

# Brian Patrick Kennedy

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## EDUCATION

- Ph.D. Dartmouth College, Hanover, NH, December 2000, Biological Sciences – Ecology & Evolutionary Biology
- B.A., Colgate University, Hamilton, NY, May 1991, Biological Sciences

## POSITIONS HELD

- 2011 – Present Associate Professor, University of Idaho, College of Natural Resources, Dept. of Fish and Wildlife Sciences  
Adjunct Associate Professor, Dept. of Biological Sciences, Dept. of Geological Sciences, Environmental Sciences and Water Resources Graduate Program
- 2013 – 2014 Visiting Associate Professor, Massachusetts Institute of Technology, Dept. of Earth, Atmospheric and Planetary Sciences, Cambridge, MA, USA.
- 2005 – Present Visiting Assistant/Associate Professor, University of Michigan, Department of Geological Sciences
- 2006 – 2012 Affiliate Scientist, University of Montana, Flathead Lake Biological Station
- 2005 – 2011 Assistant Professor, University of Idaho, College of Natural Resources, Dept. of Fish and Wildlife Sciences
- 2001 – 2005 Postdoctoral Fellow and Visiting Assistant Professor – University of Michigan, Depts. of Geological Sciences and Biological Sciences
- 2000 – 2001 Aquatic Ecology Consultant, Conservation International Foundation
- 1994 – 2000 Graduate Research and Teaching Assistant, Dartmouth College
- 1991 – 1994 Research Assistant, Michigan State University, Kellogg Biological Research Station

## SCHOLARSHIP ACCOMPLISHMENTS

### Peer Reviewed Publications

- Myrvold, K.M. and **Kennedy, B.P.** (2015) Variation in juvenile steelhead densities in relation to instream habitat and watershed characteristics. *Transactions of the American Fisheries Society*. In press.
- McIlraith, B.J., Caudill, C.C., **Kennedy, B.P.**, Peery, C.A., and Keefer, M.L. (2015). Seasonal migration behaviors and distribution of adult Pacific Lamprey in unimpounded reaches of the Snake River basin. *North American Journal of Fisheries Management*. In press.
- Hartson, R.B. and **Kennedy, B.P.** (2015) Competitive release modifies the impacts of hydrologic alteration for a partially migratory stream predator. *Ecology of Freshwater Fish*. 24(2): 276-292. **(Included in application packet)**
- Myrvold, K.M. and **Kennedy, B.P.** (2015) Interactions between body mass and water temperatures cause energetic bottlenecks in juvenile steelhead. *Ecology of Freshwater Fish*. DOI 10.1111/eff.12151.
- Bourret, S.L., **Kennedy, B.P.**, Caudill, C.C. and Chittaro, P.M. (2014). Using otolith chemical and structural analysis to investigate reservoir habitat use by juvenile Chinook salmon *Oncorhynchus tshawytscha*. *Journal of Fish Biology*, 85(5): 1507-1525.
- Chittaro, P.M., Zabel, R.W., Haught, K., Sanderson, B.L and **Kennedy, B.P.** (2014) Spatial and temporal patterns of growth and consumption by juvenile spring/summer Chinook salmon (*Oncorhynchus tshawytscha*). *Environmental Biology of Fishes*. 97(12): 1397-1409.
- Hamann, E.J. **Kennedy, B.P.**, Whited, D.C., and Stanford, J.A. (2014) Spatial variability in spawning habitat selection by Chinook salmon (*Oncorhynchus tshawytscha*) in a wilderness river. *River Research and Applications*. 30(9): 1099-1109.
- Hegg, J., **Kennedy, B.P.**, and Fremier, A.K. (2013) Predicting strontium isotope variation and fish location with bedrock geology: Understanding the effects of geologic heterogeneity. *Chemical Geology*. 360-361: 89-98.
- Hegg, J., **Kennedy, B.P.**, Chittaro, P., and Zabel, R. (2013) Spatial structuring of an evolving life-history strategy under altered environmental conditions. *Oecologia*. 172: 1017-1029. **(Included in application packet)**
- Hamann, E.J. and **Kennedy, B.P.** (2012) The effects of juvenile dispersal on straying in a migratory population. *Ecology*. 93(4): 733-740. **(Included in application packet)**
- Laitala, K.L., Prather, T.S., Thill, D., **Kennedy, B.P.**, and Caudill, C.C. (2012) Efficacy of benthic barriers as a control measure for Eurasian watermilfoil. *Invasive Plant Science and Management*. 5(2): 170-177.
- Cosens, B., Fiedler, F., Boll, J., Higgins, L., Johnson, G., **Kennedy, B.**, Laflin, M., Strand, E. and Wilson, P. (2011) Interdisciplinary Methods in Water Resources: Communication Across Disciplines. *Issues in Integrative Studies*. 29:118-143.
- Lorion, C.M., and **Kennedy, B.P.** and Braatne, J.H. (2011) Altitudinal gradients in stream fish diversity and the prevalence of diadromy in the Sixaola River basin, Costa Rica. *Environmental Biology of Fishes*. 91:487-499.

- Cromwell, K.J. and **Kennedy, B.P.** (2011) Diel distribution, behaviour, and consumption of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) in a Wilderness stream. *Ecology of Freshwater Fish*, 20:421-430.
- Nislow, K.H., **Kennedy, B.P.**, Armstrong, J.D., Collen, P., Keay, J., and McKelvey, S. (2010) Nutrient restoration using Atlantic salmon carcasses as a component of habitat management in Scottish Highland streams. *Salmonid Fisheries: Freshwater Habitat Management*. Chapter 11, pp. 228 – 241. Edited by P. Kemp. Wiley-Blackwell Publishing, West Sussex, United Kingdom.
- Kiser, T., Hanson, J., and **Kennedy, B.P.** (2010) Impacts and pathways of mine contaminants to bull trout (*Salvelinus confluentus*) in an Idaho watershed. *Archives of Environmental Contamination and Toxicology* 59:301-311.
- Lorion, C.M., and **Kennedy, B.P.** (2009) Riparian forest buffers mitigate the effects of deforestation on fish assemblages in tropical headwater streams. *Ecological Applications*, 19: 468-479.
- Lorion, C.M., and **Kennedy, B.P.** (2009) Relationships between deforestation, riparian forest buffers, and benthic macroinvertebrates in lowland neotropical streams. *Freshwater Biology*, 54: 165-180.
- Holecek, D.E., Cromwell, K.J., and **Kennedy, B.P.** (2009) Juvenile Chinook salmon summer habitat availability, use and selection in a Central Idaho Wilderness Stream. *Transactions of the American Fisheries Society*. 138: 633-644.
- Kennedy, B.P.**, Nislow, K.H., C.L. Folt. (2008). Habitat mediated foraging limitations drive survival bottlenecks for juvenile salmon. *Ecology*, 89: 2529-2541.
- Rosenberger, E.E., Hampton, S.E., Fradkin, S.C., and **Kennedy, B.P.** (2008) Effects of shoreline development on the nearshore environment in large deep oligotrophic lakes. *Freshwater Biology*, 53: 1673-1691.
- Kennedy, B.P.**, Chamberlain, C.P., Blum, J.D., Nislow, K.H., and Folt, C.L. (2005) Comparing naturally occurring stable isotopes of nitrogen, carbon, and strontium as markers for Atlantic salmon juvenile rearing locations. *Canadian Journal of Fisheries and Aquatic Sciences*. 62: 48-57.
- Kennedy, B.P.**, Klaue, B., Blum, J.D., and Folt, C.L. (2004) Integrative measures of consumption rates in fish: expansion and application of a trace element approach. *Journal of Applied Ecology*, 41: 1009-1020.
- Fuller, R.L., **Kennedy, B.P.**, and Nielsen, C. (2004) Macroinvertebrate responses to algal and bacterial manipulations in streams. *Hydrobiologia*, 523: 113-126.
- Kennedy, B.P.**, Klaue, A., Blum, J.D., Folt, C.L. and Nislow, K. (2002). Reconstructing the lives of salmon using Sr isotopes in otoliths. *Canadian Journal of Fisheries and Aquatic Sciences*, 59: 925-929.
- Nislow, K.H., Magilligan, F.J., Folt, C.L, and **Kennedy, B.P.** (2002) Within-basin variation in the short term effects of a major flood on stream fishes and invertebrates. *Journal of Freshwater Ecology*. 17: 305-318.

- Kennedy, B.P.**, Blum, J.D., Folt, C.L. and Nislow, K. (2000) Using natural strontium isotopic signatures as fish markers: methodology and application. *Canadian Journal of Fisheries and Aquatic Sciences*, 57: 2280-2292.
- Mack, A.L., Ickes, K., Jessen, J.H., **Kennedy, B.P.**, and Sinclair, J.R. (1999) Ecology of *Aglai mackiana* (Meliaceae) seedlings in a New Guinea rain forest. *Biotropica*. 31: 111-120.
- Harrington, R., **Kennedy, B.P.**, Chamberlain, C.P., Blum, J.D., and Folt, C.L. (1998) N<sup>15</sup> enrichment in agricultural catchments: field patterns and applications to tracking Atlantic salmon (*Salmo salar*). *Chemical Geology*, 147: 281-294.
- Kennedy, B.P.**, Folt, C.L., Blum, J.D., and Chamberlain, C.P. (1997) Natural isotope markers in salmon. *Nature*. 387: 766-767.
- Hedin, L.O., von Fischer, J.C., Ostrom, N.E., **Kennedy, B.P.**, Brown, M.G., and Robertson, G.P. (1997) Thermodynamic constraints on nitrogen transformations and other biogeochemical processes at soil-stream interfaces. *Ecology*. 79: 684-703.

#### **Peer Reviewed Publications (in review or submission in March 2015 – available upon request)**

- Mitchell, L.R.J., Kennedy, B.P., and Fremier, A.K. *In review*. Partitioning isotopic variability in stream biota and identifying environmental correlations in a Wilderness watershed. *Freshwater Science*.
- Hegg, J., Giarrizzo, T., and Kennedy, B.P. *In revision*. Diverse early life history strategies in migratory Amazonian catfish: Implications for conservation and management. *PLOS One*.
- Cromwell, K.J. and Kennedy, B.P. *In review*. Disparities in benthic and drift abundance and diversity in a Wilderness watershed and their relationship to juvenile salmon foraging. *Freshwater Biology*.
- Myrvold, K.M. and Kennedy, B.P. *In review*. Metabolic constraints and physical habitat characteristics explain the spatial variation in the strength of self-thinning in a stream salmonid. *Ecology and Evolution*.
- Myrvold, K.M. and Kennedy, B.P. *In review*. Age-specific density dependence and its impact on individual growth rates for a stream salmonid. *Ecosphere*.
- Myrvold, K.M. and Kennedy, B.P. *In review*. Site fidelity and non-migratory movement in a stream salmonid. *Ecology*.
- Myrvold, K.M. and Kennedy, B.P. *In prep*. Estimation of salmonid abundance based on single-pass electrofishing in small streams. *Northwest Science*.
- Kennedy, B.P., Gayeski, N., and Reader, J. *In prep*. The survival consequences for alternate life history strategies of Chinook salmon. *Environmental Biology of Fishes*.

#### **Refereed Project Reports**

- Gayeski, N., **Kennedy, B.P.** and Reader, J. 2011. Alternative life history strategies of Chinook

salmon in the Cedar River: habitat selection and relative survival of strategies for Chinook salmon. Final Report to the Instream Flow Committee, Seattle Public Utilities.

**Kennedy, B.P.** and committee – Strategic Plan for Taylor Wilderness Research Center. Presented to NSF in fulfillment of funding obligation through NSF.

**Kennedy, B.P. 2009.** Exploring the utility of otolith microchemistry to describe life history variation and migrational strategies of Chinook salmon in the Middle Fork of the Salmon River. Completion Report to USDA – Forest Service, Rocky Mountain Research. Joint Venture Agreement 06-JV-11221659-220

**Kennedy, B.P. 2009.** Examination of the utility of otolith microchemistry to identify source habitats for trout within the Henry's Fork watershed. Completion Report to Henry's Fork Foundation and Idaho Fish and Game.

### **Recent professional Talks – Invited since 2013 (23 total during UI employment)**

*March 2014. Universitat de Girona, Spain, Depts. of Biology and Environmental Sciences, Girona, ESP. The ecological and evolutionary significance of migration by salmon. B.P. Kennedy.*

*October 2013. Colgate University, Dept. of Biology and Geological Sciences, Hamilton, NY. USA. Understanding the adaptive significance of salmon migration with the help of geochemical tracers. B.P. Kennedy.*

*September 2013. Massachusetts Institute of Technology, Dept. of Earth, Atmospheric and Planetary Sciences, Cambridge, MA. USA. Understanding the drivers of Sr isotope variation and life history diversity in a Wilderness watershed. B.P. Kennedy,*

*May 2013. Eastern Washington University, Dept. of Geological Sciences, Cheney, WA. USA. The use of geochemical signatures to understand salmon migration. B.P. Kennedy,*

### **Recent Professional Meeting Abstracts – 2013 to 2015 (>80 total during UI employment, \* = graduate student presenter)**

*May 2015. Advances in the Population Ecology of Stream Salmonids International Symposium. Gerona, Spain. Interactions of climate and density on survival and movements of juvenile steelhead: Results from a 7-year study. B.P. Kennedy, K.M. Myrvold, J. Caisman, R. Hartson and E. Benson.*

*May 2015. Advances in the Population Ecology of Stream Salmonids International Symposium. Gerona, Spain. Local habitat conditions explain the variation in self thinning slopes in steelhead parr. K.M. Myrvold\*, and B.P. Kennedy.*

*May 2015. Advances in the Population Ecology of Stream Salmonids International Symposium. Gerona, Spain. Modeling spatially explicit life history strategies in juvenile Chinook salmon using location specific data from otoliths. J. Hegg\*, B.P. Kennedy, R. Zabel and P. Chittaro.*

*May 2015. Advances in the Population Ecology of Stream Salmonids International Symposium. Gerona, Spain. Dichotomous life history expression of juvenile Chinook salmon in a Wilderness watershed: The effects of growth and size on migration timing. B. Oldemeyer\*, B.P. Kennedy and T. Copeland.*

*August 2014. Annual International Meeting of the American Fisheries Society. Quebec, Montreal, CA. Partial migration of *Oncorhynchus mykiss* in Lapwai Creek, Idaho. J. Caisman\* and B.P. Kennedy.*

- June 2014 *Lapwai Basin collaborators meeting, Lewiston, ID*. Spatial and temporal patterns of density, growth, movement, and survival in the Lapwai Basin. B.P. Kennedy, J. Caisman, K.M. Myrvold, E.R. Benson and R. Hartson.
- May 2014. *Joint Aquatic Sciences Meeting, Portland, OR*. Assessing nitrogen isotopic variation in the aquatic biota of a wilderness watershed across trophic levels, time, space and local environmental conditions. L. Mitchell\*, A. Fremier and B.P. Kennedy.
- April 2014. *Annual Meeting of the Western Division of the American Fisheries Society, Mazatlán, MX*. Diverse Life History Strategies in an Migratory Amazonian Catfish: Implications for Conservation and Fisheries. J. Hegg\*, T. Giarrizzo and B.P. Kennedy.
- April 2014. *Annual Meeting of the Western Division of the American Fisheries Society, Mazatlán, MX*. Modeling spatially explicit life history strategies in juvenile Fall Chinook Salmon: Integrating microchemical signatures to improve determination of source location. J. Hegg\*, B.P. Kennedy, R. Zabel and P. Chittaro.
- February 2014. *Annual meeting for the Idaho Chapter; American Fisheries Society, Idaho Falls, ID, US*. Effects of Anthropogenic Barriers on Movement, Gene Flow Potential, and Life-History Expression of *Oncorhynchus mykiss* in Lapwai Creek, Idaho. J. Caisman\*, B.P. Kennedy, M.W. Ackerman, C.J. Smith and J. Stedman.
- October 2013. *State of Idaho EPSCoR Conference, McCall, ID, US*. Responses of Chinook (*Oncorhynchus tshawytscha*) spawning behaviors to climate impacts in the Salmon River Basin. J. Helsley\*, E.J. Hamann and B.P. Kennedy.
- August 2013. *BPA Snake River Fall Chinook Program Review; Lower Snake River Compensation Plan, Clarkston, WA, US*. Otolith Microchemistry: Early Rearing locations and juvenile life history in Snake River Fall Chinook salmon. J. Hegg\*, B.P. Kennedy, R. Zabel and P. Chittaro.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Predicting Fish Location Using Otoliths and Bedrock Geology: Understanding the Effects of Geologic Heterogeneity. J. Hegg\*, B.P. Kennedy and A. Fremier
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. The extant and strength of density dependent in a juvenile salmon population. B.P. Kennedy and R.B. Hartson.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Patterns and process of density dependent growth in juvenile steelhead in Lapwai Creek, ID. K.M. Myrvold\* and B.P. Kennedy.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Life cycle modeling of fall Chinook salmon: using multiple chemical tracers to improve discrimination of wild and hatchery fish. J. Hegg\*, B.P. Kennedy, R. Zabel and P. Chittaro.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Looking beyond marine derived nutrients: Physical and biological drivers of isotopic variation in the aquatic biota of a wilderness watershed. L.Mitchell\*, B.P. Kennedy and A. Fremier.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Size and density dependent outmigration of juvenile *Oncorhynchus mykiss*. J. Caisman\*, B.P. Kennedy and K.M. Myrvold.
- April 2013. *Annual meeting for the Western Division; American Fisheries Society, Boise, ID, US*. Salmon life history in an altered landscape: reconstructing juvenile migration using chemical and structural analysis. S. Bourret\*, B.P. Kennedy, C.C. Caudill and L. Borgerson.

## **Major Grants and Contracts Awarded**

### ***Active awards***

IGERT – NSF Adaptation to change in water resources: science to inform decision making across disciplines. \$3.3M. CoPI's: J. Boll, B. **Kennedy**, T. Link, M. Shrestha, J. Tracy

MRI: Acquisition of a Thermal Ionization Mass Spectrometer (TIMS) to strengthen collaborative Inter-University programs in isotope geochemistry. \$1.19M (includes University match of \$330,000). PI – B. Kennedy, co-PI's K. Harpp, D. Geist, C. Nezat (EWU) and J. Vervoort (WSU)

The impact of hydrologic alteration on the bioenergetics of juvenile steelhead (*Oncorhynchus mykiss*). USBOR \$171,000. Sole PI: B. Kennedy.

Integrating life history monitoring and life cycle modeling of fall Chinook (*Oncorhynchus tshawytscha*) \$92,525. NOAA. Sole PI: B. Kennedy.

USGS- YEAR 2: Comparative Survival of reservoir reared and reservoir bypassed spring Chinook salmon in the Willamette River Basin. \$138,378, BPA – NWPC. Co-PI's B. Kennedy and C. Caudill.

Evaluation of adult UWR winter steelhead and summer steelhead upstream migration, distribution, survival, and life history. \$391,246, US Army Corps of Engineers, Co-PI's C. Caudill and B. Kennedy.

Integrating landscape scale approaches to understand mechanistic drivers of Chinook salmon (*Oncorhynchus tshawytscha*) life history variation in the Salmon River, ID. DeVlieg Foundation \$50,000. Co-PI's B. Kennedy and A. Fremier

Building an Integrated Data Harvester and Analysis Software for the Methow Basin with Future Linkages to Columbia River Basin Data Management. USBOR \$497,000. A. Fremier, PI, Co – PI's B. Kennedy, and C. Caudill.

Identifying overwinter location and natal origins for juvenile Snake River fall Chinook salmon \$40,000 - NOAA – Sole PI: B. Kennedy

### ***Previous awards***

Collaborative Research: FSML – Enhanced Cooperative Research and Education at Flathead Lake Biological Station and Taylor Wilderness Research Station. National Science Foundation. \$595,775. **2009 – 2013**. PI's J. Stanford (University of Montana) and J. Gosz (University of Idaho) with co-PIs E. Galindo, H. Hess, B. Kennedy, B. Ellis, and R. Hauer.

Estimating the relative abundance and production of Chinook salmon life history types in the Willamette River system. U.S. Army Corps of Engineers. \$140,000. **2009 – 2011**. Co-PIs – C. Caudill and B. Kennedy.

Water Resources in a Changing Climate: Idaho EPSCoR RII. National Science Foundation, \$15,000,000. **2008 – 2012**. PIs J. Shreeve, V. Walden and G. Bohach. Along with statewide leads (Current Director, Dr. Peter Goodwin), one of 12 junior faculty statewide developing the research and educational directions.

A planning proposal for expanding capacity at Taylor Ranch Wilderness Field Station in a strategic, sustainable and sensitive manner. National Science Foundation. \$25,000. **2008 – 2010**. PI – B. Kennedy with co-PIs J. Gosz, S. Daley-Laursen and M. Scott.

Salmon River Observatory Network: Quantifying life history and genetic diversity of *Oncorhynchus mykiss* in the Skeena River. University of Montana – subcontract of award from Moore Foundation. \$49,800. **2008 – 2010**. PI – B. Kennedy.

Mechanistic relationships between flow and *Oncorhynchus mykiss* foraging, energetics and population viability in a hydrologically disturbed ecosystem. US Bureau of Reclamation. \$640,000. **2007 – 2013**. PI – B. Kennedy.

Using otolith microchemistry and microstructure to assess the causes and consequences of alternate life history strategies for Snake River Fall Chinook. NOAA-NMFS, \$260,000. **2007 – 2010**. PI – B. Kennedy.

A study of ecological recovery and recolonization in Icicle Creek, WA. Wild Fish Conservancy, \$45,318, **2007 – 2009**. PI – B. Kennedy, subaward from Icicle Creek Fund.

*Oncorhynchus mykiss* life history variability in the Middle Fork system: migratory decisions in a disturbed wilderness environment. DeVlieg Foundation. \$38,000. **2007 – 2009**. PI – B. Kennedy.

Water of the West: Towards a Sustainable, Interdisciplinary Water Resources Program. Office of the Vice President for Research, University of Idaho. \$1,650,000. **2006 – 2012**. PIs J. Boll (Lead), B. Cosens, F. Fiedler, C. Harris, B. Kennedy, L. Johnson, T. Link, M. Tuller, and P. Wilson.

The development and test of a spatially explicit bioenergetics model to identify determinants of survival for juvenile chinook salmon in the Big Creek watershed. NOAA-NMFS. \$80,000. **2006 – 2008**. PI – B. Kennedy.

Effect of Arsenic on Bull Trout: An Investigation of Mine Cleanup Practices in the Pacific Northwest. USFWS – Upper Columbia Fish and Wildlife Office, Spokane, WA. \$51,000. **2006 – 2008**. PI – B. Kennedy with Co-PI with J. Hansen

Using otolith microchemistry to distinguish natal origin and habitat usage of spring/summer Chinook salmon in the Snake River basin. NOAA-NMFS, Northwest Fisheries Science Center. \$30,000. **2007**. PIs – B. Kennedy, R. Zabel and M. Schuerell.

Boise River Project: Reservoir Operations Flexibility Investigation, Phase I: Deadwood Project. US Bureau of Reclamation. \$833,000. **2007 – 2012**. PIs – C. McGrath, B. Kennedy, P. Goodwin and J. Imberger

Developing Tools To Minimize Jurisdictional Barriers To Achievement Of Fishery and Water Resources Goals In Lapwai Creek, Idaho. USGS – 104B Fund. \$20,000. **2008**. PIs – B. Kennedy and B. Cosens.

Exploring the utility of otolith microchemistry to describe life history variation and migrational strategies of Chinook salmon in the Middle Fork of the Salmon River. USDA – Forest Service, Rocky Mountain Research Station. \$15,792. **2006 – 2008**. PI – B. Kennedy

Dispersal of perch larvae: understanding source-sink dynamics in an altered ecosystem. University of



Michigan, Office of the Vice President for Research (OVPR at Michigan), \$75,000. **2003 – 2005.** PIs – B. Kennedy, D. Jude and J. Blum

Watershed – Great Lakes Interactions: Defining the Ecological Footprint of the Muskegon River Watershed on Fisheries in Nearshore Lake Michigan. University of Michigan, Office of the Vice President for Research. \$100,000. **2003 – 2005.** PIs – E. Rutherford, M. Wiley, B. Kennedy, J. Blum, D. Eadie.

Using stable isotopes of strontium to identify the natal origins of native fishes in the Grand Canyon section of the Colorado River Basin. United States Geologic Survey. \$25,000. **2003 – 2005.** PIs: B. Kennedy, K. Nislow, J. Blum; USGS,

Links between mesohabitat classes, food consumption, growth and production of juvenile Atlantic salmon. Norges Forskningsråd (The Research Council of Norway). \$300,000. **2000 – 2005.** PIs – T. Forseth, O. Ugedal, T. Borsanyi, B. Kennedy, and B. Letcher.

Identification of salmon by geochemical signatures; Classification of important stocks, and further development of methods. Norges Forskningsråd (The Research Council of Norway). \$30,000. **2000 – 2005.** B. Kennedy – Sub-contract for consultation and analyses on grant to Fiske.

Using geochemical tracers in otoliths to identify the natal origins of Chinook salmon in the Middle Fork of the Salmon River, Idaho. USDA – Forest Service, Rocky Mountain Research Station. \$2,000. **2003 - 2004.** PI – B. Kennedy.

Atlantic salmon restoration in New England: assessing habitat availability by combining stable isotope technology, genetic markers, and field evaluation. NOAA – NMFS. \$400,000. **1999 – 2004.** PIs – C. Folt, J. Blum, P. Chamberlain, K. Nislow, and B. Kennedy.

## TEACHING ACCOMPLISHMENTS

### Courses Developed and Taught

#### *University of Idaho*

Fall 2005 - 2012, 2014 (2013 Sabbatical): Fish 314 & 315, Fish Ecology and Fish Ecology Laboratory – 4 credits.

Fall 2014: Fish 404, The Ecology of Rivers – 4 credits, Part of *Semester in the Wild*.

Spring 2013: Fish 530, Advanced Population Ecology – 3 credits.

Fall 2011: Fish 530, Advanced Stream Ecology – co-taught with Fremier – 3 credits.

Fall 2009: Fish 504 & 505, The Ecology of Running Waters – co-taught with Fremier – 3 credits.

Fall 2008: Water Resources 506, Interdisciplinary Methods in Water Resources – co-taught with Cosens and Fiedler – 3 credits.

Spring 2008: Fish 504, A Field Approach to Advanced Fish Ecology – 3 credits

Fall 2005, 2006, 2007: Natural Resources 101, Introduction to the Natural Resource Professions – 1 credit.

Fall 2005, 2006, 2007: Fish 102, Introduction to the Fish and Wildlife Professions – co-taught with Rachlow – 1 credit.

Spring 2007: Fish 504, Advanced Ecology and Behavior of Fish – co-taught with Peery – 1 credit.

Spring 2006: Fish 504, Hypothesis Development and Grant Proposal Writing – co-taught with Hampton – 3 credits.

Fall 2010: Wlf 541, Advanced Population Biology – co-instructor with Garton – 3 credits.

*University of Michigan, Camp Davis in Jackson, WY.*

Summers 2003 - 2014: Geol 341, Ecosystem Science of the Rocky Mountains – co-taught with Baumiller, Blum and Zak – 4 credits.

*University of Michigan*

Fall 2002 and Winter 2003: Geol 201, Earth System Science

**Students Advised***Graduate Students – Completed (change oorder from most recent to oldest)*

Knut Marius Myrvold, Ph.D. (Spring 2014)  
 Liza Mitchell, M.S. (Spring 2014, coadvised with Alex Fremier)  
 Sam Bourret, MS (Spring 2013)  
 Chau Tran, M.S. (Fall 2012)  
 Jens Hegg, M.S. (Spring 2011)Chris Lorion, Ph.D. (Fall 2007)  
 Brian McIlraith, M.S. (Fall 2010 – coadvised with Chris Caudill)  
 Richard Hartson, M.S. (Summer 2010)  
 Ellen Hamann, M.S. (Spring 2010)  
 Timothy Kiser, M.S. (Spring 2009)  
 Kara Cromwell, M.S. (Spring 2009)  
 Elizabeth Rosenberger (Seminet-Reneau), M.S. (Summer 2007 – lead advisor, S. Hampton)

*Graduate Students – Current Ph.D.*

Jens Hegg, Ph.D.  
 Natasha Wingerter, Ph.D.

*Graduate Students – Current M.S.*

Jeff Caisman, M.S.  
 Jessica Helsley, M.S.  
 Bryce Oldemeyer, M.S.

*Graduate Students – Committee Member*

Dana Weigel, Ph.D. (completed 2013)  
 Sharon Parkinson, Ph.D. (completed 2013)  
 Sagar Neupane, M.S. (completed 2012)  
 Karen Laitala, M.S. (completed 2008)  
 Chris Anderson, M.S. (completed 2007)

*Undergraduate Theses and Research Advisor*

Clifford J. Smith – CRISSP REU – 2013  
 Timothy Taylor – CRISSP REU – 2012 (\*)  
 Jeff Caisman – CRISSP REU– 2011 (\*)  
 Alifia Merchant– CRISSP REU– 2011 (\*)  
 Kevin Ramus – Engineering REU – 2010 (\*)  
 Elise Otto – ENVS REU (with Fremier)– 2010 (\* joint with Stauffer Norris)  
 William Stauffer-Norris – ENVS REU (with Fremier)– 2010 (\* joint with Otto)  
 Timothy Kuzan – CRISSP REU– 2010  
 Kristen Pilcher, ECB thesis– 2009  
 Alex Filous, Fisheries Honor's thesis– 2009  
 Dean Holecek, Fisheries Honor's thesis– 2008 (\*)  
 Toby Rhodes, ECB thesis – 2008  
 Greg Malone, ECB thesis – 2007  
 Bryan Stephens, Fisheries Honor's thesis – 2007

Rachel Kaminski, REU – 2006  
 Rufus Nicoll, REU – 2006  
 Jesse Davis, Fisheries research experience– 2005

(\*) = expected to or has resulted in a peer-reviewed manuscript

### **Honors and Awards while at University of Idaho**

University of Idaho Excellence Award – Interdisciplinary and Collaborative Efforts	2014
Participant in LEAD 21 – Leadership training	National Land Grant Institutions 2012
Inspirational Mentor –Awards for Excellence	University of Idaho 2007
Inspirational Mentor –Awards for Excellence	University of Idaho 2006

### **Major University Development and Advancement**

Major contribution has been working on behalf of the College's teaching and research facilities with particular focus on establishing a strategic plan and a competitive vision for Taylor Wilderness Research Station (TWRS).

Major Roles and Responsibilities include:

- 1) Developing a master plan of sustainable growth and increased visibility of TWRS funded through the National Science Foundation's field stations program
- 2) Organizing workshops and delivering information for invited individuals to provide input on appropriate directions and leadership for TWRS (Post Falls, April 2008; TWRS, October 2008).
- 3) Collaborating with regional partners, Flathead Lake Biological Station and Yellowstone Ecological Research Center on networking the respective field stations to increase respective strengths and develop collaborative opportunities
- 4) Representing the College of Natural Resource's teaching and research facilities as chairperson on the University committee to seek sustained growth and increased visibility of TWRS
- 5) Cultivating relationships with potential donors and supporters of the facility to ensure the sustainability and scientific viability of this University asset

Founding and core faculty member for University's Water Resource Graduate Program.

Major Roles and Responsibilities include:

- 1) Developing interdisciplinary graduate curriculum and facilitating the course offerings
- 2) Participating in graduate student recruitment for diversity and excellence, as well as retention
- 3) Leading and collaborating on interdisciplinary funding opportunities that address regional water issues
- 4) Facilitating as co-PI on successful funding of a major IGERT award for 25 graduate students over a proposed 4 year program
- 5) Co-leading an integrative international course in Concepcion, Chile (Annually 2015 – 2018)

### **SERVICE**

#### **Major Committee Assignments**

##### *Regional and International*

*Palouse Biogeosciences Collaborative – Chair (2011 – present)*

*Co-convener, International Population Ecology of Salmonids symposium (2014 – present, for May 2015)*

University of Idaho:

Principal Investigator, Thermal Ionization Mass Spectrometer laboratory (2013 – present)  
 Taylor Wilderness Research Station Scientific Advisory Board (Chair, 2009 - 2012)  
 Graduate Curriculum Request for Innovation (2009)  
 Science and New Technologies Building Leadership Team (2007 – 2)  
 Environmental Science Program (Annual 2005 – present)  
 Ecology and Conservation Biology Program (Annual 2005 – present)  
 Statistical Ecologist Position Search Committees (3 searches, 2006 – 2008)  
 New Science and Technology Building – Design and Architecture Team Selection Committee  
 (Fall 2006)

Waters of the West:

IGERT – Water resources graduate grant, co – PI, curriculum and recruitment committees (2013-  
 present)  
 Steering committee (2007 – present)  
 Lapwai Basin Integrated Analysis – co-coordinator with Cosens (2008 – present)  
 Representative for Environmental Science Position Search Committee (October 2006)

College of Natural Resources:

ECB awards committee chair. (Spring 2006)  
 Taylor Ranch Wilderness Research Station Advisory Committee. (2006 - 2008)  
 Space Committee Representative (2008 – 2010)

Department of Fish and Wildlife:

Awards Committee (2006 – 2008)  
 Limnologist Position Search Committee (2006 - 2007)  
 Braatne Tenure Review Committee (November 2006)  
 Wilhelm Tenure Review Committee (November 2009)  
 Riparian Position Search Committee (2007 - 2008)  
 Vierling Tenure Review Committee (November 2007)

**Leadership positions**

Palouse Biogeosciences Collaborative (Chair, 2011 – present)  
*Committee Chairperson* – Taylor Wilderness Research Station Scientific Advisory Board  
 (Chair, 2009 - 2012)  
*Secretary and Treasurer* – Idaho Chapter of the American Fisheries Society (2006 – 2008)

**University meetings organized**

Spring, 2008. Taylor Ranch and Wilderness Research and Educational Research Opportunities  
 strategic workshop. Co-coordinator with Mike Scott, Jim Gosz, and Steven Daley-Laursen.

Spring, 2007. Landscapes to Riverscapes: Bridging the gaps between research and management of  
 stream taxa and their ecosystems – University of Idaho – annual UI-ISU interdepartmental  
 symposium. Co-organizer with Kerry Reese and Colden Baxter.

Spring, 2006. Big Creek Symposium – University of Idaho. Featuring 25+ researchers and managers  
 with interests related to the Middle Fork Salmon River ecosystem.

**Professional and Scholarly Organizations**

Ecological Society of America (1997 – Present)  
 American Fisheries Society (2000 – Present)  
 Idaho Chapter of the American Fisheries Society (2005 – Present)  
 American Society of Naturalists (2009 – Present)  
 Sigma Xi (2005 – Present)  
 North American Benthological Society (1997)

**Recent manuscripts and proposals reviewed**

Ecology  
 Ecological Applications  
 National Science Foundation  
 Marine Ecology Progress Series  
 Limnology and Oceanography  
 Idaho Academy of Sciences  
 Hudson River Foundation

**Guest Editor**

Ecology – Ecological Society of America

**Letters of recommendation from the following individuals are available upon request**

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