

CURRICULUM VITAE**9 February 2011****Randall M. Peterman**

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Web: www.rem.sfu.ca/people/peterman - Phone: 778 782-4683 - e-mail: peterman@sfu.ca**CITIZENSHIP:** Canadian**DEGREES:** B.Sc., 1970, University of California at Davis, Biological Sciences
Ph.D., 1974, University of British Columbia, Zoology (Ecology)**ACADEMIC AND RESEARCH EXPERIENCE:**

<u>Position Held</u>	<u>Dates</u>	<u>Department</u>	<u>Institution</u>
<i><u>Canada Research Chair (CRC) in Fisheries Risk Assessment and Management</u></i> (see CRC web site: www.chairs.gc.ca)	May 2001 to present	School of Resource and Environmental Management	Simon Fraser University
<i><u>Professor</u></i>	1987-present	School of Resource and Environmental Management	Simon Fraser University
<i><u>Director</u></i>	1998-2005 2009-2010	Cooperative Resource Management Institute (CRMI) ¹	Simon Fraser University
<i><u>Associate Professor</u></i>	1981-1987	School of Resource and Environmental Management	Simon Fraser University
<i><u>Associate Professor</u></i>	1981-1982	Biological Sciences/ Resource Management	Simon Fraser University
<i><u>Assistant Professor</u></i>	1979-1981	Biological Sciences/ Resource Management	Simon Fraser University
<i><u>Honorary Lecturer</u></i> ²	1975- 1979	Institute of Animal Resource Ecology	University of British Columbia
<i><u>Policy Analyst</u></i> ²	1975- 1979	Canadian Department of Environment	
<i><u>NRC Postdoctoral Fellow</u></i>	1974-1975	Animal Resource Ecology	University of British Columbia

¹ The Cooperative Resource Management Institute (CRMI) at Simon Fraser University (SFU) facilitates solutions to multidisciplinary problems in resource management by providing an environment where personnel from different management agencies can work closely with SFU researchers. The university benefits from greater concentration of expertise in resource management on campus and from new opportunities for collaborative research programs.

² From 1975 to 1979, I held a cross appointment as a Policy Analyst with the Canadian Department of Environment and an Honorary Lecturer with a full-time office at University of B.C. Responsibilities were to supervise graduate students, teach occasional courses, carry out research relevant to the Canadian Department of Environment, and act as a liaison between government and the university in the area of applied ecology, particularly simulation modelling.

PUBLICATIONS:**A. Papers in Refereed Journals**

1. Holt, K.R., R.M. Peterman, and S.P. Cox. 2011. Trade-offs between monitoring objectives and monitoring effort when classifying regional conservation status of Pacific salmon populations. *In press in: Canadian Journal of Fisheries and Aquatic Sciences*. (Accepted 9 February 2011)
2. Cummings, J.W., M.J. Hague, D.A. Patterson, and R.M. Peterman. 2011. The impact of management objectives and performance measures on model selection for Fraser River sockeye salmon. *In press in: North American Journal of Fisheries Management*. (Accepted 6 December 2010.)
3. Krkosek, M., R. Hilborn, R.M. Peterman, and T.P. Quinn. 2010. Cycles, stochasticity, and density dependence in pink salmon population dynamics. Proceedings of the Royal Society B: Biological Sciences (doi:10.1098/rspb.2010.2335).
4. Ruggerone, G.T., R.M. Peterman, B. Dorner, K.W. Myers. 2010. Magnitude and trends in abundance of hatchery and wild pink salmon, chum salmon, and sockeye salmon in the North Pacific Ocean. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 2:306-328.
5. Dorner, B., R.M. Peterman, and Z. Su. 2009. Evaluation of performance of alternative models of Pacific salmon in the presence of climatic change and outcome uncertainty using Monte Carlo simulations. Canadian Journal of Fisheries and Aquatic Sciences 66(12):2199-2221.
6. Dorner, B., R.M. Peterman, and S.L. Haeseker. 2008. Historical trends in productivity of 120 Pacific pink, chum, and sockeye salmon stocks reconstructed by using a Kalman filter. Canadian Journal of Fisheries and Aquatic Sciences 65(9):1842–1866.
7. Holt, C.A. and R.M. Peterman. 2008. Uncertainties in population dynamics and outcomes of regulations in sockeye salmon (*Oncorhynchus nerka*) fisheries: implications for management. Canadian Journal of Fisheries and Aquatic Sciences 65(7):1459–1474.
8. Holt, C.A., M.B. Rutherford, and R.M. Peterman. 2008. International cooperation among nation-states of the North Pacific Ocean on the problem of competition among salmon for a common pool of prey resources. Marine Policy 32(4):607-617.
9. Skibo, K.M., C.J. Schwarz, and R.M. Peterman. 2008. Evaluation of sampling designs for red sea urchins *Strongylocentrotus franciscanus* in British Columbia. North American Journal of Fisheries Management 28(1):219-230.
10. Haeseker, S.L., R.M. Peterman, Z. Su, and C.C. Wood. 2008. Retrospective evaluation of pre-season forecasting models for sockeye and chum salmon. North American Journal of Fisheries Management 28(1):12–29 plus Appendixes 1 and 2 available online.
11. Pestes, L.R., R.M. Peterman, M.J. Bradford, and C.C. Wood. 2008. Bayesian decision analysis for evaluating management options to promote recovery of a depleted salmon population. Conservation Biology 22(2):351-361.
12. Haeseker, S.L., M.L. Jones, R.M. Peterman, J.R. Bence, W. Dai, and G.C. Christie. 2007.

- Explicit consideration of uncertainty in Great Lakes fisheries management: decision analysis of sea lamprey (*Petromyzon marinus*) control in the St. Marys River. Canadian Journal of Fisheries and Aquatic Sciences 64(10):1456-1468.
13. Mueter, F.J., J.L. Boldt, B.A. Megrey, and R.M. Peterman. 2007. Recruitment and survival of Northeast Pacific Ocean fish stocks: temporal trends, covariation, and regime shifts. Canadian Journal of Fisheries and Aquatic Sciences 64(6):911-927.
 14. Haeseker, S.L., B. Dorner, R.M. Peterman, and Z. Su. 2007. An improved sibling model for forecasting chum and sockeye salmon abundance. North American Journal of Fisheries Management 27(2):634-642.
 15. Bodtker, K.M., R.M. Peterman, and M.J. Bradford. 2007. Accounting for uncertainty in estimates of escapement goals for Fraser River sockeye salmon based on productivity of nursery lakes in British Columbia, Canada. North American Journal of Fisheries Management 27(1):286-302.
 16. Nelitz, M.A., E.A. MacIsaac, and R.M. Peterman. 2007. A science-based approach for identifying temperature-sensitive streams for rainbow trout. North American Journal of Fisheries Management 27(2):405-424.
 17. Holt, C.A. and R.M. Peterman. 2006. Missing the target: uncertainties in achieving management goals in fisheries on Fraser River, British Columbia, sockeye salmon. Canadian Journal of Fisheries and Aquatic Sciences 63(12):2722-2733.
 18. Maxwell, M.R., R.M. Peterman, M.J. Bradford, and E.A. MacIsaac. 2006. A Bayesian analysis of biological uncertainty for a whole-lake fertilization experiment for sockeye salmon in Chilko Lake, British Columbia, and implications for the benefit-cost ratio. North American Journal of Fisheries Management 26(2):418-430.
 19. Haeseker, S.L., R.M. Peterman, Z. Su, and C.C. Wood. 2005. Retrospective evaluation of pre-season forecasting models for pink salmon (*Oncorhynchus gorbuscha*). North American Journal of Fisheries Management 25(3):897-918.
 20. Pyper, B.J., F.J. Mueter, and R.M. Peterman. 2005. Across-species comparisons of spatial scales of environmental effects on survival rates of Northeast Pacific salmon. Transactions of the American Fisheries Society 134(1):86-104. [*This paper received the 2005 "Robert L. Kendall Best Paper Award" in the Transactions of the American Fisheries Society, as judged by the journal's editors (out of 134 papers).*]
 21. Mueter, F.J., B.J. Pyper, and R.M. Peterman. 2005. Relationships between coastal ocean conditions and survival rates of salmon in the Northeast Pacific Ocean at multiple lags. Transactions of the American Fisheries Society 134(1):105-119.
 22. Holt, C.A., and R.M. Peterman. 2004. Long-term trends in age-specific recruitment of sockeye salmon (*Oncorhynchus nerka*) in a changing environment. Canadian Journal of Fisheries and Aquatic Sciences 61(12):2455-2470.
 23. Su, Z., R.M. Peterman, S. L. Haeseker. 2004. Spatial hierarchical Bayesian models for stock-recruitment analysis of pink salmon (*Oncorhynchus gorbuscha*). Canadian Journal of Fisheries and Aquatic Sciences 61(12):2471-2486.

24. Peterman, R.M. 2004. Possible solutions to some challenges facing fisheries scientists and managers. ICES Journal of Marine Science 61:1331-1343.
25. Knowler, D.J., B.W. MacGregor, M.J. Bradford, R.M. Peterman. 2003. Valuing freshwater salmon habitat on the west coast of Canada. Journal of Environmental Management 69:261-273.
26. Peterman, R.M., B.J. Pyper, and B.W. MacGregor. 2003. Use of the Kalman filter to reconstruct historical trends in productivity of Bristol Bay sockeye salmon. Canadian Journal of Fisheries and Aquatic Sciences 60(7):809-824.
27. Mueter, F.J., D.M. Ware and R.M. Peterman. 2002. Spatial correlation patterns in coastal environmental variables and survival rates of salmon in the north-east Pacific Ocean. Fisheries Oceanography 11(4):205-218.
28. MacGregor, B.W., R.M. Peterman, B.J. Pyper and M.J. Bradford. 2002. A decision analysis framework for comparing experimental designs of projects to enhance Pacific salmon. North American Journal of Fisheries Management 22(2):509-527.
29. 26. Pyper, B.J., F.J. Mueter, R.M. Peterman, D.J. Blackbourn and C.C. Wood. 2002. Spatial covariation in survival rates of Northeast Pacific chum salmon. Transactions of the American Fisheries Society 131(3):343-363 plus the erratum printed later in 131(4):796. [*This paper was one of six nominated by the American Fisheries Society's Publications Award Committee to be in the final running for the "Best Paper Award" in the competition for papers published in 2002 in the journal, Transactions of the American Fisheries Society (out of 84 papers considered).*]
30. Mueter, F.J., R.M. Peterman, B.J. Pyper. 2002. Opposite effects of ocean temperature on survival rates of 120 stocks of Pacific salmon (*Oncorhynchus* spp.) in northern and southern areas. Canadian Journal of Fisheries and Aquatic Sciences 59(3):456-463 plus the corrigendum printed in Can. J. Fish. Aquat. Sci. 60:757.
31. Pyper, B.J., F.J. Mueter, R.M. Peterman, D.J. Blackbourn and C.C. Wood. 2001. Spatial covariation in survival rates of Northeast Pacific pink salmon (*Oncorhynchus gorbuscha*). Can. J. Fish. Aquat. Sci. 58:1501-1515.
32. Peterman, R.M., Pyper, B.J., Grout, J.A. 2000. Comparison of parameter estimation methods for detecting climate-induced changes in productivity of Pacific salmon (*Oncorhynchus* spp.). Can. J. Fish. Aquat. Sci. 57:181-191.
33. Adkison, M.D. and R.M. Peterman. 2000. Predictability of Bristol Bay, Alaska, sockeye salmon returns one to four years in the future. North Amer. J. Fish. Management 20:69-80.
34. Pyper, B.J. and R.M. Peterman. 1999. Relationship among adult body length, abundance, and ocean temperature for British Columbia and Alaska sockeye salmon, 1967-1997. Can. J. Fish. Aquat. Sci. 56:1716-1720.
35. de Young, B., R.M. Peterman, A.R. Dobell, E. Pinkerton, Y. Breton, A.T. Charles, M.J. Fogarty, G.R. Munro, C. Taggart. 1999. Canadian Marine Fisheries in a Changing and Uncertain World. Canadian Special Publication of Fisheries and Aquatic Sciences No. 129:1-199.

36. Peterman, R.M. and J.L. Anderson. 1999. Decision analysis: a method for taking uncertainties into account in risk-based decision making. Human and Ecological Risk Assessment 5(2):231-244.
37. Pyper, B.J., R.M. Peterman, M.F. Lapointe, and C.J. Walters. 1999. Patterns of covariation in length and age at maturity of British Columbia and Alaska sockeye salmon (*Oncorhynchus nerka*) stocks. Can. J. Fish. Aquat. Sci. 56:1046-1057.
38. Peterman, R.M., B.J. Pyper, M.F. Lapointe, M.D. Adkison, and C.J. Walters. 1998. Patterns of covariation in survival rates of British Columbia and Alaskan sockeye salmon stocks. Can. J. Fish. Aquat. Sci. 55:2503-2517.
39. Pyper, B.J. and R.M. Peterman. 1998. Comparison of methods to account for autocorrelation in correlation analyses of fish data. Can. J. Fish. Aquat. Sci. 55:2127-2140 plus the erratum printed in Can. J. Fish. Aquat. Sci. 55:2710.
40. Link, M.R. and R.M. Peterman. 1998. Estimating the value of in-season estimates of abundance of sockeye salmon. Can. J. Fish. Aquat. Sci. 55:1408-1418.
41. Robb, C.A. and R.M. Peterman. 1998. Application of Bayesian decision analysis to the management of a sockeye salmon fishery. Can. J. Fish. Aquat. Sci. 55:86-98.
42. Gillis, D.M. and R.M. Peterman. 1998. Implications of interference among fishing vessels and the ideal free distribution to the interpretation of CPUE. Can. J. Fish. Aquat. Sci. 55:37-46.
43. Adkison, M. D., R.M. Peterman, M.F. Lapointe, D.M. Gillis, and J. Korman. 1996. Alternative models of climatic effects on sockeye salmon productivity in Bristol Bay, Alaska, and the Fraser River, British Columbia. Fisheries Oceanography 5:137-152.
44. Adkison, M. D. and R.M. Peterman. 1996. Results of Bayesian methods depend on details of implementation: an example of estimating salmon escapement goals. Fisheries Research 25:155-170.
45. Mangel, M., L.M. Talbot, G.K. Meffe, M.T. Agardy, D.L. Alverson, J. Barlow, D.B. Botkin, G. Budowski, T. Clark, J. Cooke, R.H. Crozier, P.K. Dayton, D.L. Elder, C.W. Fowler, S. Funtowicz, J. Giske, R.J. Hofman, S.J. Holt, S.R. Kellert, L.A. Kimball, D. Ludwig, K. Magnusson, B.S. Malayang III, C. Mann, E.A. Norse, S.P. Northridge, W.F. Perrin, C. Perrings, R.M. Peterman, G.B. Rabb, H.A. Regier, J.E. Reynolds III, K. Sherman, M.P. Sissenwine, T.D. Smith, A. Starfield, R.J. Taylor, M.F. Tillman, C. Toft, J.R. Twiss, J. Wilen, and T.P. Young. 1996. Principles for the conservation of wild living resources. Ecological Applications 6(2): 338-362.
46. Korman, J., R.M. Peterman, and C.J. Walters. 1995. Empirical and theoretical analyses of correction of time series bias in stock-recruitment relationships of sockeye salmon. Can. J. Fish. Aquat. Sci. 52(10): 2174-2189.
47. Frederick, S.W. and R.M. Peterman. 1995. Choosing fisheries harvest policies: when does uncertainty matter? Can. J. Fish. Aquat. Sci. 52(2):291-306.
48. Gillis, D.M., E.K. Pikitch, and R.M. Peterman. 1995. Dynamic discarding decisions: foraging theory for high-grading in a trawl fishery. Behavioral Ecology 6(2):146-154.

49. Gillis, D.M., R.M. Peterman, and E.K. Pikitch. 1995. Implications of trip regulations for high-grading: a model of the behavior of fishermen. Can. J. Fish. Aquat. Sci. 52(2):402-415.
50. Peterman, R.M., S.G. Marinone, K.A. Thomson, I.D. Jardine, R.N. Crittenden, P.H. LeBlond, and C.J. Walters. 1994. Simulation of juvenile sockeye salmon migrations in the Strait of Georgia, British Columbia. Fisheries Oceanography 3:221-235.
51. M'Gonigle, R.M., L. Jamieson, M.K. McAllister, and R.M. Peterman. 1994. Taking uncertainty seriously: From permissive regulation to preventative design in environmental decision-making. Osgoode Hall Law Journal 32(1):99-169.
52. Forbes, L.S. and R.M. Peterman. 1994. Simple size-structured models of recruitment and harvest in Pacific salmon (*Oncorhynchus* spp.). Can. J. Fish. Aquat. Sci. 51(3):603-616.
53. Gillis, D.M., R.M. Peterman, and A.V. Tyler. 1993. Movement dynamics in a fishery: the application of the ideal free distribution to spatial allocation of effort. Can. J. Fish. Aquat. Sci. 50:323-333.
54. Lapointe, M.F., R.M. Peterman, and B.J. Rothschild. 1992. Variable natural mortality rates inflate variance of recruitments estimated from virtual population analysis (VPA). Can. J. Fish. Aquat. Sci. 49:2020-2027.
55. Peterman, R.M. and M. M'Gonigle. 1992. Statistical power analysis and the precautionary principle. Marine Pollution Bull. 24(5):231-234.
56. McAllister, M.K. and R.M. Peterman. 1992. Decision analysis of a large-scale fishing experiment designed to test for a genetic effect of size-selective fishing on British Columbia pink salmon (*Oncorhynchus gorbuscha*). Can. J. Fish. Aquat. Sci. 49:1305-1314.
57. McAllister, M.K., R.M. Peterman, and D.M. Gillis. 1992. Statistical evaluation of a large-scale fishing experiments designed to test for a genetic effect of size-selective fishing on British Columbia pink salmon (*Oncorhynchus gorbuscha*). Can. J. Fish. Aquat. Sci. 49:1294-1304. [*This paper received the W.F. Thompson Award from the American Institute of Fisheries Research Biologists.*]
58. McAllister, M.K. and R.M. Peterman. 1992. Experimental design in the management of fisheries: a review. N. Amer. J. Fish. Management 12:1-18. [*This paper received a citation from the American Fisheries Society as the "Most Significant Paper in the North American Journal of Fisheries Management vol. 12, 1992."*]
59. Lapointe, M.F. and R.M. Peterman. 1991. Spurious correlations between fish recruitment and environmental factors due to errors in the natural mortality rate used in virtual population analysis (VPA). ICES J. Marine Sci. 48:219-228. (formerly the J. du Conseil int. Explor. Mer).
60. Peterman, R.M. 1990. Statistical power analysis can improve fisheries research and management. Can. J. Fish. Aquat. Sci. 47:2-15.
61. Peterman, R.M. 1990. The importance of reporting statistical power: the forest decline and acidic deposition example. Ecology 71(5):2024-2027.

62. Collie, J.S., R.M. Peterman, and C.J. Walters. 1990. Experimental harvest policies for a mixed-stock fishery: Fraser River sockeye salmon, (*Oncorhynchus nerka*). Can. J. Fish. Aquat. Sci. 47:145-155.
63. Lapointe, M.F., R.M. Peterman, and A.D. MacCall. 1989. Trends in fishing mortality rate along with errors in natural mortality rate can cause spurious time trends in fish stock abundances estimated by virtual population analysis (VPA). Can. J. Fish. Aquat. Sci. 46:2129-2139.
64. Peterman, R.M. 1989. Application of statistical power analysis to the Oregon coho salmon problem. Can. J. Fish. Aquat. Sci. 46:1183-1187.
65. Guthrie, I.C. and R.M. Peterman. 1988. Economic evaluation of lake enrichment strategies for British Columbia sockeye salmon (*Oncorhynchus nerka*). N. Amer. J. Fish. Management 8:442-454. [This paper received an honorable mention award in the American Fisheries Society's competition for best paper in 1988 in that journal.]
66. Bocking, R.C. and R.M. Peterman. 1988. Preseason forecasts of sockeye salmon (*Oncorhynchus nerka*): Comparison of methods and economic considerations. Can. J. Fish. Aquat. Sci. 45:1346-1354.
67. Peterman, R.M., M.J. Bradford, N.C.H. Lo, and R.D. Methot. 1988. Contribution of early life stages to interannual variability in recruitment of northern anchovy, *Engraulis mordax*. Can. J. Fish. Aquat. Sci. 45(1):8-16.
68. Bradford, M.J. and R.M. Peterman. 1987. Maternal size effects may explain positive correlations between age at maturity of parent and offspring sockeye salmon (*Oncorhynchus nerka*). pp. 90-100. In: H.D. Smith, L. Margolis, and C.C. Wood (eds.). Sockeye salmon population biology and future management. Can. Spec. Publ. Fish. Aquat. Sci., No. 96.
69. Peterman, R.M. and M.J. Bradford. 1987. Statistical power of trends in fish abundance. Can. J. Fish. Aquat. Sci. 44(11):1879-1889.
70. Peterman, R.M., M.J. Bradford, and G.H. Kruse. 1987. Simulation model of English sole (*Parophrys vetulus*) population dynamics in Washington and Oregon coastal waters. Can. J. Fish. Aquat. Sci. 44(11):1870-1878.
71. Peterman, R.M. and M.J. Bradford. 1987. Wind speed and mortality rate of a marine fish, the northern anchovy (*Engraulis mordax*). Science 235:354-356.
72. Peterman, R.M. and M.J. Bradford. 1987. Density-dependent growth of age 1 English sole (*Parophrys vetulus*) in Oregon and Washington coastal waters. Can. J. Fish. Aquat. Sci. 44(1):48-53.
73. Peterman, R.M., M.J. Bradford, and J.L. Anderson. 1986. Environmental and parental influences on age at maturity in sockeye salmon (*Oncorhynchus nerka*) from the Fraser River, British Columbia. Can. J. Fish. Aquat. Sci. 43:269-274.
74. Peterman, R.M. 1985. Patterns of interannual variation in age at maturity of sockeye salmon (*Oncorhynchus nerka*) in Alaska and British Columbia. Can. J. Fish. Aquat. Sci. 42(10):1595-1607.

75. Vezina, A. and R.M. Peterman. 1985. Tests of the role of a nuclear polyhedrosis virus in the population dynamics of its host, douglas-fir tussock moth, *Orgyia pseudotsugata* (Lepidoptera: Lymantriidae). Oecologia 67:260-266.
76. Peterman, R.M., G.J. Steer, and M.J. Bradford. 1985. Density-dependent catchability coefficients. Trans. Amer. Fish. Soc. 114(3):436-440.
77. Peterman, R.M. 1984. Density-dependent growth in early ocean life of sockeye salmon (*Oncorhynchus nerka*). Can. J. Fish. Aquat. Sci. 41(12):1825-1829.
78. Peterman, R.M. and F.Y.C. Wong. 1984. Cross correlations between reconstructed ocean abundances of Bristol Bay and British Columbia sockeye salmon (*Oncorhynchus nerka*). Can. J. Fish. Aquat. Sci. 41(12):1814-1824.
79. Hilborn, R., C.J. Walters, R.M. Peterman, and M.J. Staley. 1984. Models and fisheries: a case study in implementation. N. Amer. J. Fish. Management 4:9-14.
80. Peterman, R.M. and R.D. Routledge. 1983. Experimental management of Oregon coho salmon (*Oncorhynchus kisutch*): Designing for yield of information. Can. J. Fish. Aquat. Sci. 40(8):1212-1223. (R.M. Peterman responsible for main text and R.D. Routledge for the appendix.)
81. Argue, A.W., R. Hilborn, R.M. Peterman, M.J. Staley, and C.J. Walters. 1983. Strait of Georgia chinook and coho fishery. Can. Bull. of Fish. Aquat. Sci. 211:1-91.
82. Peterman, R.M. 1982. Model of salmon age structure and its use in pre-season forecasting and studies of marine survival. Can. J. Fish. Aquat. Sci. 39(11):1444-1452.
83. Peterman, R.M. 1982. Nonlinear relation between smolts and adults in Babine Lake sockeye salmon (*Oncorhynchus nerka*) and implications for other salmon populations. Can. J. Fish. Aquat. Sci. 39(6):904-913.
84. Peterman, R.M. and G.J. Steer. 1981. Relation between sport-fishing catchability coefficients and salmon abundance. Trans. Amer. Fish. Soc. 110:585-593.
85. Peterman, R.M. 1981. Form of random variation in salmon smolt-to-adult relations and its influence on production estimates. Can. J. Fish. Aquat. Sci. 38:1113-1119.
86. Walker, B.H., D. Ludwig, C.S. Holling, and R.M. Peterman. 1981. Stability of semi-arid savanna grazing systems. J. Ecology 69:473-498.
87. Peterman, R.M. 1980. Dynamics of native Indian food fisheries on salmon in British Columbia. Can. J. Fish. Aquat. Sci. (formerly J. Fish. Res. Board Can.) 37:561-566.
88. Peterman, R.M. 1978. Testing for density dependent marine survival in Pacific salmonids. J. Fish. Res. Board Can. 35:1434-1450. (Also reprinted in W.J. McNeil and D.C. Himsworth (eds.), 1980. *Salmonid Ecosystems of the North Pacific Ocean*. Oregon State University Press, Corvallis, Oregon, pp. 1-24.)
89. Walters, C.J., R. Hilborn, R.M. Peterman, and M.J. Staley. 1978. Model for examining early ocean limitation of Pacific salmon production. J. Fish. Res. Board Can. 35:1303-1315.
90. Peterman, R.M. and M. Gatto. 1978. Estimation of functional responses of predators on

- juvenile salmon. J. Fish. Res. Board Can. 35:797-808.
91. Peterman, R.M. 1977. A simple mechanism that causes collapsing stability regions in exploited salmonid populations. J. Fish. Res. Board Can. 34:1130-1142.
92. Peterman, R.M. 1977. Graphical evaluation of environmental management options: examples from a forest-insect pest system. Ecol. Modelling 3:133-148.
93. Peterman, R.M. 1977. An evaluation of the fungal inoculation method of determining the resistance of lodgepole pine to mountain pine beetle (Coleoptera: Scolytidae) attacks. Can. Ent. 109:443-448.
94. Peterman, R.M. 1975. New techniques for policy evaluation in ecological systems: methodology for a case study of Pacific salmon fisheries. J. Fish. Res. Board Can. 32:2179-2188.
95. Walters, C.J., R. Hilborn, and R.M. Peterman. 1975. Computer simulation of barren ground caribou dynamics. Ecol. Modelling 1:303-315. (Reprinted in J.D. Hair (ed.), 1977. *Ecological Perspectives of Wildlife Management*, Whitehall Co., Wheeling, Ill.)
96. Walters, C.J., R. Hilborn, E. Oguss, R.M. Peterman, and J. Stander. 1974. Development of a simulation model of mallard duck populations. Can. Wildlife Service. Occasional Paper No. 20, 35 pp.
97. Peterman, R.M. 1973. Possible behavioural thermoregulation in *Tanarthrus salinus* and *T. inyo* (Coleoptera: Anthicidae). Pan-Pacific Ent. 49:67-73.
98. Peterman, R.M. 1971. A possible function of colouration in coral reef fishes. Copeia 2:330-331.
99. Hamilton, W.J. and R.M. Peterman. 1971. Countershading in the colourful reef fish *Chaetodon lunula*: concealment, communication or both? Anim. Behav. 19:357-364.

B. Papers in Refereed Conference Proceedings

1. Peterman, R.M. 2009. Fisheries science in the future. Pages 167-184 *In*: Beamish, R.J. and B.J. Rothschild (eds.). *The Future of Fishery Science in North America*. Fish and Fisheries Series 31, Springer Science and Business Media B.V., American Institute of Fishery Research Biologists Symposium.
2. Peterman, R.M., B.J. Pyper, F.J. Mueter, S.L. Haeseker, Z. Su, and B. Dorner. 2009. Statistical models of Pacific salmon that include environmental variables. Pages 125-146 *In*: Knudsen, E.E. and J.H. Michael, Jr., (eds.), "Pacific Salmon Environment and Life History Models: Advancing Science for Sustainable Salmon in the Future", Bethesda, Maryland. American Fisheries Society Symposium 71.
3. Pestes, L.R. and R.M. Peterman. 2008. Development of methods to evaluate management options for achieving the recovery of endangered salmon stocks. *In*: J. Nielsen, J.J. Dodson, K. Friedland, T.R. Hamon, J. Musick, and E. Verspoor (eds.) *Reconciling Fisheries with Conservation: Proceedings of the Fourth World Fisheries Congress, May 2004, Vancouver, B.C.* American Fisheries Society Symposium

49:387-389.

4. Peterman, R.M., Z. Su, S.L. Haeseker, B.J. Pyper, B.W. MacGregor, J.A. Grout, and B. Dorner. 2008. Evaluation of methods to reliably track changes in productivity of fish populations that arise from climatic change. In: J. Nielsen, J.J. Dodson, K. Friedland, T.R. Hamon, J. Musick, and E. Verspoor (eds.) *Reconciling Fisheries with Conservation: Proceedings of the Fourth World Fisheries Congress, May 2004, Vancouver, B.C. American Fisheries Society Symposium* 49:981-984.
5. Holt, C.A. and R.M. Peterman. 2008. Temporal trends in age-specific recruitment of sockeye salmon (*Oncorhynchus nerka*): implications for forecasting. In: J. Nielsen, J.J. Dodson, K. Friedland, T.R. Hamon, J. Musick, and E. Verspoor (eds.) *Reconciling Fisheries with Conservation: Proceedings of the Fourth World Fisheries Congress, May 2004, Vancouver, B.C. American Fisheries Society Symposium* 49:211-213.
6. Peterman, R.M. 2002. Ecocertification: An incentive for dealing effectively with uncertainty, risk, and burden of proof in fisheries. In: F.C. Coleman, J. Travis, A.B. Thistle (eds.) *Proceedings of the Third William R. and Lenore Mote International Symposium in Fisheries Ecology, October 31-November 2, 2000, Sarasota, Florida. Targets, Thresholds, and the Burden of Proof in Fisheries Management. Bulletin of Marine Science* 70(2):669-681.
7. Peterman, R.M., C.N. Peters, C.A. Robb, and S.W. Frederick. 1998. Bayesian decision analysis and uncertainty in fisheries management. Pp. 387-398. In: T.J. Pitcher, P.J.B. Hart, and D. Pauly (eds.), *Reinventing Fisheries Management*, Kluwer Academic Publishers, London.
8. Peterman, R.M., B.J. Pyper, M.F. Lapointe, and M.D. Adkison. 1997. Patterns of covariation in components of recruitment among sockeye salmon stocks in British Columbia and Alaska. Pp. 243-247. In: Emmett, R.L. and M.H. Schiewe (eds.), *Estuarine and Ocean Survival of Northeastern Pacific Salmon. Proceedings of the Workshop, March 1996, Newport, Oregon. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-NWFSC-29*.
9. Hilborn, R. and R.M. Peterman. 1996. The development of scientific advice with incomplete information in the context of the precautionary approach. Pp. 77-101. In: *FAO Fisheries Technical Paper No. 350/2, Precautionary approach to fisheries. Part 2: Scientific papers. Prepared for the Technical Consultation on the Precautionary Approach to Capture Fisheries (Including Species Introductions). Rome, FAO, 210 pp.*
10. Peterman, R.M. 1991. Density-dependent marine processes in North Pacific salmonids: Lessons for experimental design of large-scale manipulations of fish stocks. *ICES Marine Sci. Sympos.* 192:69-77 (formerly *Rapp. Proc. Verb. Reun. Cons. Int. Explor. Mer*).
11. Bradford, M.J. and R.M. Peterman. 1989. Incorrect parameter values used in virtual population analysis generate spurious time trends in reconstructed abundances. Pp. 87-99. In: R.J. Beamish and G.A. McFarlane (ed.), *Effects of Ocean Variability on*

- Recruitment and an Evaluation of Parameters Used in Stock Assessment Models. Can. Spec. Publ. Fish. Aquat. Sci. No. 108.
12. Peterman, R.M. 1987. Review of the components of recruitment of Pacific salmon. In: M. Dadswell, R. Klauda, C. Moffitt, R. Saunders, R. Rulifson, and J.E. Cooper (eds.), Common Strategies of Anadromous and Catadromous Fishes, American Fisheries Society Sympos. 1:417-429.
 13. Peterman, R.M. 1984. Interaction among sockeye salmon in the Gulf of Alaska. Pp. 187-199. In: W.G. Percy (ed.), Workshop on Influence of Ocean Conditions on the Production of Salmonids in the North Pacific. Oregon State University Sea Grant College Program, Corvallis, Oregon.
 14. Peterman, R.M. 1980. Influence of ecosystem structure and perturbation history on recovery processes. Pp. 125-139. In: J. Cairns, Jr. (ed.), The Recovery Process in Damaged Ecosystems. Ann Arbor Sci. Publ., Ann Arbor, Michigan.
 15. Peterman, R.M., W.C. Clark, and C.S. Holling. 1979. The dynamics of resilience: shifting stability domains in fish and insect systems. Pp. 321-341. In: R.M. Anderson, B.D. Turner, and L.R. Taylor (eds.). Population Dynamics. 20th Sympos. of British Ecol. Soc., Blackwell Sci. Publ., Oxford, England.
 16. Holling, C.S., G.B. Dantzig, W.C. Clark, D.D. Jones, G. Baskerville, and R.M. Peterman. 1979. Quantitative evaluation of pest management options: the spruce budworm case study. Pp. 82-102. In: W.E. Waters (ed.), Current Topics in Forest Entomology: Selected Papers from XVth Intl. Congress of Entomology, USDA Forest Service, General Tech. Report, W0-8.
 17. Peterman, R.M. 1978. The ecological role of mountain pine beetle in lodgepole pine forests. Pp. 16-26. In: D.L. Kibbee, A.A. Berryman, G.D. Amman and R.W. Stark (eds.), Theory and Practice of Mountain Pine Beetle Management in Lodgepole Pine Forests. Forest, Wildlife and Range Expt. Station, University of Idaho, Moscow, Idaho.

C. Extended Abstracts in Conference Proceedings

1. Pyper, B.J., M.D. Adkison, and R.M. Peterman. 2003. Multi-stock Kalman filter models for estimating trends in stock-recruitment dynamics of salmon. In: V. Keong (ed.), Proceedings of the 21st Northeast Pacific Pink and Chum Salmon Workshop, publ. by Pacific Salmon Commission, Vancouver, B.C., pp. 61-65.
2. Mueter, F.J., B.J. Pyper, R.M. Peterman, C.C. Wood, and D.J. Blackbourn. 2002. Opposite effects of sea-surface temperature on survival rates of Pacific salmon from northern and southern areas. Pp. 22-23. In: Joint Meeting on Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea. North Pacific Anadromous Fish Commission Tech. Report 4.
3. Peterman, R.M., Grout, J., and B.J. Pyper. 1999. Comparison of methods for detecting climate-induced changes in productivity of Pacific salmon stocks. Pp. 39-41. In: Proceedings of the International Symposium on "Ecosystem Considerations for Fisheries

- Management." Alaska Sea Grant College Program Report No. AK-SG-99-01, University of Alaska, Fairbanks.
4. Peterman, R.M., B.J. Pyper, M.F. Lapointe, and M.D. Adkison. 1999. Spatial and temporal patterns of covariation in components of recruitment of British Columbia and Alaska sockeye salmon. Pp. 33-35. *In: Proceedings of the International Symposium on "Ecosystem Approaches for Fisheries Management."* Alaska Sea Grant College Program Report No. AK-SG-99-01, University of Alaska, Fairbanks.
 5. Peterman, R.M., B. de Young, A.R. Dobell, E. Pinkerton, Y. Breton, A.T. Charles, M.J. Fogarty, G.R. Munro, and C. Taggart. 1999. Canadian marine fisheries in a changing and uncertain world. Pp. 387-389. *In: Proceedings of the International Symposium on "Ecosystem Approaches for Fisheries Management."* Alaska Sea Grant College Program Report No. AK-SG-99-01, University of Alaska, Fairbanks.
 6. Adkison, M.D. and R.M. Peterman. 1999. The predictability of returns of sockeye salmon (*Oncorhynchus nerka*) to Bristol Bay, Alaska, 1 to 4 years in the future. Pp. 37-38. *In: Proceedings of the International Symposium on "Ecosystem Approaches for Fisheries Management."* Alaska Sea Grant College Program Report No. AK-SG-99-01, University of Alaska, Fairbanks.
 7. Peterman, R.M., B.J. Pyper, M.F. Lapointe, M.D. Adkison, and C.J. Walters. 1998. How related are environmental sources of variation for British Columbia and Alaska sockeye salmon? Pp. 25-26. *In: K. Myers (ed.) Workshop on Climate Change and Salmon Production.* North Pacific Anadromous Fish Commission Technical Report.
 8. Robb, C.A. and R.M. Peterman. 1998. An application of decision analysis to the management of Pacific salmon: The surplus fishery on the Nass River. Pp. 169-172. *In: Fletcher, D.J., L. Kavalieris, and B.F.J. Manly (editors), Statistics in Ecology and Environmental Monitoring 2: Decision Making and Risk Assessment in Biology.* University of Otago Conference Series 6, University of Otago Press, Dunedin, New Zealand (conference held at Dunedin, New Zealand, June 1996).
 9. Peterman, R.M. and M.K. McAllister. 1993. A brief overview of the experimental approach to reducing uncertainty in fisheries management--an extended abstract. *In: S.J. Smith, J.J. Hunt, and D. Rivard (eds.) Risk Evaluation and Biological Reference Points for Fisheries Management. Can. Spec. Public. of Fish. Aquat. Sci.* 120:419-422.
 10. Forbes, L.S. and R.M. Peterman. 1993. Size-dependent reproductive processes in Pacific salmon (*Oncorhynchus spp.*) and their implications for size-selective harvesting strategies. Pp. 807-808. *In: G. Kruse et al. (eds.) Proceedings of the International Symposium on Management Strategies for Exploited Fish Populations.* Alaska Sea Grant College Program Report No. 93-02, University of Alaska, Fairbanks.
 11. Frederick, S.W. and R.M. Peterman. 1993. Incorporating uncertainty into the establishment of total allowable catches. Pp. 809-810. *In: G. Kruse et al. (eds.) Proceedings of the International Symposium on Management Strategies for Exploited Fish Populations.* Alaska Sea Grant College Program Report No. 93-02, University of Alaska, Fairbanks.
 12. Gillis, D.M., R.M. Peterman, and E.K. Pikitch. 1993. Interactive decisions: modeling

responses of fishing fleets to alternative management strategies. Pp. 811-815. *In*: G. Kruse et al. (eds.) *Proceedings of the International Symposium on Management Strategies for Exploited Fish Populations*. Alaska Sea Grant College Program Report No. 93-02, University of Alaska, Fairbanks.

D. Letters in Refereed Journals

1. Peterman, R.M. 1995. Statistical power analysis of meta-analysis. *Trends in Ecology and Evolution* 10:460.

E. Books

1. Kruse, G.H., V.F. Gallucci, D.E. Hay, R.I. Perry, R.M. Peterman, T.C. Shirley, P.D. Spencer, B. Wilson, and D. Woodby (editors). 2005. *Fisheries assessment and management in data-limited situations*. Alaska Sea Grant College Program, University of Alaska Fairbanks. 958 pp.
2. Holling, C.S. (ed.), A. Bazykin, P. Bunnell, W.C. Clark, G.C. Gallopin, J. Gross, R. Hilborn, D.D. Jones, R.M. Peterman, J.E. Rabinovich, J.H. Steele, and C.J. Walters. 1978. *Adaptive Environmental Assessment and Management*. John Wiley & Sons, Chichester, England, 377 pp. (Also translated into Japanese and Russian.)

F. Invited Contributions to Books (refereed)

1. Peterman, R.M. and C.N. Peters. 1998. Decision analysis: taking uncertainties into account in forest resource management. Pp. 105-127. *In*: V. Sit and B. Taylor (eds.), *Statistical Methods for Adaptive Management Studies*. Land Management Handbook No. 42. British Columbia Ministry of Forests, Research Branch, Victoria.
2. Peterman, R.M. 1978. Orchestrating the assessment. Pp. 47-56. *In*: C.S. Holling (ed.), *Adaptive Environmental Assessment and Management*. John Wiley & Sons, Chichester, England.
3. Peterman, R.M., C.J. Walters, and R. Hilborn. 1978. Pacific salmon management. Pp. 183-214. *In*: C.S. Holling (ed.), *Adaptive Environmental Assessment and Management*. John Wiley & Sons, Chichester, England.
4. Hilborn, R. and R.M. Peterman. 1977. Changing management objectives. Pp. 68-98. *In*: D.V. Ellis (ed.), *Pacific Salmon: Management for People*. University of Victoria Press, Victoria, B.C.

G. Papers in Non-Refereed Journals and Non-Refereed Conference Proceedings

1. Peterman, R.M. 2010. The quality of pre-season forecasts of abundance of adult sockeye salmon. Pages 55 – 61. *In*: Gallagher, P. and L. Wood (eds.). *Speaking for the Salmon*. Proceedings of the Summit on Fraser River sockeye salmon: understanding stock declines and prospects for the future, March 30, 2010, Vancouver, B.C. Published by Continuing Studies in Science, Simon Fraser University.
2. Peterman, R.M. 2008. Can we do pre-season forecasting effectively? If not, what can we do

- instead? *In*: P. Gallagher and L. Wood (eds.), Fraser Sockeye Salmon: Moving from Talk to Action. Proceedings of the Fraser Sockeye Salmon Town Hall Meeting, June 4, 2007, Vancouver, B.C. Published by Continuing Studies in Science, Simon Fraser University, ISBN 978-0-86491-298-5, pp. 7-18.
3. Peterman, R.M. 2004. An overview of the precautionary approach in fisheries and some suggested extensions. *In*: P. Gallagher and L. Wood (eds.), The World Summit on Salmon: Proceedings. Published by Continuing Studies in Science, Simon Fraser University, ISBN 0-86491-245-5, pp. 233-240.
 4. Pyper, B.J., F.J. Mueter, R.M. Peterman, D.J. Blackbourn, and C.C. Wood. 2002. Spatial patterns of covariation in survival rates of pink and chum salmon from Washington, British Columbia and Alaska. Proceedings of the 20th Northeast Pacific Pink and Chum Salmon Workshop, held March 2001, Seattle, Wash., p. 11.
 5. Mueter, F.J., B.J. Pyper, and R.M. Peterman. 2002. Modeling effects of the coastal marine environment on recruitment across multiple pink and chum salmon stocks. Proceedings of the 20th Northeast Pacific Pink and Chum Salmon Workshop, held March 2001, Seattle, Wash., p. 13.
 6. Peterman, R.M. 1999. The experimental approach in natural resource management. *In*: G.B. MacDonald, J. Fraser, and P. Gray. Adaptive Management Forum: Linking Management and Science to Achieve Ecological Sustainability. Proceedings of the 1998 Provincial Science Forum. Science Development and Transfer Branch, Ontario Ministry of Natural Resources, pp. 3-5.
 7. Walters, C.J. and R.M. Peterman. 1974. A systems approach to the dynamics of spruce budworm in New Brunswick. Proceedings of the 23rd Meeting of the Entomological Society of Canada. Quaestiones Entomologicae 10:177-186.

H. Published Technical Reports

1. Peterman, R.M. and B. Dorner. 2011. Fraser River sockeye production dynamics. Cohen Commission Technical Report 10: 133 pp. plus five appendices, *In press* as of 7 February 2011, Vancouver, B.C., www.cohencommission.ca.
2. Peterman R.M., D. Marmorek, B. Beckman, M. Bradford, N. Mantua, B.E. Riddell, M. Scheuerell, M. Staley, K. Wieckowski, J.R. Winton, C.C. Wood. 2010. Synthesis of evidence from a workshop on the decline of Fraser River sockeye. June 15-17, 2010. A Report to the Pacific Salmon Commission, Vancouver, B.C., 123 pp. + 35 pp. of appendices. 31 August 2010. Available from <http://www.psc.org>.
3. Peterman, R.M., P.B. Adams, B. Dorner, D. Drake, H.J. Geiger, K.R. Holt, C. Jordan, D.P. Larsen, S. Leider, R. Lincoln, A.R. Olsen, C. Parken, J. Rodgers, S. Walbridge. 2010. The Salmon Monitoring Advisor: A web site to help users to design and implement salmon monitoring programs. Located at <http://www.salmonmonitoringadvisor.org>. Developed through a grant from the Gordon and Betty Moore Foundation, Palo Alto, California, which was administered through the United States National Center for

Ecological Analysis and Synthesis (NCEAS) in Santa Barbara, California. Released 3 September 2010.

4. Ruggerone, G.T., R.M. Peterman, B. Dorner, K.W. Myers and N.J. Mantua. 2010. Abundance of Adult Hatchery and Wild Salmon by Region of the North Pacific. School of Aquatic and Fishery Sciences, University of Washington, Seattle WA. A report to the Gordon and Betty Moore Foundation. July 2010. 24 pp. (<https://digital.lib.washington.edu/researchworks/handle/1773/3783>)
5. Walters, C.J., Lichatowich, J.A., Peterman, R.M. and Reynolds, J.D. 2008. Report of the Skeena Independent Science Review Panel. A report to the Canadian Department of Fisheries and Oceans and the British Columbia Ministry of the Environment. May 15, 2008, 144 pp. (http://psf.ca/programs_initiatives.php?article=skeena_river).
6. Peterman, R.M. and B.J. Pyper. 2000. Review of the Coho and Chinook Salmon Sections of the "Agreement Under the Pacific Salmon Treaty" between Canada and the United States, dated 30 June 1999. Pacific Fisheries Resource Conservation Council, Vancouver, B.C., Background paper No. 2000/2, pp. 1-35. (http://www.fish.bc.ca/files/ReviewRestorationAgreement_2000_0_Complete.pdf)
7. Marmorek, D.R., Peters, C.N., Anderson, J., Barnthouse, L., Botsford, L., Cooney, T., Deriso, R., Geiselman, J., Giorgi, A., Hayes, J., Hinrichsen, R., Jones, M., Krasnow, L., Langness, O., Lee, D., McConnaha, C., Paulsen, C.M., Peterman, R., Petrosky, C.E., Pinney, C., Promislow, M., Schaller, H., Smith, S., Toole, C., Weber, E., Williams, J., Wilson, P., and Zabel, R. 1998a. Plan for Analyzing and Testing Hypotheses (PATH): preliminary decision analysis report on Snake River spring/summer chinook. Draft Report, March 1998. *Prepared by* ESSA Technologies Ltd., Vancouver, B.C. *Available from* Bonneville Power Administration, Portland, Oregon (<http://www.efw.bpa.gov/Environment/PATH/reports/pdar/index.html>)
8. Marmorek, D.R., Peters, C.N., Anderson, J., Barnthouse, L., Botsford, L., Bouwes, N., Budy, P., Cooney, T., Deriso, R., Geiselman, J., Giorgi, A., Hayes, J., Hinrichsen, R., Jones, M., Krasnow, L., Langness, O., Lee, D., McConnaha, C., Paulsen, C.M., Peterman, R., Petrosky, C.E., Pinney, C., Schaller, H., Smith, S., Toole, C., Weber, E., Williams, J., Wilson, P., and Zabel, R. 1998b. Plan for Analyzing and Testing Hypotheses (PATH): Weight of Evidence report. *Compiled and edited by* ESSA Technologies Ltd., Vancouver, B.C. *Available from* Bonneville Power Administration, Portland, Oregon (http://www.efw.bpa.gov/Environment/PATH/reports/ISRP1999CD/PATH%20Reports/WOE_Report/).
9. Marmorek, D.R., Peters, C.N., Parnell, I., Anderson, J., Botsford, L., Bouwes, N., Budy, P., Connor, B., Cooney, T., Deriso, R., Geiselman, J., Giorgi, A., Hayes, J., Hinrichsen, R., Jones, M., Krasnow, L., Langness, O., Lee, D., McConnaha, C., Muir, B., Norris, J., Paulsen, C.M., Peterman, R., Petersen, J., Petrosky, C., Pinney, C., Schaller, H., Smith, S., Thompson, B., Tinus, E., Toole, C., Weber, E., Williams, J., Wilson, P., and Zabel, R. 1998c. PATH final report for fiscal year 1998. *Prepared by* ESSA Technologies Ltd., Vancouver, B.C. *Available from* Bonneville Power Administration, Portland, Oregon (<http://www.efw.bpa.gov/Environment/PATH/reports/1998Final/1998Final.pdf>).

10. Peterman, R.M. 1997. Uncertainty and the precautionary approach to fisheries management. *In*: P. Gallagher (ed.), *British Columbia Salmon: A Fishery in Transition*. Proceedings. Pacific Fisheries Think Tank. pp. 26-31.
11. FAO (Food and Agriculture Organization of the United Nations). 1995. Precautionary approach to fisheries. Part 1: Guidelines on the precautionary approach to capture fisheries and species introductions. Elaborated by the Technical Consultation on the Precautionary Approach to Capture Fisheries (Including Species Introductions). Lysekil, Sweden, 6-13 June 1995. FAO Fisheries Technical Paper No. 350/1. Rome, FAO. 52 pp. (R.M. Peterman was one of the 34 scientists who wrote these guidelines.) [Also reprinted in 1996 with the same title, but in the series FAO Technical Guidelines for Responsible Fisheries No. 2, 60 pp.] .
12. Peterman, R.M. and B. L. Antcliffe. 1993. A framework for designing aquatic monitoring programs. Pp. 227-251. *In*: A.P. Farrell (ed.), *The Aquatic Resource Research Project: Towards Environmental Risk Assessment and Management of the Fraser River Basin*. Technical Report for the British Columbia Ministry of Environment, Centre for Excellence in Environmental Research, Victoria, 451 pp.
13. Peterman, R.M. 1984. Effects of Gulf of Alaska sockeye salmon (*Oncorhynchus nerka*) abundance on survival, body size, growth rate, and age at maturity of British Columbia and Bristol Bay, Alaska sockeye populations. Can. Tech. Report Fish. Aquat. Sci. No. 1302: iv + 87 pp.

I. Unpublished Technical Reports

1. Mantua, N.J., N.G. Taylor, G.T. Ruggerone, K.W. Myers, D. Preikshot, X. Augerot, N.D. Davis, B. Dorner, R. Hilborn, R.M. Peterman, P. Rand, D. Schindler, J. Stanford, R.V. Walker, and C.J. Walters. 2007. The salmon MALBEC project: a North Pacific-scale study to support salmon conservation planning. North Pacific Anadromous Fish Commission Doc. 1060. School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA 98195-5020, U.S.A, 49 pp. (*available from* <http://www.npafc.org>).
2. Bradford, M.J., R.M. Peterman, J. McGarvie, and B. Dorner. 2006. Review of frameworks for risk assessment and risk management and their application to human disturbances of fish habitat in Canada. A report for the Habitat Management Program, Fisheries and Oceans Canada, Ottawa, Ontario, 102 pp.
3. Peterman, R.M., B. Dorner, and M. Nelitz. 2005. Review of experimental design principles for projects to restore salmon populations in the Arctic-Yukon-Kuskokwim region of Alaska. Report for the Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, Anchorage, Alaska, 61 pp.
4. Peterman, R.M., B. MacGregor, and B.J. Pyper. 1999. A decision-analysis framework for comparing experimental designs of projects to enhance Pacific salmon. Contract report to Canada Dept. of Fisheries and Oceans, 93 pp.
5. Pyper, B.J. and R.M. Peterman. 1998. Experimental design and monitoring of projects to restore and enhance Pacific salmon habitat. Contract report to Canada Dept. of Fisheries

and Oceans, 27 pp.

6. Peterman, R.M., G.W. Boehlert, D.D. Huppert, A.D. MacCall, and R.H. Parrish. 1987. External review of the groundfish program at the Southwest Fisheries Center, National Marine Fisheries Service, Tiburon, California, 63 pp.
7. Peterman, R.M. 1985. Alternative harvest strategies. Unpubl. Report to Canada Dept. of Fisheries and Oceans, 48 pp.
8. Peterman, R.M. 1984. Study of implications of ocean conditions for enhancement of sockeye salmon. Unpubl. Report to Canada Dept. of Fisheries and Oceans, 73 pp.
9. Peterman, R.M. 1983. Study of the relationship between the abundance of B.C. sockeye and Bristol Bay sockeye in the Gulf of Alaska. Unpubl. Report to Canada Dept. of Fisheries and Oceans, 117 pp.
10. Peterman, R.M. 1982. Study of the relationship between oceanic food supply indicators and measures of salmon marine survival. Unpubl. Report to Canada Dept. Fisheries and Oceans, 70 pp.

Awards, Citations, Honors

- Received the **2010 Murray A. Newman Award for "Excellence in Aquatic Science and Conservation for Significant Achievement in Aquatic Research"** from the Board of Directors of the Vancouver Aquarium, January 2011; see www.vanaqua.org/pressroom/documents/012011FMurrayANewmanAwardsPressRelease.pdf.
- The following paper **received the 2005 "Robert L. Kendall Best Paper Award"** in the *Transactions of the American Fisheries Society*, as judged by the journal's editors (out of 134 papers): Pyper, B. J., F. J. Mueter, and R.M. Peterman. 2005. Across-species comparisons of spatial scales of environmental effects on survival rates of Northeast Pacific salmon. *Transactions of the American Fisheries Society* 134:86-104.
- The following paper was **one of six nominated by the Publications Award Committee for the Best Paper published in 2002** in the *Transactions of the American Fisheries Society* (out of 84 papers). Pyper, B.J., F.J. Mueter, R.M. Peterman D.J. Blackbourn, and C.C. Wood. 2002. Spatial covariation in survival rates of Northeast Pacific chum salmon. *Transactions of the American Fisheries Society* 131(3):343-363.
- Canada Research Chair in Fisheries Risk Assessment and Management, May 2001.
[This Tier 1 Chair was awarded by the nationally competitive Canada Research Chairs (CRC) Program in Ottawa after extensive external peer review (two sets of reviews from a total of at least nine reviewers). According to the CRC Program, Tier 1 Chairs are for "...experienced researchers who are acknowledged by their peers as world leaders in their own fields" (<http://www.chairs.gc.ca>). Two objectives of the CRC Program are to "strengthen the training of highly qualified research personnel through research" and "improve universities' capacity for generating and applying new knowledge."]
- William F. Thompson Award, American Institute of Fishery Research Biologists, May 1994.
[This award was "For the student publication submitted in 1992 on a fisheries or related subject judged to be the best contribution to knowledge." The senior author was M.K.]

McAllister, a graduate student of mine, but all authors received a certificate (see McAllister, Peterman and Gillis 1992 above).]

- Citation for the "Most Significant Paper in the North American Journal of Fisheries Management vol. 12, 1992", American Fisheries Society, Oct. 1993. *[This was for the paper by McAllister and Peterman in that journal.]*
- Excellence in Teaching award, Simon Fraser University, 1990 *[Nominated by students; 1 of 3 such awards that year on our campus, which at the time was made up of 544 faculty and about 16,000 students.]*
- Research Professorship, Simon Fraser University, 1990-1991
[One of 3 such awards at the university that year. According to the university's policy, "Research Professors are distinguished Simon Fraser University research scholars who are given release from teaching for a specified period in recognition of their past research achievements and the current potential of their research programs."]
- J.C. Stevenson Award, Canadian Conference for Fisheries Research, 1990. *[This award is given annually by the Canadian Conference for Fisheries Research in the form of an invited keynote address. According to the letter of award from Dr. David Cook, Canadian Dept. of Fisheries and Oceans, Ottawa, this is a prestigious lectureship, "conferred on a young, energetic and creative researcher at the cutting edge of an aquatic discipline."]*
- Honorable Mention in the American Fisheries Society's competition for best paper published in 1988 in the North American Journal of Fisheries Management. *[140 papers were in the competition that year. Our paper was: Guthrie, I.C. and R.M. Peterman. 1988. Economic evaluation of lake enrichment strategies for British Columbia sockeye salmon (Oncorhynchus nerka). North American Journal of Fisheries Management 8:442-454.]*
- National Research Council (Washington, D.C., USA) Senior Research Associateship for support of sabbatical leave at National Marine Fisheries Service laboratory, La Jolla, California, 1985-86. *[According to the director of the U.S. National Research Council's Associateships Program, Dr. R.W. Kinney, this Senior Research Associateship was the only Senior one awarded in the U.S. in 1985-86. This award is open to international competition and is given to senior researchers who wish to work for a year at one of the 11 participating National Oceanographic and Atmospheric Administration laboratories in the United States.]*
- Senior Scientist Fellowship, North Atlantic Treaty Organization, Scientific Affairs Division, Brussels, Belgium for support of sabbatical research in California, 1985-86.
- NRC Canada Postdoctoral Fellowship, 1974-1975, University of British Columbia
- NRC Canada Postgraduate Scholarships, 1972-1974, University of British Columbia
- University Graduate Fellowship, 1971-1972, University of British Columbia
- Graduated cum laude, 1970, University of California, Davis
- President's Undergraduate Research Fellowship, 1969-1970, University of California, Davis
- Honors at Entrance, 1966, University of California, Davis

- Class Valedictorian, 1966, Gilroy High School, Gilroy, CA.
- National Science Foundation Course in College Biochemistry for Advanced High School Students, 1965, San Jose State University, San Jose, California
- American Chemical Society Award, 1965
- Numerous Scholastic Awards, 1964, 1965, 1966.

RESEARCH GRANTS AND CONTRACTS:

Grants (NOTE: In Canada, there are zero overheads on grants and no faculty salaries are permitted in grants from the federal granting councils)

All grant proposals below were solely authored by R.M. Peterman unless stated otherwise.

Agency	Dates	Topic	Amount
SFU's Community Trust Endowment Fund (along with 15 collaborators) (<i>competitive</i>)	2008-2013	Secondary effects of climate change on human and ecosystem health: A risk-based approach	\$937,000 (\$18,000 across 2009 and 2010)
MITACS, with N. Koshure (<i>competitive</i>)	2009	Estimating relative trends in cetacean abundance and distribution from data from an opportunistic sightings network- part 2	\$16,000
MITACS, with N. Koshure (<i>competitive</i>)	2008	Estimating relative trends in cetacean abundance from data collected for an opportunistic sightings network - part 1	\$16,000
MITACS, with E. Porszt (<i>competitive</i>)	2008	An evaluation of extinction-risk criteria for Pacific salmon conservation units	\$15,000
Pacific Salmon Commission, with E. Johnson (<i>competitive</i>)	2008	A quantitative model for risk-assessment and management of invasive yellow perch	\$23,363
Moore Foundation of San Francisco (along with 12 collaborators) (<i>non-competitive</i>)	2008-2011	Monitoring programs for identifying changes in Pacific salmon populations in the presence of a changing climate; run through NCEAS, the National Center for Ecological Analysis and Synthesis	\$192,021 US (\$151,548 US to SFU over 2 years)
Canada Dept. of Fisheries and Oceans (DFO) (<i>non-competitive</i>)	2007-2012	Research and operating grant under a "Contribution Agreement" to fund research in fisheries science and management	\$520,000 over 5 years
NSERC Individual Grant (<i>nationwide competition</i>)	2007-2012	Evaluation of methods for monitoring changes in abundance and productivity of Pacific salmon populations	\$46,200/yr over 5 years

Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, with J. Collie (<i>competitive</i>)	2007-2009	Risk Assessment Framework for AYK Salmon	\$65,680 US (~ \$75,500 Canadian)
Moore Foundation of San Francisco (along with 16 collaborators) (<i>non-competitive</i>)	2006-2008	Modeling studies to support Pacific salmon conservation planning	\$835,719 US (\$103,840 US to SFU over 2 years)
B.C. Hydro and Power Authority (<i>non-competitive</i>)	2003-2004	Evaluation of lipids as a biomonitoring tool	\$20,000
Canada Dept. of Fisheries and Oceans (DFO) Science Subvention (<i>nationwide competition</i>)	2003-2004	Development of methods to produce de-listing criteria relevant to the Species-At-Risk Act and to evaluate management options for recovering endangered salmon stocks	\$15,000
Canada Dept. of Fisheries and Oceans (DFO) (<i>non-competitive</i>)	2001-2006	Research and operating grant under a "Contribution Agreement" to fund a faculty member and research in fisheries science and management	\$625,000 over 5 years
NSERC Individual Grant (<i>nationwide competition</i>)	2000-2006	Improved models for managing low-abundance salmon populations	\$57,000/yr over 5 years
NSERC Strategic Projects Grant (<i>nationwide competition</i>)	1998-2003	Methods for improving pre-season forecasting of abundance of Pacific salmon and improving estimates of their productivity	total over 5 yr \$517,743, for average of \$103,548/yr
Canada Foundation for Innovation (<i>nationwide competition</i>)	2002	Laboratory for Fisheries Risk Assessment and Management	\$304,208
Michigan Sea Grant (<i>competitive</i>) M.L. Jones (50%) and R.M. Peterman (50%)	1999-2001	Application of decision analysis to Great Lakes fishery management	total over 2 yr US \$135,470 ~ \$200,000 CAN
NSERC Individual Grant	1996-2000	Fish harvesting strategies and probability of collapse of fish stocks	\$50,000/yr
Federal Networks of Centres of Excellence (NCE) (Ocean Production Enhancement Network)	1990 - 1995	(Peterman and C.J. Walters, administered through SFU): Covariation in recruitment characteristics of salmon	total over 5 yr \$168,993

B.C. Infrastructure Grant to SFU	1990 - 1994	Infrastructure grant in support of the above NCE grant on "Covariation in recruitment characteristics of salmon"	\$83,000
NSERC	1992-1996	Fisheries management: experimental design and assessment of changing climate	\$42,960/yr
NSERC/Envir. Can. Great Lakes Univ. Research Grant (F. Gobas and R.M. Peterman)	1992-1995	Developing a quantitative method for interpretation of biomonitoring data in terms of chemical loadings to the Great Lakes	\$60,000
NSERC International Collab. Research Grant	1992	Decision analysis of fisheries management strategies in the face change of climate	\$4,250
British Columbia Law Foundation (M. M'Gonigle and R.M. Peterman)	1990	A new approach to the burden of proof in Canadian environmental law	\$14,400
DFO Subvention	1990-1991	Revision of fisheries management standards based on statistical power analysis	\$13,000
DFO Subvention	1989-1990	Stock-recruitment parameter estimates and enumeration methods for Pacific salmon	\$12,650
DFO Subvention	1988-1989	Stickleback population control to improve benefits from fertilization of lakes that rear sockeye salmon	\$12,000
SFU President's Res. Grant (Pilot Project)	1988-1989	Application of staircase experimental design models to salmonid enhancement	\$ 3,183
SFU Special Res. Proj.	1987-8	A new harvest strategy for Pacific salmon	\$14,136
NSERC	1989-1992	Management implications of variations in fish body size and egg production	\$40,000/yr
NSERC	1986-1989	Salmon population dynamics and management. (*Note: This 3-year grant was awarded in the Feb. 1986 competition when NSERC had a 4% budget cut)	\$33,473/yr
NSERC	1983-1986	Salmon mortality and growth processes and effects of estimation errors on management of fish populations	\$32,355 to \$33,973/yr
NSERC	1980-1983	Mortality processes in Pacific salmon	\$20,000 to \$25,000/yr

SFU President's Res. Grant	1979-1980	Comparison of stock and recruitment models in Pacific salmon	\$ 3,450
NSERC	1977-1980	Marine interactions within and between stocks of Pacific salmon	\$ 6,400 to \$ 7,021
NSERC	1976-1977	Evolutionary significance of stabilized escapement in salmon management	\$ 5,000/yr

Contracts: (DFO is Fisheries & Oceans Canada)

Pacific Fisheries Resource Conservation Council (PFRCC)	Nov. 1999-Feb. 2000	A review of the agreement under the Pacific Salmon Treaty between Canada and the United States, dated 30 June 1999	\$14,017
DFO	1998-1999	A decision analysis framework for comparing experimental designs of programs to enhance Pacific salmon	\$19,975
DFO	1998	Experimental design and monitoring of projects to restore and enhance Pacific salmon habitat	\$10,000
DFO	1986-1987	Benefit-cost evaluation of a sockeye hatchery on Henderson Lake	\$14,414
DFO	1984-1985	Fisheries Management Professional Development Program (with T. Gunton)	\$29,250
DFO	1984-1985	Alternative harvest strategies	\$17,582
DFO	1983-1984	Study of implications of ocean conditions for enhancement of sockeye salmon	\$16,940
DFO	1982-1983	Study of the relationship between the ocean abundance of B.C. sockeye and Bristol Bay sockeye	\$22,860
DFO	1981	Study of the relationship between oceanic food supply indicators and measures of salmon marine survival	\$11,500
DFO	1980-1981	Study of pre-season forecasts of returns of adult Pacific salmon	\$14,984

EXTERNAL PROFESSIONAL ACTIVITIES:

Invited Professional Committees

- Member (November 2010 - present) of the Steering Committee for a workshop on "Practical management options for salmon in a changing environment", to be held at the State of the Salmon Program, Portland, Oregon, November 2011.
- Member (January 2011 - present) of the Independent Scientific Advisory Panel for the "NSERC Canadian Capture Fisheries Research Network".
- Member (June 2010- Dec. 2012) of the Expert Panel for the Royal Society of Canada, Ottawa, on "Sustaining Canada's Marine Biodiversity: Responding to the Challenges Posed by Climate Change, Fisheries, and Aquaculture". The 10-member panel consists of experts on the climate and the ocean from Canada, the United States, and the UK.
- Chair of an Expert Panel and workshop for the Pacific Salmon Commission on "Evaluating Causes of the Decline of Productivity of Fraser River Sockeye", Nanaimo, B.C., June 2010.
- Member of MITACS (Mathematics of Information Technology and Complex Systems) College of Reviewers, Accelerate BC Program, 2008 - present.
- Member of Department of Fisheries and Oceans Canada's "Stock Assessment Management Board", Science Program, Pacific Region, October 2006 - present.
- Member of the Skeena Independent Science Review Panel, January 2008 - June 2008.
- Member of an External Evaluation Panel for the "Salmon Research Program" of the Finnish Game and Fisheries Research Institute, Helsinki, Finland, September 2007.
- Member of an External Review Panel for new Master's and Ph.D. degrees at Thompson Rivers University, Kamloops, BC, April 2006.
- Member of an External Review Panel for a new Bachelor's degree at Malaspina University College, Nanaimo, BC, October 2005.
- Chaired Meeting on "Assessing Risk of Extinction in Marine Fish" for COSEWIC (the Committee on the Status of Endangered Wildlife in Canada), Halifax, NS, March 2005.
- Member of the Technical Dispute Settlement Board (TDSB) for the Pacific Salmon Commission (PSC), Nov. 2004 - present.
- Member of a Science Advisory Committee to advise senior-level science staff as well as fisheries managers in the federal government (Fisheries and Oceans Canada) on "Core Stock Assessment and Monitoring Programs for Pacific Salmon". October 2003 – July 2006.
- Member of the Recovery Team for the Sakinaw Lake sockeye salmon, listed as "endangered" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Nov. 2003 – June 2005.

- Member of an informal working group developing improved methods of risk assessment and risk management for fish habitat in conjunction with the Director of Habitat Science at the Canada Department of Fisheries and Oceans, Ottawa. July 2004 – January 2006.
- One of three people invited by the Deputy Minister of the Canada Department of Fisheries and Oceans, Wayne Wouters, to discuss findings of our report from the "Fisheries Panel" of the Canadian Global Change Program (de Young et al. 1999). Ottawa, March 2000.
- Independent review of the 1999 Canada-U.S. Agreement under the Pacific Salmon Treaty for the Pacific Fisheries Resource Conservation Council. Vancouver, Feb. 2000.
- Member of "Independent Briefing Team" of four people to advise the CEO of the Bonneville Power Administration (BPA) and her staff on the Columbia River salmon situation and options available to BPA. Portland, Oregon, Nov. 1998 and March 1999.
- Member of External Review Panel of the St. Marys River Lamprey Control Assessment Program, Great Lakes Fishery Commission, Detroit, Michigan, June 1998.
- Co-chair (Jan. 1996-Dec. 1998) of the "blue-ribbon" panel on "Global Change and Canadian Marine Fisheries" initiated by the Canadian Global Change Program of the Royal Society of Canada, Ottawa. The 9-member panel consisted of natural and social scientists from Canada and the United States.
- Member of the Technical Consultation on the Precautionary Approach to Capture Fisheries for FAO, the Food and Agriculture Organization of the United Nations. Lysekil, Sweden, 6-13 June 1995.
- Member of an international group of authors invited to draft new principles for the conservation and management of wild living resources for the Marine Mammal Commission, Washington, D.C. (1994); result in the Mangel et al (1996) paper in Ecological Applications.
- Independent Scientific Advisor (one of 3) on a roughly 30-member team of U.S. agency scientists (i.e. the PATH team) who were quantitatively evaluating options for recovering chinook salmon stocks from the U.S. portion of the Columbia River. 1994 through 1999.
- Chair (1990-91) and Member (1988-90) of NSERC Grant Selection Panel for Strategic Grants (Oceans and Inland Waters section) Ottawa.
- Chair of External Review Panel for the Groundfish Program at the Southwest Fisheries Center, National Marine Fisheries Service, Tiburon, California, April 1987.
- Technical Review Panel for Oregon Department of Fish and Wildlife on Oregon coho salmon problem, Portland, Oregon, October 1981.
- Technical Review Panel and Grant Selection Committee for U.S. Department of Agriculture Douglas-Fir Tussock Moth Research and Development Program, Portland, Oregon, January 1977.

Invited Editorial Board Membership

- Member of Editorial Board of the Canadian Journal of Fisheries and Aquatic Sciences, Jan. 1987 to Jan. 1991 and Jan. 1992 to May 2000.

Invited Visiting Scientist

- at NINA (Norwegian Institute for Nature Research), Trondheim, Norway, for 2 weeks, June 1995.
- at School of Fisheries, University of Washington, Seattle, Wash., for 8 months, Sept. 1992 - April 1993.
- at Cooperative Institute for Marine and Atmosphere Science (Rosenstiel School), University of Miami, Florida, for 2 weeks, March 1990.
- at Southwest Fisheries Center, United States National Marine Fisheries Service, La Jolla, California, for 11 months, Sept. 1985 - Aug. 1986.
- at Pacific Biological Station, Canada Dept. of Fisheries and Oceans, Nanaimo, B.C., for 4 weeks, June 1984.

Local Professional Affiliations

- Director, Cooperative Resource Management Institute, SFU.
This is an institute that facilitates interaction between resource management agencies and university researchers both by housing agency staff on campus full time and collaborating with off-campus government staff, 1998 - 2005, and Sept. 2009 - 31 Aug. 2010.
- Associate Faculty Member, Dept. of Biological Sciences, SFU

Workshops and Professional Development Short-Courses Offered

- Workshop for the Canada Department of Fisheries and Oceans and the British Columbia Ministry of Environment on "Developing a risk assessment model for invasive yellow perch in Shuswap Lake". Kamloops, B.C., with Erica Johnson, June 2008.
- For the British Columbia Ministry of Environment: Workshop on "Decision Analysis, Risk Assessment, Risk Management, and Communication." Held by Randall Peterman and Merran Hague. Vancouver, B.C., 30 October-1 November 2007.
- For the British Columbia Ministry of Environment: Workshop on "Decision Analysis, Risk Assessment, Risk Management, and Communication." Held by Randall Peterman and Merran Hague. Vancouver, B.C., 14-16 November 2006.
- For Canada Department of Fisheries and Oceans, Washington Department of Fish and Wildlife, and the Alaska Department of Fish and Game: Workshop on "Evaluations of models to forecast abundance of Pacific salmon and track climatically induced changes in productivity." Held by Randall Peterman, Steve Haeseker, Brigitte Dorner, Zhenming Su, Chris Wood, Mike Bradford, and Dan Ware. Nanaimo, B.C., 21 October, 2004.
- For the World Fisheries Congress 2004: Workshop on "Decision Analysis, Risk Assessment and Risk Management", attended by fisheries scientists and managers from Australia, Mexico, Italy, Germany, Philippines, Canada, and the U.S.A. Held by Randall M. Peterman and Carrie Holt. Vancouver, B.C., 7-8 May 2004.

- For Alaska Dept. of Fish and Game, Canadian Dept. of Fisheries and Oceans, and Pacific Salmon Commission: workshop on "Methods to Improve Forecasts of Abundance of Pacific Salmon." Held by co-investigators (Randall Peterman, Michael Bradford, Chris Wood, and Dan Ware) of a Strategic Grant funded by the Natural Sciences and Engineering Research Council of Canada (NSERC). 4 March 2002.
- For B.C. Hydro, Canadian Dept. of Fisheries and Oceans, and B.C. Ministry of Environment, Lands, and Parks: workshop on "Decision Analysis for Management of Natural Resources." Example applied to the interaction between operations at the Keenleyside dam and whitefish in the Columbia River. January 1999.
- For B.C. Ministry of Forests: course on "Risk Assessment and Decision Analysis in Management of Natural Resources," April 1996.
- For Canadian Dept. of Fisheries and Oceans and the International Pacific Salmon Commission: course on "Risk Assessment and Decision Analysis in Management of Natural Resources," April 1995.
- Northwest Indian Fisheries Commission, Olympia, Washington: workshop for biologists from the Commission and the Washington Dept. of Fisheries on "Statistical Power Analysis and Decision Analysis." June 1993.
- Oregon Department of Fish and Wildlife, Portland, Oregon: 2-day workshop entitled "Experimental Management of Oregon Production Index area coho salmon." Nov. 1981.

Invited Participation in Workshops for Writing Policy Documents

- Fisheries and Oceans Canada's (DFO) Centre of Expertise for Aquatic Risk Assessment (CEARA), invited participant in a workshop at Parksville, B.C., to finalize "National Guidelines for Assessing the Biological Risks of Aquatic Invasive Species (AIS) to Canada", June 2008.
- U.N. FAO and Swedish Board of Fisheries, invited participant in a workshop at Lysekil, Sweden, to draft "Guidelines for Precautionary Management of Capture Fisheries." Prepared a 31-page background paper (with senior author R. Hilborn) on "Development of Scientific Advice with Incomplete Information", June 1995.
- Marine Mammal Commission, Washington, D.C., invited participant in a workshop at Airlie House, Virginia, on "Principles of Living Resource Conservation." Presented a 14-page written brief on "What are the means for characterizing and responding to uncertainty?" March 1994.

Invited Lectures (name of meeting, location, title of talk given, and date)

- Acceptance lecture for the 2010 Murray A. Newman Award for "Excellence in Aquatic Science and Conservation for Significant Achievement in Aquatic Research" from the Board of Directors of the Vancouver Aquarium, Jan. 2011; see www.vanaqua.org/pressroom/documents/012011FMurrayANewmanAwardsPressRelease.pdf.

- Think Tank on Fraser River Sockeye, SFU Burnaby, "Synthesis of evidence about causes of the decline of Fraser River sockeye salmon". December 2010.
- "Synthesis of evidence about causes of the decline of Fraser River sockeye salmon". University of B.C. November 2010.
- Science Workshop for the Cohen Commission of Inquiry into the Decline of Fraser River sockeye salmon. "Productivity dynamics of sockeye salmon: Patterns that need to be explained." November 2010.
- Invited address "Uncertainties about climatic change and Pacific salmon" to start the session on "Measuring uncertainty, identifying key unknowns, and communicating risk" at the PICES/ICES/FAO Symposium on "Climate Change Effects on Fish and Fisheries", Sendai, Japan. April 2010.
- Speaking for the Salmon: Fraser Sockeye public forum, Vancouver, B.C., "The quality of pre-season forecasts of abundance of adult sockeye salmon". March 2010.
- SFU Inter-Departmental Ecology of Aquatic Systems (IDEAS) Symposium, Burnaby, B.C., "Salmon lost and found". *Co-presented with John Reynolds*. January 2010.
- Think Tank on 2009 Fraser River Sockeye, SFU Burnaby, "Review of forecasting methods". December 2009.
- AYK-SSI Expert Panel "Forum on Escapement Goals", Girdwood, Alaska, "A risk assessment framework for Alaska chum salmon". October 2009.
- AYK-SSI Expert Panel "Forum on Escapement Goals", Girdwood, Alaska, "Improving communications among decision makers, scientists, and stakeholders". October 2009.
- Quantitative Fisheries Seminar Series, University of B.C., "Examples of dealing with uncertainties when modeling fisheries". September 2009.
- Keynote address at the U.S. National Marine Fisheries Service's National Ecosystem Modeling Workshop II (NEMoW II), Annapolis, Maryland, "Review of major types of uncertainty in fisheries modeling and how to deal with them". August 2009.
- Workshop on Statistical Methods for Dynamic Systems, Simon Fraser University, "Development and testing of parameter estimation methods for modeling fisheries systems". June 2009.
- Canada Research Chair Lecture Series, Simon Fraser University, "Research for improving the understanding, conservation, and management of Pacific salmon populations". March 2009.
- State of the Salmon Conference, Vancouver BC, "Bayesian decision analysis for rebuilding a depleted salmon population and retrospective evaluations of criteria for conservation status". Feb 2009.
- SFU Inter-Departmental Ecology of Aquatic Systems (IDEAS) Symposium, Burnaby, B.C. "Overview of Research on Salmon". January 2009.
- Workshop on Climate Change Risk Assessments, Simon Fraser University, "An overview of methods of risk assessment and risk management". October 2008.

- Workshop on Climate Change Risk Assessments, Simon Fraser University, "Uncertainty and recovery planning for Cultus Lake sockeye salmon". October 2008.
- Salmon and Climate Change, University of Washington, Seattle, "Overview of progress by the NCEAS salmon-monitoring working group". October 2008.
- Salmon and Climate Change, University of Washington, Seattle, "Identifying monitoring programs that can detect climate-induced changes in salmon populations". *Presented by senior author Kendra Holt*, October 2008.
- Invited private briefing session on risk assessment methods for the new Chief Scientist, Eric Volk, Alaska Dept. of Fish and Game, Anchorage, Alaska, "Overview of uncertainties and risk assessment in salmon management". August 2008.
- Pacific Biological Station (Fisheries and Oceans Canada) 2008 Seminar Series, Nanaimo, B.C., "An evaluation of extinction-risk criteria for Pacific salmon conservation units". *Presented by senior author Erin Porszt*, June 2008.
- Pacific Salmon Commission, Vancouver, "Initial results of a retrospective evaluation of management-adjustment models for Fraser River sockeye salmon." *Presented by senior author Jonathan Cummings*, December 2007.
- Pacific Salmon Treaty Conference, Stanford, California, "Recommended improvements for the next Pacific Salmon Treaty". November 2007.
- "Speaking for the Salmon" Town Hall Meeting, Vancouver, B.C., "Can we do pre-season forecasting of salmon abundance effectively? If not, what should we do?" June 2007.
- Annual Applied Biology Conference, Victoria, B.C., "Risk Assessment and Decision Making". May 2007.
- Seminar, Dept. of Statistics and Actuarial Science, Simon Fraser University, "Spatial scale of covariation in survival rates of Pacific salmon: Implications for environmental drivers of variation, management models, and monitoring designs". January 2007.
- Seminar, University of Helsinki, Finland, "Decision analysis for salmon management". June 2006.
- PICES Symposium, Honolulu, Hawaii, "Kalman-filter reconstructions of temporal variation in productivity of Northeastern Pacific salmon". April 2006.
- Seminar, University of Guelph, Guelph, Ontario, "Spatial scale of variation in survival rates of Pacific salmon: Finding environmental drivers and implications for management models and monitoring designs". November 2005.
- Seminar, University of Guelph, Guelph, Ontario, "Dealing with uncertainties using risk assessment and risk management procedures: Examples from Pacific salmon fisheries". November 2005.
- Climate and Fisheries Conference: Impacts, Uncertainty and Responses of Ecosystems and Communities, Victoria, BC, "Risk assessment and risk management in the context of climatic change and Fraser River sockeye". October 2005.

- American Fisheries Society 's 135th Annual Meeting, Anchorage, AK, "Models of Pacific salmon that include environmental variables and habitat capacity". September 2005.
- American Fisheries Society's 135th Annual Meeting, Anchorage, AK, "Spatial hierarchical Bayesian models for stock-recruitment analyses of pink, chum, and sockeye salmon". September 2005.
- American Fisheries Society's 135th Annual Meeting, Anchorage, AK, "Regional spatial scales of ocean environmental effects on Pacific salmon". *Presented by co-author Brian Pyper*, September 2005.
- GLOBEC's meeting on Climate Variability and Sub-Arctic Marine Ecosystems, Victoria, B.C., "Understanding of processes driving temporal variation in recruits per spawner of Bering Sea salmon populations based on analyses of spatial scales of correlation among stocks". May 2005.
- 2005 State of the Salmon Conference on Building the New Agenda for North Pacific Salmon Conservation, Anchorage, AK, "Spatial scale of survival rates of Pacific salmon and implications for monitoring". April 2005.
- Workshop on Defining Conservation Targets for the Moore Foundation's Salmon Ecosystems Initiative, Anchorage, AK, "Quantitative definitions of conservation objectives", April 2005.
- Fraser River Panel Technical Committee Meeting, Vancouver, B.C., "Dealing with uncertainties in management of Fraser River sockeye salmon fisheries". March 2005.
- COSEWIC (Committee on the Status of Endangered Wildlife in Canada) Meeting, Halifax, NS, "Clarifying objectives and terminology about risks". March 2005.
- Meeting on Climate Impacts on Salmon Management and Recovery in Puget Sound, Georgia Basin, and Coastal Watersheds, Seattle, WA, "Environmental conditions, salmon survival rates, and evaluations of management models". February 2005.
- Council of British Columbia Deputy Ministers, Knowledge Links session, Victoria, B.C., "Climate change and B.C. fisheries". November 2004.
- University of British Columbia, Fisheries Centre, "Some challenges for fish stock assessment and fisheries management and some partial solutions". November 2003.
- Workshop on Species-at-Risk Salmon Recovery Planning, Harrison Hot Springs, B.C., "Risk assessment: what it is and how it can be applied in recovery planning". November 2003.
- Arctic-Yukon-Kuskokwim Salmon Workshop, Anchorage, Alaska, "Modeling Arctic-Yukon-Kuskokwim salmon populations: Prediction and uncertainty". November 2003.
- Keynote address for the International Council for the Exploration of the Sea (ICES), Annual Science Conference, Tallinn, Estonia, "Challenges and opportunities for dealing with complex fisheries" in the session on Mixed and Multi-Stock Fisheries: Challenges and Tools for Assessments, Prediction, and Management. September 2003.
- World Summit on Salmon, Vancouver, B.C., "An overview of the precautionary approach in fisheries". June 2003.

- International Association for Great Lakes Research 46th Annual Conference and International Lake Environment Committee 10th World Lakes Conference, Chicago, Illinois, "A decision analysis of sea lamprey control options for the St. Marys River". *Presented by co-author M.L. Jones*, June 2003.
- University of Alaska, Future of Alaska Salmon Runs Workshop, Anchorage, Alaska, "Variations in survival rates of salmon stocks across space and time: how much of it can we expect to explain or forecast?" April 2003.
- President's Faculty Lectures, Simon Fraser University, "Fish population dynamics, uncertainty, and the precautionary approach to fisheries management." Nov. 2002.
- Ricker Symposium, International Congress on the Biology of Fish, Vancouver, B.C., "Extensions of the Ricker stock-recruitment model to include time-varying parameters and spatial structure." July 2002.
- NOAA/NMFS Pacific Fisheries Environmental Laboratory, Pacific Grove, California, "Size-at-age in sockeye salmon stocks: Effects of abundance and ocean temperature and comparison of spatial scale of covariation with that of survival rates." May 2002.
- NOAA/NMFS Santa Cruz Laboratory, Santa Cruz, California, "Evaluation of a Kalman Filter approach to tracking changes in salmon productivity and its use in reconstruction of past productivity of sockeye salmon stocks." May 2002.
- Joint Meeting on the Causes of Marine Mortality of Salmon in the North Pacific and North Atlantic Oceans and in the Baltic Sea, Vancouver, B.C., "Opposite effects of sea-surface temperature on survival rates of Pacific salmon from Northern and Southern areas." March 2002.
- Keynote address for the Association of British Columbia Professional Foresters 54th Forestry Conference and Annual General Meeting, Nanaimo, B.C., "Why consider applying adaptive management?" Feb. 2002.
- 7th Alaska Salmon Workshop on "Escapement and the Realities of the New Salmon Management", Anchorage, Alaska. Paper on "Comparison of Methods for Detecting Climate-induced Changes in Productivity of Pacific Salmon Stocks," *presented by co-author, Brian Pyper*. Feb. 2001.
- Third Mote International Symposium on "Targets, Thresholds, and the Burden of Proof in Fisheries Management," Sarasota, Florida. Paper on "Uncertainty, risk, and the burden of proof in management of fisheries." Nov. 2000.
- Pacific Biological Station, Dept. of Fisheries and Oceans, Nanaimo, B.C., "Canadian Marine Fisheries in a Changing and Uncertain World." April 2000.
- Michigan State University, Lansing, Michigan, "Spatial and temporal scales of variability in productivity parameters of Pacific salmon: Empirical evidence and a comparison of methods for parameter estimation." March 2000.
- Pacific Fisheries Resource Conservation Council, Vancouver, B.C. "Review of the coho and chinook salmon sections of the agreement under the Pacific Salmon Treaty between Canada and the United States." Feb. 2000.

- Conference on "Oceans Limited" in Vancouver, B.C. Paper on "Canadian Marine Fisheries in a Changing and Uncertain World." Nov. 1998.
- Conference, "Adaptive Management Forum: Linking Management and Science to Achieve Ecological Sustainability," Dorset, Ontario. Opening Address on "The Experimental Approach in Natural Resource Management." Oct. 1998.
- Fisheries Centre, University of British Columbia, B.C. Vancouver, "Patterns of covariation in sockeye salmon" Jan. 1998.
- Pacific Fisheries Think Tank on British Columbia Salmon: A Fishery in Transition, Vancouver, B.C., "Uncertainty and the precautionary approach to fisheries management." Feb. 1997.
- Symposium on "Estuarine and Ocean Survival of Northeastern Pacific Salmon" in Newport, Oregon, "Patterns of covariation in components of recruitment among sockeye salmon stocks in British Columbia and Alaska." March 1996
- Symposium on "Reinventing Fisheries Management", Vancouver, B.C., "Benefits of taking uncertainties into account when making decisions in fisheries management: Examples of applying Bayesian decision analysis." Feb. 1996
- Second World Congress of SETAC (Society of Environmental Toxicology and Chemistry), Vancouver, B.C., "Use of decision analysis to include uncertainty in risk assessments and regulatory decisions." Nov. 1995.
- Norwegian Institute for Nature Research (NINA), Trondheim, Norway, "Taking uncertainty into account: the quantitative approach to setting harvesting goals." June 1995
- Fisheries Centre, University of British Columbia, Vancouver, B.C., "Overview of risk assessment methods in fisheries" at Workshop on "In-season Management of Pacific Salmon." May 1995
- Pacific Biological Station, Dept. of Fisheries and Oceans, Nanaimo, B.C., "Current research in fisheries management at the School of Resource and Environmental Management, Simon Fraser University." May 1995.
- Three lectures at an "Advanced Ecological Methods" seminar organized by the Dept. of Animal Ecology, University of Umeå, Umeå, Sweden, April 1995:
 - 1) "Application of statistical power analysis in resource management",
 - 2) "Uncertainties, management options, and decision analysis", and
 - 3) "Design of large-scale experiments."
- Westwater Research Centre/School of Regional and Community Planning, University of British Columbia, "A risk assessment approach to the precautionary principle in fisheries management." Oct. 1994.
- Japan-Canada Workshop on Pacific Salmon Production, Cowichan Bay, B.C., "What are the major questions to be answered about high seas salmon production?" Feb. 1994.
- School of Fisheries, University of Washington, Seattle, "A decision-theoretic framework for choosing methods to detect and respond to climate-induced changes in fish productivity: Preliminary results." April 1993.

- School of Fisheries, University of Washington, Seattle, "Detecting environmental effects in recruitment of marine fish populations." March 1993.
- Canada Department of Fisheries and Oceans, Sydney, B.C., "Simulation of migration of juvenile Chilko Lake, British Columbia sockeye salmon in the Strait of Georgia." (delivered by a coauthor, K. Thomson), Oct. 1992.
- Environment Canada, Benthos Monitoring Workshop, Vancouver, B.C., "Study design and power analysis." Feb. 1992.
- Canada Department of Fisheries and Oceans, Halifax, Nova Scotia, Symposium on Risk Evaluation and Biological Reference Points for Fisheries Management, "The experimental approach to reducing uncertainty in fisheries management." Nov. 1991.
- Symposium in honor of Colin Clark on Quantitative Methods in Resource Management, Vancouver, B.C., "Decision analysis of designs of management experiments on B.C. pink salmon." July 1991.
- Resource Ecology Institute, Univ. of B.C., "Influence of oceanographic conditions on a pelagic fish populations", March 1991.
- Committee on Risk Assessment Methodology, United States National Research Council (National Academy of Sciences), Washington, D.C. (at Airlie Foundation), Discussion paper on harvesting of fisheries, Feb. 1991.
- Canada Department of Fisheries and Oceans, Vancouver, "Statistical power analysis of fisheries data, or what can our data really tell us?" Nov. 1990.
- 24th Annual Congress of Canadian Meteorological and Oceanographic Society, Symposium on Climate variability: causes and consequences, Victoria, B.C. "Correlations between recruitment and environmental factors may depend on the natural mortality rate used to reconstruct fish abundances." (delivered by senior author Michael Lapointe), May 1990.
- Cooperative Institute for Marine and Atmospheric Science, University of Miami, Florida, "Implications of oceanographic variability and biases in Virtual population analysis (VPA) for management of fish populations." March 1990.
- Cooperative Institute for Marine and Atmospheric Science, University of Miami, Florida, "Fisheries research and management can be improved by application of statistical power analysis." March 1990.
- Pacific Biological Station, Nanaimo, B.C. "Statistical power analysis can improve fisheries research and management." Jan. 1990.
- Zoology Dept., University of British Columbia, Vancouver, B.C., "The role of statistical power analysis in improving fisheries research and management." Jan. 1990.
- J.C. Stevenson Lecture, Keynote address for Canadian Conference for Fisheries Research, Ottawa, "Statistical power analysis can improve fisheries research and management." Jan. 1990.
- Canada Department of Fisheries and Oceans, West Vancouver Laboratory, B.C., "Statistical power analysis can improve fisheries research and management." Nov. 1989.

- B.C. Fish and Wildlife Southern Interior Staff Meeting, Vernon, B.C. "The role of simulation modelling in management and research." Dec. 1989.
- B.C. Fish and Wildlife Southern Interior Staff meeting, Vernon, B.C. "Application of statistical power concepts to resource management problems." Dec. 1989.
- American Fisheries Society Annual Meeting, Anchorage, Alaska, "An evaluation of the staircase design to test the gear selectivity hypothesis on British Columbia pink salmon," (delivered by senior author, M. McAllister). Sept. 1989.
- International Council for the Exploration of the Sea, Symposium on the Ecology and Management Aspects of Extensive Mariculture, Nantes, France. "Density-dependent marine processes in salmonids of the North Pacific Ocean: Lessons for experimental design of large-scale manipulations of fish stocks." June 1989.
- Operations Research Society of America/The Institute of Management Sciences, Vancouver, B.C. "Value of information in Pacific Salmon fishery management: The Skeena River, British Columbia test fishery." (delivered by senior author, G. Steer), May 1989.
- Distinguished Speaker, University of Maryland, Chesapeake Biological Laboratory, Solomons, Maryland. "Statistical power of time trends in estimated abundance of fish stocks." April 1988.
- Distinguished Speaker, University of Maryland, Chesapeake Biological Laboratory, Solomons, Maryland. "Design of large-scale experiments in fisheries management." April 1988.
- International Symposium on Recruitment and Stock Assessment, Vancouver, "Inaccurate parameter estimates, generation of artificial time trends in fish abundance, and management decisions." 1987.
- Pacific Biological Station, Nanaimo, B.C. "Oceanographic and biological mechanisms of variability in mortality and recruitment of a clupeid, the northern anchovy." Feb. 1987.
- Southwest Fisheries Center, La Jolla, California. "Sources of variation in mortality and recruitment of northern anchovy, *Engraulis mordax*." Aug. 1986.
- International Symposium on Common Strategies of Anadromous and Catadromous Fishes, Boston, "A review of components of recruitment in Pacific salmon." March 1986.
- Southwest Fisheries Center, NOAA, La Jolla, Calif. "Simulation of west coast English sole: Exploration of alternative hypotheses about early life history processes and the resulting statistical power for estimating population trends." Jan. 1986.
- International Sockeye Symposium, Nanaimo, B.C. "Positive correlations between ocean age at maturity of parent and offspring sockeye salmon (*Oncorhynchus nerka*): a non-genetic explanation." Nov. 1985.
- Scripps Institution of Oceanography, La Jolla, California. "Variation in production of sockeye salmon during their residence in the North Pacific Ocean." Oct. 1985.
- San Diego State University, San Diego, California. "Population dynamics of sockeye salmon in the eastern North Pacific." Sept. 1985.

- Institute of Environmental Studies, University of Washington, Seattle. "Gap between the science and management of renewable resources." Feb. 1985.
- Workshop on Age at Maturity in Atlantic Salmon, St. Andrews, New Brunswick. "Patterns of annual variation in age at maturity of sockeye salmon in Alaska and British Columbia." Sept. 1984.
- Pacific Biological Station, Nanaimo, B.C. "Patterns of variation in marine growth, survival, and mean age at maturity of sockeye salmon." June 1984.
- Institute of Environmental Studies, University of Washington, Seattle. "Science and Environmental Policy." Feb. 1984.
- Workshop on the Influence of Ocean Conditions on Salmonid Production, Newport, Oregon. "Indirect interaction among sockeye salmon in the Gulf of Alaska" Nov. 1983.
- Western Association for Valuation of Ecosystems, Session on Natural Resource Policy Under Uncertainty, Friday Harbour, Washington, "Power of Experimental Management for Oregon coho salmon." Oct. 1982.
- American Fisheries Society, Pacific Chapter, Vancouver, "Interactions among salmon populations prior to recruitment." Feb. 1982.
- University of British Columbia, Vancouver, "Density dependent marine survival in Babine Lake sockeye salmon." Dec. 1981.
- Pacific Environment Institute, Canadian Dept. of Fisheries and Ocean, West Vancouver, "Relation between Ocean Station P zooplankton conditions and marine survival of salmon." March 1981.
- Canadian Conference for Fisheries Research, Ottawa, "Interrelations between ecology and fisheries science." January 1980.
- Society for Industrial and Applied Mathematics, Toronto, "Multiple stable points in fish populations." June 1979.
- Oregon State University, Corvallis, "Testing for density dependent marine survival in Pacific salmonids." Feb. 1979.
- Meeting of Pacific Chapter of American Fisheries Society, "Predator responses to salmon fry abundance and density dependent marine survival." Feb. 1979.
- University of Washington, Seattle, "Multiple equilibria in salmon production curves." Nov. 1978.- Plenary session of Ecological Society of America meetings, Athens, Georgia, "Influences of ecosystem structure and perturbation history on recovery processes." Aug. 1978.
- Symposium on Salmonid Ecosystems of the North Pacific Ocean, Newport, Oregon, "Marine survival of salmon and a model of coastal migration." May 1978.
- British Ecological Society Symposium on Population Dynamics, London, "The dynamics of resilience: shifting stability domains in fish and insect systems." April 1978.

- University of York, England, "Evolutionary significance of age of susceptibility of lodgepole pine to attacks by mountain pine beetle." April 1978.
- University of Idaho and Washington State University, Symposium on Mountain Pine Beetle Management, "Ecological role of mountain pine beetle in lodgepole pine forests." April 1978.
- Committee on Pollution Abatement Research, Ottawa, "Application of systems analysis to the evaluation of research priorities." Sept., 1976.
- International Congress of Entomology, Washington, D.C., "Quantitative evaluation of pest management options." Aug. 1976.
- University of Victoria, B.C. Canadian Mathematical Congress, "Stability properties of a fisheries model." June 1976.
- Oregon State University, Corvallis, "Policy evaluation with salmon management models." May 1975.
- University of Wisconsin, Madison, "Models in research and management." April 1975.
- Washington State University, Pullman, "Quantitative models in research and management." Feb. 1975
- Washington State University, Pullman, "Spruce budworm model." Feb. 1974.
- Entomological Society of Canada, Banff, Alberta., "Modelling the spruce budworm-forest system." Oct. 1973.
- California State University, San Diego. "Modelling large-scale resource systems." Dec. 1972.
- 5th West Coast Population Biologist's Meeting, University of Washington, Seattle, "Panel on graduate education in ecology." Oct. 1971.

Lectures in Contributed Papers Sessions

- Salmon workshop on climate change at the PICES/ICES Symposium on Climate Change, Sendai, Japan, "The Salmon Monitoring Advisor web site: A hierarchical web site to help design and implement salmon monitoring programs". April 2010.
- Vismon Seminar, SFU Burnaby. "New software for visualizing trade-offs to assist with complex environmental decision-making problems. Co-presented with Maryam Booshehrian. February 2010.
- Climate Change Impacts Research Consortium (CCIRC) SFU Burnaby. "A risk assessment context for research on secondary effects of climatic change." January 2010.
- SFU Inter-Departmental Ecology of Aquatic Systems (IDEAS) Symposium, Burnaby, B.C., "The Salmon Monitoring Advisor: A hierarchical web site to help design and implement salmon monitoring programs". January 2010.
- Institut Francais de Recherche pour l'Exploitation de la Mer, Nantes, France, "A risk assessment framework for Alaska chum salmon". Presented by senior author Jeremy Collie. June 2009.

- AYK-SSI Expert Panel on Escapement Goals, Anchorage, Alaska, "A risk assessment framework for Alaska chum salmon". Presented by senior author Jeremy Collie. May 2009.
- American Fisheries Society Washington-British Columbia Chapter 2009 Annual General Meeting, Shelton, WA, "Retrospective evaluations of criteria for assessing the conservation status of populations of Fraser River sockeye salmon". Presented by senior author Erin Porszt. April 2009.
- Fraser River Panel Technical Committee, Vancouver, BC, "Model selection for management: An evaluation of Fraser River sockeye salmon management adjustment models". Presented by senior author Jonathan Cummings. January 2009.
- Geo Hab Ninth International Symposium, Sitka, AK, "Predicting suitable habitat for deep-sea coral reefs in British Columbia". *Presented by senior author Jessica Finney.* May 2008.
- American Fisheries Society, Ottawa, "Evaluation of management-adjustment models for Fraser River sockeye salmon fisheries in British Columbia." *Presented by senior author Jonathan Cummings,* August 2008.
- Fisheries and Marine Ecosystems, hosted by University of Washington, Port Angeles, WA, "Does the model fit the management? A retrospective evaluation of sockeye salmon management adjustment models for the Fraser River". *Presented by senior author Jonathan Cummings.* April 2008.
- American Fisheries Society's 135th Annual Meeting, Anchorage, AK, "Quantifying implementation error in sockeye salmon fisheries in British Columbia and Alaska". *Presented by senior author Carrie Holt,* September 2005.
- World Fisheries Congress 2004, Vancouver, B.C. "Multi-stock spatial hierarchical Bayesian models improve parameter estimates for Pacific salmon". May 2004.
- 21st Lowell Wakefield Fisheries Symposium, Anchorage, Alaska. "A new approach to dealing with time-series bias in stock-recruit estimates by multi-stock hierarchical modeling". *Presented by co-author Z. Su.* October 2003.
- 21st Lowell Wakefield Fisheries Symposium, Anchorage, Alaska. "Using age-at-maturity data to set salmon harvest rates". *Presented by co-author S.L. Haeseker.* October 2003.
- Western Division American Fisheries Society Symposium, San Diego, California. "Survival rates for 120 pink, chum, and sockeye Pacific salmon stocks show positive covariation on regional scales (less than 1000 km)". April 2003.
- Western Division American Fisheries Society Symposium, San Diego, California. "Spatial hierarchical modeling for salmon stock-recruitment analysis". April 2003.
- North Pacific International Chapter of the American Fisheries Society Annual General Meeting, Vancouver, BC. "A decision analysis framework for comparing experimental designs of projects to enhance Pacific salmon". April 2003.

- North Pacific International Chapter of the American Fisheries Society Annual General Meeting, Vancouver, BC. "Use of decision analysis to design a habitat restoration experiment". *Presented by co-author I.J. Parnell*, April 2003.
- NOAA 5th Annual Salmon Ocean Ecology Meeting, Newport, Oregon. "Forecasting age-specific Pacific salmon recruitment in a changing environment". *Presented by co-author C. Holt*, February 2003.
- NOAA 5th Annual Salmon Ocean Ecology Meeting, Newport, Oregon. "Incorporating shared oceanographic conditions into new models for salmon forecasting". *Presented by co-author S.L. Haeseker*, February 2003.
- 24th Pacific Ecology and Evolution Conference, Bamfield, BC. "Forecasting age-specific Pacific salmon recruitment in a changing environment". *Presented by co-author C. Holt*, February 2003.
- 21st Northeast Pacific Pink and Chum Salmon Workshop, Victoria, BC. "Multi-stock Kalman filter models for estimating trends in stock-recruitment dynamics of salmon". *Presented by co-author B. Pyper*, February 2003.
- 21st Northeast Pacific Pink and Chum Salmon Workshop, Victoria, BC. "Comparison of alternative measures of salmon productivity for quantifying spatial and temporal scales of climate-induced variation". *Presented by co-author B. Pyper*, February 2003.
- 21st Northeast Pacific Pink and Chum Salmon Workshop, Victoria, BC. "A spatial hierarchical Bayesian model for multi-stock stock-recruitment analysis of Pacific salmon". *Presented by co-author Z. Su*, February 2003.
- 11th Annual Meeting of PICES, Qingdao, China. "Comparison of alternative measures of salmon productivity for quantifying spatial and temporal scales of climate-induced variation". *Presented by co-author B.J. Pyper*, October 2002.
- Alaska Chapter of the American Fisheries Society (AFS) meeting, Girdwood, Alaska. "Multi-stock state-space models for estimating trends in stock-recruit dynamics of Pacific salmon," *presented by a co-author, M.D. Adkison*. Oct. 2002.
- Canadian Conference for Fisheries Research (CCFFR), Vancouver. "Opposite effects of sea-surface temperature on survival rates of salmon from Northern and Southern areas." Jan. 2002.
- Canadian Conference for Fisheries Research, Vancouver. "Reconstruction of time-varying productivity of sockeye salmon stocks in Bristol Bay, Alaska, using smoothed Kalman filter estimates." Jan. 2002.
- Canadian Conference for Fisheries Research, Vancouver. "Comparison of estimates of optimal spawner abundance for Fraser River sockeye salmon (*Oncorhynchus nerka*) based on productivity of nursery lakes and stock-recruitment analyses, taking uncertainty into account," *presented by a co-author, Karin Bodtke*. Jan. 2002.
- Canadian Conference for Fisheries Research, Vancouver. "A decision analysis framework for comparing experimental designs of projects to enhance Pacific salmon," *presented by a co-author, Brice MacGregor*. Jan. 2002.

- North Pacific Marine Science Organization (PICES) 10th Anniversary Meeting, Victoria, B.C. "Spatial patterns of covariation in size-at-age of British Columbia and Alaska sockeye salmon stocks and effects of abundance and ocean temperature." Oct. 2001.
- Pink and Chum Salmon Workshop, Seattle, Washington. "Spatial patterns of covariation in survival rates of pink and chum salmon from Washington, British Columbia and Alaska," *presented by a co-author, B. Pyper*. March 2001.
- Pink and Chum Salmon Workshop, Seattle, Washington. "Modeling effects of the coastal marine environment on recruitment across multiple pink and chum salmon stocks," *presented by a co-author, Franz Mueter*. March 2001.
- North Pacific Anadromous Fish Commission Workshop on Climate Change and Salmon Production, Vancouver. "How related are environmental sources of variation for British Columbia and Alaska sockeye salmon?" March 1998.
- 16th Lowell Wakefield Symposium on Ecosystem Considerations in Fisheries Management. Anchorage, Alaska. "Comparison of methods for detecting climate-induced changes in productivity of Pacific salmon stocks." Sept. 1998.
- 16th Lowell Wakefield Symposium on Ecosystem Considerations in Fisheries Management. Anchorage, Alaska. "Spatial and temporal patterns of covariation in components of recruitment of British Columbia and Alaska sockeye salmon," *presented by a co-author, Brian Pyper*. Sept. 1998.
- 16th Lowell Wakefield Symposium on Ecosystem Considerations in Fisheries Management. Anchorage, Alaska. "Cross-validation of forecasts of Bristol Bay, Alaska sockeye salmon," *presented by senior author, Milo Adkison*. Sept. 1998.
- 16th Lowell Wakefield Symposium on Ecosystem Considerations in Fisheries Management. Anchorage, Alaska. "Canadian marine fisheries in a changing and uncertain world." Sept. 1998.
- Conference on Statistics in Ecology and Environmental Monitoring (SEEM2); theme was "Decision Making and Risk Assessment in Biology", University of Otago, Dunedin, New Zealand. "An application of decision analysis to the management of Pacific salmon: The surplus fishery on the Nass River," *presented by senior author, Christina Robb*. June 1996.
- International Council for the Exploration of the Sea (ICES), meeting in Dublin, Ireland. "Choosing fisheries harvest policies: how much does uncertainty matter?" Sept. 1993.
- School of Fisheries, University of Washington, Seattle. "Incorporating uncertainty into the establishment of total allowable catches." Nov. 1992.
- Management Strategies for Exploited Fish Populations, Anchorage, Alaska. "Size-dependent reproductive processes in Pacific salmon (*Oncorhynchus spp.*) and their implications for size-selective harvesting strategies." Oct. 1992.
- Management Strategies for Exploited Fish Populations, Anchorage, Alaska. "Incorporating uncertainty into the establishment of total allowable catches." Oct. 1992.

- Management Strategies for Exploited Fish Populations, Anchorage, Alaska, "A model of the dynamics of discarding in groundfish fisheries and evaluation of management options" *delivered by senior author, Darren Gillis*. Oct. 1992.
- Ocean Production Enhancement Network Scientific Meeting, Halifax. "Interactions between oceanographic processes and Pacific salmon." Nov. 1991
- Pink and Chum Salmon Workshop, Nanaimo, B.C. "Statistical power and decision analyses of a large-scale fishing experiment designed to test the gear selectivity hypothesis on British Columbia pink salmon," *delivered by senior author, M. McAllister*. Feb. 1991.
- Eighth Pacific Coast Resource Modeling Conference, Seattle, Washington. "Evaluation via Monte Carlo simulation of large-scale experiments designed to test the gear selectivity hypothesis on British Columbia pink salmon," *delivered by senior author, M. McAllister*. June 1989.
- Assoc. of Professional Biologists of B.C. Annual General Meeting, Victoria, B.C. "Interdisciplinary Graduate Studies in Resource Management." May 1989.
- Canadian Conference for Fisheries Research, Quebec City. "Spurious time trends may exist in fish stock abundances estimated by virtual population analysis (VPA)," *delivered by senior author, M. Bradford*. Jan. 1989.
- Sixth Pacific Coast Resource Modeling Conference, Vancouver. "The power of correlations between the abundance of early life stages and recruitment of the northern anchovy, *Engraulis mordax*." June 1987.
- Sixth Pacific Coast Resource Modeling Conference, Vancouver. "Method to test for density-dependent mortality during an early life stage of the northern anchovy, *Engraulis mordax*," *delivered by senior author, M. Bradford*. June 1987.
- Canadian Conference for Fisheries Research, Richmond, B.C. "Wind-driven physical oceanographic processes and mortality of a clupeid, the northern anchovy." Jan. 1987.
- Fifth Pacific Coast Resource Modeling Conference, Newport, Oregon. "Estimation of statistical power: probabilities of correctly detecting population trends in fisheries management." June 1986.
- Canadian Conference for Fisheries Research, Winnipeg. "Experimental management of Oregon coho salmon: designing for yield of information." Jan. 1983.

Posters Presented in Poster Sessions

- American Fisheries Society, Pacific Northwest Chapter, Portland, Oregon, "A risk assessment model for invasive yellow perch in Shuswap Lake, British Columbia". *Presented by senior author Erica Johnson*. May 2008.
- American Fisheries Society, Pacific Northwest Chapter, Portland, Oregon, "Retrospective evaluation of indices of conservation status of Pacific salmon". *Presented by senior author Erin Porszt*. May 2008.

- PICES Sixteenth Annual Meeting, Victoria, BC. "Predicting suitable habitat for deep sea coral in British Columbia". *Presented by senior author Jessica Finney*. November 2007.
- AIFRB 50th Anniversary Symposium, Seattle, Washington. "Evaluating recovery actions for the endangered Cultus lake sockeye salmon". *Presented by senior author Jeff Amos*. February 2007.
- World Fisheries Congress 2004, Vancouver, B.C. "Evaluation of methods to reliably track changes in productivity of fish populations that arise from climatic change". *Presented by co-author Brigitte Dorner*. May 2004.
- World Fisheries Congress 2004, Vancouver, B.C. "Retrospective evaluation of pre-season forecasting models for Pacific salmon". *Presented by co-author Steve Haeseker*. May 2004.
- World Fisheries Congress 2004, Vancouver, B.C. "Long-term trends in age-specific recruitment of sockeye salmon in a changing environment". *Presented by co-author Carrie Holt*. May 2004.
- World Fisheries Congress 2004, Vancouver, B.C. "Identifying "temperature-sensitive streams" for forest management in the northern interior of British Columbia, Canada". *Presented by co-author Marc Nelitz*. May 2004.
- World Fisheries Congress 2004, Vancouver, B.C. "Development of methods to evaluate management options for achieving the recovery of endangered salmon stocks". *Presented by co-author Lynsey Pestes*. May 2004.
- 21st Northeast Pacific Pink and Chum Salmon Workshop, Victoria, B.C. "Use of the Kalman filter and state-space models of stock and recruitment to estimate trends in productivity of 120 stocks of Pacific Salmon." *Presented by co-author B. Pyper*, February 2003.
- 21st Lowell Wakefield Fisheries Symposium, Anchorage, Alaska. "Use of multi-stock mixed-effects model for estimating optimal spawning stock sizes and proportional harvest rates for sockeye salmon". *Presented by co-author S.L. Haeseker*. October 2003.
- World Summit on Salmon, Vancouver, B.C. "Forecasting age-specific recruitments in a changing environment". *Presented by co-author C. Holt*, June 2003.
- Canadian Conference for Fisheries Research, Ottawa, Ontario. "Forecasting age-specific Pacific salmon recruitment in a changing environment". *Presented by co-author C. Holt*, January 2003.
- 11th Annual Meeting of PICES, Qingdao, China. "Multi-stock state-space models for estimating trends in stock-recruit dynamics of Pacific salmon". *Presented by co-author B.J. Pyper*, October 2002.
- 11th Annual Meeting of PICES, Qingdao, China. "Use of the Kalman filter and state-space models of stock and recruitment to estimate trends in productivity of 120 stocks of Pacific salmon". *Presented by co-author B.J. Pyper*, October 2002.
- 22nd Annual Pacific Ecology Conference, Bamfield, BC. "Bayesian estimates of optimal spawner abundance for Fraser River sockeye salmon (*Oncorhynchus nerka*) based on

productivity of rearing lakes and stock-recruitment analyses". *Presented by co-author K. Bodtke*, February 2001.

- 7th Alaska Salmon Workshop, Anchorage, AK. "Bayesian estimates of optimal spawner abundance for Fraser River sockeye salmon (*Oncorhynchus nerka*) based on productivity of rearing lakes and stock-recruitment analyses". *Presented by co-author K. Bodtke*, February 2001.

Group Simulation Modelling Efforts

I have participated as a modeller, coordinator, and lecturer in a series of team computer simulation-modelling workshops held in conjunction with various resource management agencies. The aim of these workshops has been largely educational -- to expose ecological researchers and managers to the systems approach through demonstration and construction of models with their assistance. Sponsoring agencies and workshop topics are listed below.

- U.S. Natl. Oceanographic and Atmospheric Admin. Beaufort Sea Lagoon Model IV. 1978.
- Environmental Management Service. Caribou population dynamics and effects of Dempster highway and pipelines. 1978.
- Fisheries and Marine Service. Coastwide model of salmon production. 1978.
- Westwater Research Centre, University of British Columbia. Fraser River marsh model. 1977.
- U.S. Natl. Oceanographic and Atmospheric Admin. Beaufort Sea Lagoon Model II. 1977.
- Fisheries and Marine Service. Dynamics of salmon fishing fleets. 1977.
- Fisheries and Marine Service. Model of Georgia Strait sport and troll fisheries. 1977.
- Fisheries and Marine Service. Model of ocean migration of salmon. 1977.
- Environmental Management Service (Canada Centre for Inland Waters). Lake Ontario coastal zone management model. 1977.
- Committee on Pollution Abatement Research, Ottawa. Research Priorities Workshop. 1977.
- U.S. Natl. Oceanographic and Atmospheric Admin. Beaufort Sea Lagoon Model I. 1976.
- U.S. Forest Service/University of Maine. Spruce budworm management model. 1976.
- Fisheries and Marine Service. Salmon enhancement planning model. 1976.
- Canadian Forest Service/University of New Brunswick. Spruce budworm management model. 1976.
- Fisheries and Marine Service. Oceanic interactions among salmonids. 1976.
- University of British Columbia/Dept. of Environment Canada. James Bay simulation model. 1973.
- University of New Brunswick/Canadian Forestry Service, Fredericton, N.B. Spruce budworm model. 1972.

- University of British Columbia/Canadian Wildlife Service. MacKenzie River basin model. 1972.
- University of British Columbia/Canadian Wildlife Service. Caribou model. 1972.
- University of British Columbia/Dept. of Environment, Ottawa. Multiple resource system model (Trilakes). 1972.
- University of Guelph/Canadian IBP. Cornfield ecosystem model. 1971.
- University of British Columbia/Canadian Wildlife Service. Mallard duck model. 1971.
- University of British Columbia/Canadian IBP. Lake ecosystem model. 1971.

REFEREEING

- I was one of the editors of the volume of proceedings (Kruse et al. 2005) from the 21st Lowell Wakefield Symposium on "Fisheries assessment and management in data-limited situations". The full citation is listed above under "Books".

- I have refereed papers for the following journals:

- Aquaculture
- Canadian J. Fisheries & Aquatic Sciences
- Canadian J. of Forest Research
- Conservation Biology
- Ecology
- Ecology and Society
- Ecological Applications
- Environmental Biology of Fishes
- Environmental Entomology
- Fishery Bulletin (U.S.A.)
- Fisheries Research
- ICES Journal of Marine Science
- Journal of Applied Ecology
- Marine and Coastal Fisheries
- Marine and Freshwater Research
- Nature
- North American J. of Fisheries Management
- Oecologia
- Proceedings of the Royal Society, Series B
- Public Library of Science (PLoS), Biology
- Reviews in Fish Biology and Fisheries
- Transactions of the American Fisheries Society

- I have refereed proposals for the following granting agencies:

- Alaska Sea Grant
- NSERC
- U.S. National Science Foundation

- Washington Sea Grant
- Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative

- I have refereed numerous scientific reports for:

- Pacific Scientific Advice Review Committee and its new incarnation, the Centre for Science Advice - Pacific (CSAP), Canada Dept. of Fisheries and Oceans

TEACHING ACTIVITIES:

1. Courses taught:

<u>Course</u>	<u>Title</u>
REM 311	Applied Ecology and Sustainable Environments
REM 611	Applied Population and Community Ecology
REM 612	Simulation Modelling in Natural Resource Management
REM 613	Current Topics in Fisheries Management
REM 625	Risk Assessment and Decision Analysis for Management of Natural Resources
REM 801	Principles of Research Methods and Design in Resource and Environmental Management
REM 802	Research Methods (exclusively for REM Ph.D. students)
BISC 473	Special Topics: Ecological Modelling
BISC 859	Special Topics: Advanced Ecological Modelling

2. Graduate students, research assistants, and post-doctoral fellows for whom I am currently senior supervisor (M.R.M. designates a graduate student pursuing a Masters in Resource Management):

Name	Topic of Research Project	Present Position
Senior supervisor for these graduate students:		
Faye d'Eon-Eggertson,	Simulation analyses of IUCN and COSEWIC threat criteria applied to Pacific salmon	Master's student (started Sept. 2010)
Michael Malick	Dynamics of ocean carrying capacity for Pacific salmon	Ph.D. student (started Sept. 2010)
Dorian Turner	Modeling the effects of run-of-river hydroelectric projects on instream fish habitat	Master's student (started Sept. 2009)
Alston Bonamis	Assessment of Nooksack dace	Master's student (started Sept. 2008)
Elysia Brunet	Effects of weightings on conservation criteria for salmon populations	Master's student (started Sept. 2008)
Nicole Koshure	Estimating trends in abundance of cetaceans off Northern Vancouver Island from an opportunistic sightings platform, the B.C. Cetacean Sightings Network	Master's student (started Sept. 2007)
Bronwyn MacDonald	Dynamics of recreational Chinook salmon fisheries in Barkley Sound	Master's student (started Sept. 2007)
Athena Ogden	Conservation planning model for Cowichan Chinook salmon	Master's student (started Sept. 2007)

Supervise a part-time post-doctoral fellow:		
Brigitte Dorner	Simulation analyses to evaluate alternative designs of salmon monitoring programs in the presence of climatic changes -- for the NCEAS project	Part-time Postdoctoral Fellow, Simon Fraser University

3. Other students on whose committee I currently serve:

Maryam Booshehrian	Development of visualization software for working with high-dimensional data sets containing uncertainties: a fisheries case example	Ph.D. student (started Sept. 2008 in the School of Computing Science)
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Ashleen Benson	Evaluating harvest management procedures for spatially structured fish populations such as B.C. herring	Ph.D. student (started Sept. 2003)
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COMMITTEES SERVED:**A. University-level Committees**

1. Although no formal committee was ever established, at the request of the Dean of Applied Science and the Dean of Science, I actively participated in developing a university-wide proposal for a B.C. Leadership Chair in "Salmon Conservation and Management", 2002-2004.
2. SFU Mentoring Program for advice on applications for NSERC research grants, Sept. 1993 - 1997.
3. NSERC University Scholarship Selection Committee, 1984 - 1985, and Sept. 1986-Aug. 1990, 1995, 1996, 1997, 1999
4. University Committee for Excellence in Teaching Awards 1994-5.
5. Senate Graduate Studies Committee, Sept. 1986 - Aug. 1990, Sept. 1991 - 31 Aug. 1992, and Sept. 1993 - Jan. 1996.
6. Academic Computing Advisory Committee, Sept. 1986 - 1987.
7. Resource Management Planning Committee, April 1981 - March 1982
8. University Computer Users' Committee, October 1979 - June 1980.

B. Faculty-level Committees

1. Member, Faculty of Applied Sciences Graduate Studies Committee, Sept. 1986 - Aug. 1990, Sept. 1991 - 31 Aug. 1992, and Sept. 1993 - Jan. 1996.
2. Chair, Faculty of Applied Sciences Graduate Studies Committee, Jan. - 31 Aug. 1992.
3. Ad-Hoc Faculty Planning Committee for Computing, June 1983-1984.
4. Faculty of Science Word Processing Systems Committee, March 1980 - 1981
5. Faculty of Science Computer User's Committee, October 1979 - August 1982.

C. Departmental Committees

1. Member, Departmental Tenure Committee (1983-1985, 1987-1989, 1991, 1993-1997, 1999-2005, 2007-present).
2. Search Committee for REM faculty position in Terrestrial Ecology (fall 2010-present).
3. Chair, REM Computer Equipment Committee (1979-1985, 1986-1990, 1997-1998, 1999-2005, 2010-present).
4. Member, REM Ph.D. Comprehensive Examinations Committee (2000-2005, 2007-2009).
5. Chair, Search Committee for a faculty position in Fisheries Science in School of Resource and Environmental Management (REM) (2007)
6. Chair, Search Committee for two faculty positions in Fisheries Science in School of Resource and Environmental Management (REM), 2001-2002
7. Member, Search Committee for GIS Scientist faculty position in REM, Sept. 1999 - April 2000.

8. Chair, Search Committee for Ecosystem Scientist faculty position in REM, Jan.- June 1998.
9. Member, Search Committee for Ecological Economist faculty position in REM, Oct. 1997- April 1998.
10. Chair, Graduate Studies Committee, REM, Sept. 1986 - Aug. 1990, Sept. 1991 - Aug. 1992, and Sept. 1993 - Jan. 1996.
11. Member, Graduate Studies Committee, REM, Jan. 1996 - Aug. 1997.
12. Natural Resources Management Program (MRM) Executive Committee, Sept 1979 - Aug. 1992.
13. REM coordinator of annual evaluations of graduate students (1983 - 1985).
14. REM Scholarship ranking committee (Sept. 1979 - Aug. 1990).
15. Acting Director, REM Program (numerous 3 to 10-day periods, when the Director was away).
16. Organizer for REM Distinguished Visitor, Nov. 1980.
17. Organizer for REM Distinguished Visitor, Sept. 1981.
18. Search Committee for MRM Environmental Law faculty position, May - June 1980.
19. Search Committee for MRM/Geography Planning faculty position, Dec. 1979 - June 1980.
20. Search Committee for MRM/Biological Sciences Forestry/Wildlife faculty position, Fall 1981.
21. Search Committee for Biological Sciences Population Dynamics faculty position, Sept. 1981 - March 1982.
22. Search Committee for Biological Sciences Vertebrate Biologist faculty position, Jan. 1982 - July 1982.
23. Search Committee for MRM Forestry faculty position, Sept. 1981 - April 1982.
24. Search Committee for MRM Resource Economist Faculty position, Summer 1983.
25. Search Committee for NSERC University Research Fellow, May - Sept. 1983.
26. Organizer of Biological Sciences Department Seminar Series, 1979-80.
27. Examining Committee for Ph.D. defense, J. Neilson, Dept. Biol. Sciences, Sept. 1983.
28. Examining Committee for M.Sc. defense, E. van den Berghe, Dept. Biol. Sci., Sept. 1984.
29. Examining Committee for M.Sc. defense, A. Lewis, Dept. Biol. Sci. Dec. 1987.

SELECTED EXAMPLES OF COMMUNITY SERVICES:

- A. Periodic advice to the Canada Department of Fisheries and Oceans, Pacific Salmon Commission, Alaska Department of Fish and Game, Oregon Department of Fish and Wildlife, Northwest Indian Fisheries Commission (Olympia, Wash.), and the Northwest Power Planning Council (Portland, Oregon), as well as various environmental conservation organizations.
- B. Interview for CBC TV (French network) for program on: "How abundances of Fraser River sockeye salmon stocks are estimated". January 2005.
- C. Lecture presented to Advocacy Workshop, Gifted Children's Association (GCA) of British Columbia, Vancouver, "Possible approaches to school districts by GCA chapters", Nov. 1992.

- D. Chaired an ad-hoc committee of parents to write a critique of the Year 2000 Intermediate Program proposed by the B.C. Ministry of Education, March 1991.
- E. First Vice-President, Gifted Children's Association of British Columbia, May 1984 - May 1985 (a non-profit organization of parents, which is promoting establishment of challenging educational programs for gifted students in grades 1-12).
- F. Co-author of a report to the British Columbia Royal Commission on Education: Baum, M.L., F. Harrison, R.M. Peterman. 1987. Educating Gifted Learners in British Columbia. Nov. 1987, 45 pp.
- G. Judge at British Columbia finals of the Olympics of the Mind competitions, April 1985.

(CV2011)