Sean C. Godwin, PhD

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RESEARCH INTERESTS

Marine ecology, conservation biology, aquaculture and fisheries management, biological statistics

EDUCATION

PhD in Biological Sciences **2012-2018**
Simon Fraser University, Burnaby, BC, Canada
- Co-advisors: Dr. John Reynolds, Dr. Larry Dill, and Dr. Martin Krkosek

BSc in Wildlife Biology, *with distinction* **2008-2012**
McGill University, Montréal, QC, Canada

POSTDOCTORAL POSITIONS

Postdoctoral Researcher **2022-2023**
Pacific Salmon Foundation and Simon Fraser University

Liber Ero Postdoctoral Fellow **2018-2022**
Dalhousie University, Halifax, NS, Canada
- Advisor: Dr. Jeffrey Hutchings

SELECT SCHOLARSHIPS AND GRANTS

Hodgson Family Foundation Grant	$995,000	International	**2026**
Sitka Foundation Grant	$30,000	National	**2025**
Natural Sciences & Engineering Research Council of Canada Alliance Grant (Co-PI)	$150,000	National	**2025**
Mitacs Accelerate Postdoctoral Fellowship	$150,000	National	**2022**
Internal Postdoctoral Fellowship	$120,000	Institutional	**2020**
Atlantic Salmon Conservation Foundation Research Grant	$40,350	International	**2019**
Liber Ero Postdoctoral Fellowship	$150,000	International	**2018**
Pacific Salmon Foundation Grant	$42,000	National	**2018**
Mitacs Accelerate	$20,000	National	**2017**
Pacific Salmon Watershed Fund Research Grant	$10,000	National	**2017**
NSERC Postgraduate Scholarship - Doctoral	$42,000	National	**2015**
W. Garfield Weston Scholarship	$19,000	Institutional	**2014**
NSERC Industrial Postgraduate Scholarship	$42,000	National	**2013**

RESEARCH

Adjunct Professor **2025-present**
Simon Fraser University

Research Consultant **2019-2023**
Mamalilikulla, 'Nam̱gis, and Kwikwasut'inuxw Haxwa'mis First Nations
- Served as the wild-salmon expert for three First Nations to inform their salmon-farming transition plan

Researcher and Field Lead **2015-2019**
Hakai Institute, BC
- Designed and led Hakai Institute's multi-million-dollar Juvenile Salmon Program

TEACHING AND MENTORSHIP

Teaching: I teach ESP10: Current Issues in the Environment and ESP124: Marine & Coastal Field Ecology once per year, and ECL298: Ecological Models and Data once every two years.

Mentorship: I have been the primary advisor or co-advisor for three PhD students, one MSc student, ten undergraduate honours or practicum students, and one postdoctoral researcher.

AWARDS AND PRIZES

Dean's Convocation Medal for Outstanding Thesis Dissertation	Institutional	**2019**
Best Talk, Canadian Society for Ecology and Evolution Meeting	National	**2017**
Best Talk runner-up, Pacific Ecology and Evolution Conference	Regional	**2016**
Peter A. Larkin Award for Excellence in Fisheries at a Canadian Institution	National	**2014**
Best Talk runner-up, Pacific Ecology and Evolution Conference	Regional	**2014**
Best Talk runner-up, Inter-Departmental Ecology of Aquatic Systems Symposium	Institutional	**2014**
Graduate Student Teaching Award in Biological Sciences	Institutional	**2013**

CURRENT SERVICE

Editor: Fish and Fisheries	International	**2023-present**
Member: COSEWIC Marine Fishes Species Specialist Subcommittee	National	**2021-present**
Board Member: Salmon Coast Field Station	National	**2020-present**
Member, UC Davis Boating Safety Committee	Institutional	**2025-present**
Chair, Bodega Marine Laboratory Stats Support Group	Institutional	**2024-present**
Member, Bodega Marine Laboratory Executive Committee	Institutional	**2023-present**
Member, Bodega Marine Laboratory Seminar Committee	Institutional	**2023-present**

PEER-REVIEWED PAPERS

Bolded names = me and mentees

25. Bugg, W.S., Greentree, W,L., James, S.E., Akbarzadeh, A., Atkinson, J.B., Bartlett, M.C., Di Cicco, E., Deeg, C.M., **Godwin, S.C.**, Innes, K.G., Mordecai, G.J., Quindazzi, M.J., Thomson, M.G., Duguid, W.D.P., Bateman, A.W., Miller, K.M. In review (*at Canadian Journal of Fisheries and Aquatic Sciences)*. Integrative approaches for assessing drivers of marine mortality in juvenile Chinook salmon.

24. **Barbosa, R.V.**, Schuster, J.M., **Godwin, S.C.**, Man, L., Dedeluk, N., Kim, U., Bianucci, L., Lin, Y., Neufeld, C.J., Costa, M.P.F. In review (*at Marine Ecology Progress Series*). Substrate limitation and environmental heterogeneity shape kelp habitat distribution in a complex coastal landscape.

23. **Godwin, S.C.** †, Di Cicco, E. †, Zinn, K.R., Johnston, S.C., Kaukinen, K.H., Li, S., Schulze, A.D., Archambault, J.F., Mantha-Rensi, K.N.R., Zielke, K.A.J., Bugg, W.S., Mordecai, G.J., Bass, A.L., Deeg, C.N., Bateman, A.W., Hinch, S.G., Miller, K.M. In review (*at Marine Ecology Progress Series*). First evidence of tenacibaculosis in wild-caught Pacific salmon.
†Co-first authors

22. Balstad, L.J., **Godwin, S.C.**, Krkosek, M., Lewis, M.A., Baskett, M.L. In revision (at *American Naturalist*). Evaluating management strategies to mitigate the effect of production on sublethal virulence evolution in parasites.

21. Muñoz, N.J., Price, M.H.H., **Godwin, S.C.**, Obrist, D.S., Dennert, A.M., Pendray, J.E., Hertz, E., Reynolds, J.D. In revision (at *Ecography*). Spatial asynchrony stabilizes Pacific salmon abundance from local to global scales.

20. **Godwin, S.C.**, Atkinson, E.M., Atkinson, J.B., Bartlett, M.C., Duguid, W.D.P., Trudel, M., Bateman, A.W. 2026. Contemporary methods for capturing juvenile salmonids in the marine environment. *Fish and Fisheries*. 27(2): 160-178.

19. Balstad, L.J., **Godwin, S.C.**, Krkosek, M., Lewis, M.A., Baskett, M.L. 2025. Threshold-based disease treatment approach modulates economic, conservation and evolutionary trade-offs in sea louse-salmon aquaculture. *Theoretical Ecology*. 18(1):23.

18. Krkosek, M.†, Bateman, A.W.†, Bass, A.L., Bugg, W.S., Connors, B.M., Deeg, C.M., Di Cicco, E., **Godwin, S.,** Grimm, J., Krichel, L., Mordecai, G., Morton, A., Peacock, S., Shea, D., Riddell, B., Miller, K.M. 2024. Pathogens from salmon aquaculture in relation to conservation of wild Pacific salmon in Canada. *Science Advances*. 10(42).
†Co-first authors

17. **Godwin, S.C.**†, Bateman, A.W.†, Mordecai, G.†, Jones, S., Hutchings, J.A. Is scientific inquiry *still* incompatible with government information control? A quarter century later. *Canadian Journal of Fisheries and Aquatic Sciences.* 80(10): 1679–1695.
†Co-first authors *Media coverage by The Narwhal, Evidence 4 Democracy, Hakai Magazine **Editor's Choice

16. Garzke, J., Forster, I., **Godwin, S.C.**, Johnson, B.T., Krkosek, M., Mahara, N., Pakhomov, E.A., Rogers, L.A., Hunt, B.P.V. 2022. Dynamic coastal pelagic habitat drives rapid changes in growth and condition of juvenile sockeye salmon (Oncorhynchus nerka) during early marine migration. *FACETS*. 7:1328–1347.

15. **Godwin, S.C.**, Bateman, A.W., Kuparinen, A., Johnson, R., Powell, R., Speck, K., Hutchings, J.A. 2022. Salmon lice in the Pacific Ocean show evidence of evolved resistance to parasiticide treatment. *Scientific Reports*. 12:4775.
*Media coverage by The Narwhal, CTV News, and The Tyee

14. **Medcalf, K.E.**, Hutchings, J.A., Fast, M.D., Kuparinen, A., **Godwin, S.C**. 2021. Water temperature and ectoparasitic sea lice alter the liver and heart of juvenile Atlantic salmon. *Marine Ecology Progress Series.* 660:161-169.

13. Taylor, V.J., Barnes, P.J., **Godwin, S.C.**, Bethune, G.C. 2021. Assessment of HER2 using the 2018 ASCO/CAP guideline update for invasive breast cancer: a critical look at cases classified as HER2 2+ by immunohistochemistry. *Virchows Archiv*. 479(1):23-31.

12. **Godwin, S.C.,** Krkosek, M., Reynolds, J.D., Bateman, A.W. 2021. Bias in self-reported parasite data from the salmon farming industry. *Ecological Applications.* 31(1):e02226.
*Media coverage by The Narwhal and the CBC

11. **Godwin, S.C.**, Krkosek, M., Reynolds, J.D., Bateman, A.W. 2021. Sea-louse abundance on salmon farms in relation to parasite-control policy and climate change. *ICES Journal of Marine Science*. 78(1):377-387.

10. **Godwin, S.C.**, Fast, M.D., Kuparinen, A., Medcalf, K.E., Hutchings, J.A. 2020. Increasing temperatures accentuate negative fitness consequences of a marine parasite. *Scientific Reports.* 10:18467.

9. **Brookson, C.B.**, Krkosek, M., Hunt, B.P.V., Johnson, B.T., Rogers, L.A., **Godwin, S.C.** 2020. Differential infestation of juvenile Pacific salmon by parasitic sea lice in British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences*. 77(12):1960-1968.
*Media coverage by Hakai Magazine

8. Walsh, J.C.†, Reynolds, J.D.†, Pendray, E.J., **Godwin, S.C.**, Artelle, K.A., Kindsvater, H.K., Field, R.D., Harding, J.N., Swain, N.L. 2020. Relationships between Pacific salmon and aquatic and terrestrial ecosystems: implications for ecosystem-based management. *Ecology*. 101(9):e03060.
†Co-first authors

7. **Atkinson, E.M.**, Bateman, A.W., Dill, L.M., Krkosek, M., Reynolds, J.D., **Godwin, S.C.** 2018. Oust the louse: Leaping behaviour removes sea lice from wild juvenile sockeye salmon. *Journal of Fish Biology*. 93(2):263-271.
*Media coverage Science Magazine and Toronto Star

6. **Godwin, S.C.**, Krkosek, M., Reynolds, J.D., Rogers, L.A., Dill, L.M. 2018. Heavy sea louse infection is associated with decreased foraging success in wild juvenile sockeye salmon. *Canadian Journal of Fisheries and Aquatic Sciences*. 75(10):1587-1595.

5. **Godwin, S.C.**, Dill, L.M., Krkosek, M., Price, M.H.H., Reynolds, J.D. 2017. Reduced growth in wild juvenile sockeye salmon infected with sea lice. *Journal of Fish Biology*. 91(1):41-57.
*Media coverage by the CBC and The Tyee

4. **Godwin, S.C.**†, Francis, F.T.†, Howard, B.R., Malpica-Cruz, L., Witter, A.L. 2017. Important features for the economic viability of community supported fisheries. *Marine Policy*. 81:375-380.
†Co-first authors

3. Groner, M.L., Rogers, L.A., Bateman, A.W., Connors, B.M., Frazer, L.N., **Godwin, S.C.**, Krkosek, M., Lewis, M.A., Peacock, S.J., Rees, E.E., Revie, C.W., Schlägel. 2016. Quantitative lessons from sea lice and salmon epidemiology. *Philosophical Transactions of the Royal Society of London B: Biological Sciences.* 371(1689):20150203.

2. **Godwin, S.C.**, Dill, L.M., Reynolds, J.D., Krkosek, M. 2015. Sea lice, sockeye salmon, and foraging competition: Lousy fish are lousy competitors. *Canadian Journal of Fisheries and Aquatic Sciences*. 72(7):1113-1120.
*Media coverage by the Vancouver Sun and The Globe and Mail

1. **Godwin, S.C.**, Solomon, C.T., Weidel, B.C., Jones, S.E. 2014. Dissolved organic carbon concentration controls benthic primary production: Results from in situ chambers in north-temperate lakes. *Limnology and Oceanography*. 59(6):2112-2120.

BOOKS AND CHAPTERS

2. **Godwin, S.C.**, Krkosek, M. 2022. Pacific Salmon Field Guide. Lone Pine Publishing: Edmonton, Canada.

1. Peacock, S.J., Bateman, A.W., Connors, B., **Godwin, S.C.**, Lewis, M.A., Krkosek, M. 2019. Ecology of a marine ectoparasite in farmed and wild salmon. *In* Wilson, K., Fenton, A., Tompkins, D.M. (eds), Wildlife Disease Ecology: Linking Theory to Data and Application. Cambridge University Press: Cambridge, UK. pp. 544-573.

TECHNICAL REPORTS

4. Humenny, R., Brookson, C.B., Bateman, A.W., **Godwin, S.C.** 2024. Findings from BATI's five-year juvenile salmon monitoring program. *Report for the 'Nam̲gis, Mamalilikulla, and K̲wik̲wa̲sut'inux̲w Ha̲xwa'mis First Nations*.
3. Brookson, C.B., Atkinson, A.M., Bateman, A.W., Peacock, S.J., **Godwin, S.C.** 2022. *Report for the 'Na̲mgis, Mamalilikulla, and K̲wik̲wa̲sut'inux̲w Ha̲xwa'mis First Nations*.
2. Johnson, B.T., Gan, J.C.L., **Godwin, S.C.**, Krkosek, M., Hunt, B.P.V. 2019. Juvenile Salmon migration observations in the Discovery Islands and Johnstone Strait in British Columbia, Canada in 2018. *North Pacific Anadromous Fish Commission*. Document no. 1838.
1. Hunt, B.P.V., Johnson, B.T., **Godwin, S.C.**, Krkosek, M., Pakhomov, E., Rogers, L.A. 2018. The Hakai Institute Juvenile Salmon Program: Early life history drivers of marine survival in sockeye, pink, and chum salmon in British Columbia. *North Pacific Anadromous Fish Commission*. Document no. 1788.

SELECT PRESENTATIONS

15. Coastal aquaculture in a changing world: ecological lessons from salmon farming. **UC Santa Cruz Ocean Sciences Seminar**. Santa Cruz, USA. March 2026. *(Invited)*
14. Updates on salmon science. **Meeting with Canadian Members of Parliament**. Vancouver, Canada. August 2025. *(Invited)*
13. Coastal aquaculture in a changing world: ecological lessons from salmon farming. **Ecology and Evolution Seminar Series**. University of California, Davis. May 2024. *(Invited)*
12. Sea lice and salmon farms in BC. **First Nations' Webinar: The Truth About Salmon Farming**. Virtual. April 2024. *(Invited; Video)*
11. Parasitic sea lice on farmed and wild salmon in Pacific Canada. **Ecological Society of America**. Portland, USA. August 2023.
10. Salmon farming in the era of climate change. **Atlantic Salmon Conservation Foundation**. Virtual. November 2021. *(Invited; Video)*
9. Salmon farming in the era of climate change. **Dalhousie University**. Virtual. May 2021. *(Invited; Video)*
9. Increasing temperatures accentuate negative fitness consequences of parasitic sea lice in Atlantic salmon. **North America Congress of Conservation Biology**. Virtual. July 2020. *(Video)*
7. Ecological interactions between wild and farmed salmon on Canada's west coast. **Dalhousie University**. Halifax, Canada. August 2018. *(Invited)*
6. Evidence for sublethal effects of sea lice on wild juvenile sockeye salmon. **Ecological Society of America Annual Meeting**. Portland, USA. August 2017.
5. Reduced growth in wild juvenile sockeye salmon infected with sea lice. **Canadian Society for Ecology & Evolution Meeting**. Victoria, Canada. May 2017. *(Best Talk winner)*
4. Reduced growth in wild juvenile sockeye salmon infected with sea lice. **International Marine Conservation Congress**. St. John's, Canada. August 2016.
3. Salmon, sea lice, and indirect effects. **Pacific Ecology and Evolution Conference**. Bamfield, Canada. February 2016. *(Best Talk runner-up)*
2. Infection of juvenile sockeye salmon by sea lice: Are lousy fish lousy competitors? **Pacific Ecology and Evolution Conference**. Bamfield, Canada. March 2014. *(Best Talk runner-up)*
1. Infection of juvenile sockeye salmon by sea lice: Are lousy fish lousy competitors? **Inter-Departmental Ecology of Aquatic Systems Symposium**. Simon Fraser University. Burnaby, Canada. January 2014. *(Best Talk runner-up; Video)*