

## **▲ Curriculum vitae**

### **Stewart (Skip) Michael M<sup>c</sup>Kinnell**

#### Current Employer

North Pacific Marine Science Organization  
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#### Citizenship

Canadian

#### Education

University of Victoria, B.Sc. Biology (with Distinction), 1978

Ph.D. Fish Biology, Department of Aquaculture  
Swedish University of Agricultural Sciences (SLU), 1998

## **EMPLOYMENT**

1999-	<b>Deputy Executive Secretary, North Pacific Marine Science Organization (PICES)</b>
1994-1999	Program Head, Fisheries Production and Variability, DFO
1989-1993	Principal Investigator, Ecosystem Effects of Large-scale Asian Driftnet Fisheries, DFO
1981-1989	Head, Scientific Computing, Pacific Biological Station, DFO

## **RECENT HONOURS**

- 2006 Invitation for a 1 year International Lecturer at Pukyung National University, Busan, Korea (declined).
- 2007 Invitation to be editor-in-chief of a major oceanographic journal (declined).
- 2007 External referee: North Pacific Research Board - Bering Sea Integrated Ecosystem Plan (\$14 million, summer 2007).
- 2008 Editor-in-Chief. North Pacific Ecosystem Status Report (2003-2008).
- 2008 Contributing Author. The GLOBEC Book
- 2009 External Reviewer. U.S. Govt. - NOAA/Fisheries and the Environment Program
- 2010 Candidate, *Liber Ero* endowed chair in Fisheries Research, University of Victoria (decision pending)

## **AWARDS**

- Best Paper by ICES Newcomer (Nominee). 1997. ICES Annual Meeting, Baltimore, USA.
- Best Paper (Honourable mention). 1999. R.E. Foerster Award.
- Best Paper (Honourable mention). 1997. PICES Science Board Symposium, Seoul, Korea.
- Deputy Minister's Commendation. 1998. For leading the development of a federal government position paper on the ecological effects of salmon farming in British Columbia.
- Best Photo Award. 2003. Institute of Ocean Sciences 25<sup>th</sup> Anniversary Poster.
- Merit Award. 2008. Society of Graphic Designers of Canada for PICES North Pacific Ecosystem Status Report.

## **GRADUATE STUDENT COMMITTEES**

- Peter Rivinoja. Ph.D. 2005. Sveriges Lantbruksuniversitet, Sweden.
- Johan Östergren. Ph.D. 2007. Sveriges Lantbruksuniversitet, Sweden.
- Lu Quan. Ph.D. (current). University of Victoria, British Columbia, Canada.

## **MEDIA/COMMUNICATIONS**

Dr. McKinnell was a spokesperson for Fisheries & Oceans Canada on scientific issues of significant interest to the public. He was interviewed by national, regional and local television, national and local radio, and by various species of print media on topics that included:

- Ecosystem effects of Asian large-scale pelagic driftnet fisheries,
- Atlantic salmon escaping from net pens,
- Biological effects of El Niño in the Pacific,
- The abundance of Atlantic salmon in the Baltic Sea.

## **MEMBERSHIPS**

- American Fisheries Society

## **COMMITTEES**

Year	Role	Association
2010	Member	PICES-ICES Study Group on "Developing a Framework for Scientific Cooperation in Northern Hemisphere Marine Science"
2009	Ex officio Member	Study Group to Restructure the Annual Meeting, PICES
2003-07, 2009-	Coordinator	ICES/PICES Conference for Early Career Marine Scientists
2007	Member	Study Group on PICES North Pacific ecosystem status report
2004-05	Member	Study Group on PICES Rules of Procedure and Financial Regulations
2004	Board member (ex officio)	PaCOOS (NOAA/FISHERIES - Pacific Coastal Ocean Observing System) Governing Board
2004	Member (ex officio)	PICES Study Group on Fisheries and Ecosystem Responses to Recent Regime Shifts
2003	Organizer	SCOR/IOC Symposium on Quantitative Ecosystem Indicators for Fisheries Management
2003-04	Member	PICES Working Group on North Pacific Ecosystem Status Report
2002	Convenor	NPAFC/NASCO/IBSFC/ICES/PICES workshop on effects of climate and oceanography on marine mortality of salmon.
	Convenor	CREAMS/PICES workshop on Recent progress in studies of physical processes in the Japan/East Sea and their effect on ecosystem.
2001	Member	IOC/NEAR-GOOS Working Group on Data Assimilation, Modelling & Forecasting
2000- present	Steering Committee	<i>Ad hoc</i> Committee on Pacific salmon in the California Current system.
2000	Member	PICES Study Group on Ecosystem Status Report and Regional Analysis Centres
1999	Alternate member	IOC review of GOOS-LMR
	Member	PICES Publication Committee
	Member	DFO Pacific Fisheries Oceanography Working Group
1998	Member	MONITOR Task Team, PICES Climate Change Project
1997	Chairman	NPAFC <i>Ad hoc</i> Working Group on Salmon Marking
1996	Chairman	Local Organising Committee, PICES 5th Annual Meeting
1995-98	Advisor	Canadian Delegation, North Pacific Anadromous Fish Commission
1995-98	Member	ICES Working Group on Baltic salmon and trout.
1994	SSC Member	PICES Workshop on the Okhotsk and Adjacent Seas
1993-94	Co-chair	PICES Working Group on Data Exchange
1993	Member	Canada/Japan Salmon Workshop Steering Committee
1992-98	Member	Northern Boundary Technical Committee, Pacific Salmon Commission
1991-93	Chairman	Salmon Subcommittee, Pacific Stock Assessment Review Committee, Fisheries and Oceans Canada
1989-91	Canadian Member/advisor	International North Pacific Fisheries Commission: Marine Mammal Subcommittee; Salmon Subcommittee and Northeast Pacific Panel.

1989-91	Advisor	International negotiations on scientific and enforcement agreements related to driftnet fishing.
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### **RESEARCH GRANTS**

Since 1999, Dr. McKinnell has not been eligible for external research grants. The following list does not include federal program funding.

Agency	Topic	Year/Amounts
Census of Marine Life	Marine life in the North Pacific Ocean: the known, unknown and unknowable	US\$ 45,000 (02/04)
B.C. Ministry of Agriculture, Food and Fisheries	Impacts of Atlantic salmon escaping from farms in the North Pacific	\$15,200 (93/94), \$22,600 (94/95), \$12,000 (95/96), \$24,500 (96/97)
B.C. Ministry of Agriculture, Food and Fisheries	Effects of the Japanese squid driftnet fishery on the North Pacific Ecosystem	\$64,000 (90/91), \$70,000 (91/92)
Canada/Japan Science and Technology Fund	Effects of Japanese driftnet fisheries	\$110,000 (90/93)
Canada GLOBEC (DFO)/Hokkaido University	Gulf of Alaska Zooplankton: Intercalibrating the SCOR/NORPAC/Bongo nets	\$20,000 annually (96/97...99/00)
European Union: FAIR Grant	Density-dependent growth of juvenile Baltic salmon as evidence of carrying capacity.	€30,000 (2000/02)
A.P. Sloan/Census of Marine Life	North Pacific Ecosystem Status Report	US\$ 45,000 (2002/03)
U.S. National Marine Fisheries Service	International monitoring of the California Current	US\$ 18,200 (2003/04)
Fisheries & Oceans Canada	Reconstructions of long-term variations in Hg in salmon and herring	CDN\$ 40,000

### **MANAGEMENT TRAINING**

- Supervisory Skills
- Performance Planning, Coaching and Review
- Stress Management
- Negotiation Skills
- Middle Manager in the Organisation
- Introductory conversational Japanese
- Communications Skills for Media Interviews

### **DOCTORAL DISSERTATION**

Atlantic salmon (*Salmo salar* L.) life history variation: implications for the Baltic Sea fishery. Swedish University of Agricultural Sciences, Department of Aquaculture. AGRARIA 112.

### **DIVERSIONS – Past and Present**

Victoria Outdoor Club, 2006 -  
 Judy's a capella Carollers, 1985 - 08  
 McKinnell genealogist, 2004 - 09

Gabriola Island Singers, 1985-99

House owner/builder, 1983-85

**Editor – primary scientific literature**

1. Drinkwater, K., Hunt Jr., G.L., **M<sup>c</sup>Kinnell, S.M.** and Mackas, D.L. [Eds.] 2007. Effects of Climate Variability on Sub-Arctic Marine Ecosystems - A GLOBEC Symposium, GLOBEC-ESSAS Symposium on *Effects of climate variability on sub-arctic marine ecosystems*. Deep Sea Research Part II 54(23-26).
2. Grimes, C.B., Brodeur, R.D., Haldorson, L.J. and **M<sup>c</sup>Kinnell, S.M.** [Eds.] 2007. The ecology of juvenile salmon in the Northeast Pacific Ocean: regional comparisons. American Fisheries Society Symposium 57, Bethesda, MD. 287 p.
3. Sydeman, W., Brodeur, R.D., Bychkov, A.S., Grimes, C.B. and **M<sup>c</sup>Kinnell, S.M.** [Eds.] 2006. Hot spots and their use by migratory species and top predators in the North Pacific. Deep Sea Research II 53 (3-4): 247-450.
4. Hunt, G.L. Jr. and **M<sup>c</sup>Kinnell, S.M.** [Eds.] 2006. Marine ecosystem structure and dynamics. Progress in Oceanography 68 (2-4): 115-342.
5. **M<sup>c</sup>Kinnell, S.M.** and McFarlane, G.A. [Eds.] 2005. Linking coastal and open ocean processes. Deep Sea Research II 52 (5-6): 665-843.
6. Valdés, L., Harris, R.P., Ikeda, T., **M<sup>c</sup>Kinnell, S.M.** and Peterson, W.T. [Eds.] 2004. The role of zooplankton in Global Ecosystem Dynamics: Comparative Studies from the World Ocean. ICES Journal of Marine Science 61 (4), 441-738.
7. **M<sup>c</sup>Kinnell, S.M.**, Bychkov, A.S., Terazaki, M. and Kim, K.-R. [Eds.] 2004. Physics and chemical processes in the Japan/East Sea and their influence on its ecosystem. Progress in Oceanography 61 (2-4), 103-348.
8. **M<sup>c</sup>Kinnell, S.M.**, Kishi, M.J., Lluch-Belda, D., Miller, A.J., and Watanabe, Y. [Eds.] 2003. North Pacific Transitional Areas. Journal of Oceanography 59 (4), 387-535.
9. Crawford, W.R., Bychkov, A.S., Sugimoto, T., and **M<sup>c</sup>Kinnell, S.M.** [Eds.] 2002. Physics and biology of eddies, meanders and rings in the PICES Region. Journal of Oceanography 58 (5), 625-745.
10. Macklin, A.S., Napp, J., Radchenko, V., Saitoh, S., Stabeno, P., and **M<sup>c</sup>Kinnell, S.M.** [Eds.] 2002. Variation in the Bering Sea ecosystem. Progress in Oceanography 55 (1-2), 1-262.
11. **M<sup>c</sup>Kinnell, S.M.**, Brodeur, R.D., Hanawa, K., Hollowed, A.B., Polovina, J.J. and Zhang, C.-I. [Eds.] 2001. Pacific climate variability and marine ecosystem impacts, from the tropics to the Arctic. Progress in Oceanography 49 (1-4), 1-639 p.

**Editor – grey literature**

1. McKinnell, S.M. and Dagg, M.J. 2010. Marine ecosystems of the North Pacific Ocean, 2003-2008. *PICES Special Publication 4*, 416 p.
2. Kruse, G.H., Livingston, P., Overland, J.E., Jamieson, G.S., **M<sup>c</sup>Kinnell, S.**, Perry, R.I. 2006. Report of the PICES/NPRB workshop on integration of ecological indicators of the North Pacific with emphasis on the Bering Sea. *PICES Scientific Report 33*.
3. Perry, R.I. and **M<sup>c</sup>Kinnell, S.M.** 2005. Marine life in the North Pacific; the known, unknown and unknowable. *PICES Special Publication 2*, 48p.
4. PICES. 2004. Marine ecosystems of the North Pacific Ocean. *PICES Special Publication 1*, 280 p.
5. **M<sup>c</sup>Kinnell, S.M.** 2004. Proceedings of the third workshop on the Okhotsk Sea and adjacent areas. *PICES Scientific Report 26*, 257 p.
6. Alexander, V., Bychkov, A.S., Livingston, P. and **M<sup>c</sup>Kinnell, S.M.** 2001. Proceedings of the PICES/CoML/IPRC Workshop on "Impact of Climate Variability on Observation and Prediction of Ecosystem and Biodiversity Changes in the North Pacific". *PICES Scientific Report No. 18*, Sidney, B.C., 210 p.

7. Hunt, G.L. Jr., Kato, H., and **M<sup>c</sup>Kinnell, S.M.** 2000. Predation by marine birds and mammals in the subarctic North Pacific Ocean. *PICES Scientific Report No. 14*, Sidney, B.C., 165 p.

#### **Peer-reviewed articles and book chapters**

1. Dian Gifford, Harris, R.P., **M<sup>c</sup>Kinnell, S.M.**, Peterson, W.T., St. John, M.A. 2009. Dynamics of marine ecosystems, p.75-88 *In* M. Barange, J.G. Field, R.P. Harris, E.E. Hofmann, R.I. Perry, and F. Werner [Eds.]. *Marine Ecosystems and Global Change*. Oxford University Press, 464p.
2. **M<sup>c</sup>Kinnell, S.M.** 2008. Fraser River sockeye salmon and climate; a re-analysis that avoids an undesirable property of Ricker's curve. *Progress in Oceanography* 77: 146-154.
3. Lundqvist, H., P. Rivinoja, P., Leonardsson, K. and **M<sup>c</sup>Kinnell, S.** 2008. Upstream passage problems for wild Atlantic salmon (*Salmo salar*) in a regulated river and its effect on the population. *Hydrobiologia* 602(1): 111-127.
4. **M<sup>c</sup>Kinnell, S.M.** and Crawford, W.R. 2007. The 18.6-year lunar nodal cycle and surface temperature variability in the northeast Pacific. *Journal of Geophysical Research - Oceans*, 112, C02002, doi:10.1029/2006JC003671.
5. Pearcy, W.G. and **M<sup>c</sup>Kinnell, S.M.** 2007. The ocean ecology of salmon in the Northeast Pacific Ocean—an abridged history, pp. 7-30, *In* Grimes, C.B., Brodeur, R.D., Haldorson, L.J. and McKinnell, S.M. [Eds.] *The Ecology of Juvenile Salmon in the Northeast Pacific Ocean: Regional Comparisons*. American Fisheries Society Symposium Series 57.
6. Drinkwater, K., Hunt, G.L.Jr., **M<sup>c</sup>Kinnell, S.M.** and Mackas, D.L. 2007. Effects of climate variability on sub-arctic marine ecosystems. *Deep Sea Research Part II* 54: 23-26.
7. Lundqvist, H., **M<sup>c</sup>Kinnell, S.M.**, Jonsson, S. and Östergren, J. 2007. Is stocking with sea trout compatible with wild trout (*Salmo trutta*) conservation? pp. 356-371 *In* G. Harris and N. Milner [Eds.] *"Sea Trout: Biology, Conservation and Management"* Blackwell Press.
8. Hunt, G.L. Jr. and **M<sup>c</sup>Kinnell, S.M.** 2006. Interplay between top-down, bottom-up, and wasp-waist control in marine ecosystems. *Progress in Oceanography* 68: 115-124.
9. Norcross, B.L., **M<sup>c</sup>Kinnell, S.M.**, Frandsen, M., Musgrave, D.L. and Sweet, S. 2003. Larval fishes in relation to water masses of the Central North Pacific Transitional Areas, including the shelf break of West-Central Alaska. *Journal of Oceanography* 59: 445-460.
10. **M<sup>c</sup>Kinnell, S.M.** and Mackas, D.L. 2003. Intercalibrating SCOR, NORPAC & bongo nets and the consequences for decadal-scale variation in zooplankton biomass in the Gulf of Alaska. *Fisheries Oceanography* 12: 126-133.
11. Hay, D.E. and **M<sup>c</sup>Kinnell, S.M.** 2002. Tagging along: association among individual Pacific herring (*Clupea pallasii*) revealed by tagging. *Canadian Journal of Fisheries and Aquatic Sciences* 59: 1960-1968.
12. **M<sup>c</sup>Kinnell, S.M.**, Wood, C.C., Rutherford, D.T., Hyatt, K.D. and Welch, D.W. 2001. The demise of Owikeno Lake sockeye salmon. *North American Journal of Fisheries Management* 21: 774-791.
13. Ishida, Y., Harū, T., Yamashiro, J., **M<sup>c</sup>Kinnell, S.**, Matsuda, T. and Kaneko, H. 2001. Archaeological evidence of Pacific salmon distribution in northern Japan and its implications for the future global warming. *Progress in Oceanography* 49 (1-4): 539-550.
14. Bertram, D.F., Mackas, D.L. and **M<sup>c</sup>Kinnell, S.** 2001. The seasonal cycle revisited: interannual variation and ecosystem consequences. *Progress in Oceanography* 49 (1-4): 283-308.
15. Rivinoja, P., **M<sup>c</sup>Kinnell, S.** and Lundqvist, H. 2001. Hindrances to upstream migration of Atlantic salmon (*Salmo salar*) in a northern Swedish river caused by a hydroelectric

- power-station. *Regulated Rivers* 17: 101-115.
16. **M<sup>c</sup>Kinnell, S.** and Lundqvist, H. 2000. Unstable hatchery release strategies in reared Atlantic salmon. *Journal of Fisheries Management and Ecology* 7: 211-224.
  17. **M<sup>c</sup>Kinnell, S.** and Karlström, Ö. 1999. Spatial and temporal covariation in the recruitment and abundance of Atlantic salmon populations in the Baltic Sea. *ICES Journal of Marine Science* 56: 433-443.
  18. Brodeur, R.D., **M<sup>c</sup>Kinnell, S.**, Nagasawa, K., Pearcy, W., Radchenko, V. and Takagi, S. 1999. Epipelagic nekton of the North Pacific Subarctic and Transition Zones. *Progress in Oceanography* 43: 365-397.
  19. **M<sup>c</sup>Kinnell, S.**, Freeland, H.J. and Groulx, S. 1999. Assessing the northern diversion of sockeye salmon returning to the Fraser River. *Fisheries Oceanography* 8: 104-114.
  20. **M<sup>c</sup>Kinnell, S.** and Seki, M. 1998. Shark bycatch in the Japanese squid driftnet fishery in the North Pacific Ocean. *Fisheries Research* 39:127-138.
  21. **M<sup>c</sup>Kinnell, S.** 1998. A retrospective on Baltic salmon (*Salmo salar* L.) biology and fisheries. *Nordic Journal of Freshwater Research* 73: 73-88.
  22. **M<sup>c</sup>Kinnell, S.** and Lundqvist, H. 1998. Effect of sexual maturation on the spatial distribution of Baltic salmon. *Journal of Fish Biology* 52: 1175-1185.
  23. **M<sup>c</sup>Kinnell, S.** and Thomson, A.J. 1997. Recent events concerning Atlantic salmon escapees in the Pacific. *ICES Journal of Marine Science* 54: 1221-1225.
  24. **M<sup>c</sup>Kinnell, S.**, Pella, J.J. and Dahlberg, M.L. 1997. Population-specific aggregations of steelhead trout (*Oncorhynchus mykiss*) in the North Pacific. *Canadian Journal of Fisheries and Aquatic Sciences* 54:2368-2376.
  25. **M<sup>c</sup>Kinnell, S.**, Thomson, A.J., Black, E.A., Wing, B.L, Guthrie<sup>III</sup>, C.M., Koerner, J.F. and Helle, J.H. 1997. Atlantic salmon in the North Pacific. *Aquaculture Research* 28: 145-157.
  26. Koljonen, M.-L. and **M<sup>c</sup>Kinnell, S.** 1996. Assessing seasonal changes in stock composition of Atlantic salmon catches in the Baltic Sea with genetic stock identification. *Journal of Fish Biology* 49: 998-1018.
  27. Galvin, P., **M<sup>c</sup>Kinnell, S.**, Taggart, J.B., Ferguson, A., O'Farrell, M. and Cross, T.F. 1995. Genetic stock identification of Atlantic salmon using single locus minisatellite DNA probes. *Journal of Fish Biology* 47 (Suppl. A): 186-199.
  28. **M<sup>c</sup>Kinnell, S.** 1995. Age-specific effects of sockeye abundance on the adult body size of major British Columbia sockeye stocks. *Canadian Journal of Fisheries and Aquatic Sciences* 52: 1050-1063.
  29. Yatsu, A., Dahlberg, M.L. and **M<sup>c</sup>Kinnell, S.** 1995. Effect of soaking time on catch-per-unit-effort of major species taken in the Japanese squid driftnet fishery in 1990. *Fisheries Research* 23: 23-35.
  30. **M<sup>c</sup>Kinnell, S.**, Lundqvist, H. and Johansson, H. 1994. Biological characteristics of the upstream migration of naturally and hatchery-reared Baltic salmon (*Salmo salar*). *Aquaculture and Fisheries Management* 25 (Suppl. 2) 45-63.
  31. Lundqvist, H., **M<sup>c</sup>Kinnell, S.**, Fångstam, H. and Berglund, I. 1994. The effect of time, size and sex on recapture rates and yield after river releases of *Salmo salar* smolts. *Aquaculture* 121:245-257.
  32. **M<sup>c</sup>Kinnell, S.** and Waddell, B. 1994. Associations of species caught in the Japanese large scale pelagic squid driftnet fishery: 1988-1990. *Bulletin of the International North Pacific Fisheries Commission* 53(II) 91-109.
  33. Ishida, Y., Ito, S., Kaeriyama, M., **M<sup>c</sup>Kinnell, S.** and Nagasawa, K. 1993. Long-term changes in age composition and mean size of chum salmon (*Oncorhynchus keta*) in Asia and North America. *Canadian Journal of Fisheries and Aquatic Sciences* 50:290-295.
  34. Welch, D.W., Margolis, L., Henderson, M.A. and **M<sup>c</sup>Kinnell, S.** 1991. Evidence for

- attacks by the bathypelagic fish *Anatopterus pharao* (Myctophiformes) on Pacific salmon (*Oncorhynchus* spp.). Canadian Journal of Fisheries and Aquatic Sciences 48:2403-2407.
35. Bernard, F.R., **M<sup>c</sup>Kinnell, S.M.** and Jamieson, G.S. 1991. Distribution and zoogeography of the Bivalvia of the eastern Pacific Ocean. Canada Special Publication of Fisheries and Aquatic Sciences 112, 60p.
  36. Wood, C.C., Rutherford, D.T. and **M<sup>c</sup>Kinnell, S.** 1989. Identification of sockeye salmon (*Oncorhynchus nerka*) stocks in mixed-stock fisheries in British Columbia and Southeast Alaska using biological markers. Canadian Journal of Fisheries and Aquatic Sciences 46:2108-2120.
  37. Fargo, J. and **M<sup>c</sup>Kinnell, S.** 1989. Effects of temperature and stock size on year-class production for rock sole (*Lepidopsetta bilineata*) in northern Hecate Strait, British Columbia, pp. 327-333. In R.J. Beamish and G.A. McFarlane [eds.] Effects of Ocean Variability on Recruitment and an Evaluation of Parameters Used in Stock Assessment Models. Canada Special Publication of Fisheries and Aquatic Sciences 108.
  38. Mulligan, T.J., **M<sup>c</sup>Kinnell, S.** and Wood, C.C. 1988. Uncertainty in stock composition estimates of oceanic steelhead trout using electrophoretic characteristics: Comments on a recent study. Canadian Journal of Fisheries and Aquatic Sciences 45:432-442.
  39. Wood, C.C., **M<sup>c</sup>Kinnell, S.**, Mulligan, T.J. and Fournier, D.A. 1987. Stock identification with the maximum-likelihood mixture model: sensitivity analysis and application to complex problems. Canadian Journal of Fisheries and Aquatic Sciences 44: 866-881.
  40. Schnute, J.T. and **M<sup>c</sup>Kinnell, S.** 1984. A biologically meaningful approach to response surface analysis. Canadian Journal of Fisheries and Aquatic Sciences 41: 936 - 953.
  41. Mundie J.H., **M<sup>c</sup>Kinnell, S.** and Traber, R.E. 1983. Responses of stream zoobenthos to enrichment of gravel substrates with cereal grain and soybean. Canadian Journal of Fisheries and Aquatic Sciences 40: 1702 - 1712.

#### **Manuscripts in progress**

1. **M<sup>c</sup>Kinnell, S.M.** and Christian, J.R. Seasonal pH and aragonite saturation horizons in the Gulf of Alaska during the North Pacific Survey, 1956-1957. Revised for Biogeosciences.
2. **M<sup>c</sup>Kinnell, S.M.** and N.J. Mantua. Evidence of external forcing of the Pacific Decadal Oscillation in the first decades of global sea surface temperature observations.
3. **M<sup>c</sup>Kinnell, S.M.**, Wood, C.C., Lapointe, M.F., and Nelson, J. Widespread straying of Fraser River sockeye salmon during spawning migration in 1997. Submitted.
4. Lundqvist, H., Östergren, J. and **M<sup>c</sup>Kinnell, S.M.** Radio-telemetry study of the spawning migration of wild Atlantic salmon. Revising for Journal of Fish Biology.
5. **M<sup>c</sup>Kinnell, S.M.** An account from the earliest of times of contributions by literate persons to the biology of Pacific salmon; an historical review.

#### **Fisheries assessments, data reports, and other grey literature**

1. Ellis, D.V., S.F. Cross, K. Coates and **S. M<sup>c</sup>Kinnell.** 1978. Assessment of shoreline rehabilitation at the Port Alice pulp mill. Environmental improvement at Neroutsos Inlet, BC Vol. 4. Rayonier Canada, Port Alice, British Columbia. 92pp.
2. Dilke, B.R., **M<sup>c</sup>Kinnell, S.** and Perry, R.I. 1979. Ship-of-opportunity program: March 1978 - March 1979. University of British Columbia, Dept. of Oceanography, Vancouver, B.C. Data Rept.#46. 111p.
3. Perry, R.I., Dilke, B.R., Louttit, G.C. and **M<sup>c</sup>Kinnell, S.** 1980. *M.V. Imperial Tofino* Ship-of-opportunity program (May 1979 - June 1980). University of British Columbia, Dept. of Oceanography, Vancouver, B.C. Data Rept.#46. 159p.
4. **M<sup>c</sup>Kinnell, S.** 1989. Canadian aerial observations of the North Pacific driftnet fleet. 6p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries

- Commission, Seattle, Washington, U.S.A., October, 1989). Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.
5. **M<sup>c</sup>Kinnell, S.M.**, Gjernes, T., Shaw, W. and Whiteaker, S. 1989. Canadian North Pacific Pelagic Study, ARCTIC HARVESTER, July 12 - August 22, 1989. 13p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Seattle, Washington, U.S.A., October, 1989). Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.
  6. **M<sup>c</sup>Kinnell, S.M.**, W. Shaw, and J. Ladell. 1990. The 1990 pelagic research cruise of the W.E. Ricker. 19p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Vancouver, British Columbia, Canada, October, 1990). Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.
  7. **M<sup>c</sup>Kinnell, S.M.** 1990. Historical salmon fishing operations within or adjacent the Japanese neon flying squid fishery. 10p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Vancouver, British Columbia, Canada, October, 1990). Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.
  8. **M<sup>c</sup>Kinnell, S.M.** 1990. Yet another study on the utility of chum scale patterns for identifying region of origin. 13p. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Vancouver, British Columbia, Canada, October, 1990). Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada V9R 5K6.
  9. Kaiser, G.W., **M<sup>c</sup>Kinnell, S.M.**, Smith, G.E.J. and Force, M. 1990. Assemblages of seabirds in the eastern region of the squid driftnet area. (Document submitted to the International North Pacific Fisheries Commission, Vancouver, B.C., Canada. October 1990.) Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada. V9R 5K6
  10. Henderson, M., **M<sup>c</sup>Kinnell, S.** and Margolis, L. 1990. A preliminary report on the incidence of slashed salmon in the Canadian fishery. (Document submitted to the International North Pacific Fisheries Commission, Vancouver, B.C., Canada. October 1990.) Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada. V9R 5K6
  11. Bilton, H.T. and **M<sup>c</sup>Kinnell, S.** 1990a. Origin of chum salmon in a sample from confiscated Taiwanese catches as determined from scale pattern analysis. 19p. (Document submitted to the International North Pacific Fisheries Commission, Vancouver, B.C., Canada. October 1990.) Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada. V9R 5K6
  12. Bilton, H.T. and **M<sup>c</sup>Kinnell, S.** 1990b. Classification of U.S.S.R. chum salmon to their continent of origin on the basis of their scale characters. 15p. (Document submitted to the International North Pacific Fisheries Commission, Vancouver, B.C., Canada. October 1990.) Department of Fisheries and Oceans, Pacific Biological Station, Nanaimo, B.C., Canada. V9R 5K6
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68. Northeast Pacific Ocean temperature for spring of 2009, p. 37-38 *In* Canadian Science Advisory Secretariat. Research Document –0. 2009/022.
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  10. **McKinnell, S.M. and Crawford, W.R.** 2007. Cold winters in southern British Columbia. DFO Backgrounder.
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  17. Emmett, R., **M<sup>c</sup>Kinnell, S.M.** and Orsi, J. 2009. 2009 salmon forecasting forum. PICES Press 17(2), 32-33.
  18. Crawford, W.R., Mackas, D.L., Peterson, W.T., **M<sup>c</sup>Kinnell, S.M.** 2010. The state of the Northeast Pacific in 2009. PICES Press 18(1), 18-19.
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  21. MacFarlane, B., **M<sup>c</sup>Kinnell, S.M.** and Emmett, R. 2010. The ocean, salmon, ecology & forecasting in 2010. PICES Press 18(2), in press.

## **CONTRIBUTIONS TO CONFERENCES, WORKSHOPS AND MEETINGS**

1. **Salmon Ocean Ecology Meeting.** Convenor/session chair. 24-25 April, 2010, Santa Cruz, USA.
2. **Ecosystem Synthesis Workshop.** Leader. 30 November-4 December, 2009, Honolulu, USA.
3. **PICES Annual Meeting.** Organizer. 23 October-1 November, 2009, Jeju, Korea.
4. **POC/CLIVAR Workshop on Exploring the predictability and mechanisms of Pacific low frequency variability beyond inter-annual time scales.** Speaker on *Regimelettes: PDO variability in the 21<sup>st</sup> century*. 24 October, 2009, Jeju, Korea.
5. **ICES Annual Science Conference.** Convenor, Theme Session on *Climate impacts on marine fish: discovering centennial patterns and disentangling current processes*. 24-25 September, 2009, Berlin, Germany.
6. **SCOR/COML Workshop on Ocean Biology Observations.** Session Chairman. 16-18 September, 2009, Mestre, Italy.
7. **PICES Intersessional Science Board/Governing Council Meeting.** 28-29 April. 2009, Qingdao, China.
8. **PICES/FUTURE Workshop on Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems.** Organizer/participant. 26-27 April 2009, Qingdao, China.
9. **Pacific Asian Marginal Seas Conference.** Speaker on *Mixed layer depth in the PICES domain; making sense of 100,000 Argo profiles*. 23-24 April 2009, Busan, Korea.
10. **Yellow Sea/Japan Sea Ecosystem Status Workshop.** Convenor. 21-22 April 2009, Busan, Korea.
11. **Salmon Ocean Ecology Meeting.** Convenor/speaker/session chair on *Spatial and temporal covariation in marine survival of Pacific salmon in the North Pacific*. 7-8 April 2009, Juneau, Alaska.
12. **DFO Fisheries Oceanography Working Group.** Speaker on *Expectations of climate and Chilko L. sockeye in 2009*. 17-18 February, 2008, Nanaimo, Canada.
13. **State of the Salmon Conference.** Participant. 2-5 February, 2009, Vancouver, B.C.
14. **UVIC Earth/Ocean Science 350.** Guest lecturer. *Life and death of Pacific salmon in the sea (or why does it seem that salmon forecasts in BC are always wrong?)*. 15 November, 2008.
15. **NPAFC BASIS Symposium.** Participant. 23-25 November, 2008, Seattle, Washington.
16. **CalCOFI Annual Meeting.** Participant. 17-19 November, 2008, La Jolla, California.
17. **PICES 17<sup>th</sup> Annual Meeting.** Organizer. 24 October-3 November, 2008, Dalian, China.
18. **World Fisheries Congress.** Participant. 20-23 October, 2008, Yokohama, Japan.
19. **The Oceans in a High CO<sub>2</sub> World.** Speaker on *Salmon phishing in the Gulf of Alaska*. Oct. 6-9, 2008, Monaco.
20. **PICES 4<sup>th</sup> International Workshop on the Okhotsk Sea and Adjacent Areas.** Organizer and speaker on *An high resolution PDO*. 27-29 August, 2008, Abashiri, Japan.
21. **PICES Summer School on Ecosystem Based Management.** 23-25 August, 2008, Hakodate, Japan.
22. **Coastal salmon ecosystem workshop.** Steering Committee. 28-29 April, 2008, Nanaimo, Canada.
23. **PICES/FUTURE Implementation Plan Workshop.** Organizer/participant. 23-24 April, 2008, Seattle, U.S.A.
24. **Alaska Marine Science Symposium.** Participant. 21-23 January, 2008, Anchorage, U.S.A.
25. **DFO Fisheries Oceanography Working Group.** Speaker on *What to expect from the new PDO*. 25 February, 2008, Nanaimo, Canada.
26. **GLOBEC/CLIOTOP Symposium.** Co-sponsor. 3-7 December 2007, La Paz, Mexico.
27. **PICES Annual Meeting.** Organizer and session convenor. 26 October - 4 November, 2007, Victoria, Canada.
28. **Ocean Acidification Workshop.** Invited participant. 9-11 October, 2007, La Jolla, USA.
29. **U.S. GLOBEC Pan-regional synthesis workshop.** Invited participant. 25-28 September, 2007, Seattle, USA.
30. **ICES/PICES Conference for Early Career Scientists.** Organizer/speaker. 25-29 June, 2007, Baltimore, USA.
31. **Parksville & Qualicum Fish & Game Association.** Invited speaker. 14 June, 2007.
32. **ESSAS Workshop on Sea Ice.** Participant. 4-6 June, 2007, Hakodate, Japan.
33. **4<sup>th</sup> International Zooplankton Production Symposium.** Organizer. 28 May - 1 June, 2007,

- Hiroshima, Japan.
34. **PaCOOS Board Meeting.** Board member. 16-17 May, 2007, Seattle, USA.
  35. **PICES Future Integrative Science Plan Writing Team Workshop and Science Board/Governing Council Intersessional Meeting.** 16-20 April, 2007, Yokohama, Japan.
  36. **Coastal salmon ocean ecosystem workshop.** Steering Committee/presenter. 14-16 March, 2007, Newport, USA.
  37. **PICES Future Integrative Science Plan Writing Team Meeting.** Organizer. 16-17 February, 2007, Seattle, USA.
  38. **AIPFB Symposium on the Future of Fisheries Science.** Participant. 13-15 February, 2007, Seattle, USA.
  39. **Ph.D. dissertation defense.** Assistant Supervisor. 19 January, 2007, Umea, Sweden.
  40. **Workshop on Climate Impacts on the California Current Ecosystems.** Invited participant. 14-16 November 2006, La Jolla, USA.
  41. **PICES Annual Meeting.** Organizer. Yokohama, Japan, 13-22 October, 2006.
  42. **International Symposium on Hakodate City** as a world-class fisheries and marine research centre. Invited panelist. Hakodate, Japan, 30 September, 2006.
  43. **CREAMS/PICES Workshop and Summer School.** Organizer. Busan, Korea, 21-25 August, 2006.
  44. **IOC Executive Council.** Representative of PICES. Paris, 21-29 June, 2006.
  45. **PICES/GLOBEC Symposium on Climate variability and ecosystem impacts on the North Pacific – a synthesis.** Organizer/presenter of paper *Pacific salmon and climate – 10 years after.* Honolulu, USA. 19-21 April, 2006.
  46. **Canadian CLIVAR Network.** Presenter. *Climate indices: the good, the bad and the ugly.* Victoria, Canada, 27-29 March, 2006.
  47. **CFAME Task Team Meeting (PICES).** Participant. Tokyo, Japan. 12-13 January, 2006.
  48. **PaCOOS Governing Board Meeting and CalCOFI Conference.** Board member and participant. La Jolla, U.S.A., 5-9 December, 2005.
  49. **PICES Annual Meeting.** Annual meeting organizer and presented a paper entitled *In search of the lost El Niño; 1972/73* at the Physical Oceanography and Climate Committee Session in Vladivostok, Russia, 27 September to 11 October, 2005.
  50. **ICES Annual Meeting.** Co-convened a Theme Session with G. Harrison and W. Greve entitled *Regional Ecosystem Pilot Projects, Ecosystem Forecasting, and Operational Oceanography: Comparing and Contrasting Scientific Tools, Strategies, Outputs, and Applications* in Aberdeen, Scotland, 20-24 September, 2005.
  51. **American Fisheries Society Symposium** on regional studies of Pacific salmon in the northeastern Pacific. R. Brodeur, C. Grimes, L. Halderson, & **S.M. McKinnell**, convenors. Preparatory workshop in Seattle, March 1-2, 2005. Presented a paper by Percy & McKinnell entitled *An abbreviated history of Pacific salmon biology.* Symposium in Anchorage, Alaska, 11-13 September, 2005.
  52. **IOC/ICES SG-GOOS Meeting.** PICES Representative. Brest, France, June 10-11, 2005.
  53. **TOS Meeting.** Participant. UNESCO, Paris, France. June 5-9, 2005.
  54. **Centre de Recherche Halieutique Méditerranéenne et Tropicale.** Invited Seminar. *Climate Indices: the good, the bad, and the ugly.* Sète, France. June 2, 2005.
  55. **CMOS Congress.** *Recent Ocean Temperature Anomalies in the Gulf of Alaska.* Presented by W.R. Crawford & S.M. McKinnell, Vancouver, B.C., May 31-June 3, 2005.
  56. **GLOBEC/ESSAS Implementation Planning Meeting.** Participant/organizer, Victoria, BC, Canada. May 20, 2005.
  57. **GLOBEC/ESSAS Symposium.** Local Organizer. Victoria, BC, Canada. May 17-19, 2005.
  58. **BEST Implementation Planning Meeting.** Participant/organizer. Victoria, BC, Canada. May 16, 2005.
  59. **PICES/CFAME Workshop.** Participant. Victoria, BC, Canada. May 14-15, 2005.
  60. **PICES Science Board/Governing Council Meeting.** Seattle, WA. April 7-9, 2005.
  61. **PaCOOS Governing Board Meeting.** Ex-officio member. Seattle, WA. March 16, 2005.
  62. **PICES/CLIVAR Workshop.** (K. Hanawa, S. McKinnell, A. Timmerman, invited *provocateurs*). Honolulu, Hawai'i, 23-24 October, 2004. Presented Yoo, S., Kim, H.-C., and McKinnell, S.M. Variability of chl-a in North Pacific marine ecosystems.
  63. **PICES 13<sup>th</sup> Annual Meeting.** Organizer. Honolulu, Hawai'i, 9-23 October, 2004; also Holt, C. and McKinnell, S.M. Annual variability in condition factor of sockeye salmon from 1915-1972 in British Columbia, Canada.

64. **APN/PICES Workshop on Ecosystem Modelling in the Subarctic Pacific. North Pacific Climate Regimes and Ecosystem Productivity Workshop.** Invited Advisor. Seattle, U.S.A., 13-14 September, 2004.
65. **PICES Study Group on Fisheries and Ecosystem Responses to Recent Regime Shifts.** Member/organizer. Seattle, Washington, 14-16 June, 2004.
66. **PaCOOS Governing Board Meeting.** Ex-officio member. La Jolla, U.S.A. 17-18 May, 2004.
67. **PICES Interim Science Board/Governing Council Meeting.** Organizer. Cheju Is., Republic of Korea, 6-8 May, 2004.
68. **SCOR/IOC Symposium on Quantitative Ecosystem Indicators for Fisheries Management.** Organizer. Paris, France, 31 March-3 April, 2004.
69. **Fisheries Oceanography Working Group (DFO).** Participant. 25-26 February 2004.
70. **Canada CLIVAR Network.** Participant. Victoria, B.C. 23-24 February, 2004.
71. **Establishing a Canadian Global Change Research Coordination Secretariat.** Invited participant. Victoria, B.C., 16 February, 2004.
72. **PICES Study Group on Fisheries and Ecosystem Responses to Recent Regime Shifts.** Member/organizer. Victoria, B.C., 9-10 February, 2004.
73. **PICES MONITOR Task Team Workshop.** Co-convenor. Victoria, B.C., 20-21 November, 2003.
74. **Census of Marine Life / North Pacific KUU Project.** Co-convenor. Victoria, B.C., 17-18 November, 2003.
75. **Census of Marine Life Symposium and Projects Meeting.** PICES representative. Washington, D.C., USA, 23-24 October, 2003.
76. **PICES 12<sup>th</sup> Annual Meeting.** Organizer. Seoul, Korea, 10-18 October, 2003.
77. **Status of Yellow Sea and East China Sea Ecosystems.** Co-convenor. Seoul, Korea, 9 October, 2003.
78. **U.S./NMFS PaCOS Planning Meeting.** Chair, Environmental data group. Seattle, U.S.A. 3-5 September, 2003.
79. **North Pacific Ecosystem Status Report Working Group Meeting.** Author/editor/organizer. Victoria, Canada 25-27 August, 2003.
80. **Third Workshop on the Okhotsk Sea and adjacent areas.** Convenor. Vladivostok, Russia, 4-6 June, 2003.
81. **Third International Zooplankton Symposium.** Organizer/Editor. Gijón, Spain, 20-23 May, 2003.
82. **PICES Interim Science Board / Governing Council Meeting.** Victoria, Canada, 7-9 April 2003.
83. **U.S. CLIVAR-Pacific Decadal Variability.** Invited participant. Project planning meeting. Washington, DC, 25-26 February, 2003.
84. **Hatfield Marine Science Center.** Invited Seminar. *A general framework for understanding salmon survival, abundance and distribution in the North Pacific.* Newport, Oregon, 12 February, 2003.
85. **SCOR/IOC Working Group 119 on Quantitative Ecosystem Indicators for Fisheries Management.** Representative. Talked on requirements for ecosystem indicators in the North Pacific. Cape Town, S. Africa, 4-6 December 2002.
86. **GLOBEC Open Science Meeting and PICES Annual Meeting.** Rapporteur of GLOBEC Focus 1 Working Group; Organizer, PICES Annual Meeting. Qingdao, China. 12-27 October 2002.
87. **CREAMS/PICES/ONR Symposium on physical processes in the Japan/East Sea and their effect on the marine ecosystem.** Convenor. Seoul, Korea, 22-24 August, 2002.
88. **GLOBEC Focus 4 (Human Dimensions).** Scoping meeting. Sidney, Canada, 26 June 2002.
89. **North Pacific Transitional Areas Symposium.** Invited speaker. Provided an overview of the oceanography and biology of the central North Pacific Transition Zone. La Paz, Mexico, 23-25 April 2002.
90. **Joint Meeting of NPAFC/NASCO/IBSFC/ICES/PICES on Causes of Marine Mortality of Salmon.** Co-convenor of session on Effects of Climate and Oceanography. Vancouver, Canada, March 14-15, 2002.
91. **Canada/CLIVAR Network Meeting.** Attended sessions February 25-26, 2002.
92. **ACCEO (later PaCOOS) Organizing Meeting.** Attended a first organizing meeting of the Alliance for California Current Ecosystem Observation in Seattle, Washington, 1 March 2002.
93. **PROMOS Workshop.** Presented final results on density-dependent growth in salmon in northern Baltic rivers. Helsinki, Finland, 7-8 February, 2002.
94. **California Current Salmon Meetings.** Steering Committee member - Nanaimo, BC 31 January

- 1 February 2001 and Santa Cruz, CA 15-16 January 2002, Newport, OR 11-12 February, 2003, and attendee at the 2000 meeting in Seattle, WA.
95. **Climate/Fisheries Workshop.** Represented PICES at an IRI/IRPC workshop to consider new ways of thinking about climate, marine ecosystems, fisheries, and human society. Rapporteur. Honolulu, Hawaii, 14-17 November, 2001.
  96. **PICES X Anniversary Meeting.** In addition to his role as a meeting organizer, Dr. McKinnell developed a poster with W.R. Crawford on the appearance of the lunar nodal cycle in ocean/atmosphere temperatures in the northeastern Pacific and he developed a poster with D.E. Hay on the social/schooling behaviour of Pacific herring based on tagging data, 5-13 October 2001, Victoria, B.C.
  97. **IOC/WESTPAC NEARGOOS Forecasting Workshop.** Introduced PICES plans for a North Pacific Ecosystem Status Report. Seoul, Republic of Korea, 27-31 August 2001. Participated as a PICES observer at the NEARGOOS Coordinating Committee Meeting. Later in 2001, he was asked to be a member of a NEARGOOS steering committee to implement operational oceanography in the NEARGOOS region.
  98. **Oshoro Maru Mini-Symposium.** Dr. McKinnell described the results of the Canada GLOBEC gear intercalibration project and its implications for longterm changes in zooplankton biomass in the North Pacific Ocean, University of Washington, Seattle, 11 July 2001.
  99. **Pacific Biological Station.** Gave a seminar entitled "Ocean physics and physics; climate isn't everything", Nanaimo, B.C. 27 June 2001 which proposed a mechanism for some of the low frequency variability in the North Pacific climate system.
  100. **PICES/Sloan/IPRC Workshop on North Pacific Ecosystem Status Report.** Meeting organizer at the International Pacific Research Center, Honolulu, Hawaii, 7-9 March 2001.
  101. **DFO/PSARC Fisheries Oceanography Workshop.** Participant. Pacific Biological Station, Nanaimo, B.C., 22 February 2001; and Institute of Ocean Sciences, Sidney, B.C., 12 February 2002.
  102. **Pacific Salmon Commission.** Invited expert at a workshop on *Early upstream migration of late-run Fraser River sockeye salmon*, Vancouver, B.C., 6-7 February 2001.
  103. **NPAFC/PICES Juvenile salmon workshop and NPAFC Annual Meeting.** Presented a poster on *Smolt abundance and age at maturity of sockeye salmon* and attended as PICES representative to the annual meeting. Tokyo, Japan. 29 October - 2 November 2000.
  104. **PICES IX Annual Meeting.** Organizer and presenter of a paper entitled *Sockeye and seabirds; response to variable environmental conditions in spring*. Hakodate, Japan, 17-28 October 2000.
  105. **Sea trout and salmon in the Baltic Sea.** Invited Sweden to finish final draft of paper on sea trout (*Salmo trutta*) in the Baltic Sea and to supervise database development for E.U. PROMOS project. Umeå, Sweden. 1-6 October 2000.
  106. **ICES Annual Science Conference.** Attended as North Pacific Marine Science Organization representative to the ICES Strategic Plan review. Participated in the Oceanography Committee meeting to facilitate ICES approval of a joint ICES/PICES/GLOBEC symposium on zooplankton ecology, 25-30 September 2000.
  107. **Marine Ecological Studies in the Bering Sea and the eastern North Pacific.** An international mini-symposium to commemorate the visit of the *Oshoro maru* to Victoria. Served as meeting chairperson with Dr. Mackas & Prof. Saitoh. Presented first results of Canada-GLOBEC GAZOO project to intercalibrate SCOR and NORPAC zooplankton nets. July 19, 2000.
  108. **E.U. PROMOS Project Meeting.** Attended scientific project meeting to initiate work assignments and develop activity schedule. Gave a presentation on evaluating salmon production potential by examining density-dependent growth. Umeå, Sweden. June 12-18, 2000.
  109. **Canadian Meteorological and Oceanographic Society (CMOS) Annual Meeting.** Invited speaker. Presented PICES activities in climate and marine ecosystem variability at a CMOS Plenary Session. June 4, 2000.
  110. **Beyond El Niño Conference.** La Jolla, USA. Conference organizer and lead editor of the Progress in Oceanography volume associated with the conference. March 23-26, 2000.
  111. **21<sup>st</sup> Century Lecture Series** Invited to give a forward looking talk on issues that will affect marine sciences in the first part of the 21<sup>st</sup> century. The theme of my talk was *Science in a cultivated ocean*. March 16, 2000.
  112. **Pacific Salmon Workshop.** Seattle, Washington. February 14-15, 2000. Talked on the effects of the 1997 ocean climate on BC salmon.
  113. **IPHC Annual Meeting.** Seattle, Washington. January 10-11, 2000. Presented a draft MOU on

- scientific cooperation between PICES and IHPC.
114. **PICES Annual Meeting.** Vladivostok, Russia. October 8-15, 1999. Presented, on behalf of Dave Mackas, a talk on coastal zooplankton variation on the west coast of Vancouver Island.
  115. **CANADA-GLOBEC Annual Science Meeting.** Halifax, Canada. May 26-28, 1999.
  116. **NPAFC Annual Meeting.** Canadian Delegate. Moscow, Russian Federation. November 1-6, 1998.
  117. **PICES Science Board El Niño Symposium.** Attended the first meeting of the Monitor Task Team and presented a poster on the use of DNA to identify straying Fraser River sockeye salmon. Fairbanks, Alaska. October 14-24, 1998.
  118. **Department of Aquaculture.** Presented a paper from my Ph.D. on *Spatial correlation scale and synchronous trends in Baltic salmon population abundance*. Umeå, Sweden. June 15, 1998.
  119. **Pacific Climate (PACLIM) Workshop.** Presented a paper entitled *El Niño 1997: simultaneous extrema in Gulf of Alaska oceanography and sockeye salmon biology*. Santa Catalina Island, U.S.A. April 28-30, 1998.
  120. **NPAFC Workshop on Climate Change.** Presented a paper entitled *The collapse of the Rivers Inlet Sockeye Fishery: the case against a freshwater cause* with co-authors C.C. Wood, D.T. Rutherford, K. Hyatt and D.W. Welch. Vancouver, B.C. March 26-27, 1998.
  121. **Canada GLOBEC Annual Science Meeting.** Presented a poster on temporal correlation scales in zooplankton communities at Ocean Station Papa. January 8-9, 1998.
  122. **ICES Annual Science Meeting.** Presented a paper on Baltic salmon population dynamics at the Session on extinctions. Baltimore, USA, September 25-28, 1997. This paper was also presented at the Dept. of Aquaculture Seminar Series, Swedish University of Agricultural Sciences, Umeå, Sweden, June 15, 1998.
  123. **ICES/NASCO Symposium on Interactions between salmon culture and wild stocks of Atlantic salmon.** Presented a paper describing the impacts of Atlantic salmon on Pacific salmon in the North Pacific. Bath, England, April 18-22, 1997.
  124. **ICES working group on Baltic salmon and sea trout.** Canadian delegate. Copenhagen, Denmark - 1995, Riga, Latvia - 1996, Charlottenlund, Denmark - 1997, Helsinki, Finland - 1998.
  125. **NPAFC Research Planning Meeting.** Canadian delegate. Vancouver, B.C., March 4-6, 1997.
  126. **Environmental assessment of salmon farming in BC.** Attended a public meeting where DFO presented its position on the interaction of farmed Atlantic salmon and wild Pacific salmon to the provincial Environmental Assessment Board's review of the issue. Campbell River, Canada. January 16, 1997.
  127. **CCFFR Annual Meeting.** Presented a paper on steelhead trout schooling in the North Pacific Ocean. Ottawa, Canada. Jan. 2-5, 1997.
  128. **Workshop on extinction risks in Pacific salmon.** Seattle, U.S.A. November 13-14, 1996.
  129. **North Pacific Marine Science Organization Annual Meeting.** Chairman, Local Organizing Committee, Nanaimo, Canada. Oct. 10-20, 1996.
  130. **Symposium on Stock Assessment of Pacific salmon.** Sapporo, Japan. Oct. 28-29, 1996.
  131. **NPAFC Annual Meeting.** Participated as an advisor to the Canadian delegation, and wrote a document on steelhead trout to the Committee on Scientific Research and Statistics. Tokyo, Japan. October 21-25, 1996.
  132. **NPAFC Annual Meeting.** Advisor to the Canadian delegation, and wrote two documents on salmon for the Committee on Scientific Research and Statistics. Chaired the Working Group on Standardization.
  133. **PICES Annual Meeting.** Gave a paper on density-dependent growth of sockeye salmon in the North Pacific Ocean to the special session on "Density-dependent effects on fluctuations in the abundance of marine organisms." Qingdao, China, Oct. 15-22, 1995.
  134. **American Fisheries Society.** Invited to talk about sharks and driftnet fisheries in the North Pacific Ocean. Tampa, Florida. August 27-31, 1995. Attended a follow-up workshop on sharks at the Mote Marine Laboratory in Sarasota, Florida and was rapporteur during the environmentalists panel discussion.
  135. **Impact of changes in North Pacific oceanographic regimes on coastal fisheries.** Talked about 'A century of salmon and climate and other things' where the evidence for and against large-scale climate effects on salmon and their environment in the North Pacific Ocean was reviewed. March 2-3, 1995. U.B.C. Fisheries Centre, Vancouver, B.C.
  136. **North Pacific Marine Science Organization Annual Meeting.** Presented a paper with Dr. Akihiko Yatsu entitled 'Distribution and zoogeography of epipelagic nekton of the North Pacific Transition Zone' at the session entitled *Structure and ecosystem dynamics of the subarctic*

- transition zone in the North Pacific -is the east like the west?* October 15-24 1994, Nemuro, Japan.
137. **Fisheries Management - Global Trends Symposium.** This symposium reviewed global trends in aquaculture and wild fisheries management. June 14-16, 1994, Seattle, Washington.
  138. **Canada-Japan Salmon Workshop.** Invited to give the introductory talk on historical trends in salmon production in North America. February 1994, Cowichan Bay, B.C.
  139. **NOAA Workshop on ecosystem processes in the North Pacific Transition Zone.** Presented a paper on temporal and spatial scales in North Pacific ecosystems and acted as a discussion group leader on modelling the North Pacific Transition Zone. January 19-21, 1994, Seattle, Washington.
  140. **International workshop on homing and straying in salmon.** Presented a paper on Baltic salmon run timing. October 25-27, 1993, Røros, Norway.
  141. **PICES Working Group on Data Exchange.** Chaired meetings in 1993 (September 18-23, Nemuro, Japan) and 1994 (June 20-22, Seattle, Washington).
  142. **Workshop on Western Subarctic Gyre Ocean Circulation.** Presented a paper on inter-annual variation in the surface waters of the Central North Pacific. September 18-23, 1993, Nemuro, Japan.
  143. **Workshop on grilising in Atlantic salmon.** Attended the workshop where international speakers reviewed factors affecting grilising in Atlantic salmon to identify strategies to minimise the impacts of grilising. June 24-25, 1993, Campbell River, B.C.
  144. **Canadian Asia/Pacific Institute workshop on North Pacific high seas fisheries management issues.** As an invited regional expert to speak on bio-geo-political issues affecting salmon production in the North Pacific. April 1-4, 1993, Sidney, B.C.
  145. **Symposium on climate change and northern fish populations.** Attended the meeting and was rapporteur of fisheries management and climate change discussion group. September 1992, Victoria, British Columbia.
  146. **International workshop on future salmon research in the North Pacific Ocean.** Invited to speak on the future of ecosystem research at the Pacific Biological Station at the National Research Institute of Far Seas Fisheries, November 1991, Shimizu, Japan.
  147. **Symposium on the Biology, Distribution and Stock Assessment of Species Caught in the High Seas Driftnet Fisheries in the North Pacific Ocean.** Chairman of the Oceanography-Biology-Ecology (All Species) Session and presented a paper on community structure in North Pacific ecosystems. November 4-6, 1991, Tokyo, Japan.
  148. **International Driftnet Review for the United Nations** General Assembly Resolution 44/225 on the impacts of large-scale pelagic driftnet fishing in the North Pacific. I presented highlights of the Canada-Japan-United States Driftnet Observer Programs with a focus on the Japanese squid driftnet fishery. Chaired the Marine Mammal Discussion Group tasked with assessing the impacts of driftnet fishing on all marine mammal species. June 11-14, 1991, Sidney, B.C.
  149. **Driftnet observer program meetings.** As the leader of the Canadian scientific team studying driftnet fisheries, attended meetings in Seattle (1991) and Tokyo (1990, 1991, and 1992). Chairman of the joint U.S.-Canada-Japan scientific meeting to develop the 1990 driftnet observer program and chairman of the first meeting of Canada, U.S. and Japanese scientists to review observer data. December 1989.
  150. **Pacific Salmon Commission.** Presented a paper on stock identification methodology, May, 1990, Vancouver, B.C.
  151. **Canadian Asia/Pacific Institute international workshop on North Pacific high seas fisheries management issues.** As an invited regional expert, spoke on driftnet fishery issues in the North Pacific and animated the discussion of this issue. April 1-4, 1990, Dunsmuir Lodge, Sidney, B.C.
  152. **Annual Meeting of the American Association for the Advancement of Science.** Presented a contributed paper on the application of genetics, meristics, and parasites for determining the identification of Stikine River sockeye. June 1986, Vancouver, B.C.
  153. **Stock Identification Workshop.** Contributed a paper on genetic stock identification simulation. November 5-8, 1985, Panama City, Florida.

