Bailey, L.T., Fraley, K.M., Lunde, M.J., and A.D. Gryska. Patterns in energy density and bioelectrical impedance modeling of Arctic grayling in four interior Alaska rivers.
- <sup>1</sup>**Falke, J.A.**, Huntsman, B.M., and E.R. Schoen. Riverscape-scale bioenergetics of juvenile Chinook salmon in a boreal river network.
- <sup>2</sup>Matter, A.N., Falke, J.A., López, J.A., and J.W. Saveriede. A rapid assessment method to estimate the distribution of juvenile Chinook salmon using eDNA and occupancy estimation.
- <sup>1</sup>Squires, A., Riley, L., Durnford, D., Oad, R., **Falke, J. A.**, and K. D. Fausch. Evapotranspiration along a High Plains stream: comparison of the water table fluctuation, numerical response-function and water balance methods.

## THESES AND DISSERTATIONS:

- Torvinen, E. S. 2017. Lake trout (*Salvelinus namaycush*) otoliths as indicators of past climate patterns and growth in Arctic lakes. Unpublished Master's thesis. College of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska. 97 pp.
- Sparks, M. S. 2016. Climate, embryonic development, and potential for adaptation to warming water temperatures by Bristol Bay sockeye salmon. Unpublished Master's thesis. School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska. 100 pp.
- Matter, A. N. 2016. A rapid assessment method to estimate the distribution of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) in an interior Alaska river basin. Unpublished Master's thesis. School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska. 66 pp.
- Fraley, K. M. 2015. Seasonal movements and habitat use of rainbow trout in the Susitna River basin, southcentral Alaska. Unpublished Master's thesis. School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska. 105 pp.

## REPORTS:

- Falke, J.A.**, Dunham, J.B., and A. Mills. 2013. Variability in summer stream temperatures in Nevada: implications for monitoring and assessment. Final Report to Nevada Division of Environmental Protection. 68 p.
- Reeves, G. H., Flitcroft, R. M., Benda, L. E., Bisson, P., Wondzell, S., **Falke, J. A.**, McNyset, K. M., Vance-Borland, K., and D. Miller. 2012. A decision-support system for assessing the impact of fire management on threatened and endangered species. Final Report to the Joint Fire Science Program. Project Number 09-01-08-26.
- Falke, J. A.**, and K. D. Fausch. 2009. Effects of groundwater withdrawal and drought on fishes and their habitats in the Arikaree River basin, Colorado. Final report to Colorado Division of Wildlife, Interagency Agreement IA-CSU-1183-2004, Colorado State University, Fort Collins. 261 p.
- Falke, J. A.**, and K. D. Fausch. 2007. Groundwater pumping and drought: effects on fish and fish habitats in the Arikaree River, Colorado. Annual report to Colorado Division of Wildlife, Interagency Agreement IA-CSU-1183-2004, Colorado State University, Fort Collins. 75 p.
- Falke, J. A.**, and K. D. Fausch. 2006. Effects of seasonal drying on fish habitat and larval and adult fish assemblages in the Arikaree River, Colorado. Annual report to Colorado Division of Wildlife, Interagency Agreement IA-CSU-1183-2004, Colorado State University, Fort Collins. 66 p.
- Fausch, K. D., **Falke, J. A.**, and H. Griscom. 2005. Arikaree River: Plains fish habitat surveys 2000-2004. Colorado State University, Fort Collins. 16 p.
- Slaughter, J. E., IV, Gurtin, S. D., **Falke, J. A.**, Sampson, S. J., and R. H. Bradford. 2004. Habitat selection and use by hatchery-reared adult razorback sucker and flathead catfish and the response of razorback sucker to off-channel habitat restoration activities



within the Imperial Division, Lower Colorado River. Contract report No. 5 to U.S. Bureau of Reclamation, Cooperative Agreement 99-FG-34-0005 and 99-FG-34-0009, Arizona Game and Fish Department, Phoenix. 108 p.

## ORAL PRESENTATIONS:

\* *invited presentation*

# *student advisee presentation*

- Falke, J.A.**, Huntsman, B.M., Schoen, E.R., and K.E. Bennett. 2016. Growth potential of juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) across a boreal riverscape. Alaska Chapter of the American Fisheries Society Annual Meeting, Fairbanks, AK, 20-24 March 2017.
- #Torvinen, E., **Falke, J.**, Arp, C., Sutton, T., and C. Zimmerman. 2017. Using lake trout (*Salvelinus namaycush*) otoliths to recreate past patterns of recent climate and growth in Arctic lakes. Alaska Chapter American Fisheries Society Annual Meeting, Fairbanks, Alaska, 19-23 March, 2017.
- #Neuneker, K., **Falke, J.**, Nichols, J. and P. Richards. 2017. Migration patterns of adult Chinook salmon in two Southeast Alaska transboundary rivers. Alaska Chapter American Fisheries Society Annual Meeting, Fairbanks, Alaska, 19-23 March, 2017.
- #Clawson, C., **J. Falke**, J. Rose, A. Martin, and A. Prakash. 2017. A remote sensing and occupancy estimation approach to quantify spawning habitat use by fall Chum Salmon (*Oncorhynchus keta*) along the Chandalar River, Alaska. Alaska Chapter American Fisheries Society Annual Meeting, Fairbanks, Alaska, 19-23 March, 2017.
- Meyer, B., M. Wipfli, D. Rinella, E. Schoen, and **J. Falke**. 2017. Growth and foraging patterns of juvenile Chinook and coho salmon in three geomorphically distinct sub-basins of the Kenai River. Alaska Chapter AFS-AWRA, Fairbanks, AK.
- Westley, P., Cathcart, N., Sepulveda, A., López, A., von Hippel, F., Haught, S., **Falke, J.**, and T. Quinn. 2016. Towards an understanding of population structure and adaptation by invasive Northern pike. Matanuska-Susitna Salmon Habitat Partnership Salmon Symposium. November 17, 2016. Palmer, AK.
- Falke, J.A.**, Huntsman, B.M., and A.N. Martin. 2016. The role of geomorphic and hydrologic processes in structuring spawning and rearing habitats for Chinook salmon in a boreal stream network. American Fisheries Society Annual Meeting. August 24, 2016. Kansas City, MO.
- #Matter, A.N., **Falke, J.A.**, Savereide, J.W., and J.A. Lopez. 2016. Estimating the distribution of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) using habitat modeling and eDNA in an interior Alaska river basin. Annual Meeting of the American Fisheries Society, August 24, 2016. Kansas City, MO.
- \*Myers, B. J. E., A. J. Lynch, T. J. Krabbenhoft, R. P. Kovach, T. J. Kwak, **J. A. Falke**, C. Chu, D. B. Bunnell, C. P. Paukert. Global synthesis of climate change effects on inland fish. August 2016. American Fisheries Society Annual Meeting. August 22, 2016. Kansas City, Missouri.

- #Sparks, M., Westley, P., **Falke, J.**, and T. Quinn. 2016. Experimental tests for thermal local adaptation and heritable phenotypic plasticity in hatching timing by sockeye salmon using a common garden approach. *Evolution* 2016. June 17, 2016. Austin, TX.
- #Frale, K.M., **Falke, J.A.**, Yanusz, R., and S. Ivey. 2015. Seasonal movements and habitat use of rainbow trout (*Oncorhynchus mykiss*) in the Susitna River basin, Southcentral Alaska. 2016 Matanuska-Susitna Salmon Habitat Partnership Salmon Symposium. November 19, 2015. Palmer, AK.
- #Huntsman, B.M., **Falke, J.A.**, Saveride, J., and K. Bennett. 2015. Density-dependent and -independent mechanisms influencing spawning habitat selection by Chinook Salmon (*Oncorhynchus tshawytscha*) in the Chena River basin, Alaska. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November 2015
- #Martin, A.N., **Falke, J.A.**, Savereide, J.W., and J.A. Lopez. 2015. Estimating the distribution of juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) using habitat modeling and eDNA in an interior Alaska river basin. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- #Torvinen, E., Falke, J., Arp, C., Whitman, M., Adams, J. and C. Zimmerman. 2015. Lake Trout (*Salvelinus namaycush*) otoliths as biochronological indicators of recent climate patterns in Arctic lakes. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- #Frale, K.M., **Falke, J.A.**, Yanusz, R., and S. Ivey. 2015. Seasonal movements and habitat use of rainbow trout (*Oncorhynchus mykiss*) in the Susitna River basin, Southcentral Alaska. American Fisheries Society Annual Meeting. August 17, 2015. Portland, OR.
- Falke, J.A.**, Perkin, J.S., Gido, K.B., Crockett, H.J., Sanderson, J.S., Johnson, E.R., and K.D. Fausch. 2015. Groundwater depletion in western Great Plains to dry 250 stream-km of fish habitat in the next 45 years. American Fisheries Society Annual Meeting. August 17, 2015. Portland, OR.
- Perkin, J.S., Gido, K.B., **Falke, J.A.**, Crockett, H.J., Sanderson, J.S., Johnson, E.R., and K.D. Fausch. 2015. Groundwater depletion in western Great Plains to dry 250 stream-km of fish habitat in the next 45 years. Society for Freshwater Science Annual Meeting. May 19, 2015. Milwaukee, WI.
- #Frale, K.M., **Falke, J.A.**, Yanusz, R., and S. Ivey. 2015. Seasonal movements of Rainbow Trout (*Oncorhynchus mykiss*) in the Susitna River Basin, Southcentral Alaska. Alaska Cooperative Fish and Wildlife Research Unit Annual Research Review. March 25, 2015. Fairbanks, Alaska.
- #Bailey, L.T., and **J.A. Falke**. 2014. Development and calibration of bioelectric impedance analysis as a measure of energetic status of Arctic grayling (*Thymallus arcticus*). Alaska Chapter American Fisheries Society Meeting. October 24, 2014. Juneau, Alaska.
- #Frale, K.M., and **J.A. Falke**. 2014. Seasonal movements of Rainbow Trout (*Oncorhynchus mykiss*) in the Susitna River Basin, Southcentral Alaska. Alaska Chapter American Fisheries Society Meeting. October 23, 2014. Juneau, Alaska.
- \***Falke, J. A.**, Flitcroft, R.M., Dunham, J.B., McNyset, K.M., Hessburg, P.F., Reeves, G.H., and L. Benda. 2014. Fish, forests, and fire: vulnerability analysis for threatened salmonids under a changing climate. Alaska Chapter American Fisheries Society Meeting. October 22, 2014. Juneau, Alaska.

- \***Falke, J. A.**, McNyset K. M., Flitcroft, R. M., Reeves, G. H., Vance-Borland, K., and J. B. Dunham. 2014. Climate change and bull trout in a fire-prone landscape. American Fisheries Society Annual Meeting. August, 18 2014. Quebec City, Quebec, Canada.
- \*Flitcroft, R. M., **Falke, J. A.**, McNyset, K. M., Reeves, G. R., Benda, L., and P. F. Hessburg. 2014. Population-scale resilience of Spring Chinook (*Oncorhynchus tshawytscha*) to wildfire in the Wenatchee River watershed. American Fisheries Society Annual Meeting. August, 18 2014. Quebec City, Quebec, Canada.
- \***Falke, J.A.**, Dunham, J. B., Hockman-Wert, D., and R. Pahl. 2014. Integrating models of species distributions, physiological thresholds, and physical potential to diagnose temperature impairment in Great Basin streams. Joint Aquatic Sciences Meeting. May 22, 2014. Portland, OR.
- \***Falke, J.A.**, Martin, A. N., and B. M. Huntsman. 2014. Chena River basin juvenile Chinook salmon and physical habitat studies (2013-2016). Yukon Basin Interagency Fisheries Meeting. April 18, 2014. Fairbanks, AK.
- \***Falke, J. A.**, Dunham, J. B., McNyset, K. M., Jordan, C. E., and G. H. Reeves. 2014. The relative influence of ecological processes in predicting steelhead redd abundance along a complex riverscape in the John Day River basin, Oregon. Pacific States Marine Fisheries Commission Steelhead Managers Meeting. March 19, 2014. Stevenson, OR.
- \***Falke, J. A.**, Torgersen, C. E., Walter, J. K., Peterson E. E., and J. M. Ver Hoef. 2013. Predicting the distribution of fish in headwaters with spatial stream network models. The International Environmetrics Society Annual Meeting. June 13, 2013. Anchorage, AK.
- \*Torgersen, C. E., **Falke, J. A.**, Walter, J. K., Peterson E. E., and J. M. Ver Hoef. 2013. Effects of sampling density on spatial dependence of fish abundance data in headwater stream networks. The International Environmetrics Society Annual Meeting. June 13, 2013. Anchorage, AK.
- \***Falke, J. A.** and D. J. Isaak. 2012. Overview and applications of stream water temperature predictive models for fish conservation and management. Alaska Chapter of the American Fisheries Society Annual Meeting. October 24, 2012. Kodiak, AK.
- \***Falke, J.**, McNyset, K., Flitcroft, B., Reeves, G., Jordan, C., and J. Dunham. 2012. Application of a riverscape water temperature model for conservation and management of threatened salmonids in the Pacific Northwest. American Fisheries Society Annual Meeting. August 22, 2012. St. Paul, MN.
- \***Falke, J. A.**, McNyset K. M., Flitcroft, R. M., Reeves, G. H., Vance-Borland, K., and J. B. Dunham. Fish and fire: vulnerability analysis for bull trout across a wildfire-prone landscape. Oregon Chapter of the American Fisheries Society Annual Meeting. March 2, 2011. Eugene, OR.
- \***Falke, J. A.**, Dunham, J. B., McNyset, K. M., Jordan, C. E., and G. H. Reeves. 2011. Predicting the distribution and abundance of steelhead (*Oncorhynchus mykiss*) redds across a complex riverscape: a spatially continuous approach. American Fisheries Society Annual Meeting / Riverscapes Symposium. September 7, 2011. Seattle, WA.
- Falke, J. A.**, Dunham, J. B., McNyset, K. M., Jordan, C. E., and G. H. Reeves. 2011. The relative influence of ecological processes in predicting steelhead spawning distribution across a complex riverscape. Oregon Chapter of the American Fisheries Society Annual Meeting. February 24, 2011. Bend, OR.

- #Scanlan, M., Spencer, D., **Falke, J.**, and J. Ebersole. 2011. Seasonal size distribution of three-spined stickleback in an intermittent/perennial stream system. Oregon Chapter of the American Fisheries Society Annual Meeting. February 24, 2011. Bend, OR.
- Falke, J. A.**, Gido, K. B., and K. D. Fausch. 2010. Linking groundwater pumping for irrigation to stream habitat: is there a future for fishes in western Great Plains streams? North American Benthological Society Annual Meeting. June 10, 2010. Santa Fe, NM.
- Falke, J. A.**, McNyset, K. M., and C. E. Jordan. 2010. Development of a water temperature model to predict life-history expression and production of *Oncorhynchus mykiss* in the John Day River basin, Oregon. Pacific States Marine Fisheries Commission Steelhead Managers Meeting. March 9, 2010. Redmond, OR.
- Falke, J. A.**, McNyset, K. M., and C. E. Jordan. 2010. Development of a water temperature model to predict life-history expression and production of *Oncorhynchus mykiss* in the John Day River basin, Oregon. Oregon Chapter of the American Fisheries Society Annual Meeting. February 25, 2010. Eugene, OR.
- Falke, J. A.**, Bestgen, K. R., and K. D. Fausch. 2009. Multiscale effects of habitat fragmentation due to drought and groundwater pumping on fish populations in a Great Plains headwater stream. American Fisheries Society Annual Meeting. September 1, 2009. Nashville, TN.
- \***Falke, J. A.**, Jordan, C. E., Dunham, J. B., and G. H. Reeves. 2009. Predicting life-history expression and production of *O. mykiss* based on landscape-riverscape processes. National Research Council Associateship Programs Staff Meeting. August 11, 2009. Seattle, WA.
- Falke, J. A.** 2009. Effects of groundwater withdrawal and drought on native fishes and their habitats in the Arikaree River, Colorado. Ph.D. defense seminar. Colorado State University, Fort Collins, Colorado. March 13, 2009.
- Falke, J. A.**, Fausch, K. D., and K. R. Bestgen. 2009. Patterns in habitat use and phenology of an assemblage of larval fishes in a Great Plains stream: effects of drought and habitat drying across years. Colorado/Wyoming Chapter of the American Fisheries Society. February 25, 2009. Loveland, CO.
- \***Falke, J. A.**, and K. D. Fausch. 2008. Metacommunity dynamics of stream fishes: theory and an empirical test. American Fisheries Society Annual Meeting / Community Ecology of Stream Fishes Symposium. August 19, 2008. Ottawa, Ontario.
- \***Falke, J. A.**, Fausch, K. D., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2008. Ecological futures for stream fishes along an intermittent Great Plains riverscape affected by drought and groundwater withdrawal for irrigation. American Fisheries Society Annual Meeting / Best Student Paper Symposium. August 18, 2008. Ottawa, Ontario.
- Falke, J. A.**, Fausch, K. D., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2008. Ecological futures for stream fishes along an intermittent Great Plains riverscape affected by drought and groundwater withdrawal for irrigation. North American Benthological Society Annual Meeting. May 27, 2008. Salt Lake City, UT.
- Falke, J. A.**, Fausch, K. D., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2008. Ecological futures for stream fishes along an intermittent Great Plains riverscape affected by drought and groundwater withdrawal for irrigation. Colorado/Wyoming Chapter of the American Fisheries Society. March 5, 2008. Cheyenne, WY.

- \***Falke, J. A.**, and K. D. Fausch. 2007. Groundwater-fish habitat relations in the Arikaree River, Colorado. Informational Workshop for Partner Agencies [Republican River Water Conservation District; Colorado Division of Wildlife; The Nature Conservancy; Colorado Agricultural Experiment Station]. Colorado State University, November 27, 2007. Fort Collins, CO.
- \***Falke, J. A.** 2007. Survival in a harsh environment: adaptations of Great Plains fishes to local scale environmental variability. Colorado/Wyoming Chapter of the American Fisheries Society Continuing Education Workshop: “Ecology and Management of Great Plains Stream Fishes”. March 1, 2007. Fort Collins, CO.
- \***Falke, J. A.** 2007. Effects of groundwater withdrawal and drought on fishes in the Arikaree River basin, Colorado: a case study. Colorado/Wyoming Chapter of the American Fisheries Society Continuing Education Workshop: “Ecology and Management of Great Plains Stream Fishes”. March 1, 2007. Fort Collins, CO.
- Falke, J. A.**, and K. D. Fausch. 2006. Patterns in the early life histories of an assemblage of fishes along a Great Plains riverscape in Colorado. American Fisheries Society Annual Meeting. September 11, 2006. Lake Placid, NY.
- Falke, J. A.** and K. D. Fausch. 2006. Patterns in the early life histories of an assemblage of fishes along a Great Plains riverscape in Colorado. Colorado/Wyoming Chapter of the American Fisheries Society. March 8, 2006. Cheyenne, WY.
- \***Falke, J. A.**, Fausch, K. D., Scheurer, J. A., Fardal, L. A., Griffin, S. D., and Oad, R. 2005. Regional drought, groundwater pumping, and habitat for stream fishes along a Great Plains riverscape in Colorado. American Fisheries Society Annual Meeting. September 14, 2005. Anchorage, AK.
- Falke, J. A.** 2004. Upstream effects of reservoirs on stream fish assemblages in the Great Plains. Master’s defense seminar. Kansas State University. December 3, 2004. Manhattan, KS.
- Falke J. A.**, and K. B. Gido. 2004. Effects of reservoir connectivity on stream fish assemblages in the Great Plains. American Fisheries Society Annual Meeting. August 24, 2004. Madison, WI.
- \***Falke, J. A.**, Gido, K. B. and W. K. Dodds. 2004. Kansas Aquatic GAP (Overview). USFWS Region 6 Planning Meeting. May 6, 2004. Hays, KS.
- Falke J. A.**, and K. B. Gido. 2004. Effects of reservoir connectivity on stream fish assemblages in the Great Plains. Southwestern Association of Naturalists. April 17, 2004. San Antonio, TX
- Falke, J. A.**, and K. B. Gido. 2003. Effects of reservoir distance on stream fish assemblages in the Great Plains. Kansas Chapter of the American Fisheries Society. February 14, 2004. Emporia, KS.
- Falke, J. A.**, and K. B. Gido. 2003. Effects of reservoir distance on stream fish assemblages in the Great Plains. Midwest Fish and Wildlife Conference. December 8, 2003. Kansas City. MO.
- Falke, J. A.** 2002. Bioenergetics of walleye (*Stizostedion vitreum*) in three central Arizona reservoirs. Arizona/Nevada Academy of Science. April 13, 2002. Glendale, AZ.

**POSTER PRESENTATIONS:**

- #Jalbert, C., **Falke, J.**, Westley, P., López, A., Dunker, K., and A. Sepulveda. 2017. Landscape genetic diversity of native and invasive Northern pike in Alaska. Alaska Chapter American Fisheries Society Annual Meeting, Fairbanks, Alaska, 19-23 March, 2017
- #Clawson, C., **Falke, J.**, Rose, J., Martin, A., Cristóbal, J., and A. Prakash. 2015. Chandalar River Chum Salmon (*Oncorhynchus keta*) riverscape-scale salmon habitat assessment and monitoring. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- Falke, J.**, Ching, J., Sparks, M., Cunningham, C., and P. Westley. 2015. Fine-scale resource selection by Sockeye Salmon (*Oncorhynchus nerka*) in groundwater-fed ponds, Bristol Bay, Alaska. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- #Neuneker, K., **Falke, J.**, Jaecks, T., Richards, P., and P. Etherton. 2015. Distribution and movement rates of Chinook Salmon *Oncorhynchus tshawytscha* in the Stikine River based on radio telemetry. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- #Sparks, M., Westley, P., **Falke, J.**, and M. Adkison. 2015. Predicting Sockeye Salmon (*Oncorhynchus nerka*) hatch timing by incorporating natural variability into an existing model. Alaska Chapter American Fisheries Society Annual Meeting, Homer, Alaska, 4-6 November, 2015.
- #Interrante, A., Lopez, A., Huntsman, B., **Falke, J.**, and J. Saveriede. 2015. Chinook salmon genetic diversity within the Chena River basin revealed through carcass sampling. University of Alaska Fairbanks Undergraduate Research & Scholarly Activity Research Day. April 28, 2015. Fairbanks, AK.
- #Huntsman, B., Falke, J., Saveriede, J., and K. Bennett. 2015. Density-dependent and – independent mechanisms influencing Chinook salmon population dynamics within the Chena River basin. Alaska Cooperative Fish and Wildlife Research Unit Annual Research Review. March 25, 2015. Fairbanks, Alaska.
- #Martin, A.N., **Falke, J.A.**, Pomeranz, J.F., and J.W. Saveriede. 2014. Habitat potential for juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) in the Chena River basin, Alaska. Alaska Chapter American Fisheries Society Meeting. October 22, 2014. Juneau, Alaska.
- #Fraleay, K. M., Lunde, M. J., Bailey, L. T., **Falke, J. A.**, and A. D. Gryska. 2013. Bioelectrical impedance analysis as a measure of energy density in Arctic grayling (*Thymallus arcticus*). Alaska Chapter American Fisheries Society Annual Meeting. October 9, 2013. Fairbanks, AK.
- Falke, J. A.**, Benda, L., and F. J. Adams. 2013. Chena River landscape-scale physical habitat studies (2013-2015). Alaska Chapter American Fisheries Society Annual Meeting. October 9, 2013. Fairbanks, AK.
- Spencer, D., Scanlan, M., **Falke, J.**, and J. Ebersole. 2011. Three-spined stickleback seasonal size and length-at-age distribution in an intermittent/perennial stream system. Environmental Science Joint Campus Conference, Oregon State University. May 6, 2011. Corvallis, OR.
- Falke, J. A.**, Fausch, K. D., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2009. Linking groundwater pumping for irrigation to stream habitat: Is there a future for fish in western Great Plains streams? Ecological Society of America Millennium Conference

on Water-Ecosystem Services, Drought, and Environmental Justice. November 9, 2009. Athens, GA.

**Falke, J. A.**, Oakes, R. M., and K. B. Gido. 2003. Can large-scale GIS data accurately predict local stream habitat types? Southwestern Association of Naturalists. April 17, 2003. Norman, OK.

#### **GUEST LECTURES:**

“*River restoration in space and time*” Introduction to Watershed Science (NRM370), University of Alaska Fairbanks, September 23, 2016. Dr. Norm Harris, Instructor.

“*Juvenile salmonids in streams*” Pacific Salmon Life Histories (F633), University of Alaska Fairbanks, February 16, 2016. Dr. Megan McPhee, Instructor

“*Ecological futures for Great Plains stream fishes*” Fish Conservation (FW400), Colorado State University, April 7, 2008. Dr. Kurt Fausch, Instructor.

“*Fisheries conservation on the Great Plains: survival in a harsh environment*” Fisheries Science (FW401), Colorado State University, December 4, 2007. Mr. Daniel Gibson-Reinemer, Instructor.

“*Fisheries conservation on the Great Plains: survival in a harsh environment*” Fisheries Science (FW401), Colorado State University, December 4, 2006. Dr. Brett Johnson, Instructor.

#### **INVITED SEMINARS:**

**Falke, J.A.** Ecohydrology and climate change: a case study in an interior Alaska stream network. Climate Change Seminar Series, College of Fisheries and Ocean Sciences, University of Alaska Fairbanks. October 12, 2016.

**Falke, J. A.**, McNyset, K.M., Flitcroft, R.L., Reeves, G.H., and J.B. Dunham. 2013. Fish and fire: vulnerability analysis for bull trout across a wildfire-prone landscape. Fisheries Division Seminar, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks. February 13, 2013.

**Falke, J. A.**, Dunham, J. B., McNyset, K. M., Jordan, C. E., and G. H. Reeves. 2011. Predicting the distribution and abundance of steelhead (*Oncorhynchus mykiss*) redds across a complex riverscape: a spatially continuous approach. Monday Morning Stream Team Meeting, Oregon State University. October 31, 2011.

**Falke, J. A.** 2010. Linking groundwater pumping for irrigation to stream habitat: Is there a future for fish in western Great Plains streams? Monday Morning Stream Team Meeting, Oregon State University. May 17, 2010.

**Falke, J. A.**, Fausch, K. D., Scheurer, J. A., Magelky, R., Squires, A., Durnford, D., Riley, L. and R. Oad. 2009. Ecological futures are bleak for aquatic biota in a western Great Plains river basin subject to groundwater pumping and drought. Ecological Society of America Millennium Conference on Water-Ecosystem Services, Drought, and Environmental Justice. November 9, 2009. Athens, GA.

**Falke, J. A.** 2009. Effects of groundwater withdrawal and drought on native fishes and their habitats in the Arikaree River, Colorado. The Nature Conservancy, Three Rivers Alliance. May 19, 2009. Yuma County, CO.

**WORKSHOPS:**

Informational Workshop for Partner Agencies [Republican River Water Conservation District; Colorado Division of Wildlife; The Nature Conservancy; Colorado Agricultural Experiment Station]. November 27, 2007. Colorado State University.

Colorado/Wyoming Chapter of the American Fisheries Society Continuing Education Workshop: "Ecology and Management of Great Plains Stream Fishes". March 1, 2007. Fort Collins, CO.