LILLIAN M. MCGILL

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ACADEMIC APPOINTMENTS	
Scripps Institution of Oceanography, University of California San Diego Postdoctoral Research Associate Co-Advisors: Drs. Brice Semmens and Colleen Petrik	2022 – Present
EDUCATION	
University of Washington Ph.D., Quantitative Ecology and Resource Management Co-Advisors: Drs. Gordon Holtgrieve and E. Ashley Steel	2016 - 2022
University of Notre Dame B.S., Environmental Science, Applied and Computational Mathematics and Statistics Co-Advisors: Drs. Gary Lamberti and Dominic Chaloner	2012 –2016

WATER POLICY

Gulf States Marine Fisheries Commission, Statistical Consultant, 2022

• Programmed a non-linear optimization routine to allocate sampling effort across multiple Gulf of Mexico fisheries surveys given user-input constraints. Developed an interactive RShiny app to visualize results.

United Nations Food and Agriculture Organization Forestry Division, Watershed Statistician Consultant, 2021

• Provided statistical expertise and geostatistical support for the project "Counting Fish from Forests for Food Security: Multidisciplinary Watershed Management."

The Future of Instream Flows in Washington State Science Panel, Member, 2021 Snoqualmie Science Coordination and Advisory Team, Member, 2017-2022 Northwest Climate Science Center, Actionable Science Fellow, 2017-2016

PUBLICATIONS

- 1. L.M. McGill, E.A. Steel, A.H. Fullerton. 2024. Empirical stream thermal sensitivities cluster on the landscape according to geology and climate. *Hydrology and Earth System Sciences*. 28(6): 1351-1371.
- B. Brown, A.H. Fullerton, D. Kopp, F. Tromboni, A. Shogren, J.A. Webb, C. Ruffing, M. Heaton, L. Kuglerova, D. Allen, L.M. McGill, J. Zarnetske, M. Whiles, J. Jones, B. Abbot. 2023. The music of rivers: How the mathematics of waves reveals global drivers of streamflow regime. *Water Resources Research*. 59(7): e2023WR034484.
- S. McNulty, E.A. Steel, E. Springgay, B. Caldwell, K. Shono, G. Pess, S. Funge-Smith, W. Richards, S. Ferraz, D. Neary, J. Long, B. Verbist, J. Leonard, G. Sun, T. Beechie, M. Lo, L.M. McGill, A.H. Fullerton, S. Borelli. Managing Forests for Water, pp 31-73. In FAO, IUFRO and USDA. 2021. A guide to forest-water management. FAO Forestry Paper No. 185. Rome
- 4. **L.M McGill**, J.R. Brooks, E.A Steel. 2021. Spatiotemporal dynamics of water sources in a mountain river basin inferred through δ^2 H and δ^{18} O of water. *Hydrological Processes*. *35(3): e14063*.
- 5. L.M McGill, E.A Steel, J.R. Brooks, A.H. Fullerton, R.T. Edwards. 2020. Elevation and spatial structure explain most surface-water isotopic variation across five Pacific Coast basins. *Journal of Hydrology*. 583: 124610.
- 6. N. Weber, B. Gerig, **L.M McGill**, D.T. Chaloner, G.A. Lamberti. 2018. Interactive effects of introduced Pacific salmon and brown trout on native brook trout: an experimental and modeling approach. *Canadian Journal of Fisheries and Aquatic Sciences*. 75(4): 538-548.



7. L.M McGill, B. Gerig, D.T. Chaloner, G.A. Lamberti. 2017. An ecosystem model for evaluating the effects of introduced Pacific salmon on contaminant burdens of stream-resident fish. *Ecological Modelling*. *355: 39–48*.

IN REVIEW AND PREPARATION PUBLICATIONS

- 1. L.M. McGill, T. Sleugh, C. Petrik, K. Schiff, K. McLaughlin, L. Aluwihare, B. Semmens. The persistent DDT footprint of ocean disposal, and ecological controls on bioaccumulation in fishes. *In review*.
- B. Brown, C. Crandall, D. Allen, A.H. Fullerton, D. Grimsman, M. Heaton, J. Jones Jr, D. Kopp, L.M. McGill, C. Ruffing, A. Shogren, F. Tromboni, T. Tyler, J.A. Webb, M. Whiles, J. Zarnetske, B. Abbot. Catchment Water Storage Mediates River Flow Sensitivity to Climate Change. *In review*.
- 3. L.M. McGill, G.W. Holtgrieve, M.S. Scheuerell. Spatial covariance of hydrologic change among river discharge time series across Western North America. *In preparation*.

SELECTED PRESENTATIONS (ϕ invited presentation)

- **ΦL.M. McGill**. Fisheries Population Estimation and Management. Fisheries Oceanography Seminar, Scripps Institution of Oceanography. *April 2023*.
- **Φ** L.M.McGill, G. Holtgrieve. Hydrologic change and spatial covariance among time series of river discharge across Western North American. School of Aquatic and Fishery Sciences Quantitative Seminar. *November 2021*.
- **Φ** L.M.McGill, E.A. Steel, J.R. Brooks. The spatial and temporal dynamics of water sources across the Snoqualmie River: a stable isotope approach. Snoqualmie Science Coordination and Advisory Team Meeting. *April 2020*.
- **L.M.McGill**, E.A. Steel, J.R. Brooks, A. Fullerton. Examining spatial patterns of water stable isotopes across multiple river basins. Society for Freshwater Science Annual Conference. *May 2018*.

FUNDING & AWARDS

- 2024: UC Santa Barbara Master of Environmental Data Science Program Capstone Project Support
- 2018-23: National Science Foundation Graduate Research Fellowship (3 years graduate tuition + stipend)
- 2019: National Science Foundation Graduate Research Internship Program Participant (\$5,000)
- 2017-18: Northwest Climate Science Center Actionable Science Fellowship (1 year graduate tuition + stipend)
- 2018: UW College of the Environment Student Organized Meeting Fund Award to support WaterHackWeek (\$1,500)
- 2018: Society for Freshwater Science Best Presentation Emphasizing Methodology (\$250)
- 2016-17: UW QERM First Year Fellowship (3 quarters graduate tuition + stipend)
- 2015: University of Michigan CILER Great Lakes Summer Research Fellowship (\$6,000)

SKILLS

- Statistics and Machine Learning: Hierarchical and generalized linear regression, Bayesian hierarchical models, linear and integer optimization, classification, time series modeling and forecasting, spatiotemporal data analysis
- Data Visualization: R (Shiny, ggplot2, leaflet, base graphics), Python (matplotlib, seaborn), ArcGIS
- Data Processing, Preparation & Management: R (dplyr, R Markdown), Python (pandas, numpy), Excel
- **Communication & Collaboration**: Authored seven scientific publications, gave eight formal presentations, awarded over \$200,000 in fellowships and grants; Git and Github