

## **CURRICULUM VITAE**

**Patrick J. Sullivan**

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College of Agriculture & Life Sciences  
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### **EDUCATION**

- Ph. D. University of Washington, Biostatistics/Biomathematics, 1988**  
Dissertation: A Kalman Filter Approach to Catch at Size Analysis.
- M.S. University of Washington, Fisheries Biology, 1985**  
Dissertation: The Effect of Spatial Heterogeneity on Predator-Prey Interactions:  
A Theoretical Analysis Using Mathematical and Computer Simulation Techniques.
- B.S. University of California at Davis, Biology, 1978**

### **PROFESSIONAL EXPERIENCE**

**Professor and Chair, Department of Natural Resources, Cornell University**  
Ithaca, NY: (Assistant, Associate, Full, Assoc. Chair, Chair) 1998-Present

**Affiliate Assistant Professor, Quantitative Ecology and Resource Management Program,  
University of Washington**  
Seattle, WA: 1992-1998

**Population Dynamicist, International Pacific Halibut Commission**  
Seattle, WA: 1988-1998

**Statistician, National Marine Fisheries Service**  
Seattle, WA: 1987-1988

## PUBLICATIONS

Morano, J. L., J. T. Tielens, C. A. Muirhead, B. J. Estabrook, P. J. Sullivan, P. J. Dugan, C. W. Clark, and A. N. Rice. (2020). Seasonal movements of Gulf of Mexico sperm whales following the Deepwater Horizon oil spill and the limitations of impact assessments. *Marine Pollution Bulletin* 161 (2020): <https://doi.org/10.1016/j.marpolbul.2020.111627>

Morano, J., L., J. T. Tielens, C. A. Muirhead, B. J. Estabrook, P. J. Sullivan, P. J. Dugan, C. W. Clark, and A. N. Rice. (2020). Seasonal Movements of Gulf of Mexico Sperm Whales Following the Deepwater Horizon Oil Spill and the Limitations of Impact Assessments, Data Products (Jun 2010 to Feb 2012)'. NOAA National Centers for Environmental Information. <https://doi.org/10.25921/qrvr-5386>

Watkins, L., P. J. Sullivan, and M. T. Walter. (2019). A case study investigating temporal factors that influence microplastic concentration in streams under different treatment regimes. *Environmental Science and Pollution Research* 26 (21):21797-21807

Watkins, L., S. McGrattan, P. J. Sullivan, and M. T. Walter. (2019). The effect of dams on river transport of microplastic pollution. *Science of the Total Environment* 664:834-840.

Holda, T. J., L. G. Rudstam, K. L. Bowen, B. C. Weidel, J. M. Watkins, P. J. Sullivan, J. P. Holden, and M. J. Connerton. (2019). Status of *Mysis diluviana* in Lake Ontario in 2013: Lower abundance but higher fecundity than in the 1990s. *Journal of Great Lakes Research*. [doi.org/10.1016/j.jglr.2019.01.007](https://doi.org/10.1016/j.jglr.2019.01.007)

Miller, T. J., C. M. Jones, C. Hanson, S. Heppell, O. Jensen, P. Livingston, K. Lorenzen, K. Mills, W. Patterson, P. Sullivan, R. Wong. (2018). Scientific Considerations Informing Magnuson-Stevens Fishery Conservation and Management Act Reauthorization. *Fisheries*. 43. 533-541. 10.1002/fsh.10179.

Peach, M. A., J. B. Cohen, J. L. Frair, B. Zuckerberg, P. Sullivan, W. F. Porter, and C. Lang. (2018). Value of protected areas to avian persistence across 20 years of climate and land-use change. *Conservation Biology* 33(2): 423-433 DOI: 10.1111/cobi.13205.

Bemis, K. E., B. Marcy-Quay, J. K. Galbraith, M. J. Wuenschel, P. J. Sullivan, and W. E. Bemis (2018) Deep-water dragonets (Teleostei: Callionymidae: *Foetorepus*) of the Mid Atlantic Bight: A little-known genus from the edge of the continental shelf. *Copeia*: 106 (1):188-198.

Kaplan, K. A., D. R. Hart, K. Hopkins, S. Gallager, A. York, R. Taylor and P. J. Sullivan. (2018). Invasive tunicate restructures invertebrate community on fishing grounds and a large protected area on Georges Bank. *Biological Invasions* 20(1):87-103.

Pendleton, R. M., C. R. Standley, A. L. Higgs, G. H. Kenney, P. J. Sullivan, S. A. Sethi, and B. P. Harris. (2018). Acoustic telemetry and benthic habitat mapping inform the spatial ecology of shortnose sturgeon in the Hudson River, New York, USA. *Trans. Am. Fish. Soc.* 148(1):35-47. <https://doi.org/10.1002/tafs.10114>

Simonin, P.W., L. G. Rudstam, D. L. Parrish, B. Pientka, and P.J. Sullivan. (2018). Piscivore diet shifts and trophic level change after alewife establishment in Lake Champlain. *Trans. Am. Fish. Soc.* 147:939-947.

Simonin, P.W., L. G. Rudstam, P.J. Sullivan, D. L. Parrish, and B. Pientka. (2018). Early mortality and freshwater forage fish recruitment: nonnative alewife and native rainbow smelt interactions in Lake Champlain. *Canadian Journal of Fisheries and Aquatic Sciences*, <https://doi.org/10.1139/cjfas-2017-0571>

Watson, J. T., A. C. Haynie, P. J. Sullivan, L. Perruso, S. O'Farrell, J. N. Sanchirico, and F. J. Mueter. (2018). Vessel monitoring systems (VMS) reveal an increase in fishing efficiency following regulatory changes in a demersal longline fishery. *Fisheries Research* 207:85-94. <https://doi.org/10.1016/j.fishres.2018.06.006>

Riha, M., M. G. Walsh, M. J. Connerton, J. Holden, B. C. Weidel, P. J. Sullivan, T. J. Holda, L. G. Rudstam. (2017). Vertical distribution of alewife in the Lake Ontario offshore: Implications for resource use. *Journal of Great Lakes Research*. 5:823-837. <https://doi.org/10.1016/j.jglr.2017.07.007>

Saia, S. M., P. J. Sullivan, J. M. Regan, H. J. Carrick, A. R. Buda, N. A. Locke, and M. T. Walter. (2017) Evidence for polyphosphate accumulating organism (PAO)-mediated phosphorus cycling in stream biofilms under alternating aerobic/anaerobic conditions. *Freshwater Science* 36(2):284-296.

Sullivan, P. J., and L. G. Rudstam. (2016). Quantifying acoustic survey uncertainty using Bayesian hierarchical modeling with an application to assessing *Mysis relicta* population densities in Lake Ontario. *ICES Journal of Marine Science*, 73(8):2104-2111. doi:10.1093/icesjms/fsw080.

Marjerison, R. D., M. T. Walter, P. J. Sullivan, and S. J. Colucci. (2016). Does population affect the location of flash flood reports? *Journal of Applied Meteorology and Climatology* 55(9):1953-1963.

Alexiades, A.V., B. Marcy-Quay, P.M. Sullivan and C.E. Kraft. (2015). Measurement error in angler creel surveys. *North American Journal of Fisheries Management* 35:253–261.

Kaplan, K. A., Ahmadi, G. N., Fox, H., Glew, L., Pomeranz, E. F., & Sullivan, P. J. (2015). Linking ecological condition to enforcement of marine protected area regulations in the greater Caribbean region. *Marine Policy*, 62, 186-195.

Meyer-Gutbrod, E., C. H. Greene, P. J. Sullivan, A. J. Pershing. (2015). Climate-associated changes in prey availability drive reproductive dynamics of the North Atlantic right whale population. *Marine Ecological Progress Series* 535:243-258. Doi:10.3354/meps11372.

Jech, J. M., & Sullivan, P. J. (2014) Distribution of Atlantic herring (*Clupea harengus*) in the Gulf of Maine from 1998 to 2012. *Fisheries Research*, 156: 26-33.

Wilson, E. A., Sullivan, P.J., & Dickinson, J.L. (2014). Spatial auto-correlation of mistletoe abundance matches predictions based on patterns of natal philopatry in Western bluebirds. *PLoS ONE* 9(11): e111947. doi:10.1371/journal.pone.0111947

- Carrillo-Rubio, E. Kery, M., Morreale, S. J., Gardner, B., Sullivan, P. J., Cooch, E. G., & Lassoie, J. P. (2014). Evaluating the response of avian communities to forest management using multi-species occupancy models. *Conservation Biology*, 28(4):1034-1044.
- Liao, C., Morreale, S. J., Kassam, K.-A. S., Sullivan, P. J., & Fei, D. (2014). Following the Green: Coupled pastoral migration and vegetation dynamics in the Altay and Tianshan Mountains of Xinjiang, China. *Applied Geography*, 46, 61–70
- Liao, C., Sullivan, P. J., Barrett, C. B., & Kassam, K.-A. S. (2013). Socioenvironmental threats to pastoral livelihoods: Risk perceptions in the Altay and Tianshan mountains of Xinjiang, China. *Risk Analysis*, doi:10.1111/risa.12146
- Yule, D. L., Adams, J. V., Warner, D. M., Hrabik, T. R., Kocovsky, P. M., Weidel, B. C., Rudstam, L. G., & Sullivan, P. J. (2013). Evaluating analytical approaches for estimating pelagic fish biomass using simulated fish communities. *Canadian Journal of Fisheries and Aquatic Sciences*, 70(12): 1845-1857.
- Kocovsky, P. M., Rudstam, L. G., Yule, D. L., Warner, D. M., Schaner, T., Pientka, Deller, B. J. W., Waterfield, H. A., Witzel, L. D., & Sullivan, P. J. (2013). Sensitivity of fish density estimates to standard analytical procedures applied to Great Lakes hydroacoustic data. *Journal of Great Lakes Research*, 39: 655–662
- Altman, N. S., G. Balco, C. Crainiceanu, W. R. Gehrels, J. Qiu, J. Staudermayer, & P. Sullivan. (2013). Statistical modeling of changes in relative sea level in Maine during the Holocene Era. *Environmetrics* 24(5): 298-305.
- National Research Council, Parma, A. & Sullivan, P. J. (Co-chairs), Collie, J., Hartley T. W., Heyman W., Johnston R., Punt A. E., Rose K. A., Sanchirico J., Sissenwine M. P., & Sugihara G. (2013) Evaluating the Effectiveness of Stock Rebuilding Plans of the 2006 Fishery Conservation and Management Reauthorization Act. *The National Academies Press*. 282 pp.
- Simonin, P. W., Parrish, D. L., Rudstam, L. G., Sullivan, P. J., & Pientka, B. (2012). Native rainbow smelt and nonnative alewife distribution related to temperature and light gradients in Lake Champlain. *Journal of Great Lakes Research*, 38, 115-122.
- Pendleton, D.E., Sullivan, P.J., Brown, M.W., Cole T.V.N., Good, C.P., Mayo, C.A., Monger, B.C., Phillips, S., Record, N.R., & Pershing, A.J.(2012). Weekly predictions of North Atlantic right whale *Eubalaena glacialis* habitat reveal influence of prey abundance and seasonality of habitat preferences. *Endangered Species Research*, 18, 147-161.
- Armstrong, A., Stedman, R.C., Bishop, J.A., & Sullivan, P.J. (2012). What's a stream without water? Double disproportionality in headwater regions impacting water quality. *Environmental Management*, 50(5), 849-860.
- Stritzel Thomson, J. L., Parrish, D. L., Parker-Stetter, S. L., Rudstam, L. G., & Sullivan, P. J. (2011). Growth rates of rainbow smelt in Lake Champlain: effects of density and diet. *Ecology of Freshwater Fish*, 20, 503-512.
- Easton, Z. M., Sullivan, P. J., Walter, M. T., Fuka, D. R., Petrovic, A. M., & Steenhuis, T. S. (2010).

A simple metric to predict stream water quality from storm runoff in an urban watershed. *Journal of Environmental Quality*, 39 (4), 1338-1348.

Wilkins, K. A., Malecki, R. A., Sullivan, P. J., Fuller, J. C., Dunn, J. P., Hindman, L. J., Costanzo, G. R., & Luszcz, D. (2010). Migration routes and bird conservation regions used by Eastern Population Tundra Swans *Cygnus cloumbianus columbianus* in North America. *Wildfowl*, 60, 20-37.

Dewan, A. A., Sullivan, P. J., Lembo, A. J., Smith, C. R., Maerz, J. C., Lassoie, J. P., & Richmond, M. E. (2009). Using occupancy models of forest breeding birds to prioritize conservation planning. *Biological Conservation*, 142 (5), 982-991.

Laba, M., Blair, B., Downs, R., Monger, B., Philpot, W. D., Smith, S. D., Sullivan, P. J., & Baveye, P. C. (2009). Use of textural measurements to map invasive wetland plants in the Hudson River National Estuarine Research Reserve with IKONOS satellite imagery. *Remote Sensing of Environment*, 114 (4), 876-886.

Rudstam, L. G., Sullivan, P. J., Parker-Stetter, S. L., & Warner, D. M. (2009). Towards a standard operating procedure for fisheries acoustic surveys in the Laurentian Great Lakes, North America. *ICES Journal of Marine Science*, 66, 1391-1397.

Zipkin, E. F., Kraft, C.E., Cooch, E. G., & Sullivan, P.J. (2009). When can efforts to control nuisance and invasive species backfire? *Ecological Applications* 19(6):1585-1595.

Gardner, B., Sullivan, P. J., Epperly, S., & Morreale, S. J. (2008). Hierarchical modeling of bycatch rates of sea turtles in the western North Atlantic. *Endangered Species Research*, 5, 279-289.

Gardner, B., Sullivan, P. J., Morreale, S. J., & Epperly, S. (2008). Spatial and temporal statistical analysis of bycatch data: patterns of sea turtle bycatch in the North Atlantic. *Canadian Journal of Fisheries and Aquatic Science*, 65, 2461-2470.

Irwin, B. J., Treska, T. J., Rudstam, L. G., Sullivan, P. J., Jackson, J. R., VanDeValk, A. J., & Forney, J. L. (2008). Estimating walleye density, gear catchability, and mortality using three fishery-independent data sets for Oneida Lake, New York. *Canadian Journal of Fisheries and Aquatic Science*, 65, 1366-1378.

Kretser, H. E., Sullivan, P. J., & Knuth, B. A. (2008). Housing density as an indicator of spatial patterns of reported human-wildlife interactions in Northern New York. *Landscape and Urban Planning*, 84, 282-292.

Mehta, V. K., Krishnaswamy, J., Walter, M. T., DeGloria, S. D., & Sullivan, P. J. (2008). Ecosystem impacts of disturbance in a dry tropical forest in southern India. *Ecohydrology*, 1, 149-160.

Mehta, V., Sullivan, P. J., Walter, M. T., Krishnaswamy, J., & DeGloria, S. D. (2008). Impacts of disturbance on soil properties in a dry tropical forest in Southern India. *Ecohydrology*, 1, 161-175.

Zipkin, E. F., Sullivan, P. J., Cooch, E. G., Kraft, C. E., Shuter, B. J., & Weidel, B. C. (2008). Overcompensatory response of a smallmouth bass (*Micropterus dolomieu*) population to harvest: release from competition. *Canadian Journal of Fisheries and Aquatic Science*, 65, 2279-2292.

Bain, M. B., Haley, N., Peterson, D., Arend, K., Mills, K., & Sullivan, P. J. (2007). Recovery of a US endangered fish. *PLoS ONE*, 2 (1), e168. doi:10.1371/journal.pone.0000168

Laba, M., Sullivan, P. J., Philpot, W. D., & Baveye, P. (2007). Influence of wavelet type on the classification of marsh vegetation from satellite imagery using a combination of wavelet texture and statistical component analyses. *Canadian Journal of Remote Sensing*, 33 (4), 260-265.

Parker-Stetter, S. J., Stritzel-Thomson, J. L., Rudstam, L. G., Parish, D. L., & Sullivan, P. J. (2007). Importance and predictability of cannibalism in rainbow smelt. *Transactions of the American Fisheries Society*, 136, 227-237.

National Research Council. Sullivan, P. J. (Chair), Breidt, F. J., Ditton . B., Knuth, B.A., Leaman, B.M., O'Connell, V. M., Parsons G. R., Pollock, K. H., Smith, S. J., & Stokes, S. L. (2006). Review of Recreational Fisheries Survey Methods. *The National Academies Press*. 189 pp.

Overholtz, W. J., Jech, J. M., Michaels, W. L., Jacobson, L. D., & Sullivan, P. J. (2006). Empirical comparisons of survey designs in acoustic surveys of Gulf of Maine-Georges Bank Atlantic herring. *J. Northw. Atl. Fish. Sci.*, 36, 55-63.

Smith, N. G., Sullivan, P. J., Rudstam, L. G. (2006). Using otolith microstructure to determine natal origin of Lake Ontario Chinook Salmon. *Transactions of the American Fisheries Society*, 135, 908-914.

Sullivan, P. J., Acheson J. M., Angermeier P. L., Faast, T., Flemma, J., Jones, C. M., Knudsen, E. E., Minello, T. J., Secor, D. H., Wunderlich, R., & Zanetell, B. A. (2006). Defining and Implementing Best Available Science for Fisheries and Environmental Science, Policy, and Management. *Fisheries* 31(9):460-465.

Sullivan, P. J., Acheson, J. M., Angermeier, P.L., Faast, T., Flemma, J., Jones, C. M., Knudsen, E. E., Minello, T. J., Secor, D. H., Wunderlich, R., & Zanetell, B.A. (2006). Defining and Implementing Best Available Science for Fisheries and Environmental Science, Policy, and Management. *Unabridged Committee Report. American Fisheries Society, Bethesda, Maryland, and Estuarine Research Federation, Port Republic, Maryland.*

Brown, W. P., & Sullivan, P. J. (2005). Avian community composition in isolated forest fragments: a conceptual revision. *Oikos*, 111:1-8.

Winkler, D. W., Wrege, P.H., Allen, P. E., Kast, T. L., Senesac, P., Wasson, M. F., & Sullivan, P. J. (2005). The natal dispersal of tree swallows in a continuous mainland environment. *Journal of Applied Ecology*, 74:1080-1090.

Gardner, B., & Sullivan, P.J. (2004) Spatial and temporal stream temperature prediction: modeling non-stationary temporal covariance structures. *Water Resources Research*, 40(1). p. W01102 1-9.

Winkler, D. W., Wrege, P.H., Allen, P.E., Kast, T. L., Senesac, P., Wasson, M. F., Llambias, P. E., Ferretti, V., & Sullivan, P. J. (2004). Breeding dispersal and philopatry in the tree swallow. *Condor*, 106:768-776.

- Rivas, A. L., Smith, S., Sullivan, P. J., Gardner, B., Aparicio, J. P., A. L. Hoogesteijn, A. L., & Castillo-Chavez, C. (2003). Identification of geographical factors associated with early epidemic spread in the context of foot-and-mouth disease. *American Journal of Veterinary Research*, 64(12): 1519.
- Rudstam, L. G., Parker, S.L., Einhouse, D. W., Witzel, L. D., Warner, D. M., Stritzel, J. L., Parrish, D. L., & Sullivan, P. J. (2003). Application of *in situ* target-strength estimations in lakes: examples from rainbow-smelt surveys in Lakes Erie and Champlain. *ICES Journal of Marine Science*, 60:500-507.
- Gardner, B., Sullivan, P. J., & Lembo, A. Predicting stream temperatures: Geostatistical model comparison using alternative distance metrics. (2003). *Canadian Journal of Fisheries and Aquatic Sciences* 60: 344-351.
- Zaitchik, B. F., van Es, H. M., & Sullivan, P. J. (2003). Modeling slope stability in Honduras: parameter sensitivity and scale of aggregation. *Social Science Society America Journal*, 67: 268-278
- Jolles, A. E., Sullivan, P. J., Alker, A. P., & Harvell, C. D. (2002). Disease transmission of aspergillosis in sea fans: inferring process from spatial pattern. *Ecology*, 83(9):2373-2378.
- National Research Council, Jones, C. M. (Chair), Anderson, L., Houde, E., McCay, B., Rieser, A., Sullivan, P. J., Urban, Jr., E. R., & Young, R. D. (2002). Science and Its Role in the National Marine Fisheries Service. *National Academy Press*. 83 pp.
- Kraft, C. E., Sullivan, P. J., Karatayev, A. Y., Burlakova, L. E., Nekola, J. C., Johnson, L. E., & Padilla, D. K. (2002). Landscape pattern of an aquatic invader, *Dreissena polymorpha*: Assessing dispersal extent from spatial distribution. *Ecological Applications*, 12(3):749-759.
- Josephson, D. C., Krueger, C. C., & Sullivan, P. J. (2001). Use of outlet barriers to prevent fall emigration of brook trout stocked in Adirondack Lakes. *North American Journal of Fisheries Management*, 21:843-854.
- Hughes, T. C., Josephson, D. C., Krueger, C. C., and Sullivan, P. J. (2000). Comparison of large and small visible implant tags: retention and readability in hatchery brook trout. *North American Journal of Aquaculture*, 62:273-278.
- National Research Council, Sullivan, P. J. (Chair), Able, K., Jones, C., Kaye, K., Knuth, B., Norcross, B., Russek-Cohen, E., Sibert, J., Smith, S., Thompson, S., & Young, R. (2000). Improving the Collection, Management, and Use of Marine Fisheries Data. *National Academy Press*. 288 pp.
- Sullivan, P. J., Parma, A. M., Clark W. G. (1999). The Pacific Halibut Stock Assessment of 1997. *International Pacific Halibut Commission Scientific Report*, 79.
- Clark, W. G., Hare, S. R., Parma, A. M., Sullivan, P. J., & Trumble, R. J. (1999). Decadal changes in growth and recruitment of Pacific halibut (*Hippoglossus stenolepis*). *Canadian Journal of Fisheries and Aquatic Sciences*, 56:242-252.
- Sullivan, P. J., & Rebert, S. D. (1998). Interpreting Pacific halibut catch statistics in the British Columbia individual quota program. *Canadian Journal of Fisheries and Aquatic Sciences*, Vol. 55: 99-115.

Shi, Y., Gunderson, D. R., & Sullivan, P. J. (1996). Growth and survival of 0+ English sole, *Pleuronectes vetulus*, in estuaries and adjacent nearshore waters off Washington. *Fisheries Bulletin*, 95:161-173.

Sullivan, P. J., Trumble, R. J., & Adlerstein, S. A. (1994). Pacific halibut bycatch in the groundfish fisheries: Effects on and management implications for the halibut fishery. *International Pacific Halibut Commission Scientific Report*, 78.

Sullivan, P. J., & McCaughran, D. A. (1993). The Pacific Halibut: Stock assessment strategies and management implications. Proceedings of the 1992 World Fisheries Congress, Athens. *Theme 5, Assessment Methodologies and Management. Oxford and IBH Publishing Co.*

Sullivan, P. J., Geernaert, T. O., St-Pierre, G., & Kaimmer, S. M. (1993). Mark-recapture methods for Pacific halibut assessment: A feasibility study conducted off the central coast of Oregon. *International Pacific Halibut Commission Scientific Report*, No. 76.

Sullivan, P. J. (1992). A Kalman filter approach to catch-at-length analysis. *Biometrics*, 48:237-257.

Zhang, C. I., Gunderson, D. R., & Sullivan, P. J. (1991). Using data on biomass and fishing mortality in stock production modeling of flatfish. *Netherlands Journal of Sea Research*, 27(3/4):459-467.

Sullivan, P. J. (1991). Stock abundance estimation using depth dependent trends and spatially correlated variation. *Canadian Journal of Fisheries and Aquatic Sciences*, 48:1691-1703.

Sullivan, P. J., Lai, H. L., & Gallucci, V. F. (1990). A catch-at-length analysis that incorporates a stochastic model of growth. *Canadian Journal of Fisheries and Aquatic Sciences*, 47(1):184-198.

Zhang, C. & Sullivan, P. J. (1990). A biomass-based cohort analysis using catch at age data. *Transactions of the American Fisheries Society*, 117(2):180-189.

Sullivan, P. J. (1988). Effect of boundary conditions, region length, and diffusion rates on a spatially heterogeneous predator-prey system. *Ecological Modelling*, 43:235-249.

Anderson, J. J. & Sullivan, P. J. (1986). A dynamic basis for using a truncated normal distribution to describe variability of chemical substances in aquatic environments. *Journal of Theoretical Biology*, 123:213-220.

#### OTHER PUBLISHED CONTRIBUTIONS

Sullivan, P. J., & Rudstam, L. G. (2011). Abstract. Accounting for uncertainty in acoustic estimates in the Great Lakes. *The Journal of the Acoustical Society of America*, 129:2694.

Krueger, C. C., Josephson, D. C., Schneider, C. P., Eckert, T. H., Sullivan, P. J., Cannon, R. (2006). Regulation of Fishery Harvest: Case Histories from the Adirondack Mountains, Lake Ontario, North Pacific, and Yukon River. *Conservation of Native Aquatic Fauna*. American Fisheries Society.

Sullivan, P. J., & Rudstam, L. G. (2009). Acoustics unpacked – a general guide for fisheries acoustics. Ithaca, New York: Cornell University. [AcousticsUnpacked.org](http://AcousticsUnpacked.org)



## **AWARDS**

2013 College of Agriculture and Life Sciences' Research and Extension Award for Outstanding Accomplishments in Science and Public Policy.

## **Invited Talks/Presentations**

2015 Sullivan, P. J. Actionable Scholarship: Advocacy, Advice, or Just Normal Science. American Fisheries Society Plenary Speaker.

2015 Sullivan, P. J. Sex-Age-Length Specific Modeling of Summer Flounder. AFS Monsters of Stock Assessment Guest Speaker.

2014 Sullivan, P. J. Bayesian methods for incorporating uncertainty into hierarchical acoustic estimates of mysid population abundance in Lake Ontario. Hjort Visiting Scholar Seminar. Hjort Center for Marine Ecosystem Dynamics, Bergen, Norway.

2014 Sullivan, P.J. What it means to conduct multidisciplinary research. Plenary speaker. Workshop in Applied Mathematical Modeling, Optimization, and Uncertainty Quantification. WiMOpt2014. Bergen, Norway.

2009 Sullivan, P. J. "Best available science: What is it and how can we provide it?", American Fisheries Society Invited Talk, Nashville, TN.

2009 Simonin, P. W. (Presenter & Author), Parrish, D. L. (Author Only), Rudstam, L. G. (Author Only), Pientka, B. (Author Only), Sullivan, P. J. (Author Only), Annual Meeting, "Rainbow smelt and alewife in Lake Champlain: abundance dynamics of native and invasive planktivores", American Fisheries Society, Nashville, TN.

2009 Simonin, P. W. (Presenter & Author), Parrish, D. L. (Author Only), Rudstam, L. G. (Author Only), Pientka, B. (Author Only), Sullivan, P. J. (Author Only), Annual Meeting, "Rainbow smelt and alewife distribution dynamics in relation to temperature and light in Lake Champlain", International Association of Great Lake Research, Toledo, Ohio.

2008 Simonin, P. (Presenter & Author), Parrish, D. (Author Only), Rudstam, L. G. (Author Only), Pientka, B. (Author Only), Sullivan, P. J. (Author Only), Annual Meeting, "Young of year planktivore dynamics: distributions of native rainbow smelt in relation to non-native alewife in Lake Champlain", Accepted, American Fisheries Society, Ottawa, Ontario, Canada.

2008 Rudstam, L. G. (Presenter & Author), Sullivan, P. J. (Author Only), Parker-Stetter, S. (Author Only), Warner, D. M. (Author Only), SEAFACETS, "Towards a standard operating procedure for Great Lakes acoustics", Accepted, International Council for the Exploration of the Sea, Bergen, Norway.

2008 Kassam, K.-A. S. (Presenter & Author), Sullivan, P. J., Strategic Planning Seminar, "How do we know what we know? A collaborative response from a biological and social scientist", Invited, Department of Natural Resources, Ithaca.

2007 Rudstam, L. G., Sullivan, P. J., Parker-Stetter, S., Warner, D. M., Einhouse, D., Schaner, T., Pientka, B., Yule, D., Witzel, L., Brooking, T., Fish Stock Assessment in Lakes and Reservoirs, "Towards standard operating procedures for acoustic surveys in the Great Lakes: progress and remaining issues", Ceske Budojevice, Czeck Republic.

2006 Gardner, B., Morreale, S. J., Sullivan, P. J., Barron, C. N., Epperly, S. P., 13th Ocean Sciences Meeting, "Spatio-temporal analyses of loggerhead seaturtle interactions with pelagic fisheries", Honolulu, HI.

2006 Gardner, B., Morreale, S. J., Sullivan, P. J., Barron, C. N., Epperly, S. P., NMFS/SeaGrant Joint Fellowship Meeting, "Sea Temperature: The Final frontier", La Jolla, CA.

2006 Gardner, B., Morreale, S. J., Sullivan, P. J., Barron, C. N., Epperly, S. P., NMFS/SeaGrant Joint Fellowship Meeting, "Sea Temperature: The Final Frontier?", La Jolla, CA.

2006 Irwin, B. J., Rudstam, L. G., Treska, T. J., Sullivan, P. J., Jackson, J. R., VanDeValk, A. J., Forney, J. L., 136th Annual meeting of the American Fisheries Society, "Population models and estimation: applications to walleye in Oneida Lake", Lake Placid, NY.

2006 Kretser, H., Knuth, B. A., Sullivan, P. J., Adirondack Research Consortium, "Using spatial point processes to assess distribution of reported human-wildlife interactions in Northern New York".

## **TEACHING**

### **Cornell University**

BTRY 3010, Biological Statistics I, (Since 2003)

BTRY 3020, Biological Statistics II, (Since 2004)

BTRY 4970, Undergraduate Individual Study in Biometry and Statistics

BTRY 4980, Undergraduate Supervised Teaching

NTRES 3130, Biological Statistics I, (cross listed with BTRY 3010)

NTRES 3110, Fish Ecology (Since 2014, even years)

NTRES 4110, Quant Ecology and Mgmt of Fisheries Resources, (Since 1999, odd years)

NTRES 4130, Biological Statistics II, (cross listed with BTRY 3020)

NTRES 4971, Individual Study in Applied Ecology and Conservation Ecology, 1 course

NTRES 6110, Quant Ecology and Mgmt of Fisheries Resources, (cross listed with NTRES 4110)

NTRES 6700, Spatial Statistics, (Since 2000, even years)

NTRES 6940, GRAD Special Topics in NTRES

NTRES 9900, Doctoral-Level Thesis Research

STSCI 2200, Biological Statistics I, (cross listed with BTRY 3010)

STSCI 3200, Biological Statistics II, (cross listed with BTRY 3020)

### **Number of Students Registered for Credit (Averages since 2006)**

Biological Statistics I (100-160)

Biological Statistics II (30-90)

Fish Ecology (30)

Quantitative Ecology and Mgmt of Fisheries Resources (5-15)  
Spatial Statistics (15-20)  
Special Topics in Bayesian Statistical Analysis of Ecological Data (6)

### **Graduate Field Membership**

Computational Biology; Natural Resources; Risk Analysis, Communication and Policy; Statistics

Undergraduate Advising – Averaging 10-12 undergraduate advisees mainly from Natural Resources, but also representing Biometry, Computational Biology and Statistics. Also, advise roughly 10 students from the Biology major during their freshman year (these students then rotate out to permanent advisors).

### **Graduate Advising**

#### **Masters Thesis; Special Committee Chair**

Marcy-Quay, Benjamin (2014)  
Nonlinear fisheries stock assessment applied to trout in New York State tributaries.

Zipkin, Elise (2008)  
Density dependence, demographic structure, and harvest strategies: Can population abundance be controlled?

Murphy, James (2006)  
Spatial distribution of Lake Erie walleye.

Treska, Theodore (2005).  
Evaluation of an in-stream population dynamics model for trout management in New York State.

Ross, Zev (2003)  
Mapping disease: A geostatistical analysis of California breast cancer rates.

Dean, Micah (2002)  
Spatial and temporal distribution of wild and hatchery juvenile Chinook salmon in nearshore Lake Ontario.

Gardner, Beth (2002)  
Spatial and temporal dynamics of in-stream temperature in the Beaverkill watershed: Geostatistical modeling for networked data and non-stationary covariance structures.

#### **Masters Degree Special Committee Member**

Bobbi Estabrook (2016- Present) Spatial ecology of elephants in Ghana.

Dietrich, Jeremy (2012)  
Ecological response of invertebrates to leaf litter in microcosms.

Nadeau, Christopher (2013)

A climate change vulnerability index based on landscape features.

Liao, Chuan (2012)

Chase water and grass to live: Livelihood strategies, migration patterns, and risk perceptions of pastoralists in Xinjiang, China.

Stouthammer-Ingel, Claire (2012)

Habitat use, growth, and feeding of larval alewife in a shallow river margin of the upper Hudson River.

Hayn, Melanie (2012)

Modeling the flow of nitrogen in West Falmouth Harbor, Cape Cod.

Rhinehart, Ingrid (2002)

Spatial analysis of pastoralist location choice: Understanding human wildlife conflict in the Amboseli Region of Kenya.

Weidell, Brian (2003)

Fish community response to removal of introduced smallmouth bass in an oligotrophic Adirondack lake.

Parker, Sandra (2001)

The effect of ecosystem change on the feeding ecology of Eastern Lake Erie rainbow smelt.

Connors, M. Elizabeth (1999)

Use of adaptive cluster sampling designs for hydroacoustic fish surveys.

### **PhD Special Committee Chair**

Janelle Morena (2019 – Present) Ecosystem dynamic modeling using R-INLA.

Elise Edwards (2019 – Present) Occupancy modeling of striped bass in the Hudson River Estuary.

Lisa Watkins (2019 – Present) Effects of microplastics on the marine environment.

Elizabeth Duskey (2014 – Present) Occupancy modeling of sturgeon in the Hudson River and spatial ecology of sea scallops in the Mid-Atlantic.

Ben Marcy-Quay (2014 – Present) Movement of lake whitefish in Adirondack lakes.

Kaplan, Katherine (2016)

Spatial integrity of habitat occupied by yellowtail flounder (*Pleuronectes ferruginea*) in the Mid-Atlantic.

Perry, Phillips Christian (2015)

Factors influencing the success of nesting Centrarchids (Black bass) in New York lake ecosystems.

Hassan, Mohd Zafri (2013)

Characterizing patterns of round goby (*Neogobius melanostomus*) distribution using morphometrics, occupancy modeling, and population genetics.

Mills, Kathy (2010 Co-chair with Bain)  
Marine ecosystem-based management.

Pendleton, Daniel (2010)  
Models of North Atlantic right whale habitat: tools for science and conservation.

Roberts, Nathan (2010)  
Enhancing furbearer management in New York.

Gardner, Beth (2007)  
Spatial and temporal modeling of sea turtle interactions with the pelagic longline fishery in Western North Atlantic.

Smith, Nathan (2005)  
Natural reproduction and recruitment of Chinook salmon in the Salmon River, New York: An application of otolith microstructure analysis.

### **PhD Special Committee Member**

Weltman-Fahs, Maya (2019)  
Ecosystem properties influencing inland fisheries dynamics.

Simonin, Paul (2018)  
Spatial analysis of Lake Champlain smelt.

Liao, Chuan (2017)  
Sociological and ecosystem dynamics of pastoralist systems.

Marjerison, Rebecca (2017)  
An analysis of the influences of landscape and atmospheric properties on flash flood production in the Northeast United States.

Saia, Sheila (2017)  
Spatial instream modeling of nutrient loading indices.

Eierman, Laura (2015)  
Population genetics of oysters on the Florida coast.

Alexiades, Alex (2014)  
Ecology and assessment of habitat of trout streams in New York.

- Brosnan, Ian (2014)  
Salmon movement and dispersal from the Columbia River into the Pacific
- Fetzer, William (2013)  
Dynamics of larval yellow perch in Oneida Lake.
- McGarry, Louise (2013)  
Using geostatistics to model oceanographic effects on copepods.
- Biedron, Ingrid. (2013)  
Marine fisheries stewardship
- DeBruyne, Robin. (2012)  
Impact of cormorants on the Oneida Lake Ecosystem.
- Neafsey, EJ. (2012)  
Near-infrared diffuse-reflectance spectroscopy and geospatial landscape information: An integrated approach to digital and predictive soil mapping.
- Smith, Stephen (2006 - Present)  
Effect of housing development on habitat fragmentation.
- Stasiewicz, Matthew (2010 - Present)  
Framework for microbial safety risk assessment.
- Clavano, Wilhelmina (2008)  
Bi-directional reflectance distribution function and polarization effects of rough.
- Davalos, A. (2008)  
Interactive effects of predation, plant quality and herbivore movement on the success of the purple loosestrife biocontrol program.
- DeWan, Amielle (2008)  
Monitoring biodiversity in our urban world: Challenges, threats, and a plan for the future.
- Laba, Magdeline (2008)  
Impact of sensor characteristics on land cover classification.
- Boulanger, J. (2007)  
Evaluation of an alternative vaccine distribution system as a potential management strategy for raccoon rabies in a suburban landscape.
- Jennelle, C. (2007)  
Accounting for detection heterogeneity and host movements in a house finch-*Mycoplasma gallisepticum* disease system.
- Loughner, Rebecca (2007)

Landscape ecology pheromone communication and management of Strawberry Sap Beetle.

Mehta, V (2007)

Forest disturbance assessment and evapotranspiration modeling for water management in India.

Shaby, Benjamin (2007)

Covariance modeling and parameter estimation for stationary spatio-temporal Gaussian random fields.

Singkran, Nuanchan (2007)

Ecotone properties and influences on fish distributions along habitat gradients of complex aquatic systems.

Wilkins, Khristi (2007)

Movement, survival rate estimation and population modeling of Eastern Tundra Swans.

Irwin, Brian (2006)

Evaluating effects of ecological change on important sport fishes in Oneida Lake, New York.

Siemens, Tania (2006)

Impacts of the invasive grass saltwater paspalum (*Paspalum vaginatum*) on aquatic communities of coastal wetlands on the Galapagos Islands, Ecuador.

Stetter, Sandra Parker (2005)

Hydroacoustic evaluation of rainbow smelt *Osmerus mordax* abundance, spatial distribution, and cannibalism in Lake Champlain.

Wang, Chi-Kuei (2005)

Ocean bottom characterization using airborne lidar.

Ware, Eric (2005)

Corrections to radar-estimated precipitation using observed rain gauge data.

Madsen, Lisa (2004)

Regression with spatially misaligned data.

Warner, David (2004)

The role of *Cercopagis pengoi* in nearshore areas of Lake Ontario.

Boomer, G. Scott (2002)

A biological basis for reconstructing wild turkey populations from harvest data.

Fink, Daniel (2003)

Adaptive multi-order penalized splines.

Kotani, Koji (2001)

Simulating the effects of resumption of harvesting minke whales in the southern ocean.

Baird, Heather (2000)

Early life history of four wild brook trout strains.

## **Academic Committee Memberships Outside Cornell**

SUNY – Environmental Science and Forestry

He, J. Ph.D. 2000

Peach, M. Ph.D. 2016

University of Washington, School of Fisheries

Cardoso, T. M.S. 1993

Hammond, T. Ph.D. 1999

Maunder, M. Ph.D. 2000

Shi, Y. B. Ph.D. 1995

## **SABBATICALS AND STUDY LEAVES**

2007-2008 Sabbatic: Development of geostatistical methods for the ecological and environmental sciences, Ecole de Mines, Paris, France

2014-2015 Sabbatic: State-space modeling of length-structured population dynamic processes in marine ecosystems. Institute of Marine Research, Bergen, Norway

## **OTHER PROFESSIONAL ACTIVITIES**

### **Department Service**

Chair, Department of Natural Resources

Teaching and Curriculum Committee (2008 – 2018)

Career Advising Representative (2006 - Present)

Director, Resource Ecology and Management Facility (2002 - 2012)

### **University Service**

2012, Chair Ad Hoc Tenure and Promotion Committee

2011-2018 CALS Curriculum Committee (Chair)

2011-2013 CALS Petitions Committee

2007-2010 Ex Officio Member of CALS Faculty Senate

2007-2009 Board of Advisors, Faculty Advisory Board on Information Technology (FABIT)

### **Public Service**

2016-present: New York Sea Grant Board of Governors

2002-present: Center for Independent Experts (Steering Committee Chair).

1998-present: New England Fishery Management Council Scientific and Statistical Committee (Chair 2002-2008).

2019-present: Marine Fisheries Advisory Council (MAFAC) NOAA



## **Society Memberships**

American Association for the Advancement of Science

American Fisheries Society

American Statistical Association

Natural Resource Modelling Association

## **Professional Advisor**

Supervisor Hudson River Estuary Program Biodiversity Project (ongoing):

Currently the project employs a Research Associate (Magdeline Laba), a postdoc (Verena Jauss), an Extension Support Specialist III (Laura Heady), two Extension Support Specialists II (Ingrid Haeckel and Nate Nardi-Cyrus), a Research Support Specialist III (Amanda Higgs) and three Research Support Specialist II (Wes Eakin, Jessica Best, Rich Pendleton), as well as a number of temporary workers.

NatureNet Postdoc (The Nature Conservancy): Diana Rypkema

Directed Individual/Independent Study, College of Agriculture and Life Sciences. (2008)

Advised: Hali Hambridge

Directed Individual/Independent Study, College of Agriculture and Life Sciences. (2008)

Advised: Chi-jou Liu

## **Editorships and Reviewer**

### **Editor, Conference Proceedings**

"Fishery Stock Assessment Models. Proceedings of the International Symposium on Fishery Stock Assessment Models for the 21st Century. Alaska Sea Grant Program Report No. 98-01. University of Alaska, Fairbanks"

### **Subject Editor:**

Journal Marine and Coastal Fisheries

### **Reviewer, Journal Article:**

Aquatic Living Resources

Biometrics

Canadian Journal of Fisheries and Aquatic Sciences.

Conservation Biology

Ecological Applications.

Ecological Society of America.

Environmetrics

Fisheries Research.

International Council for the Exploration of the Sea (ICES)  
Journal of the American Statistical Association  
Journal of Applied Ecology  
Journal of Fish and Wildlife Management  
Journal of Fish Biology  
Journal of Great Lakes Research.  
Journal of Stochastic Environmental Research and Risk Assessment.  
Journal of Wildlife Management  
Landscape and Urban Planning  
Marine Ecology Progress Series  
Nature  
North American Journal of Fisheries Management  
Oryx - The International Journal of Conservation  
Science  
Transactions of the American Fisheries Society  
The Wilson Journal of Ornithology

**Reviewer, Book:**

The Quarterly Review of Biology  
Chapman Hall  
Elsevier

**Reviewer, Grant Proposal:**

Red Snapper Abundance Estimate (\$10,000,000 Congressional Funding)  
Great Lakes Fisheries Commission  
National Marine Fisheries Service  
Massachusetts Sea Grant  
New York Sea Grant  
North Pacific Research Board  
U.S. Fish and Wildlife Service

**Reviewer, Certification:**

Scientific Certification Systems

**Review Committees – NMFS NEFSC Stock Assessment Review Committee (SARC)**

**2019 Groundfish Operational Update Assessment (Chair)**

2018 New England Fishery Dependent CPUE (Chair)  
2018 SARC 65 Sea Scallop, Atlantic Herring (Chair)  
2017 Groundfish Operational Update Assessment (Co-Chair)  
2017 Marine Recreational Information Program (MRIP) Review  
2016 SARC 62 Witch Flounder, Black Sea Bass (Chair)  
2012 SARC 55 Georges Bank and Gulf of Maine cod (Chair)  
2011 SARC 52 Gulf of Maine, Georges Bank and Southern New England winter flounder (Chair)  
2010 SARC 50 Monkfish, pollock, and scallops (Chair)  
2009 SARC 48 Ocean quahog, tilefish, and weakfish (Chair)  
2001 SARC 33 Gulf of Maine cod, hake and redfish (Chair)