

Sean C. Anderson

Pacific Biological Station, Fisheries and Oceans Canada,
3190 Hammond Bay Road,
Nanaimo, British Columbia, Canada, V9T 6N7
sean.anderson@dfo-mpo.gc.ca

Professional experience

- 2021– Research Scientist, Stock Assessment and Research Division, Pacific Biological Station, Fisheries and Oceans Canada, Nanaimo, BC, Canada
- 2025– Adjunct Professor, School of Resource and Environmental Management, Simon Fraser University
- 2025– Associate Editor, *Methods in Ecology and Evolution*
- 2019– Associate Editor, *Canadian Journal of Fisheries and Aquatic Sciences*
- 2020–23 Adjunct Professor, Department of Mathematics, Simon Fraser University
- 2017–20 Program Head in Analytical Approaches and Spatial Stock Assessment, Groundfish Section, Stock Assessment and Research Division, Pacific Biological Station, Fisheries and Oceans Canada, Nanaimo, BC, Canada
- 2015–17 David H. Smith Conservation Research Fellow, School of Aquatic and Fishery Sciences, University of Washington and Northwest Fisheries Science Center, Seattle, WA
- 2015 Postdoctoral Fellow, School of Resource and Environmental Management, Simon Fraser University

Education

- 2011–15 Ph.D. Biology, Simon Fraser University, Burnaby, Canada
Variance and extreme events in population ecology
Fulbright Scholar to the University of Washington in 2012–13
Dean of Graduate Studies Convocation Medal
- 2008–10 M.Sc. Biology, Dalhousie University, Halifax, Canada
Trends, drivers, and ecosystem effects of expanding global invertebrate fisheries
Canadian Governor General's Academic Gold Medal
- 2004–07 B.Sc. (Hons.) Environmental Science, Dalhousie University, Halifax, Canada
- 2001–03 B.Sc. Candidate (Hons.) Kinesiology, University of Waterloo, Waterloo, Canada

Preprints

- 2026 Maioli, F., van Denderen, P.D., Lindmark, M., Montanyès, M., Ward, E.J., **Anderson, S.C.**, and Lindegren, M. Thermal niche warming is more consistent than range shifts in marine species under climate change. bioRxiv. <https://doi.org/10.64898/2026.02.18.706571>.
- 2026 Huynh, Q.C., **Anderson, S.C.**, and Hedges, K.J. A novel approach to standardize indices of abundance when comparative fishing is not possible. SSRN Scholarly Paper. <https://dx.doi.org/10.2139/ssrn.6174082>.
- 2026 Thorson, J.T., **Anderson, S.C.**, and Lindmark, M. Temperature carryover effect revealed for marine fishes using spatio-temporal distributed lag models. EcoEvoRxiv. <https://doi.org/10.32942/X2W95P>.
- 2025 Wilson, K.L., Frid, A., and **Anderson, S.C.** Groundfish with diverse life histories increase in size and abundance with proximity to spatial protections. bioRxiv. <https://doi.org/10.1101/2025.11.28.691246>.
- 2025 Bigman, J.S., Barnett, L.A.K., Thorson, J.T., **Anderson, S.C.**, Oke, K., Kearney, K., Pilcher, D., Cheng, W., Goldstein, E., Matta, M.E., Holsman, K.K., and Rogers, L.A. Changes in body size with age do not follow the temperature-size rule. bioRxiv. <https://doi.org/10.1101/2025.09.02.673738>.

- 2025 Ward, E.J. and **Anderson, S.C.** Approximating spatial processes with too many knots degrades the quality of probabilistic predictions. bioRxiv. <https://doi.org/10.1101/2025.11.14.688354>.
- 2021 **Anderson, S.C.**, Connors, B.M., English, P.A., Forrest, R.E., Haigh, R., and Holt, K.R. Trends in Pacific Canadian groundfish stock status. bioRxiv 2021.12.13.472502. <https://doi.org/10.1101/2021.12.13.472502>.

Publications

- 2026 Gemmell, O.M., Francis, F., Nephin, J., **Anderson, S.C.**, Lowry, D., Pacunski, R.E., Dudas, S., and Haggarty, D.R. The power of baseline data from fixed sampling sites: a simulation-based power analysis of marine harvest refugia. In press at Canadian Journal of Fisheries and Aquatic Sciences. <https://doi.org/10.1139/cjfas-2026-0087>.
- 2026 Putt, A.E., Rooper, C.N., **Anderson, S.C.**, and Shrimpton, J.M. Accounting for catchability and spatially varying coefficients in integrated species distribution models of a data-limited forage fish, eulachon *Thaleichthys pacificus*. In press at Marine Ecology Progress Series. <https://doi.org/10.3354/meps15279>.
- 2026 Siegle, M.R., Dunic, J.C., Castle, K., Wyeth, M., Love, M.S., and **Anderson, S.C.** Prevalence of the parasitic copepod, *Sarcotaces* sp., infection in British Columbia rockfishes (*Sebastes* spp.) and implications for rockfish life history. Canadian Journal of Fisheries and Aquatic Sciences. In press. <https://doi.org/10.1139/cjfas-2025-0261>.
- 2026 Ferriss, B.E.* , Connors, B.M.* , Crozier, L.G.* , **Anderson, S.C.*** , Boldt, J.L., Cheng, W., Edwards, A.M., Freshwater, C., Gertseva, V., Huff, D.D., Hunsicker, M.E., Jacox, M.G., King, J., Oken, K.L., Peña, M.A., Rogers, L.A., Rooper, C.N., Ross, T., Sastri, A., Spencer, P.D., Strasburger, W.W., and Ward, E.J. Leveraging transboundary science to support Northeast Pacific fisheries and protected species management. ICES Journal of Marine Science. 83(3): fsago19. <https://doi.org/10.1093/icesjms/fsago19>. (*Authors contributed equally.)
- 2026 English, P.A., **Anderson, S.C.**, and Forrest, R.E. Body condition as a shared response to environment in a commercially important demersal fish assemblage. Fish and Fisheries. 27(2): 264–284. <https://doi.org/10.1111/faf.70053>.
- 2025 Davidson, L.N.K., English, P.A., King, J., Grant, P., Taylor, I.G., Barnett, L., Gertseva, V., Tribuzio, C.A., and **Anderson, S.C.** Mystery of the disappearing dogfish: transboundary analyses reveal steep population declines across the Northeast Pacific with little evidence for regional redistribution. Fish and Fisheries. 27(1): 1–12. <https://doi.org/10.1111/faf.70028>.
- 2025 **Anderson, S.C.**, Ward, E.J., English, P.A., Barnett, L.A.K., and Thorson, J.T. sdmTMB: An R package for fast, flexible, and user-friendly generalized linear mixed effects models with spatial and spatiotemporal random fields. Journal of Statistical Software. 115(2): 1–46. <https://doi.org/10.18637/jss.v115.i02>.
- 2025 Lindmark, M., **Anderson, S.C.**, and Thorson, J.T. Estimating scale-dependent covariate responses using two-dimensional diffusion derived from the stochastic partial differential equation method. Methods in Ecology and Evolution. <https://doi.org/10.1111/2041-210X.70177>.
- 2025 Lindmark, M., Maioli, F., **Anderson, S.C.**, Gogina, M., Bartolino, V., Sköld, M., Ohlsson, M., Eklöf, A., and Casini, M. Quantifying food competition between two demersal fish species from spatiotemporal stomach content data. Canadian Journal of Fisheries and Aquatic Sciences. 82: 1–15. <https://doi.org/10.1139/cjfas-2025-0064>.
- 2025 Lindmark, M., Griffiths, C.A., Bartolino, V., Thunell, V., Maioli, F., **Anderson, S.C.**, Belgrano, A., Casini, M., Nadolna-Ahtyn, K., Pawlak, J., Pachur, M., Rakowski, M., Wikström, K., Thompson, M.S.A., Gogina, M., Ustups, D., and Jacobsen, N.S. Weak effects of local prey density and spatial overlap on predation intensity in a temperate marine ecosystem. Ecological Applications. 35(7): e70136. <https://doi.org/10.1002/eap.70136>.
- 2025 Hardison, S.B., Lefcheck, J.S., White, S.B., Liang, M., Zhang, Y.S., Patrick, C.J., Scheld, A.M., Latour, R.J., Fodrie, F.J., **Anderson, S.C.**, and Castorani, M.C.N. Seasonal asynchrony and harvest diversification con-

- tribute to demersal finfish fisheries stability in Chesapeake Bay. *Ecological Applications*. 35(6): e70097. <https://doi.org/10.1002/eap.70097>.
- 2025 Ward, E.J., English, P.A., Rooper, C.N., Ferriss, B.E., Whitmire, C.E., Wetzel, C.R., Barnett, L.A., **Anderson, S.C.**, Thorson, J.T., Johnson, K.F., Indivero, J., and Markowitz, E.H. surveyjoin: a standardized database of scientific trawl surveys in the Northeast Pacific Ocean. *PeerJ*. 13: e19964. <https://doi.org/10.7717/peerj.19964>.
- 2025 Indivero, J., **Anderson, S.C.**, Barnett, L.A.K., Pohl, J.E., Rohan, S.K., Siedlecki, S., Ward, E.J., and Essington, T.E. Skill testing oxygen data for distribution modeling of marine species. *Fisheries Oceanography*: e70005. <https://doi.org/10.1111/fog.70005>.
- 2025 Thorson, J.T., **Anderson, S.C.**, Goddard, P., and Rooper, C.N. tinyVAST: R package with an expressive interface to specify lagged and simultaneous effects in multivariate spatio-temporal models. *Global Ecology & Biogeography*. 34: e70035. <https://doi.org/10.1111/geb.70035>.
- 2025 Dunic, J.C., Conner, J., **Anderson, S.C.**, and Thorson, J.T. The generalized gamma is a flexible distribution that outperforms alternatives when modelling catch rate data. *ICES Journal of Marine Science*. 82(4): fsafo40. <https://doi.org/10.1093/icesjms/fsafo40>.
- 2025 Indivero, J., **Anderson, S.C.**, Barnett, L.A.K., Essington, T.E., and Ward, E.J. Estimating a physiological threshold to oxygen and temperature from marine monitoring data reveals challenges and opportunities for forecasting distribution shifts. *Ecography*. e07413. <https://doi.org/10.1111/ecog.07413>.
- 2024 Ward, E.J., **Anderson, S.C.**, Barnett, L.A.K., English, P.A., Berger, H.M., Commander, C.J.C., Essington, T.E., Harvey, C.J., Hunsicker, M.E., Jacox, M., Johnson, K.F., Large, S., Liu, O.R., Richerson, K.E., Samhour, J.F., Siedlecki, S.A., Shelton, A.O., Somers, K.A., and Watson, J.T. Win, lose, or draw: Evaluating dynamic thermal niches of northeast Pacific groundfish. *PLOS Climate*. 3(11): e0000454. <https://doi.org/10.1371/journal.pclm.0000454>.
- 2024 Freshwater, C., **Anderson, S.C.**, and King, J. Model-based indices of juvenile Pacific salmon abundance highlight species-specific seasonal distributions and impacts of changes to survey design. *Fisheries Research*. 277: 107063. <https://doi.org/10.1016/j.fishres.2024.107063>.
- 2024 Bass, A.L., **Anderson, S.C.**, Bateman, A.W., Connors, B.M., Peña, M.A., Li, S., Kaukinen, K.H., Patterson, D.A., Hinch, S.G., and Miller, K.M. Intrinsic and extrinsic factors associated with the spatio-temporal distribution of infectious agents in early marine Chinook and coho salmon. *Marine Ecology Progress Series*. 736: 107–127. <https://doi.org/10.3354/meps14581>.
- 2024 Freshwater, C., **Anderson, S.C.**, Huff, D.D., Smith, J.M., Jackson, D., Hendriks, B., Hinch, S.G., Johnston, S., Trites, A.W., and King, J. Chinook salmon depth distributions on the continental shelf are shaped by interactions between location, season, and individual condition. *Movement Ecology*. 12(1): 21. <https://doi.org/10.1186/s40462-024-00464-y>.
- 2024 **Anderson, S.C.**, English, P.A., Gale, K.S.P., Haggarty, D.R., Robb, C.K., Rubidge, E.M., and Thompson, P.L. Impacts on population indices if scientific surveys are excluded from marine protected areas. *ICES Journal of Marine Science*. fsae009. <https://doi.org/10.1093/icesjms/fsae009>.
- 2024 Hughes, B.B., Beheshti, K.M., Tinker, M.T., Angelini, C., Endris, C., Murai, L., **Anderson, S.C.**, Espinosa, S., Staedler, M., Tomoleoni, J.A., Sanchez, M., and Silliman, B.R. Top-predator recovery abates geomorphic decline of a coastal ecosystem. *Nature* 626(7997): 111–118. <https://doi.org/10.1038/s41586-023-06959-9>.
- 2024 English, P.A., Picco, C.M., Edwards, J.C., Haggarty, D.R., Forrest, R.E., and **Anderson, S.C.** Spatial restrictions hinder avoidance of choke species in an Indigenous rights-based fishery. *People and Nature*. 6: 75–90. <https://doi.org/10.1002/pan3.10554>.
- 2024 Baker, K.D., **Anderson, S.C.**, Mullaney, D.R.J., Walkusz, W., and Skanes, K.R. Moving away from a scale mismatch: spatiotemporal modelling of striped shrimp (*Pandalus montagui*) density in Canada's subarctic. *Fisheries Research*. 270: 106898. <https://doi.org/10.1016/j.fishres.2023.106898>.
- 2024 Blake, K., **Anderson, S.C.**, Gleave, A., and Verissimo, D. Impact on species' online attention when named

- after celebrities. *Conservation Biology*. 38(2): e14184. <https://doi.org/10.1111/cobi.14184>.
- 2023 Nephin, J., Thompson, P.L., **Anderson, S.C.**, Park, A.E., Rooper, C.N., Aulthouse, B., and Watson, J. Integrating disparate survey data in species distribution models demonstrate the need for robust model evaluation. *Canadian Journal of Fisheries and Aquatic Sciences*. 80(12): 1869–1889. <https://doi.org/10.1139/cjfas-2022-0279>.
- 2023 Yalcin, S., **Anderson, S.C.**, Regular, P.M., and English, P.A. Exploring the limits of spatiotemporal and design-based index standardization under reduced survey coverage. *ICES Journal of Marine Science*. 80(9): 2368–2379. <https://doi.org/10.1093/icesjms/fsad155>.
- 2023 Davies, S.C., Thompson, P.L., Gomez, C., Nephin, J., Knudby, A., Park, A.E., Friesen, S.K., Pollock, L.J., Rubidge, E.M., **Anderson, S.C.**, Iacarella, J.C., Lyons, D.A., MacDonald, A.A., McMillan, A., Ward, E.J., Holdsworth, A.M., Swart, N., Price, J., and Hunter, K.L. Addressing uncertainty when projecting marine species' distributions under climate change. *Ecography*: eo6731. <https://doi.org/10.1111/ecog.06731>.
- 2023 Liu, O.R., Ward, E.J., **Anderson, S.C.**, Andrews, K.S., Barnett, L.A.K., Brodie, S., Carroll, G., Fiechter, J., Haltuch, M.A., Harvey, C.J., Hazen, E.L., Hernvann, P.Y., Jacox, M.G., Kaplan, I.C., Matson, S., Norman, K., Pozo Buil, M.P., Selden, R.L., Shelton, A.O., Samhouri, J.F. Species redistribution creates unequal outcomes for multispecies fisheries under projected climate change. *Science Advances*. 9(33): eadg5468. <https://doi.org/10.1126/sciadv.adg5468>.
- 2023 Lindmark, M., **Anderson, S.C.**, Gogina, M., and Casini, M. Evaluating drivers of spatiotemporal variability in individual condition of a bottom-associated marine fish, Atlantic cod (*Gadus morhua*). *ICES Journal of Marine Science*. 80(5): 1539–1550. <https://doi.org/10.1093/icesjms/fsado84>.
- 2023 Free, C.M., **Anderson, S.C.**, Hellmers, E.A., Muhling, B.A., Navarro, M.O., Richerson, K., Rogers, L.A., Satterthwaite, W.H., Thompson, A.R., Burt, J.M., Gaines, S.D., Marshall, K.N., White, J.W., and Bellquist, L.F. Impact of the 2014–2016 marine heatwave on US and Canada West Coast fisheries: surprises and lessons from key case studies. *Fish and Fisheries*. 24: 652–674. <https://doi.org/10.1111/faf.12753>.
- 2023 Thompson, P.L., **Anderson, S.C.**, Nephin, J., Robb, C.K., Proudfoot, B., Park, A.E., Haggarty, D.R., and Rubidge, E.M. Integrating trawl and longline surveys across British Columbia improves groundfish distribution predictions. *Canadian Journal of Fisheries and Aquatic Sciences*. 80(1): 195–210. <https://doi.org/10.1139/cjfas-2022-0108>.
- 2022 Ward, E.J., Barnett, L.A.K., **Anderson, S.C.**, Commander, C.J.C., and Essington, T.E. Incorporating non-stationary spatial variability into dynamic species distribution models. *ICES Journal of Marine Science*. 79(9): 2422–2429. <https://doi.org/10.1093/icesjms/fsac179>.
- 2022 Essington, T.E., **Anderson, S.C.**, Barnett, L.A.K., Berger, H.M., Siedlecki, S.A., and Ward, E.J. Advancing statistical models to reveal the effect of dissolved oxygen on the spatial distribution of marine taxa using thresholds and a physiologically based index. *Ecography* 2022(8): eo6249. <https://doi.org/10.1111/ecog.06249>.
- 2022 Thompson, P.L., **Anderson, S.C.**, Nephin, J., Haggarty, D.R., Peña, M.A., English, P.A., Gale, K.S.P., and Rubidge, E.M. Disentangling the impacts of environmental change and commercial fishing on demersal fish biodiversity in a northeast Pacific ecosystem. *Marine Ecology Progress Series*. 689: 137–154. <https://doi.org/10.3354/meps14034>.
- 2022 Hunsicker, M.E., Ward, E.J., Litzow, M.A., **Anderson, S.C.**, Harvey, C.J., Field, J.C., Gao, J., Jacox, M.G., Melin, S., Thompson, A.R., and Warzybok, P. Tracking and forecasting community responses to climate perturbations in the California Current Ecosystem. *PLOS Climate*. 1(3): e0000014. <https://doi.org/10.1371/journal.pclm.0000014>.
- 2022 Commander, C.J.C., Barnett, L.A.K., Ward, E.J., **Anderson, S.C.**, and Essington, T.E. The shadow model: how and why small choices in spatially explicit species distribution models affect predictions. *PeerJ*. 10: e12783. <https://doi.org/10.7717/peerj.12783>.
- 2022 Stockdale, J.E., **Anderson, S.C.**, Edwards, A.M., Iyaniwura, S.A., Mulberry, N., Otterstatter, M.C., Janjua,

- N.Z., Coombs, D., Colijn, C., and Irvine, M.A. Quantifying transmissibility of SARS-CoV-2 and impact of intervention within long-term healthcare facilities. *Royal Society Open Science*. 9(1): 211710. <https://doi.org/10.1098/rsos.211710>.
- 2022 Ward, E.J., **Anderson, S.C.**, Hunsicker, M.E., and Litzow, M.A. Smoothed dynamic factor analysis for identifying trends in multivariate time series. *Methods in Ecology and Evolution*. 13(4): 908–918. <https://doi.org/10.1111/2041-210X.13788>.
- 2021 English, P.A., Ward, E.J., Rooper, C.N., Forrest, R.E., Rogers, L.A., Hunter, K.L., Edwards, A.M., Connors, B.M., and **Anderson, S.C.** Contrasting climate velocity impacts in warm and cool locations show that effects of marine warming are worse in already warmer temperate waters. *Fish and Fisheries*. 23(1): 239–255. <https://doi.org/10.1111/faf.12613>. [PDF]
- 2021 Evans, R., English, P.A., **Anderson, S.C.**, Gauthier, S., and Robinson, C.L.K. Factors affecting the seasonal distribution and biomass of *E. pacifica* and *T. spinifera* along the Pacific coast of Canada: a spatiotemporal modelling approach. *PLOS ONE*. 16(5): e0249818. <https://doi.org/10.1371/journal.pone.0249818>.
- 2021 Freshwater, C., **Anderson, S.C.**, Beacham, T.D., Luedke, W., Wor, C., and King, J. An integrated model of seasonal changes in stock composition and abundance with an application to Chinook salmon. *PeerJ* 9: e11163. <https://doi.org/10.7717/peerj.11163>.
- 2021 **Anderson, S.C.**, Elsen, P.R., Hughes, B.B., Toniello, R.K., Bletz, M.C., Gill, D.A., Holgersson, M.A., Kuebbing, S.E., McDonough MacKenzie, C., Meek, M.H., and Verissimo, D. Trends in ecology and conservation over eight decades. *Frontiers in Ecology and the Environment*. 19(5): 274–282. <https://doi.org/10.1002/fee.2320>.
- 2021 **Anderson, S.C.**, Mulberry, N., Edwards, A.M., Stockdale, J.E., Iyaniwura, S.A., Falcao, R.C., Otterstatter, M.C., Janjua, N.Z., Coombs, D., and Colijn, C. How much leeway is there to relax COVID-19 control measures? *Epidemics*. 35: 100453. <https://doi.org/10.1016/j.epidem.2021.100453>.
- 2021 Barnett, L.A.K., Ward, E.J., and **Anderson, S.C.** Improving estimates of species distribution change by incorporating local trends. *Ecography*. 44: 427–439. <https://doi.org/10.1111/ecog.05176>.
- 2020 **Anderson, S.C.**, Edwards, A.M., Yerlanov, M., Mulberry, N., Stockdale, J., Iyaniwura, S.A., Falcao, R.C., Otterstatter, M.C., Irvine, M.A., Janjua, N.Z., Coombs, D., and Colijn, C. Quantifying the impact of COVID-19 control measures using a Bayesian model of physical distancing. *PLOS Computational Biology*. 16(12): e1008274. <https://doi.org/10.1371/journal.pcbi.1008274>. medRxiv preprint: <https://doi.org/10.1101/2020.04.17.20070086>.
- 2020 Maureaud, A., Frelat, R., Pecuchet, L., Shackell, N.L., Merigot, B., Pinsky, M.L., Amador, K., **Anderson, S.C.**, ... (67 co-authors), and Thorson, J.T. Are we ready to track climate-driven shifts in marine species across international boundaries? A global survey of scientific bottom trawl data. *Global Change Biology*. 27: 220–236. <https://doi.org/10.1111/gcb.15404>.
- 2020 Cahill, C.L., **Anderson, S.C.**, Paul, A.J., Macpherson, L., Sullivan, M.G., van Poorten, B., Walters, C., and Post, J.R. A spatial-temporal approach to modeling somatic growth across recreational fisheries landscapes. *Canadian Journal of Fisheries and Aquatic Sciences*. 77(11): 1822–1835. <https://doi.org/10.1139/cjfas-2019-0434>.
- 2020 Litzow, M.A., Hunsicker, M.E., Ward, E.J., **Anderson, S.C.**, Gao, J., Zador, S., Batten, S., Dressel, S., Duffy-Anderson, J., Fergusson, E., Hopcroft, R., Laurel, B.J., and O'Malley, R. Evaluating ecosystem change as Gulf of Alaska temperature exceeds the limits of preindustrial variability. *Progress in Oceanography*. 186: 102393. <https://doi.org/10.1016/j.pocean.2020.102393>.
- 2020 **Anderson, S.C.**, Keppel, E.A., and Edwards, A.M. Reproducible visualization of raw fisheries data for 113 species improves transparency, assessment efficiency, and monitoring. *Fisheries*. 45: 535–543. <https://doi.org/10.1002/fsh.10441>. (PDF)
- 2020 Huynh, Q.C., Hordyk, A.R., Forrest, R.E., Porch, C.E., **Anderson, S.C.**, and Carruthers, T.R. The interim management procedure approach for assessed stocks: Responsive management advice and lower assess-

- ment frequency. *Fish and Fisheries*. 21(3): 663–679. <https://doi.org/10.1111/faf.12453>.
- 2020 Free, C.M., Jensen, O.P., **Anderson, S.C.**, Gutierrez, N.L., Kleisner, K.M., Longo, C., Minto, C., Osio, G.C., and Walsh, J.C. Blood from a stone: performance of catch-only methods in estimating stock biomass status. *Fisheries Research*. 223: 105452. <https://doi.org/10.1016/j.fishres.2019.105452>.
- 2020 Veríssimo, D., **Anderson, S.C.**, and Tlustý, M. Did the movie Finding Dory increase demand for blue tang fish? *Ambio*. 49: 903–911. <https://doi.org/10.1007/s13280-019-01233-7>.
- 2019 Freshwater, C., **Anderson, S.C.**, Holt, K.R., Huang, A.-M., and Holt, C.A. Weakened portfolio effects constrain management effectiveness for population aggregates. *Ecological Applications*. 29(7): e01966. <https://doi.org/10.1002/eap.1966>.
- 2019 Ward, E.J., **Anderson, S.C.**, Damiano, L.A., Hunsicker, M.E., and Litzow, M.A. Modeling regimes with extremes: the ‘bayesdfa’ package for identifying and forecasting common trends and anomalies in multivariate time-series data. *The R Journal*. 11(2): 46–55. <https://doi.org/10.32614/RJ-2019-007>.
- 2019 Afflerbach, J.C., Frazier, M., Froehlich, H.E., **Anderson, S.C.**, and Halpern, B.S. Quantifying uncertainty in the wild-caught fisheries goal of the Ocean Health Index. *Fish and Fisheries*. 20(2): 343–354. <https://doi.org/10.1111/faf.12346>.
- 2019 Beaudreau, A.H., Ward, E.J., Brenner, R.E., Shelton, A.O., Watson, J.T., Womack, J.C., **Anderson, S.C.**, Haynie, A.C., Marshall, K.N., and Williams, B.C. Thirty years of change and the future of Alaskan fisheries: Shifts in fishing participation and diversification in response to environmental, regulatory, and economic pressures. *Fish and Fisheries*. 20(4): 601–619. <https://doi.org/10.1111/faf.12364>.
- 2019 Harvey, B.J., Andrus, R.A., and **Anderson, S.C.** Incorporating biophysical gradients and uncertainty into burn severity maps in a temperate fire-prone forested region. *Ecosphere*. 10(2): 02600. <https://doi.org/10.1002/ecs2.2600>.
- 2019 Marshall, K.N., Duffy-Anderson, J.T., Ward, E.J., **Anderson, S.C.**, Hunsicker, M.E., and Williams, B.C. Long-term trends in ichthyoplankton assemblage structure, biodiversity, and synchrony in the Gulf of Alaska and their relationships to climate. *Progress in Oceanography*. 170: 134–145. <https://doi.org/10.1016/j.pocean.2018.11.002>.
- 2019 **Anderson, S.C.** and Ward, E.J. Black swans in space: modelling spatiotemporal processes with extremes. *Ecology*. 100(1): e02403. <https://doi.org/10.1002/ecy.2403>. glmmfields R package: [CRAN](#), [GitHub](#).
- 2018 Walsh, J.C., Minto, C., Jardim, E., **Anderson, S.C.**, Jensen, O.P., Afflerbach, J., Kleisner, K.M., Dickey-Collas, M., Longo, C., Osio, G.C., Selig, E.R., Thorson, J.T., Rudd, M.B., Papacostas, K.J., Kittinger, J.N., Rosenberg, A.A., and Cooper, A.B. Trade-offs for data-limited fisheries when using harvest strategies based on catch-only models. *Fish and Fisheries*. 19(6): 1130–1146. <https://doi.org/10.1111/faf.12316>.
- 2018 Ward, E.J., **Anderson, S.C.**, Shelton, A.O., Brenner, R.E., Adkison, M.D., Beaudreau, A.H., Watson, J.T., Shriver, J.C., Haynie, A.C., and Williams, B.C. Effects of increased specialization on revenue of Alaskan salmon fishers over four decades. *Journal of Applied Ecology*. 55(3): 1082–1091. <https://doi.org/10.1111/1365-2664.13058>.
- 2018 Hughes, B., Lummis, S., **Anderson, S.C.**, and Kroeker, K. Unexpected resilience of a seagrass system exposed to multiple stressors. *Global Change Biology*. 24(1): 224–234. <https://doi.org/10.1111/gcb.13854>.
- 2018 Rosenberg, A.A., Kleisner, K.M., Afflerbach, J., **Anderson, S.C.**, Dickey-Collas, M., Cooper, A.B., Fogarty, M.J., Fulton, E.A., Gutiérrez, N.L., Hyde, K.J.W., Jardim, E., Jensen, O.P., Kristiansen, T., Longo, C., Minte-Vera, C.V., Minto, C., Mosqueira, I., Osio, G.C., Ovando, D., Selig, E.R., Thorson, J.T., Walsh, J.C., and Ye, Y. Applying a new ensemble approach to estimating stock status of marine fisheries around the world. *Conservation Letters*. 11(1): e12363. <https://doi.org/10.1111/conl.12363>.
- 2017 **Anderson, S.C.**, Branch, T.A., Cooper, A.B., and Dulvy, N.K. Reply to Youngflesh and Lynch: Migration and population growth rate in animal black-swan events. *Proceedings of the National Academy of Sciences*. 114(43): E8955–E8956. <https://doi.org/10.1073/pnas.1714157114>.

- 2017 **Anderson, S.C.**, Ward, E.J., Shelton, A.O., Adkison, M.D., Beaudreau, A.H., Brenner, R.E., Haynie, A.C., Shriver, J.C., Watson, J.T., and Williams, B.C. Benefits and risks of diversification for individual fishers. *Proceedings of the National Academy of Sciences*. 114(40): 10797–10802. <https://doi.org/10.1073/pnas.1702506114>.
- 2017 Megias, D.A., **Anderson, S.C.**, Smith, R.J., and Verissimo, D. Investigating the impact of media on demand for wildlife: a case study of Harry Potter and the UK trade in owls. *PLOS ONE*. 12(10): e0182368. <https://doi.org/10.1371/journal.pone.0182368>.
- 2017 Chezik, K.A., **Anderson, S.C.**, and Moore, J.W. River networks dampen long-term hydrological signals of climate change. *Geophysical Research Letters*. 44(14): 7256–7264. <https://doi.org/10.1002/2017GL074376>.
- 2017 **Anderson, S.C.**, Branch, T.A., Cooper, A.B., and Dulvy, N.K. Black-swan events in animal populations. *Proceedings of the National Academy of Sciences*. 114(12): 3252–3257. <https://doi.org/10.1073/pnas.1611525114>.
- 2017 **Anderson, S.C.**, Cooper, A.B., Jensen, O.P., Minto, C., Thorson, J.T., Walsh, J.C., Afflerbach, J., Dickey-Collas, M., Kleisner, K.M., Longo, C., Osio, G.C., Ovando, D., Mosqueira, I., Rosenberg, A.A., and Selig, E.R. Improving estimates of population status and trend with superensemble models. *Fish and Fisheries*. 18(4): 732–741. <https://doi.org/10.1111/faf.12200>.
- 2016 Trebilco, R., Dulvy, N.K., **Anderson, S.C.**, and Salomon, A.K. The paradox of inverted biomass pyramids in kelp forest fish communities. *Proceedings of the Royal Society B: Biological Sciences*. 283: 20160816. <https://doi.org/10.1098/rspb.2016.0816>.
- 2016 Artelle, K.A., **Anderson, S.C.**, Reynolds, J.D., Cooper, A.B., Paquet, P.C., and Darimont, C.T. Ecology of conflict: marine food supply affects human-wildlife interactions on land. *Scientific Reports*. 6: 25936. <https://doi.org/10.1038/srep25936> (PDF).
- 2016 Kuriyama, P.T., Ono, K., Hurtado-Ferro, F., Hicks, A.C., Taylor, I.G., Licandeo, R.R., Johnson, K.F., **Anderson, S.C.**, Monnahan, C.C., Rudd, M.B., Stawitz, C.C., and Valero, J.L. An empirical weight-at-age approach reduces estimation bias compared to modeling parametric growth in integrated, statistical stock assessment models when growth is time varying. *Fisheries Research*. 180: 119–127. <https://doi.org/10.1016/j.fishres.2015.09.007> (PDF).
- 2016 Monnahan, C.C., Ono, K., **Anderson, S.C.**, Rudd, M.B., Hicks, A.C., Hurtado-Ferro, F., Johnson, K.F., Kuriyama, P.T., Licandeo, R.R., Stawitz, C.C., Taylor, I.G., and Valero, J.L. The effect of length bin width on growth estimation in integrated age-structured stock assessments. *Fisheries Research*. 180: 103–112. <https://doi.org/10.1016/j.fishres.2015.11.002> (PDF).
- 2015 Boudreau, S.A., **Anderson, S.C.**, and Worm, B. Top-down and bottom-up forces interact at thermal range extremes on American lobster. *Journal of Animal Ecology*. 84(3): 840–850. <https://doi.org/10.1111/1365-2656.12322> (PDF).
- 2015 **Anderson, S.C.**, Moore, J.W., McClure, M.M., Dulvy, N.K., and Cooper, A.B. Portfolio conservation of metapopulations under climate change. *Ecological Applications*. 25(2): 559–572. <https://doi.org/10.1890/14-0266.1> (PDF).
- 2015 Orzechowski, E.A., Lockwood, R., Byrnes, J.E.K., **Anderson, S.C.**, Finnegan, S., Finkel, Z.V., Harnik, P.G., Lindberg, D.R., Liow, L.H., Lotze, H.K., McClain, C.R., McGuire, J.L., O’Dea, A., Pandolfi, J.M., Simpson, C., and Tittensor, D.P. Marine extinction risk shaped by trait-environment interactions over 500 million years. *Global Change Biology*. 21(10): 3595–3607. <https://doi.org/10.1111/gcb.12963> (PDF).
- 2015 Finnegan, S.*, **Anderson, S.C.***, Harnik, P.G.*, Simpson, C., Tittensor, D.P., Byrnes, J.E., Finkel, Z.V., Lindberg, D.R., Liow, L.H., Lockwood, R., Lotze, H.K., McClain, C.R., McGuire, J.L., O’Dea, A., and Pandolfi, J.M. Paleontological baselines for evaluating extinction risk in the modern oceans. *Science*. 348(6234): 567–570. <https://doi.org/10.1126/science.aaa6635> (*Authors contributed equally).
- 2015 Hurtado-Ferro, F., Szuwalski, C.S., Valero, J.L., **Anderson, S.C.**, Cunningham, C.J., Johnson, K.F., Licandeo, R.R., McGilliard, C.R., Monnahan, C.C., Muradian, M.L., Ono, K., Vert-Pre, K.A., Whitten, A.R., Punt, A.E. Looking in the rear-view mirror: bias and retrospective patterns in integrated, age-structured stock

- assessment models. *ICES Journal of Marine Science*. 72(1): 99–110. <https://doi.org/10.1093/icesjms/fsu198> (PDF).
- 2015 Johnson, K.F., Monnahan, C.C., McGilliard, C.R., Vert-Pre, K.A., **Anderson, S.C.**, Cunningham, C.J., Hurtado-Ferro, F., Licandeo, R.R., Muradian, M.L., Ono, K., Szuwalski, C.S., Valero, J.L., Whitten, A.R., and Punt, A.E. Time-varying natural mortality in fisheries stock assessment models: identifying a default approach. *ICES Journal of Marine Science*. 72(1): 137–150. <https://doi.org/10.1093/icesjms/fsuo55> (PDF).
- 2015 Ono, K., Licandeo, R., Muradian, M.L., Cunningham, C.J., **Anderson, S.C.**, Hurtado-Ferro, F., Johnson, K.F., McGilliard, C.R., Monnahan, C.C., Szuwalski, C.S., Valero, J.L., Vert-Pre, K.A., Whitten, A.R., Punt, A.E. The importance of length and age composition data in statistical age-structured models for marine species. *ICES Journal of Marine Science*. 72(1): 31–43. <https://doi.org/10.1093/icesjms/fsuo07> (PDF).
- 2014 Farmer, R.G., Leonard, M.L., Mills Flemming, J.E., and **Anderson, S.C.** Observer aging and long-term avian survey data quality. *Ecology and Evolution*. 4(12): 2563–2576. <https://doi.org/10.1002/ece3.1101> (PDF). [National Geographic news story](#).
- 2014 **Anderson, S.C.**, Monnahan, C.C., Johnson, K.F., Ono, K., and Valero, J.L. ss3sim: An R package for fisheries stock assessment simulation with Stock Synthesis. *PLOS ONE*. 9(4): e92725. <https://doi.org/10.1371/journal.pone.0092725> (PDF). (R package, code).
- 2014 O'Regan, S.M., Palen, W.J., and **Anderson, S.C.** Climate warming mediates negative impacts of rapid pond drying for three amphibian species. *Ecology*. 95(4): 845–855. <https://doi.org/10.1890/13-0916.1> (PDF). [F1000 Prime recommended](#).
- 2013 Favaro, B., Braun, D.C., and **Earth2Ocean Research Derby**. Research Derby: A pressure cooker for creative collaborative science. *Ideas in Ecology and Evolution*. 6: 40–46. <https://doi.org/10.4033/iee.v6i1.4931> (Open access).
- 2013 **Anderson, S.C.**, Cooper, A.B., and Dulvy, N.K. Ecological prophets: Quantifying metapopulation portfolio effects. *Methods in Ecology and Evolution*. 4(10): 971–981. <https://doi.org/10.1111/2041-210X.12093> (PDF, [GitHub R package](#)).
- 2013 Artelle, K.A., **Anderson, S.C.**, Cooper, A.B., Paquet, P.C., Reynolds, J.D., and Darimont, C.T. Confronting uncertainty in wildlife management: performance of grizzly bear management. *PLOS ONE*. 8(11): e78041. <https://doi.org/10.1371/journal.pone.0078041> (PDF).
- 2013 Phillis*, C.C., O'Regan, S.M.*, Green, S.J.*, Bruce, J.E.*, **Anderson, S.C.**, Linton, J.N., Earth2Ocean Research Derby, and Favaro, B. Multiple pathways to conservation success. *Conservation Letters*. 6(2): 98–106. <https://doi.org/10.1111/j.1755-263X.2012.00294.x> (PDF, [GitHub repository](#)). (*Authors contributed equally, listed in reverse alphabetical order).
- 2012 Harnik, P.G., Lotze, H.K., **Anderson, S.C.**, Finkel, Z.V., Finnegan, S., Lindberg, D.R., Liow, L.H., Lockwood, R., McClain, C.R., McGuire, J.L., O'Dea, A., Pandolfi, J.M., Simpson, C., and Tittensor, D.P. Extinctions in ancient and modern seas. *Trends in Ecology and Evolution*. 27(11): 608–617. <https://doi.org/10.1016/j.tree.2012.07.010> (PDF).
- 2012 **Anderson, S.C.**, Branch, T.A., Ricard, D., and Lotze, H.K. Assessing global marine fishery status with a revised dynamic catch-based method and stock-assessment reference points. *ICES Journal of Marine Science*. 69(8): 1491–1500. <https://doi.org/10.1093/icesjms/fss105>.
- 2011 **Anderson, S.C.**, Farmer, R.G., Ferretti, F., Houde, A.L.S., and Hutchings, J.A. Correlates of vertebrate extinction risk in Canada. *BioScience*. 61(7): 538–549. <https://doi.org/10.1525/bio.2011.61.7.8> (PDF).
- 2011 **Anderson, S.C.**, Mills Flemming, J.E., Watson, R., and Lotze, H.K. Serial exploitation of global sea cucumber fisheries. *Fish and Fisheries*. 12(3): 317–339. <https://doi.org/10.1111/j.1467-2979.2010.00397.x> (PDF). [Featured in Science](#).
- 2011 Boudreau, S.A., **Anderson, S.C.**, and Worm, B. Top-down interactions and temperature control of snow crab abundance in the northwest Atlantic Ocean. *Marine Ecology Progress Series*. 429: 169–183. <https://doi.org/10.3354/meps09081> (PDF).

- 2011 **Anderson, S.C.**, Mills Flemming, J.E., Watson, R., and Lotze, H.K. Rapid global expansion of invertebrate fisheries: trends, drivers, and ecosystem effects. PLOS ONE. 6(3): e14735. <https://doi.org/10.1371/journal.pone.0014735> (PDF). **F1000 Prime recommended.**
- 2008 **Anderson, S.C.**, Lotze, H.K., and Shackell, N.L. Evaluating the knowledge base for expanding low-trophic-level fisheries in Atlantic Canada. Canadian Journal of Fisheries and Aquatic Sciences. 65(12): 2553–2571. <https://doi.org/10.1139/Fo8-156> (PDF).

Software

sdmTMB

- R package for fitting spatial and spatiotemporal GLMMs (generalized linear mixed-effects models) with TMB (Template Model Builder); inspired by the [VAST R package](#).
- One common application is for spatially explicit species distribution models.
- Used by fisheries agencies including U.S. NOAA, Canadian DFO, and European ICES.
- **Widely used** in the primary literature on everything from [woolly rhinoceros extinction](#) to [human-elephant conflict](#) to [ants](#).
- A paper on sdmTMB is published in the Journal of Statistical Software. ([Preprint](#))

covidseir

- Was the primary statistical model for COVID-19 forecasts for Canada (Public Health Agency of Canada) starting in August 2020 and British Columbia starting in April 2020.
- Fits a Bayesian SEIR (Susceptible, Exposed, Infectious, Recovered) model to daily COVID-19 case data.
- Can accommodate multiple types of case data at once (e.g., reported cases, hospitalizations, ICU admissions) and accounts for delays between symptom onset and case appearance.
- Can evaluate epidemic forecasts given changes to population contact rates (e.g., levels of social distancing).
- Model described in [an Epidemics paper](#) and [a PLOS Computational Biology paper](#).

bayesdfa

- R package for fitting Bayesian Dynamic Factor Analysis (DFA) time-series models (co-developed with E.J. Ward)
- Can identify common trends, extreme events, or regime shifts in multiple ecological time series.
- Used in [a growing number](#) published papers and government reports.
- A paper describing the package is published [in The R Journal](#).

csasdown

- R package for reproducible Canadian Science Advisory Secretariat Research Documents, Science Responses, and Technical Reports via R Markdown.
- Enables fully reproducible CSAS reports going directly from databases to analysis to written reports to bring CSAS reports in line with modern data analysis best practices.
- Used to produce dozens of [reproducible government reports](#) across Canada.

rosettafish

- Enables the seamless translation of fish- and fisheries-related terms in R code to enable reproducible and efficient production of bilingual CSAS Research Documents and Science Responses.

- Regularly used in [csasdown-based publications](#).

[gfddata](#), [gfplot](#), [gfsynopsis](#)

- R packages to facilitate rapid and reproducible data extraction, model fitting, and plotting of BC groundfish data.
- The [gfsynopsis](#) package is used to generate [an annual report](#) showing all available fishery and biological data and model fits for over 100 groundfish species.
- [gfddata](#) and [gfplot](#) support [gfsynopsis](#), many BC groundfish stock assessments, and BC groundfish research.

[glmmfields](#)

- Bayesian generalized linear mixed models (GLMMs) with robust (multivariate-t) random fields for spatiotemporal modeling.
- Allows identification of extreme changes in spatial distribution (e.g., rapid range contractions).
- A paper describing the model is published in [Ecology](#).

[ss3sim](#)

- R package for flexible, rapid, and reproducible fisheries stock assessment simulation testing with the widely used Stock Synthesis (SS3) statistical assessment framework.
- Maintained as a tool associated with the NOAA Fisheries Integrated Toolbox.
- Used in at least [9 published papers](#).
- [Paper](#) describing [ss3sim](#).

Government reports

- 2026 **Anderson, S.C.**, Huynh, Q.C., Davidson, L.N.K., and King, J.R. Pacific Spiny Dogfish (*Squalus suckleyi*) Population Modelling for Outside Waters of British Columbia in 2024. DFO Can. Sci. Advis. Sec. Res. Doc. 2025/055. iv + 164 p. ([English version](#), [French version](#)).
- 2026 Grandin, C.J., **Anderson, S.C.**, and English, P.A. Arrowtooth Flounder (*Atheresthes stomias*) Stock Assessment for the West Coast of British Columbia in 2021. DFO Can. Sci. Advis. Sec. Res. Doc. 2024/071. ([Research Document](#)).
- 2025 Araujo, H.A., Mazur, M., Cao, J., Burton, M., **Anderson, S.C.**, Noble, V., Aulthouse, B., and Obradovich, S.G. Recommendations on the stock definition and design of the shrimp survey for stock monitoring in British Columbia. DFO Can. Sci. Advis. Sec. Res. Doc. In press.
- 2025 DFO. Review of the Stock Definition and Design of the Shrimp Trawl Survey for Stock Monitoring in British Columbia. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2025/056. ([Link](#)).
- 2025 DFO. Pacific Spiny Dogfish (*Squalus suckleyi*) Population Modelling for Outside Waters of British Columbia in 2024. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2025/032. ([Link](#)).
- 2024 DFO. Status Update of Pacific Cod (*Gadus macrocephalus*) off the West Coast of Vancouver Island in 2023. DFO Can. Sci. Advis. Sec. Sci. Resp. 2024/003. ([English version](#), [French version](#)).
- 2024 Barrett, T.J., Marentette, J.R., Forrest, R.E., **Anderson, S.C.**, Holt, C.A., Ings, D.W., and Thiess, M.E. Technical Considerations for Stock Status and Limit Reference Points under the Fish Stocks Provisions. DFO Can. Sci. Advis. Sec. Res. Doc. 2024/029. v + 57 p. ([Research Document](#)).
- 2024 Baker, K.D., **Anderson, S.C.**, Coffey, W., Walkusz, W., Mullowney, D.R.J., and Skanes, K.R. Identifying a Limit Reference Point for Striped Shrimp (*Pandalus montagui*) in Shrimp Fishing Area 4. DFO Can. Sci. Advis. Sec. Res. Doc. 2024/067. iv + 27 p.

- 2023 DFO. Science Advice on Guidance for Limit Reference Points under the Fish Stocks Provisions. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2023/009. ([Link](#)).
- 2023 DFO. Arrowtooth Flounder (*Atheresthes stomias*) Stock Assessment for British Columbia in 2021. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2023/042. ([Link](#)).
- 2022 DFO. A data synopsis for British Columbia groundfish: 2021 data update. DFO Can. Sci. Advis. Sec. Sci. Resp. 2022/020. ([English version](#), [French version](#)).
- 2021 DFO. Status Update of Pacific Cod (*Gadus macrocephalus*) for West Coast Vancouver Island (Area 3CD), and Hecate Strait and Queen Charlotte Sound (Area 5ABCD) in 2020. DFO Can. Sci. Advis. Sec. Sci. Resp. 2021/002. ([English version](#), [French version](#)).
- 2021 **Anderson, S.C.**, Forrest, R.E., Huynh, Q.C., and Keppel, E.A. A management procedure framework for groundfish in British Columbia. DFO Can. Sci. Advis. Sec. Res. Doc. 2021/007. ([Research Document](#), [Associated Science Advisory Report](#)).
- 2021 Haggarty, D.R., Huynh, Q.C., Forrest, R.E., **Anderson, S.C.**, Bresch, M.J., and Keppel, E.A. Evaluation of potential rebuilding strategies for Inside Yelloweye Rockfish (*Sebastes ruberrimus*) in British Columbia. DFO Can. Sci. Advis. Sec. Res. Doc. 2021/008. ([Research Document](#)).
- 2020 Forrest, R.E., **Anderson, S.C.**, Grandin, C.J., and Starr, P.J. Assessment of Pacific Cod (*Gadus macrocephalus*) for Hecate Strait and Queen Charlotte Sound (Area 5ABCD), and West Coast Vancouver Island (Area 3CD) in 2018. DFO Can. Sci. Advis. Sec. Res. Doc. 2020/070 iv + 204 p. ([English version](#), [French version](#)).
- 2019 **Anderson, S.C.**, Keppel, E.A., and Edwards, A.M. A reproducible data synopsis for over 100 species of British Columbia groundfish. DFO Can. Sci. Advis. Sec. Res. Doc. 2019/041. vii + 321 p. ([English version](#), [French version](#)).

Technical reports

- 2025 **Anderson, S.C.** and Dunic, J.C. A data synopsis for British Columbia groundfish: 2024 data update. Can. Tech. Rep. Fish. Aquat. Sci. 3718: viii + 263 p. <https://doi.org/10.60825/h4o6-v638>.
- 2025 Dunic, J.C., and **Anderson, S.C.** Assessing the quality of groundfish population indices derived from the small-mesh multi-species bottom trawl survey. Can. Tech. Rep. Fish. Aquat. Sci. 3667: v + 40 p. <https://doi.org/10.60825/rjyz-8w29>.
- 2025 Dunic, J.C., **Anderson, S.C.**, and English, P.A. Trends in Pacific Canadian groundfish stock status and surveys. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2024. Edited by Boldt, J.L., Joyce, E., Tucker, S., Gauthier, S., and Jackson, J.M. Can. Tech. Rep. Fish. Aquat. Sci. 3687. pp. 163–172. <https://doi.org/10.60825/hxdg-q818>.
- 2025 Walker, L.C., Rogers, L.A., **Anderson, S.C.**, and Haggarty, D.R. A review of biological samples collected from commercial groundfish fisheries in British Columbia, 1996–2022. Can. Tech. Rep. Fish. Aquat. Sci. 3722: vi + 148 p. <https://doi.org/10.60825/ywpx-4o51>.
- 2024 **Anderson, S.C.**, Dunic, J.C., Keppel, E.A., and Edwards, A.M. A data synopsis for British Columbia groundfish: 2023 data update. Can. Tech. Rep. Fish. Aquat. Sci. 3641: viii + 262 p. <https://doi.org/10.60825/aevx-nb49>.
- 2024 **Anderson, S.C.**, Dunic, J.C., and English, P.A. Trends in Pacific Canadian groundfish stock status and surveys. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2023. Edited by Boldt, J.L., Joyce, E., Tucker, S., Gauthier, S., and Dosser, H. Can. Tech. Rep. Fish. Aquat. Sci. 3598. pp. 157–166. [PDF](#).
- 2024 **Anderson, S.C.**, Dunic, J.C., Keppel, E.A., and Edwards, A.M. A data synopsis for British Columbia groundfish: 2022 data update. Can. Tech. Rep. Fish. Aquat. Sci. 3624: viii + 267 p. ([PDF](#)).
- 2023 Babcock, E.A., Harford, W.J., Gedamke, T., **Anderson, S.C.**, and Goodyear, C.P. Simulation-testing model-

- based and design-based bycatch estimators. Collect. Vol. Sci. Pap. ICCAT. 80(6): 51–79. ([PDF](#)).
- 2023 **Anderson, S.C.**, English, P.A., and Dunic, J.C. Trends in Pacific Canadian groundfish stock status and surveys. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2022. Edited by Boldt, J.L., Joyce, E., Tucker, S., and Gauthier, S. (Eds.). Can. Tech. Rep. Fish. Aquat. Sci. 3482. pp. 141–149. ([PDF](#)).
- 2023 ICES. Workshop on Unavoidable Survey Effort Reduction 2 (WKUSER2). ICES Scientific Report, 5(13). <https://doi.org/10.17895/ices.pub.22086845.v1>. Co-lead author of chapter “TOR III. Modeling and simulations: Further develop model performance evaluation through simulations, use of auxiliary information to improve survey data products, including appropriate propagation of uncertainty”.
- 2022 **Anderson, S.C.** and English, P.A. Trends in Pacific Canadian groundfish stock status and surveys. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2021. Edited by Boldt, J.L., Joyce, E., Tucker, S., and Gauthier, S. (Eds.). Can. Tech. Rep. Fish. Aquat. Sci. 3542. pp. 112–120. ([PDF](#)).
- 2021 **Anderson, S.C.**, Connors, B.M., English, P.A., Forrest, R.E., Haigh, R., and Holt, K.R. Trends in Pacific Canadian groundfish stock status. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2020. Edited by Boldt, J.L., Javorski, A., and Chandler, P.C. pp. 127–133. Can. Tech. Rep. Fish. Aquat. Sci. 3434. ([PDF](#)).
- 2020 English, P.A., **Anderson, S.C.**, and Workman, G.D. A review of groundfish surveys in 2019. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2019. Edited by Boldt, J.L., Javorski, A., and Chandler, P.C. pp. 102–106. Can. Tech. Rep. Fish. Aquat. Sci. 3377. ([PDF](#)).
- 2019 **Anderson, S.C.**, and Workman, G.D. A review of groundfish surveys in 2018 and an introduction to the groundfish data synopsis report. In: State of the physical, biological and selected fishery resources of Pacific Canadian marine ecosystems in 2018. Edited by Boldt, J.L., Leonard, J., and Chandler, P.C. pp. 90–94. Can. Tech. Rep. Fish. Aquat. Sci. 3314. ([PDF](#)).
- 2018 Edwards, A.M., Duplisea, D.E., Grinnell, M.H., **Anderson, S.C.**, Grandin, C.J., Ricard, D., Keppel, E.A., Anderson, E.D., Baker, K.D., Benoit, H.P., Cleary, J.S., Connors, B.M., Desgagnés, M., English, P.A., Fishman, D.F., Freshwater, C., Hedges, K.J., Holt, C.A., Holt, K.R., Kronlund, R., Mariscak, A., Obradovich, S.G., Patten, B.A., Rogers, B., Rooper, C.N., Simpson, M.R., Surette, T.J., Tallman, R.F., Wheeland, L.J., Wor, C., and Zhu, X. Proceedings of the Technical Expertise in Stock Assessment (TESA) national workshop on “Tools for transparent, traceable, and transferable assessments” 27–30 November 2018 in Nanaimo, British Columbia. Can. Tech. Rep. Fish. Aquat. Sci. 3290, Nanaimo, BC. ([PDF](#)).

Awards

- 2019 Canadian Journal of Fisheries and Aquatic Sciences [Stevenson Lectureship](#). A “lectureship conferred upon a young, energetic and creative researcher at the cutting edge of an aquatic discipline”
- 2017 [Canadian Society for Ecology and Evolution](#) (CSEE) Early Career Award
- 2015 [David H. Smith Conservation Postdoctoral Research Fellowship](#)
- 2015 Simon Fraser University Dean of Graduate Studies Convocation Medal
- 2012–13 Canadian Fulbright Scholar award to the University of Washington
- 2011 Canadian [Governor General’s Academic Gold Medal](#) for the top-ranked Master’s Natural Sciences and Engineering thesis at Dalhousie University in 2010