

Michael J. Malick

Ph.D. Candidate, Simon Fraser University
Resource and Environmental Management
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Education

- Current *Ph.D. Simon Fraser University*, Burnaby, BC, GPA: 4.00
Advisors: Randall Peterman, Sean Cox, and Franz Mueter
Dissertation: Ecological drivers of spatial and temporal variability in Pacific salmon productivity
- 2006–08 *M.Sc. University of Alaska Fairbanks*, Juneau, AK, GPA: 4.00
Advisor: Milo D. Adkison
Thesis: Variable effects of biological and environmental processes on coho salmon marine survival in Southeast Alaska ([PDF](#))
- 2002–06 *B.Sc. Mansfield University*, Mansfield, PA, GPA: 3.95
Senior Thesis: The influence of climatological factors on the migration timing of sockeye salmon into freshwater (Advisor: Dr. Richard W. Soderberg)
Independent Research: Chemical and biological study of the Tioga River (Advisor: Dr. Gregory A. Carson)

Publications

- Accepted **Malick, M.J.**, S.P. Cox, F.J. Mueter, B. Dorner, R.M. Peterman. Accepted. Effects of the North Pacific Current on productivity of 163 Pacific salmon stocks. Fisheries Oceanography.
- 2016 **Malick, M.J.** and S.P. Cox. 2016. Regional-scale declines in productivity of pink and chum salmon stocks in western North America. PLoS ONE 11:e0146009. ([PDF](#)) <http://doi.org/10.1371/journal.pone.0146009>
- 2015 **Malick, M.J.**, S.P. Cox, R.M. Peterman, T.C. Wainwright, and W.T. Peterson. 2015. Accounting for multiple pathways in the connections among climate variability, ocean processes, and coho salmon recruitment in the Northern California Current. Canadian Journal of Fisheries and Aquatic Sciences 72:1552-1564. <http://doi.org/10.1139/cjfas-2014-0509>

- 2015 **Malick, M.J.**, S.P. Cox, F.J. Mueter, R.M. Peterman. 2015. Linking phytoplankton phenology to salmon productivity along a north-south gradient in the Northeast Pacific Ocean. *Canadian Journal of Fisheries and Aquatic Sciences* 72:697-708. <http://doi.org/10.1139/cjfas-2014-0298>
- 2011 **Malick, M.J.**, L.J. Haldorson, J.J. Piccolo, and J.L. Boldt. 2011. Growth and survival in relation to body size of juvenile pink salmon in the Northern Gulf of Alaska. *Marine and Coastal Fisheries* 3:261-270. (PDF) <http://doi.org/10.1080/19425120.2011.593467>
- 2009 **Malick, M.J.**, M.D. Adkison, and A.C. Wertheimer. 2009. Variable effects of biological and environmental processes on coho salmon marine survival in Southeast Alaska. *Transactions of the American Fisheries Society* 138:846-860. (PDF) <http://doi.org/10.1577/T08-177.1>

Awards and Honors

- 2015 Best Student Presentation, Honorable Mention, AFS National Meeting, Portland, OR
- 2014–15 Ph.D. Graduate Fellowship, Simon Fraser University
- 2012–13 Ph.D. Graduate Fellowship, Simon Fraser University
- 2012–13 President’s Ph.D. Scholarship, Simon Fraser University
- 2010–11 C.D. Nelson Memorial Graduate Scholarship
- 2005–06 Certificate of Recognition for Academic Achievement in Biology
- 2005–06 Stanley Henry Nauman Scholarship for Academic Excellence in Fisheries
- 2003–04 Certificate of Accomplishment for Grantsmanship

Media Coverage

- 2015 Warming Coastal Ocean Temperatures May Lead To Negative Effect For Salmon Recruitment. *The Columbia Basin Bulletin*. 9 October 2015. ([Article](#))
- 2015 Study Details How Timing Of Phytoplankton Blooms off Alaska, B.C. Tied To Salmon Productivity. *The Columbia Basin Bulletin*. 6 February 2015. ([Article](#))

Presentations

- 2016 **Malick, M.J.** Environmental drivers of spatial and temporal variability in Pacific salmon productivity. Resource & Environmental Management Departmental Seminar, Simon Fraser University, Burnaby, BC. March 7, 2016.
- 2015 **Malick, M.J.**, S.P. Cox, F.J. Mueter, R.M. Peterman. Linking phytoplankton phenology to pink salmon productivity along a north-south gradient. American Fisheries Society Annual Meeting, Portland, OR. August 17, 2015.
- 2014 **Malick, M.J.**, R.M. Peterman, S.P. Cox. Stock-recruitment datasets for wild North American pink and chum salmon stocks. International Salmon Data Workshop, Seattle, WA. September 9, 2014.
- 2014 **Malick, M.J.**, S.P. Cox, F.J. Mueter, R.M. Peterman. North-south differences in the effects of the initiation date of the spring bloom on pink salmon survival. Salmon Ocean Ecology Annual Meeting, Santa Cruz, CA. March 14, 2014.
- 2013 Litzow, M., W.J. Sydeman, D. Schoeman, S. Chiba, M. Garcia-Reyes, **M.J. Malick**, H. Sugisaki, S.A. Thompson. Nonlinear change in the variability of North Pacific climate: are biological systems responding? PICES 2013 Annual Meeting, Nanaimo BC, Canada. October 18, 2013. (Presented by M. Litzow)
- 2013 **Malick, M.J.**, S.P. Cox, R.M. Peterman, W.T. Peterson, and T.C. Wainwright. Using Bayesian networks to link climate variability, ocean processes, and coho salmon marine survival. North Pacific Anadromous Fish Commission Workshop, Honolulu, HI. April 26, 2013.
- 2013 Adkison, M., R. Briscoe, J. Robins, **M.J. Malick**, A. Wertheimer, and S.G. Taylor. Marine survival and interspecific interactions of coho salmon in SE Alaska. Poster. North Pacific Anadromous Fish Commission Workshop, Honolulu, HI. April 25, 2013. (Presented by M. Adkison)
- 2013 **Malick, M.J.** Modeling causal networks to link climate variability, ocean processes, and Pacific salmon population dynamics. IDEAS Symposium, Simon Fraser University, Burnaby, BC. January 19, 2013.
- 2012 **Malick, M.J.** Timing of the spring bloom in the Northeast Pacific. IDEAS Symposium, Simon Fraser University, Burnaby, BC. January 7, 2012.
- 2009 **Malick, M.J.**, L. Haldorson, and J.J. Piccolo. Feeding intensity, diet, and survival in relation to body size of juvenile pink salmon. Alaska Chapter American Fisheries Society Annual Meeting, Fairbanks, AK. November 4, 2009.

- 2009 **Malick, M.J.** What comes after a fisheries undergraduate degree? Mansfield University Special Seminar, Mansfield, PA. October 14, 2009.
- 2009 **Malick, M.J.**, L. Haldorson, and J.J. Piccolo. Characterizing habitat specific size, condition, and growth of juvenile pink salmon in the Northern Gulf of Alaska. Salmon Ocean Ecology Annual Meeting, Juneau, AK. April 7, 2009.
- 2009 **Malick, M.J.**, M.D. Adkison, and A.C. Wertheimer. Variable effects of biological and environmental processes on coho salmon marine survival in Southeast Alaska. Salmon Ocean Ecology Annual Meeting, Juneau, AK. April 7, 2009.
- 2008 **Malick, M.J.** Variable effects of hatchery pink and chum salmon on coho salmon marine survival in Southeast Alaska. University of Alaska Chapter, Juneau Subunit, American Fisheries Society Annual Meeting, Juneau, AK. April 14, 2008.
- 2007 **Malick, M.J.**, M.D. Adkison, and A.C. Wertheimer. The influence of physical and biological factors on coho salmon marine survival in Southeast Alaska. Alaska Chapter American Fisheries Society Annual Meeting, Ketchikan, AK. November 15, 2007.
- 2004 **Malick, M.J.**, C. Oppel, R. Sweater, and G. Carson. Chemical and biological study of the Tioga River. Poster. Pennsylvania Academy of Science Annual Meeting, Pittsburgh, PA. March 26, 2004.

Teaching Experience

- 2016 *Guest Lecture:* Designing Publication Quality Graphics in R. Guest Lecture in REM 612 Simulation Modelling in Natural Resource Management, Simon Fraser University (2 hrs.) – A tutorial on designing and creating publication figures in R. Tutorial materials are available on [github](#).
- 2015 *Instructor:* Designing Publication Quality Graphics in R, Simon Fraser University – A tutorial on designing and creating publication figures in R. Tutorial materials are available on [github](#).
- 2014 *Teaching Assistant:* Risk Assessment and Decision Analysis for Management of Natural Resources, Simon Fraser University (REM-625). Developed and led computer labs, graded assignments, organized reading discussions.
- 2013 *Instructor:* Introduction to R for Data Analysis, Simon Fraser University – A two day course that covered the basics of the R programming language.
- 2013 *Instructor:* Introduction to R, NOAA Northwest Fisheries Science Center – A two day course that covered the basics of the R programming language.

2012 *Instructor:* Introduction to R, Simon Fraser University – An 11 week voluntary course that covered the basics of the R programming language.

Certifications & Services

2007–16 American Fisheries Society Associate Professional

2007–08 Secretary: AFS Student Subunit, University of Alaska Fairbanks

Reviewer Ecosphere, Transactions of the American Fisheries Society, North Pacific Anadromous Fish Commission, North American Journal of Fisheries Management

Published Datasets

2015 *North American pink and chum salmon spawner-recruit database.* Publically released July 2015. The database contains stock-recruitment data for 46 pink and 53 chum salmon stocks throughout their North American ranges. <http://dx.doi.org/10.5281/zenodo.20354>

Work Experience

2008–10 *Research Associate:* University of Alaska Fairbanks, Juneau, AK. Duties included dataset assembly and maintenance, statistical analyses using R, Excel, and PRIMER, and manuscript preparation.

2007–08 *Fisheries Contractor:* National Atmospheric and Oceanic Administration, Little Port Walter, AK. Duties included salmon collection, recovery of coded wire tags, and salmon weir maintenance.

2006 *Fisheries Technician:* Wyoming Game & Fish Department, Laramie, WY. Duties included fish sampling using backpack electro-fishing, raft electro-fishing, seins, gillnets, trap nets, and trammel nets, habitat mapping, and rotenone treatments.

2004 *Volunteer Fisheries Technician:* United States Fish and Wildlife Service, King Salmon, AK. Duties included remote field camp and salmon weir construction and maintenance, daily salmon counts both manually and using underwater motion detection cameras.