##### EDUCATION

School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA

PhD(2013)

Lewis and Clark College, Portland, OR

B.A. in Biology w/ honors (2005)

##### PROFESSIONAL EXPERIENCE

2016- Assistant Professor

Department of Fisheries and Wildlife, Oregon State University

2014- Affiliated Research Professor

Flathead Lake Biological Station, University of Montana

2014- Associate Scientist and Photographer

Conservation Science Partners

2013-2015 David H. Smith Postdoctoral Conservation Research Fellow

University of Wyoming USGS Cooperative Fish and Wildlife Research Unit

Project: Maintaining trophic resource portfolios for wide-ranging consumers

Mentors: Matthew Kauffman, Daniel Schindler, Patrick Walsh

2011-2012 Research Associate

University of Washington, School of Aquatic and Fishery Sciences

Project: Time-series analysis of portfolio effects in Pacific Rim salmon stocks.

Principle Investigator: Daniel Schindler

2011 Scientific Collaborator

National Geographic Society Waitt Research Project, University of Washington

Project: Deciphering the energetic base for the world’s largest freshwater fishery. Lake Tonle Sap, Cambodia.

Principle Investigator: Gordon Holtgrieve

2006-2013Graduate Research Assistant

School of Aquatic and Fishery Sciences, University of Washington

##### PUBLICATIONS

**Armstrong, J.B.**, G.T. Takimoto, D.E. Schindler, M.M. Hayes, and M.J. Kauffman. Phenological diversity and resource waves: landscape-level constraints and opportunities in consumer-resource interactions**.** In press at *Ecology*

Baldock, J., **J.B. Armstrong**, D.E. Schindler, and J. Carter. Juvenile coho salmon track a seasonally shifting thermal mosaic across a river floodplain. In review at *Freshwater Biology*

Deacy, W., W. Leacock, **J.B. Armstrong**, and J.A. Stanford. Kodiak brown bears surf the red wave: direct evidence from GPS collared individuals. In review at *Ecology*

Webster M.S., Colton M.A., Darling, E.S., **Armstrong J.B.**, Pinsky M.L., Knowlton, N., and Schindler, D.E. Who should pick the winners in a changing climate? In review at *Trends in Ecology and Evolution*

Rochman, C. M., S. M. Kross, **J. B. Armstrong**, M. T. Bogan, E. S. Darling, S. J. Green, A. R. Smyth, and D. Veríssimo. Scientific Evidence Supports a Ban on Microbeads. In press at *Environmental Science & Technology*.

Green, S. J., **J.B. Armstrong**, M. Bogan, E. Darling, S. Kross, C. Rochman, A. Smyth, and D. Veríssimo. Conservation needs diverse values, approaches, and practitioners. In press at *Conservation Letters*.

Weltzy, E.Z, Torgersen, C., Brenkman, S.J., Duda, J.J., and **J.B. Armstrong**. Multiscale longitudinal analysis of river networks using the *linbin* R package. *In press* at *North American Journal of Fisheries Management*

Bentley, K.T., D.E. Schindler, **J.B. Armstrong**, T.J. Cline, and G.T. Brooks. 2015. Intra-seasonal movements of stream-dwelling salmonids throughout a network of lake tributaries. PloS one 10 (9).

Schindler, D.E., **J.B. Armstrong**, and T.E. Reed. 2015. Portfolio effects in ecology and evolution. *Frontiers in Ecology and the Environment* 13 (5), 257-263

Sergeant, C.J., **J.B. Armstrong**, and E.J. Ward. 2014. Synchronized migration phenologies prevent trophic mismatch in a warming watershed. *Freshwater Biology.* 60 (4) 724-732

Griffiths, J.R., D.E. Schindler, **J.B. Armstrong**, et al. 2014. Performance of salmon fishery portfolios across western North America. *Journal of Applied Ecology.* 51: 1554-1563

Lisi, P.J., K.T. Bentley, **J.B. Armstrong**, and D.E. Schindler. 2014. Episodic predation by fishes on mammals in boreal streams. *Ecology of Freshwater Fish.* 23: 622-630

Bentley, K.T., D.E. Schindler, T.J. Cline, **J.B. Armstrong**, D. Macias, L.R. Ciepiela, and R. Hilborn. 2014. Predator avoidance during reproduction: diel movements by spawning sockeye salmon between stream and lake habitats. *Journal of Animal Ecology. 83:1478-1489*

**Armstrong J.B.**and D.E. Schindler. 2013. Going with the flow: spatial distributions of juvenile coho salmon track an annually shifting mosaic of water temperature. *Ecosystems* 16: 1429-1441

**Armstrong, J.B**, D.E. Schindler, C.P. Ruff, G.T. Brooks, K.E. Bentley, and C. Torgersen. 2013. Diel horizontal migration in streams: juvenile fish exploit spatial heterogeneity in thermal and trophic resources. *Ecology* 94: 2066–2075

Schindler, D.E., **J.B. Armstrong**, et al. 2013. Riding the crimson tide: mobile terrestrial consumers track phenological variation in spawning of an anadromous fish. *Biology Letters* 9(3)

**Armstrong, J.B.**and M.H. Bond. 2013. Phenotype flexibility in wild fish: Dolly Varden regulate assimilative capacity to capitalize on annual pulsed subsidies. *Journal of Animal Ecology 82: 966-75*

Bentley, K.E., D.E. Schindler, **J.B. Armstrong**, C.P. Ruff, and P.J. Lisi. 2012. Inter-annual variation in a pulsed resource subsidy mediates the foraging and growth response of stream-dwelling salmonids. *Ecosphere* 3(12)

**Armstrong, J.B,** and D.E. Schindler. 2011. Excess digestive capacity in predators reflects a life of feast and famine. *Nature* 476: 84-87

Ruff, C.P., D.E. Schindler, **J.B. Armstrong**, et al. 2011. Temperature-associated population diversity in salmon confers benefits to mobile consumers. *Ecology* 92: 2073-2084

**Armstrong, J.B**., D.E. Schindler, K.L. Omori, C.P. Ruff, and T.P. Quinn. 2010. Thermal heterogeneity mediates the effects of pulsed subsidies across a landscape. *Ecology* 91: 1445-1454

**Armstrong, J.B.** 2010. Comment on “Egg consumption in mature Pacific Salmon (Oncorhynchus spp.)”. *Canadian Journal of Fisheries and Aquatic Sciences* 67: 2052-2054

**MANUSCRIPTS IN PREPARATION**

Baldock, J., **J.B. Armstrong**, and D.E. Schindler. Diel horizontal migrations of juvenile fish track intra-seasonal spatio-temporal variation in water temperature. For submission to *Oikos*

Deacey, W., W.B. Leacock, **J.B. Armstrong**, and J.A. Stanford. Quantifying brown bear use of salmon resource portfolios. For submission to *Ecology*

Smits, A.P., **J.B. Armstrong**, D.E. Schindler, and M.T. Brett. Landscape variation in access to marine resources drives differences in fatty acid composition among juvenile coho salmon populations in Alaska streams. For submission to *Oecologia*

**SELECTED PRESENTATIONS**

**Armstrong, J.B.** 2015. Invited talk. American Fisheries Society Annual Meeting. Portland, OR.

**Armstrong, J.B.** 2015. Invited Seminar: University of Montana, Missoula, MT

**Armstrong, J.B.** 2015. Invited Seminar: Oregon State University, Corvallis, OR

**Armstrong, J.B.** 2014. Ecological Society of America Annual Meeting. Sacramento, CA.

Schindler, D.E., and **J.B. Armstrong**. 2014. Invited talk: 50 years of wilderness science: what have wilderness areas taught us about Ecosystems? Ecological Society of America Annual Meeting. Sacramento, CA.

Schindler, D.E., **J.B. Armstrong**, P.J. Lisi. 2014. Invited talk: Effects of climate change on species interactions in aquatic ecosystems. Joint Aquatic Sciences Meeting. Portland, OR.

**Armstrong, J.B.** 2014. WY COOP Annual Meeting, Laramie, WY.

**Armstrong, J.B.** 2014. Invited public lecture, Casper College, Casper WY.

**Armstrong, J.B.** 2014. Invited Seminar: Colorado State University, Fort Collins, CO.

**Armstrong, J.B.** 2013. Invited Seminar: University of Alaska Fairbanks, Juneau, AK.

**Armstrong, J.B.** 2013. Invited Seminar: University of Wyoming, Laramie, WY.

**Armstrong, J.B.** 2013. Invited Seminar: Kyoto University, Kyoto, Japan.

**Armstrong, J.B.** 2013. Invited talk: Scaling up the impacts of resource pulses from individuals to ecosystems: toward theoretical advances of temporally-dynamic community ecology. Ecological Society of Japan Annual Meeting, Shiga, Japan.

**Armstrong, J.B.** 2012.Invited seminar: Lewis and Clark College, Portland, OR.

**Armstrong, J.B.**, D.E. Schindler, P.J. Lisi. 2012. Invited talk: Consortium for Integrated Climate Research in Western Mountains MTCLIM meeting, Estes Park, CO.

**Armstrong, J.B.** 2012. Invited talk: Diel Vertical Migration: Scaling Down from Populations to Individuals, American Fisheries Society Annual Meeting. St. Paul, MN.

Schindler, D.E**, J.B. Armstrong** (speaker)**,** and R. Hilborn**.** 2012. Invited talk: Climate and Fisheries: Responses of a Socio-Ecological System to Global Change, American Fisheries Society Annual Meeting. St. Paul, MN.

**Armstrong, J.B.** 2012. Ecological Society of America Annual Meeting. Portland, OR.

**Armstrong, J.B.** 2012. Invited public seminar: U.S. Forest Service Pacific Northwest Research Station, Olympia, WA.

**Armstrong, J.B.** 2012.Invited talk: Summer Teachers Institute, Nisqually River Education Project.

**Armstrong, J.B.** 2012. Invited talk: University of Washington Water Symposium. Seattle, WA.

**Armstrong, J.B.** and D.E. Schindler. 2011. Invited talk and panel discussion member: Adapting wildlife and habitat management to climate change, The Wildlife Society Annual Meeting, Kona, HI.

Ruff, C.P., D.E. Schindler, **J.B. Armstrong**, et al. 2011. American Fisheries Society Annual Meeting. Seattle, WA.

Schindler, D.E., **J.B. Armstrong**, and C.P. Ruff, 2010. Plenary talk: Annual General Meeting MT American Fisheries Society, Bozeman, MT.

**Armstrong, J.B.**, D.E. Schindler, C.P. Ruff, and G. Brooks. 2009. Annual General Meeting WA/BC American Fisheries Society, Shelton, WA.

**GRANTS & FELLOWSHIPS**

2014 Biodiversity Art Grant, Berry Biodiversity Conservation Center

2013 David H. Smith postdoctoral research fellowship

2011 SAFS travel award

2011 Roy Jensen Fellowship, University of Washington

2010 Vincent Liguori Endowment Scholarship, University of Washington

2006 H. Mason Keeler Endowment for Excellence Scholarship, University of Washington

2005 Student Academic Affairs Board Research Grant, Lewis and Clark College

**SERVICE & OUTREACH**

2015 Wild Portraits public exhibit, University of Wyoming, Laramie, WY

2012 Volunteer lecturer, Summer Teachers Institute, Nisqually River Education Project

2007-2012 Volunteer lecturer and field instructor, BBEDC Salmon Camp, Aleknagik, AK

**TEACHING**

2014 Guest lecture, Animal Biology, Casper College

2014 Guest lecture, Outdoor art, University of Wyoming

2014 Guest lecture, Advanced Photography, University of Wyoming

2012 Guest lecture, Summer teachers institute, Nisqually Education Center

2007-2012 Guest field instructor: Freshwater Ecology, BBEDC Salmon Camp Aleknagik, AK

2011 Guest lecture: Limnology, University of Washington

2008-2012 Guest lecture, Aquatic Ecological Research in Alaska, University of Washington

2009 Guest lecture, Ecological Scaling, University of Washington

2008 Guest lecture, Seattle Girls School (grades 5-8), Seattle, WA

2007 Teaching Assistant, Fisheries Ecology, University of Washington

2005 Teaching Assistant, Geology, Lewis and Clark College

**STUDENTS MENTORED**

2014 William Deacy, PhD student, Montana State University (co-author of research in prep.)

2014 Jeffrey Baldock, undergraduate research (co-author of research in prep.)

2012 Bianca Santos, undergraduate research

2012 Adrianne Smitts, post-undergraduate research (co-author of research in prep.)

2010-2012 Hannah Stapleton, undergraduate research

2009 Kristen Omori, undergraduate research. (co-author on *Ecology* paper)

2008 Wendy Scholl, undergraduate research

**SELECTED RESEARCH IN THE MEDIA**

2015 *CNN*: “Is your toothpaste polluting waterways”

2015 *Huffington Post*: “Microbeads Entering Our Water Daily Could Cover 300 Tennis Courts”

2015 *TNC Cool Green Science:* “Binge ‘Til You Burst: Feast and Famine in Salmon Rivers”

2015 *TNC Cool Green Science:* “In Synch: Char and Salmon in Warming Waters”

2014 NOAA press release: *Alaska fish adjust to climate changes by following the food*

2014 *TNC Cool Green Science* “Big gulp: How often do trout and grayling eat mammals” (top post of 2014)

2013 *National Geographic Television* “Monster Salmon in Alaska” [Film appearance]

2013 *High Country News* “Ecosystems 101: Hard lessons from the mighty salmon runs of Alaska’s Bristol Bay”

2013 *National Geographic Weird and Wild Blog* “Fish goes year without food, grows bigger organs”

2013 *Seattle Times “*Trout found that gorges, starves itself to survive”

2011 *Science* onlinenews “Why do fish haul around extra guts”

2011 *COSMOS Online* “Predatory fish were built to binge”

2011 *OregonLive.com*: featured in Oregon Environmental news.

2011 *NWT Magazine* “Fish are built for feast and famine”

**PHOTOGRAPHY OUTREACH**

*Selected photo credits and contributions.*

*Websites:* [*www.jonnyarmstrong.com*](http://www.jonnyarmstrong.com)*, www.flickr.com/photos/j-armstrong/*

2015 *Outside Magazine* “This Photographer Captures the Secret Lives of Wild Animals”

2015 *Slate* “Photographing Animals When They Least Expect It”

2015 *High Country News*: “Hidden Cameras Capture Wildlife in Wyoming”

2015 *TNC Cool Green Science:* “Camera Trap Meets Studio Lighting: Stunning Images and the Story Behind Them”

2015 *TNC Cool Green Science*: The top 10 posts of 2014

2014 *Wild Salmon Center:* cover image of Annual Report

2014 *BBC Wildlife, The Guardian:* Camera-trap photo of the year awards

2014 *TNC Cool Green Science:* “Big gulp: How often do trout and grayling eat mammals”

2014 *Mail Tribune* [Medford, Oregon]: “Ringing up ringtails”

2014 High Country News: “Rocky Mountain Sawmills Rebound”, full article credit

2013 *High Country News* : “Ecosystems 101: Hard lessons from the mighty salmon runs of Alaska’s Bristol Bay”, cover photo and full article credit

2013 *Outdoor Channel:* “Migration no longer best strategy for Yellowstone elk”

2013 *NPR* website cover image: “As climate warms American west, iconic trout in jeopardy”

2012 *Deutsche Welle*: "Alaska’s endangered paradise”

**PROFESSIONAL TRAINING**

2015 Facilitation training, Dovetail Consulting

2014 Leadership training, Maureen Ryan

2014 Media training, Intermedia

2013 Storytelling skills for science communication, Intermedia

2012 Science communication, COMPASS