Kyle Logan Wilson, Ph.D.

Applied Quantitative Biologist

Central Coast Indigenous Resource Alliance

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EDUCATION

2018 **PhD**, Ecology and Evolutionary Biology, University of Calgary

Consequences of spatial exploitation in complex adaptive social-ecological systems:

managing for sustainable freshwater fisheries

Supervisor: Dr. John R. Post

*Winner of JB Hyne Research Innovation Award

2013 MSc, Fisheries and Aquatic Sciences, University of Florida

Assessing fish communities in dense submersed aquatic vegetation habitats using underwater video cameras

Supervisors: Dr. Mike S. Allen & Dr. Michael D. Netherland

*Winner Outstanding Thesis of the Year, School of Forest Resources and Conservation

2009 **BSc (Cum Laude)**, Biology, San Diego State University

PROFESSIONAL EXPERIENCE

2021-23	Applied Quantitative Biologist
	Central Coast Indigenous Resource Alliance
2022-25	Marine Fishes Species Specialist Subcommittee Member
	Committee on the Status of Endangered Wildlife in Canada
2023	Course Instructor
	Bamfield Marine Science Center
2018-21	Banting Postdoctoral Fellow
	Simon Fraser University
2015-18	Vanier & Killam Scholar
	University of Calgary
2016-18	Graduate Assistant in Leadership and Scholarship
	Faculty of Graduate Studies, University of Calgary
2015-16	Course Instructor
	Biological Sciences, University of Calgary
2013	Fisheries Scientist
	Fisheries and Aquatic Sciences, University of Florida
2010	Fisheries Technician
	Fisheries and Aquatic Sciences, University of Florida
2010	Fish Ecology Technician
	USGS Cooperative Fish and Wildlife Research Unit, Utah State University
2009	Marine Mammal Intern
	United States Navy Marine Mammal Program
2009	Arctic Climate Change Technician
	Global Change Research Group, San Diego State University

PUBLICATIONS

Published: Citations: 537; h-index: 15; i10-index: 18

30. **Wilson, KL**, A Sawyer, A Potapova, CJ Bailey, D LoScerbo, EK Sweeney-Bergen, EE Hodgson, KJ Pitman, K Seitz, L Law, L Warkentin, SM Wilson, WI Atlas, DC Braun, M Sloat, MT Tinker, & JW Moore. *Accepted*. The role of spatial structure in at-risk metapopulation recoveries. *Ecological Applications*.

- 29. Rosenfeld, JR, P Gonzalez, L Jarvis, E Enders, M Bayly, AJ Paul, L MacPherson, JW Moore, M Sullivan, M Ulaski, & **KL Wilson**. 2022. Stressor-response functions as generalizable models for context dependence. *Trends in Ecology & Evolution*, **37**, 1032-1035.
- 28. Atlas, WI, **KL Wilson**, CK Whitney, JE Moody, CN Service, M Reid, & MR Sloat. 2022. Quantifying regional patterns of collapse in British Columbia Central Coast chum salmon (*Oncorhynchus keta*) populations since 1960. *Canadian Journal of Fisheries and Aquatic Sciences*, **79**, 2072-2086.
- 27. Kaemingk, MA, R Arlinghaus, MH Birdsong, CJ Chizinski, R Lyach, **KL Wilson**, & KL Pope. 2022. Matching of resource use and investment according to waterbody size in recreational fisheries. *Fisheries Research*, **254**, 106388.
- Bailey, CJ, KL Wilson, M More O'Ferrall, & JW Moore. 2022. Fish length back-calculation from scales: advancing methodology and correction of bias. *Canadian Journal of Fisheries and Aquatic Sciences*, 79, 1780-1797.
- 25. **Wilson, KL,** CJ Bailey, TD Davies, & JW Moore. 2022. Marine and freshwater regime changes impact a community of migratory Pacific salmonids in decline. *Global Change Biology*, **28**, 72-85. *Selected for commissioned commentary by ER Schoen in <u>Global Change Biology</u>
- 24. Frid, A, M McGreer, **KL Wilson**, C Du Preez, T Blaine, & T Norgard. 2021. Hotspots for rockfishes, structural corals, and large-bodied sponges along the central coast of Pacific Canada. *Scientific Reports*, **11**, 1-13.
- 23. Post JR, HGM Ward, **KL Wilson**, GL Sterling, A Cantin, & EB Taylor. 2021. Assessing conservation status with extensive but low-resolution data: application of frequentist and Bayesian models to Endangered Athabasca River rainbow trout. *Conservation Biology*.
- 22. Wilson, SM, T Buehrens, J Fisher, **KL Wilson**, & JW Moore. 2021. Phenological mismatch, carryover effects, and marine survival in a wild steelhead trout *Oncorhynchus mykiss* population. *Progress in Oceanography*, **193**, 102533.
- 21. Steel, JR, WI Atlas, NC Ban, **KL Wilson**, J Wilson, WG Housty, & JW Moore. 2021. Mixed-stock fishing methods and low salmon returns intensify barriers and costs to access for Indigenous Fishers. *FACETS*, **6**, 592-613.
- 20. Price, MHH, JW Moore, BM Connors, **KL Wilson**, & JD Reynolds. 2021. Portfolio simplification arising from a century of change in salmon population diversity and artificial production. *Journal of Applied Ecology*, **58**, 1477-1486.
- 19. **Wilson, KL,** A Foos, O Barker, A Farineau, J De Gisi, & JR Post. 2020. Social—ecological feedbacks drive spatial exploitation in a northern freshwater fishery: a halo of depletion. *Journal of Applied Ecology*, **57**, 206-218.
 - *Selected as Editor's Choice with commentary from R Arlinghaus in J. Applied Ecology
- 18. **Wilson, KL,** J De Gisi, CL Cahill, OE Barker, & JR Post. 2019. Life-history variation along environmental and harvest clines of a northern freshwater fish: plasticity and adaptation. *Journal of Animal Ecology*, **88**, 717-733.

- 17. Hashiguti DT, BE Soares, **KL Wilson**, RDO Raiol, & LFA Montag. 2019. Comparing three methods to estimate the average size at first maturity: a case study on a Curimatid exhibiting polyphasic growth. *Ecology of Freshwater Fish*, **28**, 266–273.
- 16. Carruthers, TR, K Dabrowska, W Haider, E Parkinson, D Varkey, HGM Ward, MK McAllister, T Godin, B Van Poorten, P Askey, **KL Wilson**, L Hunt, A Clarke, E Newton, CJ Walters, & JR Post. 2019. Landscape scale social and ecological outcomes of dynamic angler and fish behaviours: processes, data, and patterns. *Canadian Journal of Fisheries and Aquatic Sciences*, **76**, 970–988.
- 15. Brownscombe, JW, K Hyder, W Potts, **KL Wilson,** KL Pope, AJ Danylchuck, SJ Cooke, A Clarke, R Arlinghaus, & JR Post. 2019. The future of recreational fisheries: advances in science, monitoring, management, and practice. *Fisheries Research*, **211**, 247-255.
- 14. Cahill, CL, S Mogensen, **KL Wilson**, A Cantin, A Paul, RN Sinnatamby, P Christensen, J Reilly, L Winkel, A Farineau, & JR Post. 2018. Multiple challenges confront a high-effort inland recreational fishery in decline. *Canadian Journal of Fisheries and Aquatic Sciences*, **75**, 1357–1368.
- 13. **Wilson, KL,** A Honsey, B Moe, and P Venturelli. 2018. Growing the biphasic framework: techniques and recommendations for fitting emerging growth models. *Methods in Ecology and Evolution*, **9**, 822–833.
- 12. Matthias, BG, RNM Ahrens, MS Allen, T Tuten, ZA Siders, & **KL Wilson**. 2018. Decoupling the effects of density and environmental variability on fish growth. *Fisheries Research*, **198**, 209–219.
- 11. Boucek, R, C Barrientos, M Bush, D Gandy, **KL Wilson**, & J Young. 2017. Trophic state indicators are a better predictor of Florida Bass condition compared to temperature in Florida's freshwater bodies. *Environmental Biology of Fishes*, **10**, 1181–1192.
- 10. de Kerckhove, DT, J Freedman, **KL Wilson**, MV Hoyer, C Chu, & CK Minns. 2017. Choosing spatial units for landscape-based management of the Fisheries Protection Program. *Canadian Science Advisory Secretariat*. 2017/040. v + 44.
- 9. Mee, JA, JR Post, HGM Ward, **KL Wilson,** E Newton, & A Cantin. 2016. Fishing quality and angling effort relationships in an experimentally stocked, spatially structured fishery. *Ecological Applications*, **26**, 1693–1707.
- 8. Ward, HGM, MS Allen, EV Camp, NW Cole, LM Hunt, B Matthias, JR Post, **KL Wilson**, & R Arlinghaus. 2016. Understanding and managing social—ecological feedbacks in spatially structured recreational fisheries: the overlooked behavioral dimension. *Fisheries*, **41**, 524–535.
- 7. **Wilson, KL,** A Cantin, HGM Ward, ER Newton, JA Mee, DA Varkey, EA Parkinson, & JR Post. 2016. Supply–demand equilibria and the size–number trade-off in spatially structured recreational fisheries. *Ecological Applications*, **26**, 1086–1097.
- 6. **Wilson, KL,** BG Matthias, AB Barbour, RNM Ahrens, T Tuten, & MS Allen. 2015. Combining samples from multiple gears helps to avoid fishy growth curves. *North American Journal of Fisheries Management*, **35**, 1121–1131.
- 5. **Wilson, KL,** MS Allen, RNM Ahrens, & MD Netherland. 2015. Nonlinear and density-dependent fish habitat selection across physiochemical gradients in an invasive macrophyte habitat. *Environmental Biology of Fishes*, **98**, 1525–1539.
- Carlson, AK, KM Dunmall, RE Boucek, NW Cole, JA Kerns, RM Krogman, MC Lloyd, VM Nguyen, TR Wendt, SL White, & KL Wilson. 2015. How to navigate fisheries education and employment. Fisheries, 40, 196–197.
- 3. Wilson, KL, & AB Barbour. 2014. The death of immortality. Nature, 512, 226. Short Fiction

- 2. **Wilson, KL,** MS Allen, RNM Ahrens, & MD Netherland. 2014. Use of underwater video to assess freshwater fish populations in dense submersed aquatic vegetation. *Marine and Freshwater Research*, **66**, 10-22.
- 1. Rogers, MW, AB Barbour, & **KL Wilson**. 2014. Trade-offs in experimental designs for estimating post-release mortality in containment studies. *Fisheries Research*, **151**, 130–135.

In review:

- 4. Post, JR, **KL Wilson**, FD Johnston, GG Sass, PA Askey, HGM Ward, & MS Allen. *In revision*. Ecological approaches to understanding dynamic interactions between recreational angler behaviour and fishes. In: *Understanding Recreational Fishers: Disciplinary and Interdisciplinary Approaches for Fisheries Management*.
- 3. Frid, A, KL Wilson, J Walkus, R Forrest, & M Reid. *In revision*. Re-imagining the precautionary approach to make collaborative fishery management inclusive of Indigenous knowledge systems. *Fish and Fisheries*.
- 2. Post, JR, **KL Wilson**, HGM Ward, & R Arlinghaus. *In revision* Recruitment as an emergent property of ecological and evolutionary processes: implications for compensation and harvest management of fish. *Fish and Fisheries*.
- 1. Mee, JA, A Farineau, **KL Wilson**, & JR Post. *In revision*. Modelling the effects of climate change on water temperature and fish distributions in the South Saskatchewan River Basin. *Canadian Journal of Fisheries and Aquatic Sciences*.

Technical reports & other publications:

- 20. **Wilson, KL.** 2022. Nicola River Chinook salmon: Cumulative effects and life cycle model. *In*: Nicola Basin Chinook Risk Assessment: Final Report. Compiled by Isobel Pearsall. Prepared for: Nicola Collaborative Research and Technical Committee.
- 19. **Wilson, KL**, WI Atlas, J Steel, J Wilson, CK Whitney, M McGreer, WG Housty, & M Reid. 2022. Central Coast Catch Monitoring and Creel Program. Prepared for: Central Coast Indigenous Resource Alliance; Fisheries and Oceans Canada. 82 pp.
- 18. **Wilson, KL.** 2021. Memo: Considering Cumulative Effects under the Fisheries Act for the Lac Ste. Anne Métis Community Association. Prepared for: the Lac Ste. Anne Métis Community Association; Fisheries and Oceans Canada.
- 17. Atlas, WI, **KL Wilson**, & CK Whitney. 2021. Documenting a recent collapse in coho salmon stocks on the North and Central Coast of British Columbia: implications for fisheries, conservation, and cogovernance. Prepared for: Fisheries and Oceans Canada.
- 16. **Wilson, KL**, CK Whitney, & WI Atlas. 2021. Understanding interannual variability in Central Coast recreational catch and effort. Prepared for: Fisheries and Oceans Canada. 10 pp.
- 15. Steel, J, WI Atlas, **KL Wilson**, J Wilson, WG Housty, & M Reid. 2021. 2020 Heiltsuk salmon catch monitoring report. Prepared for: Heiltsuk Integrated Resource Management Department. 13pp.
- 14. Atlas, WI, J Steel, **KL Wilson**, J Wilson, WG Housty. 2020. Haíłzaqv salmon catch and effort patterns using community-based monitoring. Prepared for: Heiltsuk Integrated Resource Management Department. 22pp.
- 13. Thompson, M, S Alderman, **KL Wilson**, S Dalgarno, J Thorley, S Gavin, & A Dersch. 2020. Trans Mountain Expansion Project and oil spills: power analysis on Pacific salmon data. Prepared for: Adams Lake Indian Band. 89 pp.

- 12. **Wilson, KL,** J De Gisi, OE Barker, A Farineau, & JR Post. 2019. Lake trout management tool: Exploring tradeoffs in social and ecological outcomes for managing the BC and Yukon recreational lake trout fishery. Prepared for: British Columbia Ministry of Forests, Lands, and Natural Resource Operations and Rural Development: Fish and Wildlife Sector. 46 pp.
- 11. **Wilson, KL,** K Dunmall, & V Nguyen. 2015. How to... write and defend your thesis. American Fisheries Society Education Section. 3 pp.
- 10. Dunmall, K, V Nguyen, & **KL Wilson**. 2015. How to... write effective scholarship applications. American Fisheries Society Education Section. 3 pp.
- 9. White, S, **KL Wilson**, & R Boucek. 2015. How to... publish in graduate school. American Fisheries Society Education Section. 3 pp.
- 8. Carlson, A, **KL Wilson,** & N Cole. 2015. How to... analyze your data. American Fisheries Society Education Section. 3 pp.
- 7. **Wilson, KL,** & MS Allen. 2013. Exploring the potential for supplemental stocking of wild-reared largemouth bass at Lake Apopka. Prepared for: Florida Fish and Wildlife Conservation Commission. 14 pp.
- 6. **Wilson, KL,** EL Bradshaw, MS Allen, & MD Netherland. 2013. Evaluating fish habitat quality in dense hydrilla managed with different herbicide approaches. Prepared for: Florida Fish and Wildlife Conservation Commission. 15 pp.
- 5. **Wilson, KL,** MS Allen, & MD Netherland. 2012. Assessing fish communities in dense submersed aquatic vegetation with underwater video cameras. Proceedings of the 23rd Annual Florida Lake Management Society Conference. 83:84 (online)
- 4. **Wilson, KL,** MS Allen, & MD Netherland. 2012. Use of underwater video cameras to assess fish communities in dense submersed aquatic vegetation. The Shellcracker: Florida Chapter of the American Fisheries Society. 19(3):7-10. (online)
- Bradshaw, EL, KL Wilson, MS Allen, & MD Netherland. 2011. Evaluating fish habitat quality in dense hydrilla with different herbicide approaches. FFWCC Invasive Plant Management Newsletter. 3:3-4. (online)
- 2. Bell, T, D Drumm, D Hondelero, & **KL Wilson**. 2009. Comparative carbon flux in four subtropical ecosystems in Lopez Mateos, Baja California Sur. Global Change Research Group. Scientific Report. 30 pp.
- 1. **Wilson, KL** 2008. The effects of chemical signals on bystander crayfish. Senior Independent Research Report. San Diego State University. 16 pp.

PRESENTATIONS

Seminars & invited talks:

- 2023 Michigan State University, Quantitative Fisheries Center.
- 2022 NOAA-NMFS, Northwest Fisheries Science Center Watershed Program
- 2022 Lac Ste. Anne Métis Community Association Annual General Meeting. Stony Plain, AB.
- 2021 British Columbia Wildlife Federation, Conservation Webinar Series (online)
- 2020 Adams Lake Indian Band community meeting. Chase, BC
- 2019 Gulf Coast Research Laboratory, University of Southern Mississippi. Ocean Springs, MS
- 2019 Parks Canada, Banff National Park. Banff, AB
- 2018 Simon Fraser University. Burnaby, BC (online)
- 2018 University of Calgary. Calgary, AB

- 2018 71st Canadian Conference for Fisheries Research. Edmonton, AB
- 2017 University of Washington. Seattle, WA (online)
- 2017 University of Calgary, Calgary, AB
- 2016 British Columbia Fisheries Management Meeting. Kelowna, BC
- 2015 Izaak Walton Killam Trustees Banquet. Calgary, AB
- 2014 University of Calgary, Medicine & Gerontology. Calgary, AB (online)
- 2014 1st International Joint Aquatic Sciences Meeting. Portland, OR
- 2013 University of Florida, Environmental Law. Gainesville, FL

Contributed talks:

- 2019 149th American Fisheries Society. Reno, NV
- 2018 Prairie University Biological Symposium. Calgary, AB
- 2017 8th World Recreational Fisheries Conference. Victoria, BC
- 2017 70th Canadian Conference for Fisheries Research. Montreal, QC
- 2016 7th World Fisheries Congress. Busan, South Korea
- 2016 69th Canadian Conference for Fisheries Research. St. John's, NL
- 2014 144th Meeting of the American Fisheries Society. Quebec City, QC
- 2014 67th Canadian Conference for Fisheries Research. Yellowknife, NT
- 2013 42nd Benthic Ecology Meeting. Savannah, GA
- 2013 Southern Division AFS Meeting. Nashville, TN *Finalist for Best Student Paper (online)
- 2013 Biannual FWC-IFAS Invasive Plant Research Review. Citra, FL (online)
- 2013 16th UF Fisheries and Aquatic Sciences Graduate Student Symposium. Gainesville, FL
- 2013 Landscape Ecology Poster Session. Gainesville FL
- 2012 36th Florida Aquatic Plant Management Society Meeting. St. Augustine, FL
- 2012 31st MidSouth Aquatic Plant Management Society Meeting. Mobile, AL *Best Student Paper
- 2012 23rd Florida Lake Management Society Conference. Gainesville, FL
- 2012 Florida Cooperative Fish and Wildlife Research Unit Coordinating Committee Meeting. Gainesville, FL
- 2012 15th UF Fisheries and Aquatic Sciences Graduate Student Symposium. Gainesville, FL
- 2012 American Fisheries Society Florida Chapter Spring Meeting. Ocala, FL
- 2012 Southern Division AFS Meeting. Biloxi, MS
- 2011 Florida Cooperative Fish and Wildlife Research Unit Coordinating Committee Meeting. Gainesville, FL
- 2009 Barrow Arctic Science Consortium. Barrow, AK

GRANTS, AWARDS & HONORS

Total awarded value: \$3,113,710

Grants & contracts:

PI: Principal Investigator; COPI: Co-Investigator; CT: Contractor

- 2023 PI, Fisheries & Oceans Canada Ecosystems & Ocean Science Contribution Framework <u>Title:</u> 'Population characteristics, distribution, and abundance of groundfish in the Central Coast of British Columbia: drivers and applications to spatial monitoring and management' <u>Organization:</u> Central Coast Indigenous Resource Alliance Society \$173,768
- 2023 **Writer, CT**, Environment & Climate Change Canada Terrestrial Cumulative Effects Initiative <a href="Title: 'Informing Cumulative Effects Management for Chinook Salmon in the Nicola Watershed'

Organization: Nooaitch Indian Band & ESSA Technologies Ltd

<u>Partners:</u> Simon Fraser University, Fisheries & Oceans Canada, BC Ministry of Environment, University of British Columbia \$267,978

2021 COPI, British Columbia Salmon Restoration and Innovation Fund

<u>Title:</u> 'First Nations-led catch monitoring to inform sustainable mixed-stock fisheries management on the Central Coast'

Organization: Central Coast Indigenous Resource Alliance Society

<u>Partners:</u> Wild Salmon Center, Simon Fraser University, Fisheries & Oceans Canada, University of Victoria, ESSA Technologies Ltd \$2,098,774

2021 CT, Fisheries & Oceans Canada - Indigenous Habitat Participation Program

<u>Project:</u> Contributed review and critiques to consideration of Fisheries Act implementation of cumulative effects on behalf of Lac Ste. Anne Métis Community Association \$50,160

2020 **CT**, Heiltsuk Integrated Resource Management Department

<u>Title:</u> 'Understanding catch and effort dynamics in Chinook and Coho salmon fisheries' \$5,000

2019 CT, Adams Lake Indian Band

<u>Title:</u> 'Identifying potential impacts to Salmon fisheries from the TMX pipeline' <u>Partners:</u> Management and Solutions in Environmental Science \$12,000

2019 PI, BC Ministry of Forests, Lands, Natural Resource Operations, and Rural Development <u>Title:</u> 'Co-managing BC lake trout fisheries under climate change' <u>Partners:</u> Resource Management Division, Skeena Region \$12,000

2016 **PI**, BC Ministry of Forests, Lands, Natural Resource Operations, and Rural Development Title: 'Lake trout landscape management tool'

<u>Partners:</u> Resource Management Division, Skeena Region, and Environment Yukon \$30,000

2016 PI, Freshwater Fisheries Society of British Columbia

Title: 'Lake trout landscape management tool'
Partners: Freshwater Fisheries Society of British Columbia

\$14,000

2014 **COPI, Mitacs-Accelerate Research Program**

<u>Title:</u> 'The numerical response of anglers to fishing quality in British Columbia's lake trout fisheries'

<u>Partners:</u> Freshwater Fisheries Society of British Columbia and InStream Fisheries Research \$45,000

Fellowships & scholarships:

2019 **Banting Postdoctoral Fellowship**, presented by NSERC [\$140,000] – Online

Vanier Canada Graduate Scholarship, presented by NSERC [\$150,000] – Online
Izaak Walton Killam Memorial Scholarship, presented by UCalgary & Killam Trustees [\$66,000]
– Online

Izaak Walton Killam Research Scholarship, presented by UCalgary & Killam Trustees [\$6,000]

- 2014 Dean's Doctoral Scholarship, presented by UCalgary [\$15,000] declined
 Eyes High International Doctoral Scholarship, presented by UCalgary [\$6,000] declined
 Research Scholarship, presented by UCalgary Biological Sciences [\$3,000]
- 2013 **Roger Rottman Memorial Scholarship**, presented by the Florida Chapter of the American Fisheries Society (AFS) [\$500]
- 2012 National Science Foundation Graduate Research Fellowship Honorable Mention
 William L. Maier Jr. Memorial Scholarship, presented by the Florida Chapter of the Aquatic
 Plant Management Society [\$1,500]
- 2004 California Governor's Scholarship [\$1,000]

Awards, honors, & other:

- 2020 Editor's Choice article selected as Editor's Choice in Journal of Applied Ecology
- 2019 **Honorarium**, Parks Canada Banff National Park [\$2,200]
- 2018 **JB Hyne Research Innovation Award**, presented by UCalgary [\$500]
- 2017 Clemens-Rigler Award, presented by the Canadian Aquatic Resources Section [\$150]
- 2016 **Jim & Josie Gray Award**, presented by UCalgary for Graduate Teaching Assistant of the Year [\$750]

International Travel Award, presented by UCalgary [\$1,000]

Travel Award, presented by the 7th World Fisheries Congress [\$1,100]

Honorarium, Department of Fisheries and Oceans Canada [\$500]

Citation of Merit, presented by UCalgary Biological Sciences for contribution to graduate education

- Clemens-Rigler Award, presented by the Canadian Aquatic Resources Section [\$600]
- John E. Skinner Memorial Award, presented by UCalgary Biological Sciences [\$4,500]

 John E. Skinner Memorial Award, presented by the American Fisheries Society [\$800]

 Co-recipient for Best Student Chapter (Florida), presented by the American Fisheries Society

 Association for the Sciences of Limnology and Oceanography Travel Grant [\$500]

 Research Lab Award, presented by UCalgary Biological Sciences [\$1,750]

 Outstanding Thesis of the Year, presented by the School of Forest Resources and Conservation,
- 2013 **Outstanding Graduate Student of the Year (M.Sc.)**, presented by the Fisheries and Aquatic Sciences Program, UFlorida

Graduate Student Excellence in Outreach and Extension, presented by the School of Forest Resources and Conservation, UFlorida

The Wayne Smith Student Leadership Award, presented by the School of Forest Resources and Conservation, UFlorida [\$330]

Finalist for Best Student Paper Award, Southern Division AFS Spring Meeting

The University of Florida's Graduate Student Council Travel Grant [\$250]

Outstanding Graduate Student Leader, presented by UFlorida Graduate Student Council Education Stipend, from The Council for Environmental Education's Project WILD [\$50]
 Best Student Presentation Award, presented by MidSouth Aquatic Plant Management Society [\$100]

Travel Grant, presented by MidSouth Aquatic Plant Management Society [\$450]

Travel Award, presented by the Florida Lake Management Society [\$200]

2006 **Dean's List Semester's Honor** (5×), College of Sciences, San Diego State University

TEACHING & LEARNING

UFlorida [\$300]

Courses & workshops:

- 2023 Lead Instructor for Bamfield Marine Science Center course: Ecological Models & Data
- 2020 Co-led workshop on spatial analysis and mapping in R for SFU Earth to Ocean Research Group
- 2020 Developed and led workshops on Bayesian bioeconomic and time-series models for Fusion Analytics Inc.
- 2019 Developed and led graduate course on Bayesian data analysis using Stan for SFU in Winter 2019
- 2019 Led free workshop on power analyses for SFU Earth to Ocean Research Group
- 2016 Led free 2-day university-wide workshop on learning programming and statistics in R, hosted by UCalgary's Taylor Family Digital Library (online)
- 2016 Lead Instructor for UCalgary graduate course (BISI 607, R Wizardry in the Biological Sciences)
- 2015 Co-developed and taught UCalgary graduate course on computer programming in the biological sciences alongside Stephen Hausch (BISI 607, R Wizardry in the Biological Sciences)
- 2014 Teaching assistant for UCalgary's undergraduate course ECOL 439 on population ecology

Graduate committees & supervision:

- 2022 Committee member for SFU PhD Candidate Marta Ulaski
- 2012 Research Supervisor for UF undergraduate student Simone Nageon de Lestang
- 2012 Research Supervisor for UF undergraduate student Antonio Malouf

Guest lectures:

- 2022 Simon Fraser University (REM 211, Intro to Applied Ecology)
- 2021 Simon Fraser University (REM 211, Intro to Applied Ecology)
- 2021 Bamfield Marine Science Center (Fall Program, Applied Data Analyses)
- 2017 University of Calgary (BISI 607, R Wizardry in the Biological Sciences)
- 2013 University of Calgary (ECOL 417, Aquatic Ecology)
- 2013 University of Florida (PCB 5307, Limnology)
- 2011 University of Florida (FNR 3410, Field Techniques)
- 2010 San Diego State University (BIOL 526, Terrestrial Arthropods)

OUTREACH & EXTENSION

Science communication & media:

- 2022 **Media:** Interviewed for CBC News on drought impacts on salmon (online) and featured on CBC News: The World at Six with Susan Bonner (October 5th)
 - **Media:** Interviewed for feature article 'In the Long Run' for Canadian Wildlife (Issue: Sep + Oct 2022)
 - Media: Interviewed in Canada's National Observer (online)
- 2021 **Media**: Research featured in Hakai Magazine (online)
 - Media: Research featured in Comox Valley Record (online)
- 2020 Media: Radio interview on CBC's Yukon Morning on lake trout ecosystems (online)
- 2019 **SciComm training**: COMPASS advanced science communication workshop led by Nancy Barron **Media**: Radio interview with CBC North on Yukon lake trout fishery & ecology
- 2018 SciComm training: COMPASS science communication workshop led by Nancy Barron SciComm training: Organized Beakerhead science and media communication training workshop for graduate students funded through UCalgary's Faculty of Graduate Studies
- 2016 Media: Research highlighted by the American Fisheries Society (online)
- 2015 Media: Interviewee in film production on research achievements (interview & video)
- 2013 **Science blog**: Founding and contributing author to Florida AFS blog **'From Reefs to Rivers'** to convey the latest research and findings regarding Florida's fisheries to the public (online)

Media: Master's research on invasive species highlighted in interviews with Robert Montgomery, professional fisherman, and press articles in #1 bass fishing magazine distributed internationally (B.A.S.S. Times September 2013 issue) and online fishing blogs - (online)

*Select coverage includes:

- Activist Angler (online)
- American Fisheries Society (online)
- BASS Times (Sep. 2013 in print)
- CBC (radio)
- FishSens (print and online)
- MSN US News (online)
- Novus Light Technologies (online)
- Orlando Sentinel (front page print and online)
- Phys.org (online)
- Science Daily (online)
- Southeast Agricultural Network (online)

GK-12 STEM education & outreach:

- 2019 **Volunteer symposium judge**: volunteer judge for SFU's IDEAS symposium
- 2018 **STEM outreach:** created and delivered lesson on climate change and ecosystems to 7th grade class
- 2017 **Volunteer GK-12 STEM teacher**: Presented topics on marine and freshwater biology to grade 8 science at Westmount Middle School
 - Science fair: Served as judge for Westmount Middle School's Science Fair grade 5
- Career mentor: Founding and contributing author of 'How To...' series instruction manual for beginning a career in science and natural resources for the American Fisheries Society
 Undergraduate mentor: Served as mentor for San Diego State University alumni program and undergraduate Jordan Buxton majoring in marine biology
 - **Career fair**: Exhibitor for conservation biology careers to Crescent Heights High School in *Calgary, AB*
- 2013 STEM: Advisory board: Served on advisory board with 21st CCLC (at-risk youth STEM-education) to communicate with stakeholders on education objectives met and future initiatives (online) Career presentation: Presented marine science careers to Alachua County 4-H students interested in natural resource management
 - **Outreach volunteer**: Teach and guide families and disabled children on angling techniques, fish and Florida's lakes for Florida Lakewatch Fishing for Success
- 2012 **Expert reviewer**: Reviewed educational/scientific merit for 'Gone Fishing!' activity for the non-profit group The Council for Environmental Education's Project WILD K-12 conservation-educational program
 - **Day at the Museum**: Led planning for public event partnering fisheries, wildlife, and forestry graduate students and the Florida Museum of Natural History to present research in Florida natural resources to 1,355 community members
 - **Volunteer GK-12 STEM teacher**: Led partnership between SURF (graduate organization) and 21st CCLC to teach 100+ youth at-risk students from four middle schools about aquatic ecology, fish diversity and population dynamics to increase cognizance in STEM disciplines (online)
 - **Volunteer GK-12 STEM teacher**: Volunteered to host and teach 60+ Alachua County students on a visit to FAS freshwater ponds and give lessons on freshwater ecology and dissolved oxygen issues in Florida lakes

- **Volunteer GK-12 STEM teacher**: Taught hands-on fish ecology demonstrations providing applied lesson in non-linear mathematics to Lincoln middle school science students
- **Career presentation**: Presented science careers and graduate research experience to UF's Society of Women Engineers and Society of Hispanic Engineers interested in research
- 2011 **Science fair mentor**: Mentored four at-risk, minority students at Lincoln middle school in science fair projects on Floridian aquifers and invited/led seven graduate science mentors to program
- 2010 **Career presentation**: Presented marine conservation careers to students at Chesterton Elementary School

Conservation & policy extension:

- Technical working group for Two-Eyed Seeing in stock assessment: establishing Tier 2 working group titled: 'Towards collaborative fisheries management that is inclusive of Indigenous Knowledge Systems' with case studies alongside Kitasoo Xai'xais Stewardship Authority Technical working group for management strategy evaluations for the outside stock of quillback rockfish: participating member to help guide stock assessment, management procedures, reference points, and simulation scenarios for outside stock of quillback rockfish Review for CSAS and DFO stock assessment: participating peer reviewer and Science Advisory Report on the Application of the Management Procedure Framework for Outside Quillback Rockfish in British Columbia in 2021
 - Advisor for management strategy evaluation for Haíłzaqv sockeye fishery: collaborating with HIRMD, SFU, and Wild Salmon Center to guide design and implementation of closed-loop simulation testing management strategies for Koeye sockeye
 - Advisor for Bull Trout Management Plan: participating in the engagement and review for the Species at Risk Act Management Plan for Bull Trout (Western Arctic populations) in Canada on behalf of the Lac Ste. Anne Métis Community Association
- 2022 **Review for CSAS and DFO science**: participating peer reviewer and Science Advisory Report on the Guidelines for Defining Limit Reference Points for Salmon Stock Management Units **Berland-Wildhay Connectivity Plan:** participating advisory panel for planning watershed connectivity initiatives for the Berland-Wildhay Watersheds in Alberta on behalf of the Lac Ste. Anne Métis Community Association
 - Reviewing the revised Fisheries Act: coauthored memos alongside the Lac Ste. Anne Métis Community Association submitted to Fisheries & Oceans Canada evaluating the implementation of Cumulative Effects, Ecologically Significant Areas, Framework for Aquatic Species at Risk, Framework to Identify Fish Habitat Restoration Priorities under the revised Fisheries Act Nicola Chinook Rapid Assessment: developed a cumulative effects and life cycle simulation model for Nicola River Chinook salmon to evaluate key limiting factors in risk assessment
- 2021 Review for CSAS and DFO stock assessment: participating peer reviewer and Science Advisory Report on Yellowmouth Rockfish (Sebastes reedi) stock assessment for British Columbia in 2021 Reviewing TMX pipeline expansions: provided expert review on behalf of the Lac Ste. Anne Métis Community Association regarding the TMX pipeline project affecting critical habitat of SARA-listed Athabasca River Rainbow Trout populations
 - **Reviewing NGTL pipeline expansions:** provided expert review on behalf of the Lac Ste. Anne Métis Community Association regarding the expansion to the Nova Gas Transmission Ltd. pipeline system affecting critical habitat of SARA-listed Bull Trout and Athabasca River Rainbow Trout populations

- **Indigenous Knowledge framework:** coauthored memos alongside the Lac Ste. Anne Métis Community Association submitted to Fisheries & Oceans Canada for incorporating Indigenous Knowledge into revised Fisheries Act and Impact Assessment policies
- **North and Central Coast coho assessments:** leading quantitative framework for assessing fishery risks and status for 52 coho populations along the NCC of British Columbia alongside CCIRA, Wild Salmon Center, and Fisheries & Oceans Canada
- 2020 Understanding and monitoring salmon harvest for Haítzaqv Nation: co-developing framework for community-based monitoring of the spatial harvest patterns in the recreational and FSC Chinook and Coho salmon fisheries using dockside interviews in Bella Bella, BC Community meeting with Adams Lake Indian Band: present consequences of the Trans Mountain Pipeline Expansion Project in the North Thompson watershed to ALIB Chief & Council and community in Chase, BC
- 2019 Identifying potential impacts to Salmon fisheries from the TMX pipeline: quantifying potential impacts and risks to salmon fisheries from TMX on behalf of Adams Lake Indian Band Building capacity for sustainable lake trout management: working with Parks Canada, BC FLNRO, UCalgary, UToronto, Ontario Ministry of Natural Resources, and Alberta Environment & Parks to improve lake trout management in Canada's National Parks
- 2018 BC wild salmon strategy: coauthored letter to Wild Salmon Advisory Council on scientific advice and insight for conservation strategy

 Lake trout management: Partnering with BC FLNRO and ENVYUK to develop new management options for managing BC and Yukon lake trout fishery
- 2017 Rainbow trout management: Workshop with FFSBC and BC FLNRO to discuss management and stocking practices for BC rainbow trout fishery
 Invasive black bass control: Meeting with BC FLNRO to discuss management options for controlling invasive black bass in British Columbia
- 2016 **Lake trout management:** Workshop and presentation given to BC FLNRO to discuss evaluating and managing lake trout fishery in BC and Yukon
- 2013 **UF Levin College of Law:** Presentation entitled 'Fisheries & Sustainability' given to Levin College of Law's environmental program
- 2012 **Oyster Recovery Task Force:** Volunteer member of the Fisheries group and Environmental group working under UF/IFAS and Dr. Karl Havens to evaluate mechanisms for 2012 Apalachicola oyster fishery collapse

Other:

- 2017 **R Fridays**: Developed and co-organized biweekly open-house BISI meetings to discuss topics in the R statistical language
- 2016 **Workshop instructor**: Led free workshop on JAGS software for Bayesian modelling applications for UCalgary ecology researchers
- 2015 **Discussion group coordinator**: Guided graduate student and faculty discussions on student well-being including work-life balance, surmounting the Imposter Syndrome, and how to approach data analyses
- 2013 **Discussion group coordinator**: Created and coordinated discussion with UCalgary's EEB graduate students on population ecology and eco-evolutionary dynamics
- 2012 **Discussion group coordinator**: Directed and planned monthly 'Food For Thought' discussion groups between UF faculty and graduate students on fisheries and ecological research
- 2009 **Field volunteer**: field survey and public presentation for biodiversity in Mission Trails Park coordinated with San Diego's Natural History Museum and BioBlitz

2008 Education intern: developed educational curriculum on conservation and animal science and led students (grades K-8) on trips for the San Diego Zoo's Wild Animal Park

Graduate Forum: participated in California's Diversity in Graduate Research Forum at UC Irvine

PROFESSIONAL SERVICE

Detailed editorial responsibilities on Web of Science Guest editor:

Special issue in Fisheries Research for 8th World Recreational Fisheries Conference Journal referee:

Global Change Biology, Proceedings of the Royal Society B, Fish and Fisheries, Journal of Applied Ecology, Ecological Applications, Evolution, Ecology & Society, PLOS One, Fisheries, Canadian Journal of Fisheries and Aquatic Sciences, ICES Journal of Marine Science, Reviews in Fisheries Science and Aquaculture, Ecological Modelling, FACETS, Ecosphere, Ecology & Evolution, Fisheries Research, Aquatic Conservation: Marine and Freshwater Ecosystems, Journal of Fish Biology, Transactions of the American Fisheries Society, North American Journal of Fisheries Management, Marine and Coastal Fisheries, American Fisheries Society Books, Annales Zoologici Fennici, Environmental Monitoring and Assessment, Fisheries Management and Ecology, Journal of Environmental Planning, Lakes and Reservoirs: Research and Management, Neotropical Ichthyology, PeerJ, Southeastern Naturalist

Society membership:

American Fisheries Society, British Ecological Society, Association for the Sciences of Limnology and Oceanography, Canadian Committee For Fisheries Research

Science & academic service.

Science &	a academic service:
2022-25	Member of Marine Fishes Species Specialist Subcommittee for COSEWIC
2021	Watershed Futures Initiative: Science advisory panel
2016-18	Graduate Leader's Circle GANT serving UCalgary's scholarship community
2016	Co-host of Killam awards banquet alongside Dean of Faculty of Graduate Studies Dr. Lisa
	Young
2013-15	Student Representative for the Canadian Aquatic Resources Section of the American Fisheries
	Society – Educational Division Unit
2015	Seminar host: Dr. Robert Fletcher (UF); Dr. Paul Galpern (UCalgary)
2014-15	Conference abstract reviewer for 'Best Student Presentation' for the American Fisheries
	Society
2013	Past-President for Students United in Research of Fisheries (SURF)
2012	President of SURF

President of SURF 2012 Seminar host: Wes Porak (FFWCC); Dr. Jennifer Rehage (FIU); Dr. Mark Brenner (UF) Graduate Student Council Representative for UF's FAS program

2011 **Fundraising Chairman for SURF**

Service &	planning committees served on:
2016-18	UCalgary's Rising Leaders Forum planning committee
2014	American Fisheries Society Annual Meeting Student Social Networking Event
2013	UCalgary's Ecology and Evolutionary Biology Winter Social
2012	SFRC New Student Orientation
	Award Committee for Outstanding FAS Faculty
	Planning Committee for FAS Graduate Student Symposium
	Planning Committee for SFRC Spring Graduate Social

Conference & symposium service:

2017	Abstract reviewer and conference volunteer for 8 th World Recreational Fisheries Conference
2014	Conference volunteer for Joint Aquatic Sciences Meeting
2013	Food service committee member for 16 th annual UF's FAS Graduate Symposium
	Conference volunteer for Southern Division AFS Spring Meeting
2012	Conference volunteer for 23 rd annual Florida Lake Management Society Conference Keynote and food committee chair for 15 th annual UF's FAS Graduate Symposium
2011	Conference volunteer for Southern Division AFS Spring Meeting Symposium volunteer for 14 th annual UF's FAS Graduate Symposium