

Curriculum Vitae

Timothy E. Essington

PERSONAL

Date of Birth: 7 July 1969

Place of Birth: Grosse Pointe, MI

PROFESSIONAL ADDRESS:

School of Aquatic and Fishery Sciences

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RESEARCH INTERESTS:

Fisheries; Aquatic ecology; predator-prey interactions; ecological modeling; food webs; Ecosystem-based management

EDUCATION:

1991 B.S. (Biology)- University of Michigan, Ann Arbor MI.

1995 M.S. (Fisheries)- University of Minnesota, St. Paul MN

1999 Ph.D. (Zoology)- University of Wisconsin, Madison WI

PROFESSIONAL EMPLOYMENT

2007 – present Associate Professor. School of Aquatic and Fishery Sciences, University of Washington

2003-2007 Assistant Professor. School of Aquatic and Fishery Sciences, University of Washington

2002-2003 Assistant Professor. Marine Sciences Research Center, Stony Brook University

1999-2001 Post-Doctoral Research Associate, University of Wisconsin-Madison and National Marine Fisheries Service, Honolulu Laboratory

PROFESSIONAL SERVICE

Editorial Boards

Subject-Matter Editor, Ecological Applications

Journal of the Ecological Society of America. 2003 – 2006

Assigning Editor, Ecological Applications
Journal of the Ecological Society of America. 2006 – present
Marine and Coastal Fisheries: Associate Editor 2008 – 2010
Guest Editor, Special Volume “Fish and Fisheries”, 2009 - 2010

Advisory Boards

National Center for Ecological Analysis and Synthesis (NCEAS) Science Advisory Board: 2009 – present

Comparative Analysis of Marine Ecosystem Organization (CAMEO) Scientific Steering Committee (chair, 2010 – present)

NOAA Science Advisory Board, Ecosystem Science and Management Working Group. 2010 – Present

Policy Group, European Commission’s “Forage Fish Interactions” program.

Other

Lead Author (with T. Klinger), 2010 Puget Sound Science Update “Biophysical Status of Puget Sound”

PROFESSIONAL SOCIETIES:

American Fisheries Society
Ecological Society of America

PUBLICATIONS

1. Hunsicker, M. E., T. E. Essington, R. Watson, and U. R. Sumaila. in press. The contribution of cephalopods to global marine fisheries: can we have our squid and eat them too? *Fish and Fisheries*.
2. Beaudreau, A. H. and T. E. Essington. in press. Use of pelagic prey subsidies by demersal predators in rocky reefs: Insight from movement patterns of lingcod. *Marine Biology*.
3. Essington, T. E. and C. E. Paulsen. 2010. Quantifying Hypoxia Impacts on an Estuarine Demersal Community Using a Hierarchical Ensemble Approach. *Ecosystems* **13**:1035-1048.
4. Essington, T. E. 2010. Ecological indicators display reduced variation in North American catch share fisheries. *Proceedings of the National Academy of Sciences* **107**:754-759.
5. Essington, T. E. 2010. Trophic cascades in open ocean ecosystems. Pages 91-105 *in* J. W. Terborgh and J. A. Estes, editors. *The science of trophic cascades*. Island Press, Washington D.C.
6. Courtenay, W. R., B. B. Collette, T. E. Essington, R. Hilborn, J. W. Orr, D. Pauly, J. E. Randall, and W. F. S. Vaniz. 2010. North Atlantic Fisheries: A Response to Criticism of the Proactive Proposal Reply. *Fisheries* **35**:298-298.
7. Winder, M., D. E. Schindler, T. E. Essington, and A. H. Litt. 2009. Disrupted seasonal clockwork in the population dynamics of a freshwater copepod by climate warming. *Limnology*

- and Oceanography **54**:2493-2505.
8. Watson, J. T., T. E. Essington, C. E. Lennert-Cody, and M. A. Hall. 2009. Trade-Offs in the Design of Fishery Closures: Management of Silky Shark Bycatch in the Eastern Pacific Ocean Tuna Fishery. *Conservation Biology* **23**:626-635.
 9. Courtenay, W. R., B. B. Collette, T. E. Essington, R. Hilborn, J. W. Orr, D. Pauly, J. E. Randall, and W. F. Smith-Vaniz. 2009. Risks of Introductions of Marine Fishes: Reply to Briggs. *Fisheries* **34**:181-186.
 10. Beaudreau, A. H. and T. E. Essington. 2009. Development of a new field-based approach for estimating consumption rates of fishes and comparison with a bioenergetics model for lingcod (*Ophiodon elongatus*). *Canadian Journal of Fisheries and Aquatic Sciences* **66**:565-578.
 11. Beaudreau, A. H. and T. E. Essington. 2009. Development of a new field-based approach for estimating consumption rates of fishes and comparison with a bioenergetics model for lingcod (*Ophiodon elongatus*). *Canadian Journal of Fisheries and Aquatic Sciences* **66**:565-578.
 12. Watters, G. M., R. J. Olson, J. C. Field, and T. E. Essington. 2008. Range expansion of the Humboldt squid was not caused by tuna fishing. *Proceedings of the National Academy of Sciences* **105**:E5-E5.
 13. Reum, J. P. and T. E. Essington. 2008. Seasonal variation in guild structure of the Puget Sound demersal fish community. *Estuaries and Coasts* **31**:790-801.
 14. Hunsicker, M. E. and T. E. Essington. 2008. Evaluating the potential for trophodynamic control of fish by the longfin inshore squid (*Loligo pealeii*) in the Northwest Atlantic Ocean. *Canadian Journal of Fisheries and Aquatic Sciences* **65**:2524-2535.
 15. Galloway, A. W. E., B. C. Lee, T. E. Essington, G. R. Van Blaricom, G. C. Jensen, P. S. McDonald, and D. A. Armstrong. 2008. Evaluating abundance and depth distribution of subtidal *Panopea abrupta* and *Parastichopus californicus* in Hood Canal, Washington. *Journal of Shellfish Research* **27**:469-470.
 16. de Mutsert, K., J. H. Cowan, T. E. Essington, and R. Hilborn. 2008. Reanalyses of Gulf of Mexico fisheries data: Landings can be misleading in assessments of fisheries and fisheries ecosystems. *Proceedings of the National Academy of Sciences* **105**:2740-2744.
 17. Hansson, S., O. Hjerne, C. Harvey, J. F. Kitchell, S. P. Cox, and T. E. Essington. 2007. Managing Baltic Sea fisheries under contrasting production and predation regimes: Ecosystem model analyses. *Ambio* **36**:265-271.
 18. Essington, T. E. 2007. Evaluating the sensitivity of a trophic mass-balance model (Ecopath) to imprecise data inputs. *Canadian Journal of Fisheries and Aquatic Sciences* **64**:628-637.
 19. Beaudreau, A. H. and T. E. Essington. 2007. Spatial, Temporal, and Ontogenetic Patterns of Predation on Rockfishes by Lingcod. *Transactions of the American Fisheries Society* **136**:1438-1452.
 20. Wiedenmann, J. and T. E. Essington. 2006. Density-dependent overwinter survival in young-of-year bluefish (*Pomatomus saltatrix*)? A new approach for assessing stage-structured survival. *Canadian Journal of Fisheries and Aquatic Sciences* **63**:1934-1943.
 21. Kitchell, J. F., S. J. D. Martell, C. J. Walters, O. P. Jensen, I. C. Kaplan, J. Watters, T. E. Essington, and C. H. Boggs. 2006. Billfishes in an ecosystem context. *Bulletin of Marine Science* **79**:669-682.
 22. Hunsicker, M. E. and T. E. Essington. 2006. Size-structured patterns of piscivory of the longfin inshore squid (*Loligo pealeii*) in the mid-Atlantic continental shelf ecosystem. *Canadian Journal of Fisheries and Aquatic Sciences* **63**:754-765.
 23. Essington, T. E. 2006. Fishing through marine food webs. *Proceedings of the National Academy*

- of Sciences **103**:3171-3175.
24. Essington, T. E. 2006. Pelagic ecosystem response to a century of commercial whaling and fishing. Pages 38-49 in J. A. Estes, D. P. DeMaster, D. F. Doak, T. M. Williams, and R. L. Brownwell, editors. Whales, whaling and ocean ecosystems. University of California Press, Berkely, CA.
 25. Zanden, M. J. V., T. E. Essington, and Y. Vadeboncoeur. 2005. Is pelagic top-down control in lakes augmented by benthic energy pathways? *Canadian Journal of Fisheries and Aquatic Sciences* **62**:1422-1431.
 26. Vander Zanden, M. J., T. E. Essington, and Y. Vadeboncoeur. 2005. Is pelagic top-down control in lakes augmented by benthic energy pathways? . *Canadian Journal of Fisheries and Aquatic Sciences* **62**:1422-1431.
 27. Martell, S. J. D., T. E. Essington, B. Lessard, J. F. Kitchell, C. J. Walters, and C. H. Boggs. 2005. Interactions of productivity, predation risk, and fishing effort in the efficacy of marine protected areas for the central Pacific. *Canadian Journal of Fisheries and Aquatic Sciences* **62**:1320-1336.
 28. Lessard, R. B., S. J. D. Martell, C. J. Walters, T. E. Essington, and J. F. Kitchell. 2005. Should ecosystem management involve active control of species abundances? *Ecology and Society* **10**:1. [online] URL: <http://www.ecologyandsociety.org/vol10/iss12/art11/>.
 29. Kitchell, J. F., I. C. Kaplan, S. P. Cox, S. J. D. Martell, T. E. Essington, C. H. Boggs, and C. J. Walters. 2004. Ecological and economic components of alternative fishing methods to reduce by-catch of marlin in a tropical pelagic ecosystem. *Bulletin of Marine Science* **74**:607-619.
 30. Essington, T. E. and S. Hansson. 2004. Predator-dependent functional responses and interaction strengths in a natural food web. *Canadian Journal of Fisheries and Aquatic Sciences* **61**:2215-2226.
 31. Essington, T. E. 2004. Getting the right answer from the wrong model: Evaluating the sensitivity of multispecies fisheries advice to uncertain species interactions. *Bulletin of Marine Science* **74**:563-581.
 32. Watters, G. M., R. J. Olson, R. C. Francis, P. C. Fiedler, J. J. Polovina, S. B. Reilly, K. Y. Aydin, C. H. Boggs, T. E. Essington, C. J. Walters, and J. F. Kitchell. 2003. Physical forcing and the dynamics of the pelagic ecosystem in the eastern tropical Pacific: simulations with ENSO-scale and global-warming climate drivers. *Canadian Journal of Fisheries and Aquatic Sciences* **60**:1161-1175.
 33. Harvey, C. J., S. P. Cox, T. E. Essington, S. Hansson, and J. F. Kitchell. 2003. An ecosystem model of food web and fisheries interactions in the Baltic Sea. *ICES Journal of Marine Science* **60**:939-950.
 34. Essington, T. E. and J. N. Houser. 2003. The effect of whole-lake nutrient enrichment on mercury concentration in age-1 yellow perch. *Transactions of the American Fisheries Society* **132**:57-68.
 35. Essington, T. E. 2003. Development and sensitivity analysis of bioenergetics models for skipjack tuna and albacore: A comparison of alternative life histories. *Transactions of the American Fisheries Society* **132**:759-770.
 36. Schindler, D. E., T. E. Essington, J. F. Kitchell, C. Boggs, and R. Hilborn. 2002. Sharks and tunas: Fisheries impacts on predators with contrasting life histories. *Ecological Applications* **12**:735-748.
 37. Kitchell, J. F., T. E. Essington, C. H. Boggs, D. E. Schindler, and C. J. Walters. 2002. The role of sharks and longline fisheries in a pelagic ecosystem of the Central Pacific. *Ecosystems* **5**:202-

38. Harvey, C. J., P. C. Hanson, T. E. Essington, P. B. Brown, and J. F. Kitchell. 2002. Using bioenergetics models to predict stable isotope ratios in fishes. *Canadian Journal of Fisheries and Aquatic Sciences* **59**:115-124.
39. Essington, T. E., D. E. Schindler, R. J. Olson, J. F. Kitchell, C. Boggs, and R. Hilborn. 2002. Alternative fisheries and the predation rate of yellowfin tuna in the Eastern Pacific Ocean. *Ecological Applications* **12**:724-734.
40. Cox, S. P., S. J. D. Martell, C. Walters, T. E. Essington, J. F. Kitchell, C. Boggs, and I. Kaplan. 2002. Reconstructing ecosystem dynamics in the central Pacific Ocean, 1952-1998 I. Estimating population biomass and recruitment of tunas and billfishes. *Canadian Journal of Fisheries and Aquatic Sciences* **59**:1724-1735.
41. Cox, S. P., T. E. Essington, J. F. Kitchell, S. J. D. Martell, C. J. Walters, C. Boggs, and I. Kaplan. 2002. Reconstructing ecosystem dynamics in the central Pacific Ocean, 1952-1998. II. A preliminary assessment of the trophic impacts of fishing and effects on tuna dynamics. *Canadian Journal of Fisheries and Aquatic Sciences* **59**:1736-1747.
42. Essington, T. E., J. F. Kitchell, and C. J. Walters. 2001. The von Bertalanffy growth function, bioenergetics, and the consumption rates of fish. *Canadian Journal of Fisheries and Aquatic Sciences* **58**:2129-2138.
43. Carpenter, S. R., J. J. Cole, J. R. Hodgson, J. F. Kitchell, M. L. Pace, D. Bade, K. L. Cottingham, T. E. Essington, J. N. Houser, and D. E. Schindler. 2001. Trophic cascades, nutrients, and lake productivity: whole-lake experiments. *Ecological Monographs* **71**:163-186.
44. Essington, T. E., T. P. Quinn, and V. E. Ewert. 2000. Intra- and inter-specific competition and the reproductive success of sympatric Pacific salmon. *Canadian Journal of Fisheries and Aquatic Sciences* **57**:205-213.
45. Essington, T. E., J. R. Hodgson, and J. F. Kitchell. 2000. Role of satiation in the functional response of a piscivore, largemouth bass (*Micropterus salmoides*). *Canadian Journal of Fisheries and Aquatic Sciences* **57**:548-556.
46. Essington, T. E. and S. R. Carpenter. 2000. Nutrient cycling in lakes and streams: Insights from a comparative analysis. *Ecosystems* **3**:131-143.
47. Beard, T. D. and T. E. Essington. 2000. Effects of angling and life history processes on bluegill size structure: Insights from an individual-based model. *Transactions of the American Fisheries Society* **129**:561-568.
48. Essington, T. E. and J. F. Kitchell. 1999. New perspectives in the analysis of fish distributions: a case study on the spatial distribution of largemouth bass (*Micropterus salmoides*). *Canadian Journal of Fisheries and Aquatic Sciences* **56**:52-60.
49. Essington, T. E., P. W. Sorensen, and D. G. Paron. 1998. High rate of redd superimposition by brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) in a Minnesota stream cannot be explained by habitat availability alone. *Canadian Journal of Fisheries and Aquatic Sciences* **55**:2310-2316.
50. Carpenter, S. R., J. T. Cole, T. E. Essington, J. R. Hodgson, J. N. Houser, J. F. Kitchell, and M. L. Pace. 1998. Evaluating alternative explanations in ecosystem experiments. *Ecosystems* **1**:335-344.
51. Essington, T. E. and P. W. Sorensen. 1996. Overlapping sensitivities of brook trout and brown trout to putative hormonal pheromones. *Journal of Fish Biology* **48**:1027-1029.