

Teaching Interests

- salmon ecology
- fish and fisheries conservation
- land-use and climate interactions with aquatic ecosystems

Current Courses Taught

- Aquatic Ecosystems and Fish in Forested Watersheds
- Fish Conservation and Management (undergraduate and graduate courses)
- Integrated Conservation Field School (Aquatic Module)

Teaching Accomplishments

- 1999-present, Director, Natural Resources Conservation Program - has tripled in size (~300 students) under my directorship through various recruitment efforts, web based program information, job market surveys, introducing a 'guaranteed admittance' program, raising GPA acceptance levels, and other on-going tactics. It is now the largest undergraduate program in the Faculty of Forestry, having the highest percentage of international students (50%) and the highest percentage of female students (60%) in the faculty
- March 2000, was awarded **UBC Killam Teaching Prize** in Forestry
- March 1999, the Natural Resources Conservation Program, won the **UBC Alfred Scow Award** for outstanding contributions to student learning experience.

Graduate Students Supervised

Currently supervising

4 PhD students
4 MSc students
2 Postdoctoral Fellows
1 Research Associate

Past supervision

4 PhD students
18 MSc students
9 Postdoctoral Fellows
2 Research Associates

Additional Supervision/Training

I have trained 20 full time research technicians and 60 undergraduate assistants and supervised 50 undergraduate theses/essays, supervisory committee for < 40 graduate students. I have been the Director of the undergraduate program in Natural Resources Conservation since 1999 and have academically advised and mentored over 1000 undergraduates

9. SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of research interest*

- Behaviour, energy use and physiology of up-river migrating salmon

- Fitness consequences of changing migration conditions
- Biophysical modelling of salmon migration, energetics and production
- Impacts of land-uses and climate change on salmonid energetics, movement, stress, growth and survival

(b) *Keynote speaker, Invited Seminars or Invited Conference Presentations (* - international venues)*

Conference Keynote/ Plenary

- ***2010** Invited Keynote speaker, 1st International Conference on Fish Telemetry, Sapporo, Japan Portugal. June 12-18, 2011. Presentation title - Incorporating experimental biology into telemetry programs: lessons learned for science and management of Pacific salmon.
- ***2009** Invited Plenary speaker, International Symposium on Advances in the Population Ecology of Stream Salmonids. Lueca, Asturias, Spain. May 17-21, 2010 (**unable to attend and withdrew presentation**)
- ***2005** Invited Plenary speaker, 6th Conference on Fish Telemetry in Europe, Sesimbra Portugal. June 5-11, 2005. Presentation title - 'Using large-scale physiological telemetry and simulated migration experiments to understand migration mortality in Pacific salmon: lessons for practitioners.

Invited Seminars

- Jun. 2010** Fraser River sockeye: Getting the story straight - A public dialogue on the science and the options. A panel presentation and discussion by Brian Riddell, John Reynolds and Scott Hinch. Jun 29, 2010. Vancouver, BC
- Apr. 2010** Getting the story straight: trends and issues for Fraser River sockeye. A panel presentation and discussion by Mike Lapointe, John Reynolds, and Scott Hinch. April 13. 2010. Institute for Resources, Environment and Sustainability Seminar Series, UBC, Vancouver BC.
- Mar. 2010.** Adult sockeye salmon: challenges to complete the journey and spawn. Summit on Fraser River sockeye salmon. Understanding stock declines and prospects for the future – Simon Fraser University, Continuing Studies in Science, March 30, 2010, Wosk Centre, Vancouver, BC.
- ***Jan. 2009.** Climate change and adult Fraser River salmon: linking physiological telemetry with experimental biology to study a growing conservation crisis. School of Aquatic and Fisheries Sciences Seminar Series, University of Washington, Seattle, WA.
- Jan. 2008.** Fish in hot water: Science, management and conservation of salmon during climate change. Keynote Address. Student Environment Centre Conference, UBC, Vancouver, BC
- Dec. 2005.** High temperatures kill fish and dead fish don't float: putting the science back into the missing salmon debate, Fisheries Centre Seminar Series, UBC, Vancouver, BC.
- Jan. 2005.** An ecological and conservation crisis in British Columbia Pacific salmon: aberrant migrations and high natural mortality of Fraser sockeye, Science Lecture Series, University College of the Cariboo, Kamloops, BC.
- Jan. 2004.** Energetics, behaviour and survival of upriver migrating adult salmon. Comparative Physiology Seminar Series, Dept Zoology, University of BC, Vancouver, BC.
- Jan. 2004.** Energetics, behaviour and survival of upriver migrating adult salmon. Ecology Seminar Series, Dept Zoology, University of BC, Vancouver, BC.
- Dec. 2002.** Salmon at their southern edge: current challenges to survival and prognosis for long-term sustainability. Jubilee Lecture Series, Faculty of Forestry, University of BC.
- ***Oct. 2002.** Migrations of adult Pacific salmon. Seminar to Faculties of Forestry and Aquaculture, Swedish University of Agricultural Sciences, Umea, Sweden.
- ***Oct 2002.** Forestry impacts on small coastal streams in British Columbia. Seminar to Faculties of Forestry

- and Aquaculture, Swedish University of Agricultural Sciences, Umea, Sweden.
- Sep. 2002.** Energetics, behaviour and survival of upriver migrating adult salmon. Conservation Biology Series, Forest Sciences Centre, University of BC, Vancouver, BC.
- * **Aug. 2002.** Energetics, behaviour and survival of upriver migrating adult salmon. Symposium on spatial movement of fish: field study, modelling, and management perspectives. American Fisheries Society annual meeting, Baltimore MD.
- Apr. 2002.** Energetics, behaviour and survival of upriver migrating adult salmon: perspectives from physiological telemetry, underwater video and body constituent analyses. Seminar Series, Dept Biology, University of Windsor, Windsor, Ont.
- Apr. 2002.** Energetics, behaviour and survival of upriver migrating adult salmon: perspectives from physiological telemetry, underwater video and body constituent analyses. Seminar Series, Canadian Centre for Inland Waters, Fisheries and Oceans Canada, Burlington, Ont.
- Dec. 2001.** Energetics, behaviour and survival of upriver migrating adult salmon: perspectives from physiological telemetry, underwater video and body constituent analyses. Seminar Series, Pacific Biological Station, Fisheries and Oceans Canada, Nanaimo, BC.
- * **Oct. 2001.** Energetics, behaviour and survival of upriver migrating adult salmon: perspectives from physiological telemetry, underwater video and body constituent analyses. Seminar Series, Dept. Fish and Wildlife, Oregon State University, Corvallis, OR.
- * **Oct. 2001.** Energetics, behaviour and survival of upriver migrating adult salmon: perspectives from physiological telemetry, underwater video and body constituent analyses. Seminar Series, NOAA Laboratory, Newport, OR.
- * **July 2000.** Optimal swim speeds and forward assists: energy conserving behaviours of up-river migrating adult salmon. International Congress on the Biology of Fish, University of Aberdeen, Aberdeen, Scotland.
- Mar. 2000.** The incredible journey: swimming tactics, energy use and survival of up-river migrating adult Pacific Salmon. Department of Forest Sciences Seminar Series, UBC, Vancouver, B.C.
- Oct. 1999.** The incredible journey: swimming tactics, energy use and survival of up-river migrating adult Pacific Salmon. Biology Seminar Series, University of Toronto, Erindale College, Mississauga, Ontario.
- Oct. 1999.** Recovery of trout and stream habitat following two types of clearcut logging: a 25-year case study examining the importance of instream wood. Biology Seminar Series, University of Toronto, Erindale College, Mississauga, Ontario.
- July 1999.** A fisheries perspective: what are the implications of intensive management for fish and their habitat. UBC workshop - Considering Intensive Zoning for Forestry in BC, Faculty of Forestry, UBC.
- * **Dec. 1998.** Recovery of trout and stream habitat following two types of clearcut logging: a 25-year case study examining the importance of instream wood. Department of Zoology Seminar Series, North Carolina State University, Raleigh, North Carolina.
- Nov. 1998.** Recovery of non-anadromous cutthroat trout and their habitat in a small British Columbia stream twenty-five years after logging. Centre for Applied Conservation Biology Lecture Series, University of British Columbia, Vancouver, B.C.
- * **Aug. 1998.** Groundwater fed artificial sidechannels: understanding their conservation and enhancement potential for juvenile coho salmon. American Fisheries Society Annual Meeting, Hartford, Connecticut.
- Feb. 1998.** The long-term effects of timber harvest on stream fish and their ecosystems: an overview. Conference on Cumulative Effects, Institute for Resources and Environment, UBC, Vancouver, B.C.
- Jan. 1998.** Swimming behaviour, energy depletion, and risk of enroute mortality in river migrating adult salmon. Fisheries Centre Seminar Series, University of British Columbia, Vancouver, B.C.
- Dec. 1995.** Energy use and behaviour of up-river migrating Fraser sockeye. Department of Oceanography Seminar Series, University of British Columbia, Vancouver, B.C.
- Aug. 1995.** Energy use during upstream migrations of sockeye salmon: EMG telemetry. Workshop

- On, Comparing and Contrasting Somass and Fraser River Sockeye Salmon Return Migrations. Canadian Department of Fisheries and Oceans, Nanaimo, B.C.
- *Apr. 1995.** Up-river passage of sockeye salmon: investigating patterns of energy-use and missing fish. Conte Anadromous Fish Laboratory Seminar Series, Conte Laboratory, Turner Falls, MA.
- *Apr. 1995.** Potential effects of climate change on energy use and survival of sockeye salmon. Organismic and Evolutionary Biology Seminar Series, University of Massachusetts, Amherst, MA
- Mar. 1995.** Fraser River Salmon Adult Passage Project. Fraser River Action Plan Science Seminars, Canadian Dept. of Fisheries and Oceans, Vancouver, B.C.
- *Jan. 1995.** Up-river passage of Fraser River sockeye salmon: investigating patterns of energy-use and missing fish. Fisheries Seminar Series, University of Washington, Seattle, Washington.
- Jan. 1995.** Investigating energy-use in adult Fraser River sockeye. Super Series, Vancouver Aquarium, Vancouver, British Columbia.
- Apr. 1993.** Climate change and ocean energetics of sockeye. Pacific Fisheries Biologists meeting. Parksville, British Columbia.
- Mar. 1993.** Fish communities in central Ontario lakes: patterns and processes. Aquatic Ecology Seminar Series, Fisheries Centre, University of British Columbia, Vancouver, B.C.
- Jan. 1993.** Potential effects of climate change on the bioenergetics of Fraser River sockeye salmon. Atmospheric Sciences Research Seminars, Environment Canada - Atmospheric Environment Service, Downsview, Ontario.
- Jan. 1993.** Climate change and bioenergetics of Fraser River sockeye. Ichthyology Seminar Series, Institute of Ichthyology, University of Guelph, Guelph, Ontario.
- Jan. 1993.** Small- and large-scale studies in fisheries ecology. Annual British Columbia Provincial Fisheries meeting. Yellow Point, British Columbia.

Invited Conference Presentations

(The first author was the presenter. Students, PDFs and RAs are indicated in **bold**. International venues indicated by *.)

- * Hinch, S.G., S. J. Cooke, A.P. Farrell, D.A. Patterson** Linking telemetry, physiology, and experimental biology: novel approaches for use in studying salmonid migrations and managing fisheries. International Association of Great Lakes Research, May 17-20, 2010.
- Roscoe, D.W. and S.G. Hinch.** Historic and geographic trends in fishway design and evaluation. Invited oral presentation at “Promoting innovations in fish passage and protection” symposium at the American Fisheries Society Annual Meeting, 1 September 2009, Nashville, Tennessee.

(c) Other Invited Presentations

- Hinch, S.G, Patterson, D.A., Hague, M., and Farrell, A.P. En-route mortality during upstream migration, plus effects on fitness of the next generation, are important contributors to the Fraser River sockeye situation. Joint DFO-PSC Workshop on Fraser River Sockeye Salmon Declines, Nanaimo, BC, June 15-16, 2010
- Hinch, S.G. Increasing the Sustainability of Multi-Sector Pacific Salmon Fisheries in Coastal Rivers of British Columbia by Quantifying and Reducing Mortality of Released Fish, and Ocean Telemetry Network, Counting on Salmon Workshop, Pacific Salmon Foundation, April 20, 2010.
- Hinch, S.G. Fishway passage, water diversion and warming temperatures: Factors limiting successful spawning migration of Seton-Anderson watershed sockeye salmon, Presentation to the St’at’imc Hydro Fisheries Co-operative Group, Lillooet, BC, Sept. 29, 2008.
- Hinch, S.G. Inclusion of ecosystem values into wild Pacific salmon management and conservation: Issues and

uncertainties to consider for initiating the public consultation process. Presentation to the workshop to develop the consultation process for implementation of Strategy 3 of the Wild Salmon Policy. Delta Hotel, Richmond, BC. March 23, 2006.

Hinch, S.G. Keynote speaker, Workshop on Positional and Physiological Telemetry in Aquatic Research, Dec 6-10, Swedish Agricultural University, Umea Sweden.

Hinch, S.G. Effects of extreme temperatures on migrating sockeye salmon. Presentation to Speaking for the Salmon Town Hall - Getting the missing fish story straight: a ten year retrospective on Fraser sockeye salmon. Wosk Centre for Dialogue, Simon Fraser University, Vancouver, BC. Nov. 7, 2005.

Hinch, S.G. Conservation and cultural issues in Vanuatu. Monthly meeting of the Royal Commonwealth Society of Canada. Vancouver, BC. Sept. 15, 2001.

(d) *Conference Organizer. (* - international venue)*

- **2008** Conference Organizer – Late Run Fraser River sockeye: Current Research and Management Challenges, June 16-18, University of British Columbia.
- ***2003** Program Organizer for 2 week intensive workshop hosted by Swedish University of Agricultural Science entitled - Sub-boreal watersheds in Canada and Sweden: ecological, physiochemical and management aspects of forests and forest-dwelling organisms.
- **2001** Arrangements Chairman and Local Organizer for 2002 Canadian Conference for Fisheries Research, Vancouver BC.
- **2000** Chairman of invited paper session, Conference on Communities and Management of Resources, Institute for Resources and Environment, University of British Columbia, Vancouver, B.C.
- ***1999** Chair and organizer of an invited paper session on Sockeye Salmon Migrations and Life History at the 1999 North Pacific International Chapter of the American Fisheries Society Annual Conference, Richmond, B.C.
- **1999** Chair and organizer of an invited paper session on Riparian Land Management and Fisheries Conservation at the 1999 Institute for Resources and Environment Annual Conference, University of British Columbia, Vancouver, B.C.
- **1998** Chair and organizer of a contributed paper session on Land Use Impacts on Stream Fish and Habitat, at the 1999 Canadian Conference for Fisheries Research, January, Edmonton, AB.
- ***1997** Co-chair and organizer of a contributed paper session on Habitat Use and Diel Activity Patterns of Juvenile Salmonids, at the 1997 American Society of Ichthyology and Herpetology. June, Seattle, WA.
- **1996** Nominations Chair, and member of the committee organizing the 1998 Canadian Conference for Fisheries Research

(e) *Papers Contributed at Conferences and Large Workshops*

(The first author was the presenter. Unless indicated by ^ all are oral presentations. Students, PDFs and RAs are indicated in **bold**. International venues indicated by *.)

***Clark T.D.**, Hinch S.G., and Farrell, A.P. Sex-specific differences in cardiorespiratory physiology, haematology and behaviour of wild Pacific salmonids during freshwater migration and spawning. International Congress on the Biology of Fishes – Physiology Section. Barcelona, Spain, July 5-9, 2010.

***Cook, K.V., McConnachie, S.H.**, Gilmour, K. M., Hinch, S. G., Cooke, S.J. Behavioural and fitness correlates of stress responsiveness in pink salmon (*Onchorynchus gorbuscha*) on spawning grounds. International Congress on the Biology of Fish: Physiological Mechanisms Underlying Social Interactions in Fish. International Congress on the Biology of Fish, Barcelona, Spain; July 5-9, 2010.

- *Eliason, E.J.,** Hinch, S. and Farrell, A.P. Intraspecific cardiac variation among adult sockeye salmon populations: keeping pace with the environment. International Congress on the Biology of Fish. Barcelona, Spain, July 5-9, 2010.
- *Donaldson, M.R.,** D.A. Patterson, J. Hills, J.O. Thomas, S.J. Cooke, S.G. Hinch, G. Raby, L.A. Thompson, K.M. Miller, D. Robichaud, K. English, and A.P. Farrell. 2010. The consequences of fisheries and holding-related stressors on adult Pacific salmon physiology, behaviour, and survival. International Congress on the Biology of Fish, Barcelona, Spain; July 5-9, 2010.
- *Hasler, C.T.,** Cooke, S.J., **Donaldson, M.R.,** Guimond, E., Patterson, D.A., Mossop B., Hinch, S.G. 2010. En-route temperature use and bioenergetics of different migration strategies in a population of summer-run Chinook salmon. Oral presentation, 9th International Congress on the Biology of Fish, Barcelona, Spain.
- *^Donaldson, M.R.,** T.D. Clark, S.G. Hinch, S.J. Cooke, D.A. Patterson, M.K. Gale, P.B. Frappell, and A.P. Farrell. 2010. Physiological responses and recovery of adult coho salmon to simulated predator and fisheries encounters. International Congress on the Biology of Fish, Barcelona, Spain; July 5-9, 2010.
- *McConnachie, S.H.,** K.V. Cook, D.A. Patterson, K.M. Gilmour, S.G. Hinch, A.P. Farrell and S.J. Cooke. Understanding the Consequences of Varying Levels of Stress on the Fitness and Behaviour of Spawning Pink Salmon. International Congress on the Biology of Fish, Barcelona, Spain; July 5-9, 2010.
- *Hasler, C.T.,** Cooke, S.J., Hinch, S.G., Guimond, E., Donaldson, M.R., Mossop, B., and Patterson, D.A. En route temperature use and bioenergetics of different migration strategies in a population of summer-run Chinook salmon. 9th International Congress on the Biology of Fish. Barcelona, Spain July 5-9, 2010.
- *Jeffries K.M.,** Hinch S.G., Farrell A.P., Patterson D.A., Miller K.M. The effects of elevated water temperature on adult Pacific salmon survival and physiology. 9th International Congress on the Biology of Fish. Barcelona, Spain, July 5-9, 2010.
- *^Raby GD, Donaldson MR,** Patterson DA, Robichaud D, English KK, Farrell AP, Willmore WG, Hinch SG, Davis MW, Cooke SJ. 2010. The fate of endangered interior Fraser coho salmon caught incidentally in a First Nations fishery in the lower Fraser River. 24th International Congress for Conservation Biology, Edmonton, Alberta. July 3-7, 2010
- *Clark T.D.,** Hinch S.G., and Farrell, A.P. Effects of body mass on the cardiorespiratory performance of Pacific salmonids in an era of climate change. Society for Experimental Biology Annual Main Meeting. Prague, Czech Republic, June 30 – July 3, 2010.
- *Eliason, E.J., Clark, T.D.,** Hinch, S. and Farrell, A.P. Tailoring physiology to the environment: the story of migrating sockeye salmon populations. Society for Experimental Biology Main Meeting. Prague, Czech Republic, June 30-July 3, 2010.
- *Donaldson, M.R., T.D. Clark,** G. Raby, S.G. Hinch, S.J. Cooke, D.A. Patterson, **M.K. Gale,** and A.P. Farrell. 2010. Conservation physiology case studies on the consequences of predator and fisheries encounters on adult migrating Pacific salmon using biologging, biotelemetry, and blood physiology indices. Society for Experimental Biology Annual Main Meeting, Prague, Czech Republic. June 30 – July 3, 2010.

- *Miller, K.M., Kaukinen, K., Schulze, A., Li, S., Scieocinski, T., Ginther, N., Patterson, D., Hinch, S., Farrell, T. Curtis, J., Hammill, E., Trudel, M., Beamish, D., Pavlidis, P. Wild ecological genomics studies of migrating salmon: intra-specific variation in response to a shifting environment. Society for Experimental Biology Animal Symposium on Intra-specific diversity in aquatic animals, Sète, France, June 25-27, 2010.
- *Burt, J.M., S. Hinch, D. Patterson. Family Matters: parental and temperature influences on the early life survival, morphology and burst swim performance of sockeye salmon. International Symposium: Advances in the Population Ecology of Stream Salmonids. Luarca, Asturias, Spain. May 17-21, 2010
- *Gale, M.K., Hinch, S.G., Donaldson, M.R., Patterson, D.A., and Cooke, S.J. Effects of thermal and capture stress on physiology, behaviour and survival of adult sockeye salmon (*Oncorhynchus nerka*). International Symposium: Advances in the Population Ecology of Stream Salmonids, Luarca, Spain, May 17-21, 2010.
- ^*Jeffries K.M., Hinch S.G., Sierocinski T., Pavlidis P., Miller K.M. The effects of elevated water temperature on adult sockeye salmon gene expression and blood physiology. Canadian Society of Zoologists Annual Meeting. Vancouver, British Columbia, May 17-21, 2010.
- * Eliason, E.J., Clark, T.D., Hinch, S. and Farrell, A.P. Sockeye salmon in hot water: population-specific tailoring of maximum cardiorespiratory performance to the temperature encountered during adult river migration. Canadian Society of Zoologists Annual General Meeting. Vancouver, Canada, May 17-21, 2010.
- *Martins E.G., Hinch S.G., Patterson D.A., Hague M.J., Cooke S.J., Miller K.M., Lapointe M.F., English K.K. and Farrell, A.P. Effects of river temperature and climate warming on stock-specific survival of adult migrating Fraser River sockeye salmon (*Oncorhynchus nerka*). International Symposium on Climate Change Effects on Fish and Fisheries: Forecasting Impacts, Assessing Ecosystem Responses, and Evaluating Management Strategies. Sendai, Japan, April 26-29, 2010.
- Hammill, E., Curtis, J., Kaukinen K., Li S., Patterson D.A., Pavlidis, P., Farrell A.P., Hinch, S.G, Miller, K.M. Using patters of gene expression to predict survival. Fisheries and Oceans Regional Science Forum, April 2-3, 2010
- ^Evans T.G, Kaukinen K, Schulze A, Ginther N, Li S, Patterson D, Farrell AP, Hinch S, Miller K. Genomic indices of environmental adaptation in wild migrating adult Pacific sockeye salmon (*Oncorhynchus nerka*). Fisheries and Oceans Regional Science Forum, April 7-8, 2010 (poster)
- ^Donaldson, M.R., T.D. Clark, S.G. Hinch, S.J. Cooke, D.A. Patterson, M.K. Gale, P.B. Frappell, and A.P. Farrell. 2010. Physiological responses of free-swimming adult coho salmon to simulated predator and fisheries encounters. University of British Columbia Faculty of Forestry Research Evening. Poster presentation, Vancouver, British Columbia. March 2010.
- Gale, M.K., S.G. Hinch, M.R. Donaldson, D.A. Patterson, and S.J. Cooke. The effects of thermal and capture stress on the physiology, behaviour, and survival of adult sockeye salmon (*Oncorhynchus nerka*). University of British Columbia Forest Sciences Departmental Seminar, Vancouver, British Columbia, March 17, 2010.

- Burt, J.,** S.G. Hinch, and D.A. Patterson. Family Matters: parental and temperature influences on the early life survival, morphology and burst swim performance of sockeye salmon. Pacific Ecology and Evolution Conference. Bamfield, BC. March 6-7, 2010.
- Gale, M.K.,** S.G. Hinch, **M.R. Donaldson,** D.A. Patterson, and S.J. Cooke. The effects of thermal and capture stress on the physiology, behaviour, and survival of adult sockeye salmon (*Oncorhynchus nerka*). Pacific Ecology and Evolution Conference, Bamfield, British Columbia, March 6-7, 2010.
- Gale, M.K.,** S.G. Hinch, **M.R. Donaldson,** D.A. Patterson, and S.J. Cooke. The effects of thermal and capture stress on the physiology, behaviour, and survival of adult sockeye salmon (*Oncorhynchus nerka*). American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010.
- *Jeffries, K.M.,** S.G. Hinch, E.G. Martins, **S.M. Drenner,** **C.K. Whitney,** K.M. Miller. 2010. The effects of elevated water temperature on adult pink salmon survival and blood physiology. 24th Northwest Pacific Pink & Chum Salmon Workshop, Nanaimo, British Columbia, March 2-4, 2010.
- Donaldson, M.R.** S.G. Hinch, D.A. Patterson, S.J. Cooke, G. Raby, J.O. Thomas, J. Hills, L.A. Thompson, K.M. Miller, A. Lotto, D. Robichaud, K. English, and A.P. Farrell. 2010. Fisheries and handling-related stressors on adult Pacific salmon physiology, behaviour and survival. American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010.
- ^Donaldson, M.R. T.D. Clark,** S.G. Hinch, S.J. Cooke, D.A. Patterson, **M.K. Gale,** P.B. Frappell, and A.P. Farrell. 2010. Physiological responses and recovery of adult coho salmon to simulated predator and fisheries encounters. American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010.
- Burt, J.,** S.G. Hinch, and D.A. Patterson. Family Matters: parental and temperature influences on the early life survival, morphology and burst swim performance of sockeye salmon. American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010.
- *Miller, K.M.,** K. Kaukinen, A. Schulze, N. Ginther, M. Trudel, D. Beamish, D. Patterson, P. Pavlidis, T. Scierocinski, S. Hinch, A. Farrell. March 2010. Successful smolts: indicators from genomic profiling. 12th salmon Ocean Ecology Meeting, Santa Cruz, California.
- *Hammill, E.,** J. Curtis, K. Miller, A. Schulze, N. Ginther, S. Li, D. Patterson, A. Farrell, S. Hinch. March 2010. Using patterns of gene expression to predict survival. 12th salmon Ocean Ecology Meeting, Santa Cruz, California.
- *Donaldson, M.R.** 2010. Increasing the sustainability of multi-sector Pacific salmon fisheries in coastal rivers of British Columbia by quantifying and reducing mortality of released fish. Invited Oral Presentation, Pacific Salmon Commission Panel Meetings, Portland, Oregon. January 21, 2010.
- Martins E.G.,** Hinch S.G., Patterson D.A., Hague M.J., Cooke S.J., Miller K.M., Lapointe M.F., English K.K. and Farrell, A.P. Effects of river temperature and climate warming on stock-specific survival of adult migrating Fraser River sockeye salmon (*Oncorhynchus nerka*). Workshop on Salmon Migrations, Climate Change, and Capture/Release Fisheries, University of British Columbia, Vancouver, BC, Canada. Jan. 7,

2010.

- Jeffries, K.M.**, S.G. Hinch, and K.M. Miller. 2010. The effects of water temperature on sockeye survival and blood physiology. Workshop on Salmon Migrations, Climate Change, and Capture/Release Fisheries, University of British Columbia, Vancouver, BC, Canada. Jan. 7, 2010.
- Gale, M.K.**, S.G. Hinch, M.R. Donaldson, D.A. Patterson, and S.J. Cooke. The effects of thermal and capture stress on migrating adult sockeye salmon (*Oncorhynchus nerka*). Workshop on Salmon Migrations, Climate Change, and Capture/Release Fisheries, University of British Columbia, Vancouver, BC, Canada. Jan. 7, 2010
- Burt, J.**, S.G. Hinch, and D.A. Patterson. Incubation Environment and Parental Influences on Pacific Salmon Offspring. Workshop on Salmon Migrations, Climate Change, and Capture/Release Fisheries, University of British Columbia, Vancouver, BC, Canada. Jan. 7, 2010.
- Eliason, E.J., Clark, T.D.**, Hinch, S. and Farrell, A.P. Pacific salmon in hot water: Examining cardiorespiratory limitations in migrating adult sockeye salmon (*O. nerka*). Workshop on Salmon Migrations, Climate Change, and Capture/Release Fisheries, University of British Columbia, Vancouver, BC, Canada. Jan. 7, 2010.
- Hasler, C.T.**, Sunder, R.P.B., Donaldson, M.R., Guimond, E., Patterson, D., Mossop, B., Hinch, S.G., and Cooke, S.J. The influence of circulating blood physiology on migratory behaviour and fate of an imperiled stock of Chinook salmon. Canadian Conference for Fisheries Research. Winnipeg, Manitoba, January 7-9, 2010.
- Hasler, C.T.**, Sunder, R.P.B., Donaldson, M.R., Guimond, E., Patterson, D., Mossop, B., Hinch, S.G., and Cooke, S.J. The influence of circulating blood physiology on migratory behaviour and fate of an imperiled stock of Chinook salmon. 8th Fish Telemetry Conference held in Europe. Umea, Sweden, September 14-18, 2009.
- Hasler, C.T.**, Sunder, R.P.B., Donaldson, M.R., Guimond, E., Patterson, D., Mossop, B., Hinch, S.G., and Cooke, S.J. The influence of circulating blood physiology on migratory behaviour and fate of an imperiled stock of Chinook salmon. 139th Annual Meeting of the American Fisheries Society. Nashville, Tennessee, August 31-September 4, 2009.
- Eliason, E.J., Clark, T.D.**, Hinch, S. and Farrell, A.P. Pacific salmon in hot water: Examining cardiorespiratory limitations in migrating adult sockeye salmon (*O. nerka*). Canadian Society of Zoology Annual Meeting, Toronto, Ontario, May 12-16, 2009
- Patterson D.A., Hague M., Ferrari M., Miller J., **Martins E.G.**, Hinch S.G., Farrell A.P., Hills J., Chan K. & Lee J. Modelling the effects of climate change on the migratory success of Fraser River sockeye salmon. State of the Salmon Conference, Vancouver, BC, Canada. Feb 2-5, 2009
- * Hinch, S., T. Farrell, S. Cooke, D. Patterson, **G. Crossin, T. Mathes**, S. Larsson, and M. Lapointe. Pacific salmon in hot water: using aerobic scope and physiological characteristics to predict the success of spawning migrations during climate warming. American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.

- * **Roscoe, D.**, S. Hinch, S. Cooke, **L. Pon**, D. Patterson, and A. Lotto. Fishway passage, water diversion and warming temperatures: factors limiting successful spawning migration of Seton-Anderson watershed salmon. American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.
 - * **Donaldson, M.**, S. Cooke, D. Patterson, D. Robichaud, **G. Crossin**, **K. Hanson**, **I. Olsson**, and Karl English. Limited access to cool-water refugia for adult up-river migrating sockeye salmon in the Fraser River mainstem, BC, Canada. American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.
 - * Cooke, S., S. Hinch, T. Farrell, G. Van Der Kraak, M. Shrimpton, **G. Crossin**, **M. Donaldson**, **K. Hanson**, D. Patterson, and K. English. Are Pacific salmon commercial fisheries selective for physiological and energetic traits? American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.
 - * **Hasler, C.**, **R. Sunder**, **M. Donaldson**, **E. Guidmore**, D. Patterson, B. Mossop, S. Hinch, and S. Cooke. Expanding the toolbox for measuring the impacts of hydropower on fish and fish habitat using individual-based techniques: a case study from the Puntledge River, BC. American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.
 - * Patterson, D., T. Farrell, S. Macdonald, and S. Hinch. Warming rivers, migratory stress, and parental effects: the influence of changing adult salmon migratory conditions on offspring fitness. American Fisheries Society Annual Meeting, Ottawa, Ontario. Aug. 18-21, 2008.
- Hinch, S.G., **S. Larsson**, **G. Crossin**, **T. Mathes**, **W. Wagner**, S. Cooke, A.P. Farrell, K. English, D. Welch, S. Jones, and D. Patterson. 2008. Adult salmon in hot water: migration thermal experiments. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.
- Cooke, S. J., **G.T. Crossin**, S.G. Hinch, D. Patterson, A.P. Farrell, M. Shrimpton, K. English, D. Welch, and G. Van Der Kraak. 2008. Early migration of sockeye salmon: physiological and energetic correlates of behaviour and fate in coastal environments. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.
- Crossin, G.T.**, S.G. Hinch, S.J. Cooke, **M.S. Cooperman**, D.A. Patterson, D.W. Welch, **K.C. Hanson**, **I. Olsson**, **L.B. Pon**, K. English, M. Jacobs, P.M. Winchell, and A.P. Farrell. 2008. Ocean biopsy telemetry in 2006: physiological correlations with migration timing and marine fate. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.
- Olsson, I.**, S.G. Hinch, **M.S. Cooperman**, **G.T. Crossin**, S.J. Cooke, **K. Hanson**, R. Thomson, S. Milhaly, R. Hourston, K. English, and D. Welch. 2008. Relationships between site-specific water properties and travel times of sockeye salmon from marine areas into freshwater within a single year. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.
- Cooperman, M.S.**, S.G. Hinch, **G.T. Crossin**, **I. Olsson**, **A. Lotto**, S.J. Cooke, D.A. Patterson, A.P. Farrell, and D.W. Welch. 2008. Experimental test of the osmoregulation hypothesis for the abnormal migration timing for Fraser River Late Run sockeye. Conference on Early Migration and Premature Mortality in

Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.

Cooke, S. J., **G.T. Crossin**, S.G. Hinch, D. Patterson, A.P. Farrell, M. Shrimpton, K. English, D. Welch, G. Van Der Kraak, **K. Hanson**, and **J. Young**. 2008. Consequences of early entry on Late-run sockeye salmon: focus on riverine migration. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.

Farrell, A.P., **C. Lee**, **M. Steinhausen**, **T. Clark**, **E. Eliason**, **T. Mathes**, **L. Pon**, **G.T. Crossin**, S.G. Hinch, S. Cooke, and D. Patterson. 2008. Adult salmon in hot water: adaptation, physiology and behaviour. Conference on Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon. June 16-18, 2008, Vancouver, BC.

***Hasler**, **C.T.**, Sunder, R., **Donaldson**, **M.R.**, Guimond, E., Mossop, B., Patterson, D., Hinch, S.G., Cooke, S.J. Condition, migration behaviour and energy use of an imperiled stock of Chinook salmon in a hydropower impacted river. International Congress on the Biology of Fish, July 27th-August 1st, 2008, Portland Oregon.

***Donaldson**, **M.R.**, **Hruska**, **K.A.**, Hinch, S.G., Patterson, D.A., Farrell, A.P., Shrimpton, J.M., Miller-Saunders, K.M., Robichaud, D., **Hanson**, **K.C.**, English, K.K., and Cooke, S.J. 2008. Integrating physiological, behavioural, and environmental indices to understand migration fall back and mortality during the freshwater phase of the sockeye salmon (*Oncorhynchus nerka*) spawning migration in the Fraser River, British Columbia. International Congress on the Biology of Fish, July 27th-August 1st, 2008, Portland Oregon.

*Cooke, S.J., Hinch, S.G., Farrell, A.P., Miller-Saunders, K., Patterson, D.A., **Donaldson**, **M.R.**, **Crossin**, **G.**, **Hanson**, **K.C.**, English, K.K., Welch, D., Shrimpton, M., Van Der Kraak, G., and Thomson, R. Developing a mechanistic understanding of fish migrations by linking telemetry with physiology, behaviour, genomics and experimental biology. International Congress on the Biology of Fish, July 27th-August 1st, 2008, Portland Oregon.

***Crossin**, **G.T.**, S.G. Hinch, D.W. Welch, and A.P. Farrell. Ocean migration of sockeye salmon: physiological mechanisms and behavioural tactics influencing timing and success. Salmon Ocean Ecology Meeting, Nanaimo, BC, April 28, 2008.

Miller, K.M., S. Li, K. Kaukinen, A. Schulze, M. Raap, N. Ginther, A.P. Farrell, S.G. Hinch, S.J. Cooke, D.A. Patterson, G.T. Crossin, K.K. English, and M. Lapointe. Migratory genomics and the fate of Fraser River sockeye salmon. 10th Salmon Ocean Ecology Meeting, Nanaimo, BC, April 2008.

***Eliason**, **E.**, **T. Clark**, **K. Jeffries**, S. Hinch, G. Cox, C. Wilson, and A.P. Farrell. Effects of high temperature on cardiorespiratory performance of adult salmonids during migration. Society of Experimental Biologists Annual Meeting, Marseilles, France. April 2008.

*Farrell, A.P., S.G. Hinch, D.A. Patterson, **E. Eliason**, **M. Steinhausen**, and **L.M. Hanson**. Salmonids in hot water: examining aerobic scope and cardiac limitations. Society of Experimental Biologists Annual Meeting, Marseilles, France. April 2008.

*Mossop, B., S.J. Cooke, **L.B. Pon**, S.G. Hinch, M.D. Sheng, and P.S. Higgins. Radio telemetry improves

instream flow management decisions to benefit migrating adult Pacific salmon. International Symposium of Advances in Fish Tagging and Marking Technology, Auckland, New Zealand, Feb. 24-28, 2008.

*Cooke, S.J., S.G. Hinch, A.P. Farrell, D.A. Patterson, K. Miller, D.W. Welch, **M.R. Donaldson, K.C. Hanson, G.T. Crossin, I. Olsson, M.S. Cooperman, M.T. Mathes, K.A. Hruska, G.N. Wagner, R. Thomson, R. Hourston, K.K. English, S. Larsson, J.M. Shrimpton, and G. Van der Kraak.** Developing a Mechanistic Understanding of Fish Migrations by Linking Telemetry with Physiology, Behaviour, Genomics and Experimental Biology. International Symposium of Advances in Fish Tagging and Marking Technology, Auckland, New Zealand, Feb. 24-28, 2008.

***Steinhausen, M.F.**, S.G. Hinch, and A.P. Farrell. Sockeye salmon migration physiology and behaviour, 7th International Conference on Comparative Physiology and Biochemistry, Salvador, Bahia, Brazil, Aug. 16, 2007.

Cooke, S.J., S.G. Hinch, A.P. Farrell, D.A. Patterson, K. Miller, D.W. Welch, **M.R. Donaldson, K.C. Hanson, G.T. Crossin, I. Olsson, M.S. Cooperman, M.T. Mathes, K.A. Hruska, G.N. Wagner, R. Thomson, R. Hourston, K.K. English, S. Larsson, J.M. Shrimpton, and G. Van der Kraak.** Interdisciplinary approaches to studying fish migration biology in freshwater and marine systems. 7th Conference on Fish Telemetry held in Europe. Silkeborg, Denmark, June 2007.

***Cooperman, M.S.**, S.G. Hinch, A.P. Farrell, S.J. Cooke, **G. Crossin, D. Patterson.** High mortality of migrating Fraser River salmon: physiological, oceanographic, & temperature causes of a conservation crisis. Poster presentation. Challenges for Diadromous Fishes in a Dynamic Global Environment - 2nd International Symposium on Diadromous Fishes. Halifax, Nova Scotia, June 2007.

Donaldson, M.R., Cooke, S.J., Hinch, S.G., Robichaud, D., Patterson, D.A., **Hanson, K.C.**, Farrell, A.P. and English, K.K. . An assessment of the thermal Ecology, physiology and behaviour of migrating Fraser River sockeye salmon (*Oncorhynchus nerka*). 16th Annual Comparative Physiology & Biochemistry Workshop. Peterborough, Canada. June 2007.

Steinhausen, M.F., E. Eliason, T. Clark, E Sandblom, C. Verhille, S. Hinch, and A.P. Farrell. The effect of warm temperatures and exercise on cutaneous oxygen uptake of sockeye salmon: the importance of the secondary circulation system. Canadian Society of Zoologists, Annual Meeting, McGill University. May 2007.

^Farrell, A.P., S.G. Hinch, and D. Patterson. Hot salmon, cool strategies. Society of Experimental Biologists Annual Meeting, Glasgow, Scotland. April 2007.

***Cooperman, M.S.**, S.G. Hinch, S.J. Cooke, **G.T. Crossin, I. Olsson, A.P. Farrell, D.A. Patterson, K.K. English, D.W. Welch, J.M. Shrimpton, G. Van Der Kraak, and K. Miller.** 2007. Better late than never: Consequences and potential mechanisms of early freshwater entry by Fraser River late-run sockeye. presentation. Georgia Basin / Puget Sound Research Conference. Vancouver, BC, Canada. March 2007.

***Cooperman, M.S.**, S.G. Hinch, S.J. Cooke, **G.T. Crossin, I. Olsson, A.P. Farrell, D.A. Patterson, K.K. English, D.W. Welch, J.M. Shrimpton, G. Van Der Kraak, and K. Miller.** 2007. Better late than never: Consequences and potential mechanisms of early freshwater entry by Fraser River late-run sockeye. presentation. Salmon Ocean Ecology Meeting, Hatfield Marine Science Center, Newport OR., March 2007.

- Hinch, S.G., **J.D. De Groot**, and J.R. Richardson. Effects of logging second-growth forests on headwater populations of coastal cutthroat trout: a 6-year multi-stream before and after field experiment in the UBC Malcolm Knapp Research Forest. Conference on Riparian Management in Headwater Catchments: Translating Science into Management. University of BC, Vancouver, BC, Feb. 19-21, 2007.
- Mellina, E.**, and S.G. Hinch. A meta-analysis of stream habitat, and salmonid density and biomass responses to clear-cut logging: the influence of stream cleaning. Conference on Riparian Management in Headwater Catchments: Translating Science into Management. University of BC, Vancouver, BC, Feb. 19-21, 2007.
- *Cooke, S.J., Hinch, S.G., Farrell, A.P., Donaldson, M.R., **Hanson, K.C.**, **Crossin, G.T.**, **Pon, L.B.**, **Lotto, A.**, **Olsson, I.**, **Cooperman, M.**, Patterson, D.A., **Larsson, S.**, English, K., Welch, D., Miller, K., and R. Thomson. 2007. Interdisciplinary approaches to the study of fish migration biology: lessons from the Pacific salmon. Invited Oral Presentation, ADAPTFISH Seminar on Novel Applications of Telemetry in Fish and Fisheries Science. Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany.
- Cooke, S.J., S.G. Hinch, **G. Crossin, M. Cooperman, M. Donaldson, K.C. Hanson, I. Olsson**, A.P. Farrell, K. English, D. Welch, D. Patterson, K. Miller, R. Thompson, G. Van Der Kraak, and J.M. Shrimpton. Investigating the early migration behaviour and in-river survival of adult later-run Fraser River sockeye salmon through multidisciplinary research. Canadian Conference for Fisheries Research, Montreal, QC. January 5-7, 2007.
- Moore, R.D., and S.G. Hinch. Estimation of post-logging stream temperature changes and bioenergetic consequences for cutthroat trout. Water Under Pressure: Balancing Values, Demands and Extremes, Canadian Water Resources Association, British Columbia Branch, 2006 Conference, October 25-26
- ***Hruska, K.A.**, Hinch, S.G., Healey, M.C., and Farrell, A.P. Changes in hormone and ion concentrations in plasma of spawning and senescing sockeye salmon (*Oncorhynchus nerka*). 7th International Congress on the Biology of Fish, St. John's, NL, Canada, July 18-22, 2006.
- *Shrimpton, J.M., D.A. Patterson, J.G. Richards, **S.J. Cooke**, P.M. Schulte, S.G. Hinch, and A.P. Farrell. Ionoregulatory changes in maturing sockeye salmon (*Oncorhynchus nerka*) during ocean and river migration. 7th International Congress on the Biology of Fish, St. John's, NL, Canada, July 18-22, 2006.
- ***Wagner, G.N.**, Hinch, S.G., **MacNutt, M.J.**, Lotto, A., Jones, S.R.M., Patterson, D.A., **Cooke, S.J.**, Macdonald, S., Van Der Kraak, G., Healey, M.C., and Farrell, A.P. Renal function, blood pressure, and metabolic rates of Fraser River sockeye salmon infected with *Parvicapsula minibicornis*. Integrative Physiology of Migrating Fishes Symposium. 7th International Congress on the Biology of Fish, St. John's, NL, Canada, July 18-22, 2006.
- ***Hruska, K.A.**, Hinch, S.G., Healey, M.C., and Farrell, A.P. Relationships between physiological status and behavioural reproductive success in spawning sockeye salmon (*Oncorhynchus nerka*). American Society of Limnology and Oceanography Annual Meeting, Victoria, BC, Canada, June 4-9, 2006.
- ***Crossin, G.T.**, Hinch, S.G., **Cooke, S.J.**, Welch, D.W., Patterson, D.A., and Farrell, A.P. Behavior, physiology, and survival of homing sockeye salmon exposed to temperatures reflective of recent climate

change in the Fraser River, British Columbia. American Society of Limnology and Oceanography Annual Meeting, Victoria, BC, Canada, June 4-9, 2006.

- *Hinch, S.G., **S. Cooke**, A.P. Farrell, **G. Crossin**, D. Patterson, **T. Mathes**, **S. Larsson**, **J. Young**, and K. English. High mortality of migrating adult Fraser River sockeye salmon: physiological and temperature causes of a conservation crisis. Annual Western Division Conference, American Fisheries Society, Bozeman, Montana. May 15-19, 2006.
- ***Cooperman, M.S.**, S.G. Hinch, S. Bennett, B. Heise, J. Quigley, R. Galbraith and **M. Branton**. Substituting space for time is a poor method for evaluating stream restoration effectiveness in the southern interior of British Columbia. Annual Western Division Conference, American Fisheries Society, Bozeman, Montana. May 15-19, 2006.
- ***Nadeau, P.**, S. Hinch, and **K. Hruska**. Early life survival and growth of juvenile sockeye salmon: does paternal migratory experience matter? Annual Western Division Conference, American Fisheries Society, Bozeman, Montana. May 15-19, 2006.
- ***Pon, L.**, S. Hinch, and **S. Cooke**. Understanding fishway passage of sockeye salmon using EMG telemetry and physiological sampling. Annual Western Division Conference, American Fisheries Society, Bozeman, Montana. May 15-19, 2006.
- Farrell, A.P., S.G. Hinch, and D.A. Patterson. Cool strategies for hot salmon. Annual General Meeting of the Canadian Society of Zoology, Edmonton, AB. May 3-6, 2006
- *Hinch, S.G. A.P. Farrell, **S. Cooke**, **G. Crossin**, D. Patterson, M. Lapointe, **M. Standen**. Using telemetry to integrate behaviour and physiology at varying spatial scales: experiences with migrating adult Pacific salmon. American Fisheries Society Annual Meeting, Anchorage, Alaska. Sept. 11-15, 2005.
- *Hinch, S.G. A.P. Farrell, **S. Cooke**, **G. Crossin**, **T. Mathes**, D. Patterson, M. Lapointe, **G. Wagner**, **S. Larsson**. Influence of high river temperatures on adult salmon migration behaviour and survival: insights from physiological telemetry and intervention experiments. American Fisheries Society Annual Meeting, Anchorage, Alaska. Sept. 11-15, 2005.
- ^***Hruska, K.**, S.G. Hinch, M.C. Healey, A.P. Farrell. Use of behaviour, telemetry, and genetic markers in analyses of reproductive success and fitness in sockeye mating systems. American Fisheries Society Annual Meeting, Anchorage, Alaska. Sept. 11-15, 2005.
- ***Crossin, G.T.**, Hinch, S.G., **Cooke, S.J.**, Welch, D.W., Batten, S., Lotto, A.G., **Mathes M.T.**, and Farrell, A.P. Using acoustic telemetry to assess the effects of thermal stress on the behaviour, physiology, and survival of upriver migrating sockeye salmon. 6th Conference on Fish Telemetry in Europe, Sesimbra, Portugal. June 5-11, 2005.
- Hinch, S.G., A.P. Farrell, **S. Cooke**, M.C. Healey, S. Jones, D. Patterson, J.S. Macdonald, M. Lapointe, **G. Wagner**, **S. Larsson**. Jan 2005. Ecological, fisheries and conservation crises in British Columbia Pacific salmon: effects of aberrant migrations and extraordinarily high natural mortality. Canadian Conference for Fisheries Research, Windsor Ont.

- Cooke, S.J.**, K. English, D. Welch, S.G. Hinch, G. Crossin, **J.L. Young**, M.C. Healey, A.P. Farrell, G. Van Der Kraak, M. Shrimpton, J.S. Macdonald, D. Patterson. Jan. 2005. Coupling non-invasive physiological and energetic assessments with telemetry: an assessment of a novel approach for examining migration mechanisms in sockeye salmon. Canadian Conference for Fisheries Research, Windsor Ont.
- ***De Groot, J.D.** and S.G. Hinch. August 2005. The effects of logging headwater streams on resident coastal cutthroat trout (*Oncorhynchus clarki clarki*) populations in southwestern BC. American Fisheries Society Annual Meeting, Madison WI.
- ***Wagner, G.N.**, Kuchel, L., **Lotto, A.**, Jones, S.R.M., Patterson, D.A., **Cooke, S.J.**, Macdonald, J.S., Van Der Kraak, G., Healey, M.C., English, K., Hinch, S.G., and Farrell, A.P. August 2004. Swimming physiology plasticity in Fraser River sockeye salmon: effects of kidney parasite infection. Fitness Physiology Symposium: selection of physiological characteristics, VI International Congress on the Biology of Fish, Manaus, Brazil.
- *Hinch, S.G., A.P. Farrell, **S. Cooke**, M.C. Healey, S. Jones, D. Patterson, J.S. Macdonald, M. Lapointe, **G. Wagner, S. Larsson**. May 2004. Ecological, fisheries and conservation crises in British Columbia Pacific salmon: effects of aberrant migrations and extraordinarily high natural mortality. World Fisheries Conference, Vancouver, BC.
- ***Cooke, S.J.**, D. Patterson, **G. Crossin**, S. Jones, **G. Wagner**, M. Shrimpton, S. Macdonald, M.C. Healey, A.P. Farrell, and S.G. Hinch. May 2004. Linking migration biology of sockeye salmon with conservation and management through multivariate analyses. World Fisheries Congress, Vancouver, BC.[^]
- *Richardson, J.S., P. M. Kiffney, S. G. Hinch, M. Feller, R. D. Moore, S. Mitchell, and **J. DeGroot**. May 2004. Small streams and riparian management: an experimental test of the effectiveness of riparian reserves. World Fisheries Conference, Vancouver, BC.
- *Hinch, S.G. June 2003. Salmon abundance in British Columbia: trends, patterns and threats. Swedish University of Agricultural Sciences Boreal Watershed Workshop. Umea, Sweden.
- *Hinch, S.G. June 2003. Aquatic ecosystem structure and function in sub-boreal British Columbia: Effects of riparian logging and road crossings on benthic invertebrates, fish access, and habitat. Swedish University of Agricultural Sciences Boreal Watershed Workshop. Umea, Sweden.
- ***Mellina, E.**, S.G. Hinch, R.D. Moore. June 2003. Impacts of clear-cut logging on streams and fish in the central interior of British Columbia, Canada. Swedish University of Agricultural Sciences Boreal Watershed Workshop. Umea, Sweden.
- *Hinch, S.G., **S.J. Cooke**, A.P. Farrell, M. Lapointe, S. Jones, M.C. Healey, S. MacDonald, D. Patterson, and G. van der Kraak. April 2003. Abnormal migration timing and early mortality of Fraser River sockeye salmon. Annual Western Division Conference, American Fisheries Society, San Diego, CA
- Lapointe, M., **S.J. Cooke**, S.G. Hinch, A. P. Farrell, S. Jones, S. MacDonald, D. Patterson, M.C. Healey, and G. Van Der Kraak. March 2003. Early upstream migration and mortality of Late-run sockeye salmon in the Fraser River, British Columbia. Georgia Basin/Puget Sound Research Conference, Vancouver, BC.

- Richardson, J.S., and S.G. Hinch. March 2003. Monitoring of the lower Fraser River using fish assemblages: can it be done without reference conditions? Georgia Basin/Puget Sound Research Conference, Vancouver, British Columbia.
- *Hinch, S.G., and **E. Standen**. July 2002. Using physiological telemetry to examine energy use, behaviour and survival of up-river migrating adult Pacific salmon. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC
- *Farrell, A.P, C.G. Lee, K. Tierney, A. Hodaly, S. Clutterham, M. Healey, S. Hinch and A. Lotto. July 2002. Field based measurements of oxygen uptake and swimming performance with adult Pacific salmon using a large mobile Brett-type respirometer swim tunnel. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC ^
- ***Rand, P.S.**, S.G. Hinch, M.G.G. Foreman, J. Morrison, J.S. Macdonald. July 2002. Migration success of adult sockeye salmon ascending the Fraser River, British Columbia: an analysis based on past, present and expected future river conditions. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC
- ***Standen, E.**, S.G. Hinch, **P.S. Rand**. July 2002. Moving water, swimming fish: using underwater videography to study the effects of hydraulic condition on energy use in up-river migrating salmon. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC
- ***Crossin, G.**, and S.G. Hinch. July 2002. Bioenergetic efficiency, adaptive morphology and reproductive trade-offs in upriver migrating adult sockeye salmon: interdecadal variation and the influence of migratory distance and elevation. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC
- ***MacNutt, M.J.**, C.G. Lee, S.G. Hinch and A. P. Farrell. July 2002. Stock specific differences in the swimming ability, metabolic rates and post-exercise metabolic recoveries of Fraser River salmon in relation to migration distance and temperature. International Congress on the Biology of Fish, University of British Columbia, Vancouver, BC
- Mellina, E.**, D. Moore, S.G. Hinch, and G. Pearson. Feb. 2002. Stream temperature responses to streamside timber harvesting in the central interior of BC: the moderating influence of groundwater and headwater lakes. Small Stream Symposium and Conference, University of British Columbia, Vancouver BC. ^
- ***Giannico, G.**, and S.G. Hinch. Feb. 2002. Juvenile coho salmon winter use of off-channel habitat in southwestern BC. Annual conference of American Fisheries Society, Oregon Chapter. Corvallis, OR
- Crossin, G.**, and S.G. Hinch. Jan. 2002. Adaptive morphometric and bioenergetic patterns in migrating Fraser River sockeye salmon. Canadian Conference for Fisheries Research, Vancouver, BC
- Standen, E.**, and S.G. Hinch. Jan. 2002. Use of underwater videography to examine behaviour of up-river migrating adult salmon. Canadian Conference for Fisheries Research, Vancouver, BC
- MacNutt, M.J.**, S.G. Hinch, and A.P. Farrell. Jan. 2002. Swimming performance and energetics of senescing, migrating salmon: a comparison of sockeye and pink salmon. Canadian Conference for Fisheries

Research, Vancouver, BC ^

Lee, C.G., A.P. Farrell, S.G. Hinch, and M.C. Healey. Jan 2002. Sexual dichotomy and stock specific differences in the swimming ability and metabolic expenditure of sockeye and coho salmon in relation to temperature. Canadian Conference for Fisheries Research, Vancouver, BC ^

Healey, M.C., S.G. Hinch., T. Farrell. May 2001. Bioenergetics, reproduction and fitness of Pacific salmon in a changing global environment. International Association of Great Lakes Research Annual Meeting. Toronto, Ont.

Crossin, G., and S.G. Hinch. Jan. 2001. Energetic and morphometric patterns in migrating Fraser River sockeye salmon: the role of migratory distance and elevation. Canadian Conference for Fisheries Research, Toronto, Ont.

***Mellina, E.,** and S.G. Hinch. July 2000. Physiological stress responses of stream-dwelling rainbow trout to riparian logging practices. International Congress on the Biology of Fish, University of Aberdeen, Aberdeen, Scotland. ^

***Rand, P.S.,** and S.G. Hinch. July 2000. Modelling energy use in upriver migrating adult sockeye salmon. International Congress on the Biology of Fish, University of Aberdeen, Aberdeen, Scotland.

Roberge, M., and S.G. Hinch. Jan. 2000. Influence of physical habitat on seasonal growth and movement of individual juvenile cutthroat trout. Canadian Conference for Fisheries Research, Fredericton, N.B.

Hinch, S.G. Feb. 1999. Assessing swimming activity and risk of energy depletion in up-river migrating sockeye salmon. North Pacific International Chapter of the American Fisheries Society, Annual Conference. Richmond, B.C.

Decker, S. and S.G. Hinch. Feb. 1999. The influence of primary production on the size and abundance of coho salmon pre-smolts in restored groundwater side channels. North Pacific International Chapter of the American Fisheries Society Annual Conference, Richmond, B.C.

Giannico, G.R., and S.G. Hinch. Jan. 1999. Effects of water temperature and woody debris addition on juvenile coho salmon winter movement and smolt output in artificial side channels. Canadian Conference for Fisheries Research, Edmonton, Alberta.

Dobson, D.L., S.G. Hinch, and S.N. Aitken. Jan. 1999. Habitat-specific genetic and phenotypic differentiation in coho salmon: using microsatellite markers to make inferences about quantitative traits. Canadian Conference for Fisheries Research, Edmonton, Alberta.

Mellina, E. and S.G. Hinch. Jan. 1999. Physiological stress responses of stream dwelling rainbow trout to clearcut logging in the central interior of B.C. Canadian Conference for Fisheries Research, Edmonton, Alberta.

Decker, S. and S.G. Hinch. Jan. 1999. Effects of primary production on seasonal changes in juvenile coho salmon size and biomass in artificial side channels. Canadian Conference for Fisheries Research, Edmonton, Alberta.

- ***Rand, P.S.**, S.G. Hinch, and M.C. Healey. June 1998. Modeling the effects of migration behaviour and climate change: implications for predicting marine production of Pacific salmon. Ecological Society of America, St. Louis, Missouri.
- Young, K.A.** and S.G. Hinch. Feb. 1998. Recovery of stream trout and their habitat twenty-five years after riparian logging: a case study at the UBC Malcolm Knapp Research Forest. Conference on Cumulative Effects, Institute for Resources and Environment, Vancouver, B.C
- Giannico, G.** and S.G. Hinch. Feb. 1998. Artificial riparian side channels as a means to mitigate lost salmon production. Conference on Cumulative Effects, Institute for Resources and Environment, Vancouver, B.C.
- Giannico, G.** and S.G. Hinch. Jan. 1998. Does the presence of woody debris increase coho salmon smolt production in groundwater side channels? Canadian Conf. for Fisheries Research. Kingston, Ont.
- Young, K.A.**, S.G. Hinch, and T.G. Northcote. Jan. 1998. Recovery of cutthroat trout and their habitat in a small BC stream 25 years after riparian logging. Canadian Conference for Fisheries Research. Kingston, Ont.
- ***Decker, S.**, and S.G. Hinch. June 1997. Seasonal changes in juvenile coho salmon biomass from groundwater side channels: the role of fish size and primary production. American Society of Ichthyology and Herpetology. Seattle, WA.
- ***Giannico, G.**, and S.G. Hinch. June 1997. The effects of woody debris addition on movement in and out of groundwater fed side channels by juvenile coho salmon during winter. American Society of Ichthyology and Herpetology. Seattle, WA.
- Rand, P.S.** and S.G. Hinch. Jan. 1997. Spatial and temporal patterns of salmon migration, feeding and growth in the northeast Pacific Ocean. Canadian Conference for Fisheries Research annual meeting. Ottawa, Ontario
- *Hinch, S.G. and **P.S. Rand**. Oct. 1996. Evaluating risk of energy depletion and mortality in upriver migrating sockeye salmon. North Pacific Marine Science Organization (PICES) annual meeting. Nanaimo, B.C.
- ***Rand, P.S.** and S.G. Hinch. Oct. 1996. Spatial patterns of salmon prey, feeding and growth in the northeast Pacific Ocean. North Pacific Marine Science Organization (PICES) annual meeting. Nanaimo, B.C.
- ***Cox, S.C.** and S.G. Hinch. Oct. 1996. Marine growth of Fraser River sockeye salmon: the role of habitat and abundance. North Pacific Marine Science Organization (PICES) annual meeting. Nanaimo, B.C.
- *Hinch, S.G. and **P.S. Rand**. Aug. 1996. Assessing habitat-specific energetics of up-river migrating sockeye salmon. American Fisheries Society annual meeting, Dearborn, Michigan.
- ***Rand, P.S.** and S.G. Hinch. Aug. 1996. Evaluating risk of energy depletion in migrating adult

sockeye salmon. American Fisheries Society annual meeting, Dearborn, Michigan.

*Hinch, S.G. and **P.S. Rand**. July 1996. Evaluating energy use and risk of energy depletion in up-river migrating sockeye salmon. International Congress of Fish Biology, San Francisco, California.

***Rand, P.S.** and S.G. Hinch. July 1996. Spatial patterns of salmon prey, feeding and growth in the northeast Pacific Ocean. International Congress of Fish Biology, San Francisco, California.

***Burgetz, I.J.**, S.G. Hinch, and D. J. Randall. July 1996. Differential recruitment of anaerobic muscle fibres of rainbow trout and sockeye salmon during exhaustive exercise. International Congress of Fish Biology, San Francisco, California. ^

***Rand, P.S.**, J.P. Scandol, and S.G. Hinch. Mar. 1996. Modelling temporal and spatial patterns of salmon migration, feeding and growth in the Northeast Pacific Ocean. NOAA workshop on Estuarine and Ocean Survival of Salmon, Newport, Oregon.

Hinch, S.G. and **P.S. Rand**. Jan. 1996. Assessing behaviour and energetic costs during up-river migration of sockeye salmon: electromyogram telemetry. Canadian Conference for Fisheries Research, Montreal, Quebec.

Rand, P.S. and S.G. Hinch. Jan. 1996. Evaluating risk of energy depletion in migrating sockeye salmon. Canadian Conference for Fisheries Research, Montreal, Quebec.

Cox, S.P. and S.G. Hinch. Jan. 1996. Declines in size at maturity of Fraser River sockeye salmon. Canadian Conference for Fisheries Research, Montreal, Quebec.

Cox, S.P. and S.G. Hinch. Jan. 1995. Stock-specific variation in growth and recruitment of Fraser River sockeye salmon and the potential impact of global climate change. Canadian Conference for Fisheries Research, Ottawa, Ontario.

Mercure, F., J. Ballantyne, M. Gerrits, S. McKinley, G. Van der Kraak, and S.G. Hinch. May 1995. Migrating sockeye salmon (*Oncorhynchus nerka*): a correlation between plasma non-esterified fatty acids and reproductive steroids. Canadian Congress of Biology.

*Hinch, S.G., M.C. Healey, R.E. Diewert, K.A. Thomson, M.A. Henderson, R. Hourston, and F. Juanes. Oct. 1993. Potential effects of climate change on adult Fraser River sockeye salmon. North Pacific Marine Science Organization (PICES) annual meeting. Seattle, Washington.

Hinch, S.G., M.C. Healey, M.A. Henderson, R.E. Diewert. Jan. 1993. Potential effects of climate change on the bioenergetics of Fraser River sockeye salmon. Canadian Conference for Fisheries Research, Peterborough, Ontario.

Hinch, S.G., and N.C. Collins. Dec. 1992. Spatial patterns in fish abundance. Midwest Fish and Wildlife Conference. Toronto, Ontario. ^

Hinch, S.G., M.C. Healey, and M.A. Henderson. Oct. 1992. Climate change and the life energetics of Fraser River sockeye salmon. International Symposium on Climate Change in Northern Fish Populations. Victoria, British Columbia. ^

- Hinch, S.G. and N.C. Collins. Jan. 1992. The influence of spatial autocorrelation on ones perception of species interactions and environmental influences in fish communities in lakes. Canadian Conference for Fisheries Research, Halifax, Nova Scotia.
- *Hinch, S.G. and N.C. Collins. May 1991. Diel and seasonal patterns of fish predation on benthos in a weedy Ontario pond. North American Benthological Society annual meeting, Santa Fe, New Mexico.
- *Hinch, S.G., and N.C. Collins. Aug. 1990. Large-scale patterns in relative abundance of littoral zone fishes. Ecological Society of America annual meeting, Snowbird, Utah. ^
- *Hinch, S.G., N.C. Collins, and K.A. Baia. Dec. 1989. A method for non-intrusive day and night observations on shallow aquatic environments. British Ecological Society, Video Techniques in Animal Ecology Conference, Southampton, England.
- *Hinch, S.G., N.C. Collins, and K.A. Baia. Dec. 1989. Daytime and nighttime nest defense capabilities of smallmouth bass in the field. Midwest Fish and Wildlife Conference, Springfield, Illinois.
- Hinch, S.G. May 1989. Clam growth across a water chemistry gradient: environmental and genetic influences. North American Benthological Society annual meeting, Guelph, Ontario.
- *Green, R.H, and S.G. Hinch, S.G. May 1987. Shell etching: a chemical or physical process. North American Benthological Society annual meeting, Orno, Maine.
- Hinch, S.G. Feb. 1987. Within- and among-lake variation in shell morphology of a freshwater clam from south central Ontario lakes. Canadian Paleontology and Biostratigraphy Conference, London, Ontario.
- *Hinch, S.G. May 1986. The effects of exposure and alkalinity on morphology of the freshwater unionid clam *Elliptio complanata*. North American Benthological Society annual meeting, Lawrence, Kansas.
- Hinch, S.G., R.C. Bailey, and R.H. Green. May 1985. The effects of environmental change on the growth of a freshwater unionid clam *Lampsilis radiata*. Canadian Congress of Biology, London, Ont.

10. SERVICE TO THE UNIVERSITY

Memberships on committees or offices held

Offices

- 1999-present** Director and Advisor, Undergraduate Program in Natural Resources Conservation
- 2007-2008** Organizer and moderator, IRES Distinguished Lecture Series (weekly seminars)

Committees

- 2010-2011** Member, Promotion Committee, Department of Zoology
- 2008-2009** Member, President's Advisory Sub-Committee on Undergraduate Programs on Sustainability
- 2006** Co-chair, Cross-appointments committee, FLFS/FF Task Force
- 2006** Member, Graduate teaching assistant award committee, Faculty of Forestry
- 2005** Chair, Search Committee, Professor in Water Resource Management, IRES (search cancelled immediately prior to interviewing candidates)
- 2005-2009** Member, Curriculum Committee, College of Interdisciplinary Studies (formerly Faculty of

	Graduate Studies)
2005-2006	Member, Scholarship and Admissions Committee, IRES
2004-2005	Member, Image Committee, Faculty of Forestry
2003	Faculty representative to Forestry Undergraduate Society
2002-2004	Member, Killam Teaching Award Committee, Faculty of Forestry
2002-present	Member, Co-operative Education Committee, Faculty of Forestry
2002-present	Member, Undergraduate Recruitment Committee, Faculty of Forestry
1999-present	Chair, Natural Resources Conservation Program Advisory Committee, Faculty of Forestry
1999-present	Member, Adjudication, Advancement and Scholarship Committee, Faculty of Forestry
1999-present	Member, Undergraduate Programs Curriculum Committee, Faculty of Forestry
1998-2005	Chair, Vehicle Committee, Institute for Resources, Environment and Sustainability
2002	Member, Search Committee, Co-operative Education Coordinator, Faculty of Forestry.
2002	Member, Search Committee, Professor in Landscape Ecology, Department of Forest Sciences.
2001	Chair, Killam Teaching Award Committee, Faculty of Forestry.
2000	Member, Search Committee, Professor in Natural Resource Recreation, Department of Forest Resources Management.
1998	Member, President's Advisory Committee on the search for Head of Forest Sciences Dept.
1998	Member, committee re-vamping the 3 rd year curricula of the Forest Resources Management undergraduate program
1998	Chair, Search Committee, Professor in Natural Resource Conservation, Department of Forest Sciences
1997	Member, Search Committee, Professor in Natural Resource Conservation, Department of Forest Sciences
1997	Chair, Search Committee, Tenure-Track Instructor in Natural Resource Conservation, Department of Forest Sciences
1995-1998	Member, Natural Resources Conservation Program Advisory Committee
1994-1995	Co-chairman, Forest Sciences Department Seminar Series

Other service

University/Departmental examiner or Chair of examining committee for > 40 graduate student defences at UBC. External examiner for 6 theses of students at other institutions.

11. SERVICE TO THE COMMUNITY

Memberships in scholarly societies and offices held

2009-present Scientific Advisory Council (aka Board of Directors) for the Ocean Tracking Network Canada, an NSERC and CFI funded, Dalhousie University based, international research consortium dealing with the tracking of animals in all of the world's oceans. It is a 15 member council largely comprised of university and corporate executive officers. I am one of three academics on the Board and the only one from western Canada.

2009-present Theme Leaders Committee for the Ocean Tracking Network Canada (Western Canada's representative)

2001 Arrangements Chairman and Local Organizer for 2002 Canadian Conference for Fisheries Research, Vancouver BC.

1991-present Member, American Fisheries Society

1994-present Member, Canadian Aquatic Resource Section of the American Fisheries Society

Reviewer

I receive a request to review papers from scientific journals ~ every 2 weeks and due to work load and other commitments I am unable to accept most offers, so either turn down the offer to review or pass it along to a member of my lab to review. I normally choose to review 2-3 papers per year. I also review 2-3 grant proposals per year.

Consultant

2010-present Technical Expert to Cohen Commission – the Federal Inquiry into Declines in Fraser River Sockeye Salmon.

2006 Mar. Scientific advisor and panellist at workshop to develop the consultation framework for implementation of Strategy 3 of Canada's Wild Salmon Policy (Dovetail Consulting, and Fisheries and Oceans Canada)

2005 Jan. Technical Expert - Provided report and testimony to the "2004 SOUTHERN SALMON FISHERY POST - SEASON REVIEW" which was organized by the Federal Minister of Fisheries

2003 Oct. Evaluated DFO research on habitat compensation

1997 Sept.-Oct. with Aquatic Resources Limited, co-authored a report evaluating the potential impacts of the Burrard Thermal Upgrade Project on fish distribution and salmon migration in Burrard Inlet.

1996 Jan.-Mar. with E.B. Experts Inc. co-authored a report evaluating the Canadian Dept. of Fisheries and Oceans' responses to the Fraser River Sockeye Public Review Board's recommendations.

1994 Oct.-Dec. Co-authored a report on migration mortality in sockeye salmon which was prepared for the Fraser River Sockeye Salmon Public Review Board.

(g) Other service to the community

2009 Apr. Presentation on Pacific salmon biology, life history and conservation to 60 primary school children at West Point Grey Academy, Vancouver, BC

2004 Nov. Presentation for Standing Committee on Fisheries and Oceans: Public Hearing on the 2004 Fraser River Sockeye Salmon Harvest (Panel 12) - co-author, presented by T. Farrell.

2002 Technical expert and advisor to the Biology Panel for International Elementary School Salmon Summit

2001 Oct. Presentation to Royal Commonwealth Society of Canada

2001 Sept. Guest teacher at Laurier Elementary School, White Rock, B.C.

2000 Sept. Presentation on Pacific salmon conservation to St. Mary's Anglican Church

2000 May. Judge and UBC host of Envirothon BC Championship

1995 Jan. Guest teacher at Sir Wilfred Laurier Elementary School, Vancouver, B.C.

1994 Dec. Oral presentation to Fraser River Sockeye Review Board, Chilliwack, B.C.

Media Interviews on Salmon Ecology, Migration and Management:

Radio and Television

- Discovery Network ('Daily Planet TV show') documentary on the Fraser sockeye situation with a focus on my research program (2010 Oct. 19, 20, 21)
- CTR Radio – Documentary Interview - 'Prof Talk' (2009 April)
- CBC National Radio News Program – 'The Current' (2008 May)
- Korean Broadcasting Company – TV documentary (2007 Nov.)
- CBC Radio News (2007 August)

- CBC Television - Documentary on sockeye salmon (Radio Canada - 2006 Oct.)
- CBC Radio - 'BC Almanac' (2004 April)
- Knowledge Network - 'Innovation in BC', a documentary on Hinch research program (2004 March)
- CBC Television (2003 Sept)
- CTV (2003 Aug)
- Country Canada (2002 Sept)
- Weather Television Network (1996 Sept.; 1995 May)
- CNN TV (Mexico) (1995 Feb.)
- CBC Radio News B.C. (1998 Aug; 1996 Aug; 1995 Sept.; 1994 Sept.)
- CBC Television National Mid-day News (1994 Oct.)
- Westland TV Documentary Series on B.C.'s Knowledge Network (1993 Nov.)

Printed Press

- The Tyee Magazine - interview appeared in two articles in June 2010
- BC Outdoors Magazine – Volume 66, no. 6, pg. 8 – a feature article on our juvenile salmon tagging project and my PDF Tim Clark (Sept./Oct. 2010)
- Canadian Press interview – article published in several Canadian newspapers including Globe and Mail (September 2009)
- Maple Ridge News (August 2009)
- Georgia Strait Newspaper (feature article; August 2009)
- Front page story on UBC web site home page – Feb 2009 <http://www.publicaffairs.ubc.ca/ubcreports/2009/09feb05/genomics.html>
“A Crystal Ball for Pacific Salmon: Unprecedented Genomics Study Underway”; UBC Reports, Vol. 55, No. 2 | Feb. 5, 2009
- Western Mariner Magazine (feature article; winter 2008) http://www.forestry.ubc.ca/portals/0/docs/WesternMariner_sockeye.pdf
- Current Results: Key Discoveries About our Environment (an online science magazine –2008 winter, an overview for a lay audience of one of my recent research papers) <http://www.currentresults.com/Wildlife/Fish/sockeye-salmon-heat-803231.php>
- Georgia Strait newspaper (feature article; summer 2006)
- Vancouver Sun (2006 Oct.)
- 24 Hours (2005 Mar.)
- Vancouver Sun (2005 Mar.)
- UBC Reports and front page UBC web page (2004 Apr.)
- New Scientist Magazine (2004 Jan.)
- Canadian Press (2003 August)
- Chilliwack Times (2003 Aug)
- Vancouver Sun (2003 July and Aug; 2001 Dec.; 1995 Feb.; 1994 Feb, May, Sept; 1993 Sept.)
- Intrafish.com (2003 July)
- University of British Columbia Reports (1994 Jan.)
- River Talk Magazine (1993 July, Sept.)
- DFO's Fraser Focus (1993)

12. AWARDS AND DISTINCTIONS

(a) *Awards for Teaching (name of award, awarding organizations, date):*

1999-2000 Killam Teaching Prize in Faculty of Forestry, University of B.C.

1998-1999 Nominated for Killam Teaching Prize in Faculty of Forestry, University of B.C.

1998-1999 Alfred Scow Award (for outstanding contributions to the learning environment and student

experience at UBC) was given to the undergraduate program in Natural Resources Conservation within which I teach several courses and am Program Director/Advisor.

(a) *Awards for Scholarship (indicate name of award, awarding organizations, date)*

2007 Best Paper in the 2006 issues of the Transactions of the American Fisheries Society. The American Fisheries Society is the largest (~ 10,000 members) and oldest scholarly society for the study of fish and fisheries. (Rand, P.S., **S.G. Hinch**, and 7 others. 2006. Effects of changes to river discharge, temperature, and future climates on energetics and mortality of adult migrating Fraser River sockeye salmon. Trans. Amer. Fish. Soc. 135:655-667)

2005 American Fisheries Society Award of Excellence to a group of four UBC researchers led by Dr. Scott Hinch (Dept. Forest Sciences and Institute for Resources, Environment and Sustainability), also including Dr. Tony Farrell (Dept. Zoology and Centre for Environment and Aquaculture), Dr. Mike Healey (Institute for Resources, Environment and Sustainability), and Dr. Steve Cooke (Centre for Applied Conservation Research). Award given "in recognition of their inspirational leadership and outstanding contributions to the fields of fisheries science, education and aquatic biology, and to the American Fisheries Society and the Fisheries Management Section".

The award nomination noted that "They have used an interdisciplinary approach to tackle pressing issues in fisheries conservation and management by focusing on Pacific salmonids and detailed study of their ecology, physiology, biochemistry and molecular biology. In particular, these researchers have been active in crossing boundaries and forging partnerships in unlikely places. Their results have created significant advances in basic science and they have addressed practical problems in fisheries conservation and worked closely with fisheries managers to help shape practices and policy. Their work has very broad international significance, appeal and application."

2000-2001 UBC Izaak Walton Killam Memorial Faculty Research Fellowship

Awards won by my graduate students

2010 Runner-up 'Best Student Paper' award - Mike Donaldson. American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010. Donaldson, M.R. S.G. Hinch, D.A. Patterson, S.J. Cooke, G. Raby, J.O. Thomas, J. Hills, L.A. Thompson, K.M. Miller, A. Lotto, D. Robichaud, K. English, and A.P. Farrell. 2010. Fisheries and handling-related stressors on adult Pacific salmon physiology, behaviour and survival.

2010 Best Poster award, Mike Donaldson, Tim Clark, and Marika Gale. American Fisheries Society Washington-British Columbia Chapter Annual General Meeting, Nanaimo, British Columbia, March 2-4, 2010. Donaldson, M.R. T.D. Clark, S.G. Hinch, S.J. Cooke, D.A. Patterson, M.K. Gale, P.B. Frappell, and A.P. Farrell. 2010. Physiological responses and recovery of adult coho salmon to simulated predator and fisheries encounters.

2010 Honourable Mention, Best Student Paper award – Jenn Burt. Pacific Ecology and Evolution Conference. Bamfield, BC. March 5-7, 2010. Burt, J., S. Hinch, D. Patterson. Family Matters: parental and temperature influences on the early life survival, morphology and burst swim performance of sockeye salmon.

2008 Best PhD thesis award, Faculty of Forestry – Glenn Crossin, Factors affecting the timing and success of sockeye salmon spawning migrations.

13. **CURRENT RESEARCH FUNDERS**

Natural Sciences and Engineering Research Council of Canada (NSERC)

Strategic Network Grant (2010-2017)

Grant Title: Pacific Arena: Understanding Species Movements, Interactions, and Environmental Variability

Principal Investigator: S. Hinch and 5 co-investigators

Natural Sciences and Engineering Research Council of Canada (NSERC)

Strategic Research Grant (2009-2012)

Grant Title: Increasing the sustainability of multi-sector Pacific salmon fisheries in coastal rivers of British Columbia by quantifying and reducing mortality of released fish

Principal Investigator: S. Cooke and 4 co-investigators

Natural Sciences and Engineering Research Council of Canada (NSERC)

Strategic Research Grant (2008-2011)

Grant title: Climate change and high adult salmon mortality

Principal Investigator: S. Hinch and 3 co-investigators

Genome BC

Research Grant (2008-2012)

Grant Title: Genomics Tools for Fisheries Management

Principal Investigator: K. Miller and 5 co-investigators

Natural Sciences and Engineering Research Council of Canada (NSERC)

Discovery Research Grant (2010-2015)

Grant title: Behavioural physiology and fitness of anadromous migrating fish

Principal Investigator: S. Hinch

THE UNIVERSITY OF BRITISH COLUMBIA

Publications Record

SURNAME: Hinch **FIRST NAME:** Scott **Initials:** S.G.H.
MIDDLE NAME(S): George

Policy on authorship:

My research program links ecology, behaviour and physiology involving large field and modeling projects thus requiring significant collaborations with colleagues in a variety of disciplines. In multi-authored papers that *do not* involve my students, order of authorship reflects my relative contribution to the paper. Students play a key role in the research and in publication of results. About 70% of my past graduate students have published their research in peer-reviewed journals. For all students, I have major input in conceptual development, study design, research support, and writing of papers. I am heavily involved in the writing of student/postdoctoral fellow publications in which I am not senior author. Thus with publications involving students, author order is not indicative of my contribution, particularly if my name is near end of author list. I encourage PhD and PDF students to publish some papers alone despite dependency on my support and my input on their research.

Journal quality:

I publish research findings in a range of nationally and internationally recognized peer-reviewed journals, most of which have a focus on aquatic ecology and fisheries. I have also contributed to several reviews and syntheses.

Legend:

- Students and postdoctoral fellows are **bolded** on contributions during time of their training.
- International collaborators are *italicized*.

To date, I have 107 peer reviewed papers, 57 conference proceedings, book chapters and reports.

1. REFEREED PUBLICATIONS

Pon, L.B., S.G. Hinch, C.D. Suski, D.A. Patterson, and S.J. Cooke. 2011. The effectiveness of tissue biopsy as a means of assessing the physiological consequences of fishway passage. River Research and Applications In press.

Donaldson, M.R., S.G. Hinch, D.A. Patterson, J. Hills, J.O. Thomas, S.J. Cooke, G.D. Raby, L.A. Thompson, D. Robichaud, K.K. English, and A.P. Farrell. 2011. The consequences of angling and beach seine capture on the physiology, post-release behaviour and survival of adult sockeye salmon during upriver migration. Fisheries Research. in press.

Burt, J., S.G. Hinch, and D.A. Patterson. 2011. The importance of parentage in assessing temperature effects on fish early life history: a review of the experimental literature. Reviews in Fish Biology and Fisheries. In press.

- Donaldson, M.R.**, Clark, T.D., Hinch, S.G., Cooke, S.J., Patterson, D.A., Gale, M.K., and Farrell, A.P. 2011. Physiological responses of free-swimming adult coho salmon to simulated predator and fisheries encounters. *Physiological and Biochemical Zoology*. In press.
- Hruska, K.A.**, Hinch, S.G., Patterson, D.A., Healey, M.C. 2011. Egg retention in relation to arrival timing and reproductive longevity in female sockeye salmon (*Oncorhynchus nerka*). *Canadian Journal of Fisheries and Aquatic Sciences*, in press.
- Miller, K.M., Li, S., Kaukinen, K.H., Ginther, N., Hammill, E., Curtis, J.M.R., Patterson, D.A., Sierocinski, T., Donnison, L., Pavlidis, P., Hinch, S.G., Hruska, K.A., Cooke, S.J., English, K.K., Farrell, A.P. 2011. Genomic signatures predict migration and spawning failure in wild Canadian salmon. *Science* 331: 214-217.
- Jacob, C., McDaniels, T., and S. Hinch. 2011. Indigenous culture and adaptation to climate change: sockeye salmon and the St'at'imc people. *Mitigation and Adaptation Strategies for Global Change*, Published online, DOI 10.1007/s11027-010-9244-z
- Martins E.G.**, Hinch S.G., Patterson D.A., Hague M.J., Cooke S.J., Miller K.M., Lapointe M.F., English K.K. and Farrell A.P. 2011. Effects of river temperature and climate warming on stock-specific survival of adult migrating Fraser River sockeye salmon (*Oncorhynchus nerka*). *Global Change Biology*, published online doi: 10.1111/j.1365-2486.2010.02241.x
- Hague, M., Ferrari, M., Miller, J., Patterson, D., Russell, G., Farrell, A., and Hinch, S. 2011. Modelling the future hydroclimatology of the lower Fraser River Basin and its impacts on the spawning migration survival of sockeye salmon. *Global Change Biology*, published online doi: 10.1111/j.1365-2486.2010.02225.x
- McDaniels, T., Wilmot, S., Healey, M., and S. Hinch. 2010. Vulnerability of Fraser River sockeye salmon to climate change: A life cycle perspective using expert judgments. *Journal of Environmental Management* 91: 2771-2780.
- Donaldson, M.R.**, Hinch, S.G., Patterson, D.A., Farrell, A.P., Shrimpton, J.M., Miller-Saunders, K.M., Robichaud, D., Hills, J., **Hruska, K.A.**, Hanson, K.C., English, K.K., Van Der Kraak, G., and Cooke, S.J. 2010. Physiological condition differentially affects the behaviour and survival of two populations of sockeye salmon during their freshwater spawning migrations. *Physiological and Biochemical Zoology*, 83(3):446–458.
- Nadeau, P.S.**, S.G. Hinch, **K.A. Hruska**, **L.B. Pon**, and D.A. Patterson. 2010. The effects of experimental energy depletion on the physiological condition and survival of adult sockeye salmon (*Oncorhynchus nerka*) during spawning migration. *Environmental Biology of Fishes*. 88:241–251.
- Roscoe, D.W.**, Hinch, S.G., Cooke, S.J., Patterson, D.A. 2010. Behaviour and thermal experience of adult sockeye salmon migrating through stratified lakes near spawning grounds: the roles of reproductive and energetic states. *Ecology of Freshwater Fish* 19: 51-62.
- Roscoe, D.W.**, Hinch, S.G., Cooke, S.J., Patterson, D.A. 2010. Fishway passage and post-passage mortality of up-river migrating sockeye salmon in the Seton River, British Columbia. *River Research and Applications*, Published online in Wiley InterScience (www.interscience.wiley.com) DOI:

10.1002/rra.1384

- Cooperman, M.S., S.G. Hinch, G.T. Crossin, S.J. Cooke, D.A. Patterson, I. Olsson, A.G. Lotto, D.W. Welch, J.M. Shrimpton, G. Van Der Kraak and A.P. Farrell.** 2010. Effects of experimental manipulations of salinity and maturation status on the physiological condition and mortality of homing adult sockeye salmon held in a laboratory. *Physiological and Biochemical Zoology*, 83(3):459–472. 2010.
- Donaldson, M.R.,** Hasler, C.T., Hanson, K.C., **Clark, T.D.,** Hinch, S.G., and Cooke, S.J. 2010. Injecting youth into peer-review to increase its sustainability: a case study of ecology journals. *Ideas in Ecology and Evolution* 3: 1-7.
- Clark, T.D.,** E. Sandblom, S.G. Hinch, D.A. Patterson, P.B. Frappell, A.P. Farrell. 2010. Simultaneous biologging of heart rate and acceleration, and their relationships with energy expenditure in free-swimming sockeye salmon (*Oncorhynchus nerka*). *Journal of Comparative Physiology B - Biochemical, Systemic, and Environmental Physiology*. 180: 673-684.
- Hruska K.A.,** Hinch S.G., Healey M.C., Patterson D.A., *Larsson S.*, Farrell A.P. 2010. Influences of sexual status and behavior on physiological changes among individual adult sockeye salmon during rapid senescence. *Physiological and Biochemical Zoology*, 83(4):663–676. 2010
- Roscoe, D.W.** and S.G. Hinch. 2010. Effectiveness monitoring of fish passage facilities: historical trends, geographic patterns, and future directions. *Fish and Fisheries*. 11: 12-33.
- Mathes, M.T., S. G. Hinch, S. J. Cooke, G.T. Crossin, D. A. Patterson, A.G. Lotto, and A. P. Farrell.** 2010. Effect of water temperature, timing, physiological condition and lake thermal refugia on migrating adult Weaver Creek sockeye salmon (*Oncorhynchus nerka*). *Can. J. Fish. Aquat. Sci.* 67:70-84.
- Crossin, G.T.,** Hinch, S.G., Cooke, S.J., Patterson, D.A., Lotto, A.G., Van Der Kraak, G., Zohar, Y., Klenke, U., and Farrell, A.P. 2010. Testing the synergistic effect of GnRHa and testosterone on the reproductive physiology of pre-adult pink salmon. *Journal of Fish Biology* 76:112–128.
- Sandblom, E., **T.D. Clark,** S.G. Hinch and A.P. Farrell. 2009. Sex-specific differences in cardiac control and haematology of sockeye salmon (*Oncorhynchus nerka*) approaching their spawning grounds. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 297: R1136-R1143.
- Cooke, S.J., **M.R. Donaldson,** S.G. Hinch, **G.T. Crossin,** D.A. Patterson, K.C. Hanson, K.K. English, M.J. Shrimpton and A.P. Farrell. 2009. Is fishing selective for physiological and energetic characteristics in migratory adult sockeye salmon? *Evol. Appl.* 2: 299-311.
- Mellina, E.,** and S.G. Hinch. 2009. A meta-analysis of stream habitat, and salmonid density and biomass responses to clear-cut logging: the importance of stream cleaning. *Canadian Journal of Forest Research* 39: 1280-1301.
- Hasler, C.T., Pon, L.B., Roscoe, D.W.,** Mossop, B., Patterson, D.A., Hinch S.G., and S.J. Cooke. 2009. Expanding the 'toolbox' for studying the response of fish to hydropower infrastructure and operating strategies: linking individual physiological status, energetics, behaviour, and fate. *Environmental Reviews* 17: 179-197.

- Donaldson, M.R.**, S.J. Cooke, D.A. Patterson, S.G. Hinch, D. Robichaud, **K.C. Hanson, I. Olsson, G.T. Crossin**, K.K. English, and A.P. Farrell. 2009. Limited behavioural thermoregulation by adult up-river migrating sockeye salmon (*Oncorhynchus nerka*) in the Lower Fraser River mainstem, British Columbia. *Canadian Journal of Zoology* 87:480-490.
- Pon, L.B.**, S.G. Hinch, S.J. Cooke, D.A. Patterson, and A. Farrell. 2009. A comparison of the physiological condition of migrant adult sockeye salmon and their attraction into the fishway at Seton River Dam British Columbia under three operational water discharge rates. *North Amer. J. Fish. Manag.* 29:1195-1205.
- Nadeau, P.**, S.G. Hinch, **L.B. Pon**, and D.A. Patterson. 2009. Persistent parental effects on the survival and size, but not burst swimming performance of juvenile sockeye salmon (*Oncorhynchus nerka*). *J. Fish Biol.* 75:538-551
- Pon, L.B.**, Hinch, S.G., Cooke, S.J., Patterson, D.A. and Farrell, A.P. 2009. Physiological, energetic, and behavioural correlates of successful fishway passage of adult sockeye salmon (*Oncorhynchus nerka*) in the Seton River, British Columbia. *J. Fish Biol.* 74:1323-1336.
- Miller, K.M., A. D. Schulze, N. Ginther, S. Li, D. A. Patterson, A.P. Farrell and S.G. Hinch. 2009. Salmon Spawning Migration: Metabolic Shifts and Environmental Triggers. *Comparative Biochemistry and Physiology Part D: Genomics and Proteomics*, 4: 75-89.
- Crossin G.T.**, Hinch S.G., Welch D.W., Cooke S.J., Patterson D.A., *Klenke U.*, *Zohar Y.*, Jacobs M., **Pon L.B.**, Winchell P., and Farrell A.P. 2009. Physiological profiles of sockeye salmon in the Northeast Pacific Ocean and the effects of exogenous GnRH and testosterone on rates of homeward migration. *Marine and Freshwater Behaviour and Physiology* 42: 89-108.
- Crossin, G.T.**, S.G. Hinch, S. J. Cooke, **M. Cooperman**, D.A. Patterson, D.W. Welch, K.C. Hanson, **I. Olsson**, K.K. English, and A.P. Farrell. 2009. Mechanisms influencing the timing and success of reproductive migration in a capital breeding, semelparous fish species: the sockeye salmon. *Physiological and Biochemical Zoology* 82(6):635-652
- Clark, T.D.**, S.G. Hinch, B.D. Taylor, F.B. Frappell, and A.P. Farrell. 2009. Sex differences in circulatory oxygen transport parameters of sockeye salmon (*Oncorhynchus nerka*) on the spawning ground. *Journal of Comparative Physiology - B.* 179: 663-671.
- Clark, T.D.**, E.J., Sandblom, G. Cox, Hinch, S.G., Farrell, A.P. 2008. Circulatory limits to oxygen supply during an acute temperature increase in the Chinook salmon (*Oncorhynchus tshawytscha*). *American Journal of Physiology - Regulatory, Integrative and Comparative Physiology.* 295: R1631–R1639.
- Clark, T.D.**, Eliason, E.J., Sandblom, E., Hinch, S.G., Farrell, A.P. 2008. Calibration of a hand-held haemoglobin analyser for use on fish blood. *Journal of Fish Biology.* 73: 2587–2595
- Cooke, S.J., S.G. Hinch, A.P. Farrell, D.A. Patterson, K. Miller-Saunders, D.W. Welch, **M.R. Donaldson, K.C. Hanson, G.T. Crossin, M.S. Cooperman, M.T. Mathes, A.G. Lotto, K.A. Hruska, I. Olsson, G.N. Wagner**, R. Thomson, R. Hourston, K.K. English, *S. Larsson*, J.M. Shrimpton, and G. Van der Kraak. 2008. Developing a mechanistic understanding of fish migrations by linking telemetry with physiology, behaviour, genomics and experimental biology: an interdisciplinary case study on adult Fraser

River sockeye salmon. *Fisheries* 33:321-338.

Farrell, A.P., S.G. Hinch, S.J. Cooke, D.A. Patterson, **G.T. Crossin**, M. Lapointe, and **M.T. Mathes**. 2008. Pacific salmon in hot water: applying aerobic scope models and biotelemetry to predict the success of spawning migrations. *Physiological and Biochemical Zoology*. 82: 697-708.

Hanson, K.C., S.J. Cooke, S.G. Hinch, **G.T. Crossin**, D.A. Patterson, K.K. English, **M.R. Donaldson**, J.M. Shrimpton, G. Van Der Kraak, and A.P. Farrell. 2008. Individual variation in migration speed of upriver migrating sockeye salmon in the Fraser River in relation to their physiological and energetic status at marine approach. *Physiological and Biochemical Zoology*. 81:255-268.

Cooke, S.J., Hinch, S.G., **Crossin, G.T.**, Patterson, D.A., English, K.K., Healey, M.C., Macdonald, J.S., Shrimpton, J.M., Young, J.L., Lister, A., Van Der Kraak, G., and Farrell, A.P. 2008. Physiological correlates of coastal arrival and river entry timing in Late Summer Fraser River sockeye salmon (*Oncorhynchus nerka*). *Behavioural Ecology*. 19:747-758.

Crossin, G.T., Hinch, S.G., Cooke, S.J., Welch, D.W., Lotto, A.G., Patterson, D.A., Jones, S.R.M., Leggatt, R.A., **Mathes, M.T.**, Shrimpton, J.M., Van Der Kraak, G., and Farrell A.P. 2008. Exposure to high temperature influences the behaviour, physiology, and survival of sockeye salmon during spawning migrations. *Canadian Journal of Zoology* 86: 127-140.

Crossin, G.T., S.G. Hinch, S.J. Cooke, D.W. Welch, S.D. Batten, D.A. Patterson, G. Van Der Kraak, J.M. Shrimpton, and A.P. Farrell. 2007. Behaviour and physiology of sockeye salmon homing through coastal waters to a natal river. *Marine Biology* 152:905-918.

Cooperman, M.S., S.G. Hinch, **M.A. Branton**, S. Bennett, R.V. Galbraith, B. Heise, and J.T. Quigley. 2007. Streambank restoration effectiveness: Lessons learned from a comparative study. *Fisheries* 32(6):278-290.

Giannico, G.R., and S.G. Hinch. 2007. Juvenile coho salmon responses to salmon carcasses and in-stream wood manipulations during winter and spring. *Canadian Journal of Fisheries and Aquatic Sciences*. 64:324-335.

De Groot, J.D., S. G. Hinch, and J.S. Richardson. 2007. Effects of logging second-growth forests on headwater populations of coastal cutthroat trout: a 6-year multi-stream before and after field experiment *Transactions of the American Fisheries Society*. 136:211–226.

Pon, L.B., S.G. Hinch, G.N. Wagner, A.G. Lotto and S. J. Cooke. 2007. Swimming performance and morphology of juvenile sockeye salmon, *Oncorhynchus nerka*: comparison of inlet and outlet fry populations. *Environmental Biology of Fishes*. 78:257-269.

Young, J.L., Bornik, Z.B., Marcotte, M.L., Charlie, K.N., **Wagner, G.N.**, Hinch, S.G. and **Cooke, S.J.** 2006. Integrating physiology and life history to improve marine fisheries management and conservation. *Fish and Fisheries*. 7:262-283.

Rand, P.S., S.G. Hinch, J. Morrison, M.G.G. Foreman, **M.J. MacNutt**, J.S. Macdonald, M.C. Healey, A.P. Farrell, and D.A. Higgs. 2006. Effects of changes to river discharge, temperature, and future climates on energetics and mortality of adult migrating Fraser River sockeye salmon. *Transactions of the American*

Fisheries Society. 135:655-667.

Cooke, S.J., S.G. Hinch, G.T. Crossin, D.A. Patterson, K.K. English, J. M. Shrimpton, G. Van Der Kraak, and A.P. Farrell. 2006. Physiology of individual late-run Fraser River sockeye salmon *Oncorhynchus nerka* sampled in the ocean correlates with fate during spawning migration. *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1469-1480.

Quigley, J.T., and S.G. Hinch. 2006. Effects of rapid experimental temperature increases on acute physiological stress and behaviour of stream dwelling juvenile chinook salmon. *Journal of Thermal Biology*. 31:429-441.

Cooke, S.J., S.G. Hinch, G.T. Crossin, D.A. Patterson, K.K. English, M.C. Healey, J.M. Shrimpton, G. Van Der Kraak and A.P. Farrell. 2006. Mechanistic basis of individual mortality in Pacific salmon during spawning migrations. *Ecology* 87(6):1575-1586

Young, J.L, S.G. Hinch, S.J. Cooke, G.T. Crossin, D.A. Patterson, A.P. Farrell, G. Van Der Kraak, A. Lotto, A.Lister, M.C. Healey, and K. English. 2006. Physiological and energetic correlates of en route mortality for abnormally early migrating adult sockeye salmon in the Thompson River, British Columbia. *Canadian Journal of Fisheries and Aquatic Sciences*. 63: 1469-1480.

MacNutt, M.J, S.G. Hinch, C.G. Lee, J. R. Phibbs, A.G. Lotto, M. C. Healey, and A. P. Farrell. 2006. Temperature effects on swimming performance, energetics, and aerobic capacities of mature adult pink salmon (*Oncorhynchus gorbuscha*) compared with those of sockeye salmon (*Oncorhynchus nerka*). *Canadian Journal of Zoology* 84: 88–97.

Wagner, G.N., Kuchel, L., Lotto, A., Patterson, D.A., Shrimpton, M., Hinch, S.G., and Farrell, A.P. 2006. Routine and active metabolic rates of migrating, adult sockeye salmon (*Oncorhynchus nerka* Walbaum) in seawater and freshwater. *Physiological and Biochemical Zoology*. 79(1):100–108.

Shrimpton, J.M., D.A. Patterson, J.G. Richards, **S.J. Cooke**, P.M. Schulte, S.G. Hinch, and A.P. Farrell. 2005. Ionoregulatory changes in different populations of maturing sockeye salmon (*Oncorhynchus nerka*) from the Fraser River, British Columbia during ocean and river migration. *Journal of Experimental Biology* 208:4069-4078.

Wagner, G.N., S.G. Hinch, L.J. Kuchel, A. Lotto, S.R.M. Jones, D.A. Patterson, J.S. Macdonald, G. Van Der Kraak, M. Shrimpton, K.K. English, S. Larsson, S.J. Cooke, M.C. Healey, and A.P. Farrell. 2005. Metabolic rates and swimming performance of adult Fraser River sockeye salmon (*Oncorhynchus nerka*) after a controlled infection with *Parvicapsula minibicornis*. *Canadian Journal of Fisheries and Aquatic Sciences*. 62: 2124–2133

Cooke, S.J., G.T. Crossin, D. Patterson, K. English, S.G. Hinch, J.L. Young, R. Alexander, M.C. Healey, G. Van Der Kraak, and A.P. Farrell. 2005. Coupling non-invasive physiological assessments with telemetry to understand inter-individual variation in behaviour and survivorship of sockeye salmon: development and validation of a technique. *Journal of Fish Biology*. 67: 1-17.

Mellina, E., S.G. Hinch, E. M. Donaldson, and G. Pearson. 2005. Stream habitat and rainbow trout (*Oncorhynchus mykiss*) physiological stress responses to clear-cut logging in British Columbia. *Canadian*

Journal of Forest Research 35: 541-556.

- Mellina, E., S.G. Hinch, K. D. MacKenzie,** and G. Pearson. 2005. Seasonal movement patterns of stream-dwelling rainbow trout (*Oncorhynchus mykiss*) and their responses to clear-cut logging in British Columbia, Canada. Transactions of the American Fisheries Society 134: 1021-1037.
- Crossin, G.T.** and S.G. Hinch. 2005. A non-lethal method for assessing the somatic energy content of freely migrating adult Pacific salmon. Transactions of the American Fisheries Society. 134:184–191.
- Mehranvar, L.,** M.C. Healey, A.P. Farrell, and S.G. Hinch. 2004. Social versus genetic measures of reproductive success in sockeye salmon, *Oncorhynchus nerka*. Evolutionary Ecology Research 6:1167-1181.
- Crossin G.T.,** S.G. Hinch, A.P. Farrell, D.A. Higgs, and M.C. Healey. 2004. Somatic energy of sockeye salmon at the onset of upriver migration: a comparison among ocean climate regimes. Fisheries Oceanography. 13:345–349.
- Crossin, G.T.,** S.G. Hinch, A.P. Farrell, D.A. Higgs, A.G. Lotto, J.D. Oakes, and M.C. Healey. 2004. Energetics and morphology of sockeye salmon: effects of upriver migratory distance and elevation. Journal of Fish Biology. 65: 788–810.
- Standen, E.M.,** S.G. Hinch, and **P.S. Rand.** 2004. Influence of river currents on path selection and swimming efficiency of migrating adult sockeye salmon. Canadian Journal of Fisheries and Aquatic Sciences. 61:905-912.
- MacNutt, M. J.,** S.G. Hinch, A. P. Farrell and **S. Topp.** 2004. The effect of temperature and acclimation period on the repeat swimming performance of cutthroat trout (*Oncorhynchus clarki clarki*). Journal of Fish Biology. 65:342-353
- Cooke, S.J, E.B., Thorstad,** and S.G. Hinch. 2004a. Activity and energetics of free-swimming fish: insights from electromyogram telemetry. Fish and Fisheries 5: 21-52.
- Cooke, S.J.,** S.G. Hinch, *M. Wikelski, R.D. Andrews, L.J. Kuchel, T.G. Wolcott, and P.J. Butler.* 2004b. Biotelemetry: a mechanistic approach to ecology. Trends in Ecology and Evolution.19:334-343
- Patterson, D.A., J.S. Macdonald, S.G. Hinch, M.C. Healey, and A.P. Farrell. 2004. The effect of exercise and captivity on energy partitioning, reproductive maturation, and fertilization success in adult sockeye salmon. Journal of Fish Biology 64:1-21
- Cooke, S.J.,** S.G. Hinch, A.P. Farrell, M.F. Lapointe, S.R.M. Jones, J.S. Macdonald, D.A. Patterson, M.C. Healey. 2004. Abnormal migration timing and high en route mortality of sockeye salmon in the Fraser River, British Columbia. Fisheries. 29:22-33.
- Crossin G.T.,** S.G. Hinch, A.P. Farrell, M.P. Whelly, and M.C. Healey. 2003. Pink salmon (*Oncorhynchus gorbuscha*) migratory energetics: response to migratory difficulty and comparisons with sockeye (*O. nerka*). Canadian Journal of Zoology. 81: 1986–1995.

- Lee, C.G.**, A.P. Farrell, A. Lotto, **M.J. MacNutt**, S.G. Hinch, and M.C. Healey. 2003a. The effect of temperature on swimming performance and oxygen consumption in adult sockeye (*Oncorhynchus nerka*) and coho (*O. kisutch*) salmon stocks. *Journal of Experimental Biology*. 206: 3239-3251.
- Lee, C.G.**, A.P. Farrell, A. Lotto, S.G. Hinch, and M.C. Healey. 2003b. Excess post-exercise oxygen consumption in adult sockeye (*Oncorhynchus nerka*) and coho (*O. kisutch*) salmon following critical speed swimming. *Journal of Experimental Biology*. 206: 3253-3260.
- Farrell, A.P., C.G. Lee, K. Tierney, A. Hodaly, S. Clutterham, M. Healey, S.G. Hinch, and A. Lotto. 2003. Field-based measurements of oxygen uptake and swimming performance with adult Pacific salmon using a mobile respirometer swim tunnel. *Journal of Fish Biology*. 62:64-84.
- Healey, M.C., **R. Lake**, and S.G. Hinch. 2003. Energy expenditure during reproduction by sockeye salmon (*Oncorhynchus nerka*). *Behaviour* 140:161-182.
- Fuchs, S.A.**, S.G. Hinch, and **E. Mellina**. 2003. Effects of streamside logging on stream macroinvertebrate communities and habitat in the sub-boreal forests of British Columbia, Canada. *Canadian Journal of Forest Research*. 33:1408-1415.
- Giannico, G. R.**, and S.G. Hinch. 2003. Juvenile coho salmon seasonal movement in artificial side-channels. *River Research and Applications*. 19:219-231.
- Mellina, E.**, R.D. Moore, S.G. Hinch, J.S. Macdonald, and G. Pearson. 2002. Stream temperature responses to clearcut logging British Columbia: the moderating influences of groundwater and headwater lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1886-1900.
- Hinch S.G., **E. M. Standen**, M.C. Healey, A. P. Farrell. 2002. Swimming patterns and behaviour of upriver migrating adult pink (*Oncorhynchus gorbuscha*) and sockeye (*O. nerka*) salmon as assessed by EMG telemetry in the Fraser River, British Columbia, Canada. *Hydrobiologia* 483:147-160
- Standen, E.M.**, S.G. Hinch, M.C. Healey, A.P. Farrell. 2002. Energetic costs of migration through the Fraser River Canyon, British Columbia, in adult pink (*Oncorhynchus gorbuscha*) and sockeye (*O. nerka*) salmon as assessed by EMG telemetry. *Canadian Journal of Fisheries and Aquatic Sciences* 59:1809-1818.
- Hinch. S.G. and **P.S. Rand**. 2000a. Optimal swim speeds and forward assisted propulsion: energy conserving behaviours of up-river migrating salmon. *Canadian Journal of Fisheries and Aquatic Sciences*. 57:2470-2478.
- Healey, M.C., K.A. Thomson, P.H. LeBlond, L. Huato, S.G. Hinch, and C.J. Walters. 2000. Computer simulations of the effects of the Sitka Eddy on sockeye salmon returning to British Columbia. *Fisheries Oceanography* 9:271-281.
- Hinch, S.G., and **J.M. Bratty**. 2000. Effects of swim speed and activity pattern on success of adult sockeye salmon migration through an area of difficult passage. *Transactions of the American Fisheries Society*. 129:604-612.
- Young, K.A.**, S.G. Hinch, and T.G. Northcote. 1999. Status of resident coastal cutthroat trout and their habitat

- twenty-five years after riparian logging. *North American Journal of Fisheries Management*. 19:901-911.
- Nash, C.H., J.S. Richardson, and S.G. Hinch. 1999. Spatial autocorrelation and fish production in freshwaters: a comment on Randall et al. (1995). *Canadian Journal of Fisheries and Aquatic Sciences*. 56:1696-1699.
- Lake, R.G.** and S.G. Hinch. 1999. Acute effects of suspended sediment angularity on juvenile coho salmon. *Canadian Journal of Fisheries and Aquatic Sciences*. 56:862-867.
- Hinch, S.G. and **P.S. Rand**. 1998. Swim speeds and energy use of river migrating adult sockeye salmon: role of local environment and fish characteristics. *Canadian Journal of Fisheries and Aquatic Sciences* 55:1821-1831.
- Rand, P.S.** and S.G. Hinch. 1998a. Swim speeds and energy use of river migrating adult sockeye salmon: simulating metabolic power and assessing risk of energy depletion. *Canadian Journal of Fisheries and Aquatic Sciences* 55:1832-1841.
- Rand, P.S.** and S.G. Hinch. 1998b. Spatial patterns of zooplankton biomass in the northeast Pacific Ocean. *Marine Ecology Progress Series*. 171:181-186.
- Burgetz, I.J.**, A. Rojas-Vargas, S.G. Hinch, and D. J. Randall. 1998. Initial recruitment of anaerobic metabolism during submaximal swimming in rainbow trout (*Oncorhynchus mykiss*). *Journal of Experimental Biology*. 201: 2711-2721.
- Cox, S.P.**, and S.G. Hinch. 1997. Changes in size at maturity of Fraser River sockeye salmon (*Oncorhynchus nerka*) (1952-1993) and associations with temperature. *Canadian Journal of Fisheries and Aquatic Sciences* 54:1159-1165.
- Ballantyne, J.S., F. Mercure, M.F. Gerrits, G. Van Der Kraak, S. McKinley, D.W. Martens, S.G. Hinch, and R.E. Diewert. 1996. Plasma non-esterified fatty acid profiles in adult sockeye salmon (*Oncorhynchus nerka*) during the spawning migration. *Canadian Journal of Fisheries and Aquatic Sciences* 53:1418-1426.
- Hinch, S.G., R.E. Diewert, T.J. Lissimore, A.M.J. Prince, M.C. Healey, and M.A. Henderson. 1996. Use of electromyogram telemetry to assess difficult passage areas for river migrating adult sockeye salmon. *Transactions of the American Fisheries Society* 125:253-260.
- Hinch, S.G., M.C. Healey, R.E. Diewert, K.A. Thomson, M.A. Henderson, R. Hourston, and F. Juanes. 1995. Potential effects of climate change on marine growth and survival of Fraser River sockeye salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 52:2651-2659.
- Prince, A.M.J., S.E. Low, T.J. Lissimore, R.E. Diewert, and S.G. Hinch. 1995. Sodium bicarbonate and acetic acid: an effective anaesthetic for field use. *North American J. Fisheries Management* 15:170-172.
- Hinch, S.G., K.M. Somers, and N.C. Collins. 1994. Spatial autocorrelation and the assessment of habitat-abundance relationships in littoral fish. *Can. Journal of Fisheries and Aquatic Sciences* 51:701-712.

- Hinch, S.G., and N.C. Collins. 1993. Relationships of littoral fish abundance to water chemistry and macrophyte variables in central Ontario lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 50: 1870-1878.
- Collins, N.C., and S.G. Hinch. 1993. Diel and seasonal patterns of sunfish (*Lepomis gibbosus*) foraging activities in an Ontario pond. *Transactions of the American Fisheries Society* 122:357-365.
- Hinch, S.G., and N.C. Collins. 1991. Importance of diurnal and nocturnal nest defense in the energy budget of male smallmouth bass: insights from direct video observation. *Transactions of the American Fisheries Society* 120:657-663.
- Hinch, S.G., N.C. Collins, and H.H. Harvey. 1991. Relative abundance of littoral zone fishes: the role of post-glacial colonization, abiotic factors and predation. *Ecology* 72:1314-1324.
- Hinch, S.G. 1991. Small- and large-scale studies in fisheries ecology: the need for cooperation among researchers. *Fisheries* 16:22-27.
- Hinch, S.G., and R.H. Green. 1989. The effects of source and destination on growth and metal uptake in freshwater clams reciprocally transplanted among south-central Ontario lakes. *Canadian Journal of Zoology* 67:855-863.
- Hinch, S.G., L.K. Kelly, and R.H. Green. 1989. Morphological variation of *Elliptio complanata* (Bivalvia: Unionidae) in differing sediments of softwater lakes exposed to acidic deposition. *Canadian Journal of Zoology* 67:1895-1899.
- Green, R.H., R.C. Bailey, S.G. Hinch, J. Metcalfe, and V. Young. 1989. Use of freshwater mussels (Unionidae) to monitor the nearshore environment of lakes. *Journal of Great Lakes Research* 15:635-644.
- Hinch, S.G., and R.H. Green. 1988. Shell etching on clams from low-alkalinity Ontario lakes: a physical or chemical process? *Canadian Journal of Fisheries and Aquatic Sciences* 45:2110-2113.
- Hinch, S.G., and R.C. Bailey. 1988. Within- and among-lake variation in shell morphology of the freshwater clam *Elliptio complanata* (Bivalvia: Unionidae). *Hydrobiologia* 157:27-32.
- Hinch, S.G., and L.A. Stephenson. 1987. Size- and age-specific patterns of trace metal concentrations in freshwater clams from an acid-sensitive and a circumneutral lake. *Canadian Journal of Zoology* 65:2436-2442.
- Hinch, S.G., and K.M. Somers. 1987. Principal component analysis: an experimental evaluation of data centering, data standardization, and outlying observations. *Coenoses* 2:19-23.
- Hinch, S.G., R.C. Bailey, and R.H. Green. 1986. Growth of *Lampsilis radiata* (Bivalvia: Unionidae) in sand and mud: a reciprocal transplant experiment. *Canadian Journal of Fisheries and Aquatic Sciences* 43:548-552.

(a) *Conference Proceedings (refereed)*

- Hinch, S.G., **E.M. Standen**, M.C. Healey and A.P. Farrell. 2003. Swimming patterns and behaviour of

upriver migrating adult pink (*Oncorhynchus gorbuscha*) and sockeye (*O. nerka*) salmon as assessed by EMG telemetry in the Fraser River, British Columbia, Canada. *Developments in Hydrobiologia*. 165:147-160.

Hinch, S.G., M.C. Healey, Diewert, R.E., and M.A. Henderson. 1995. Climate change and ocean energetics of Fraser River sockeye; p. 439-445. In R.J. Beamish [ed.] *Climate Change and Northern Fish Populations*. Canadian Special Publication of Fisheries and Aquatic Sciences 121.

(b) *Chapters (refereed)*

Hruska, K.A., S.G. Hinch, M.C. Healey, and A. P. Farrell. 2007. Electromyogram telemetry, nondestructive physiological biopsy, and genetic markers: linking recent techniques with behavioral observations for the study of reproductive success in sockeye salmon mating systems. In C. A. Woody, editor. *Sockeye salmon ecology, evolution, and management*. American Fisheries Society, Symposium 54:17-29, Bethesda, Maryland.

Hinch, S.G., **S. Cooke**, M.C. Healey, and A.P. Farrell. 2006. Behavioural Physiology of Fish Migrations: salmon as a model approach. Pp. 239-295, in K. Sloman, S. Balshine and R. Wilson, [eds.]. *Fish Physiology Volume 24: Behaviour and Physiology of Fish*. Elsevier Press.

Northcote, T.G., and S.G. Hinch. 2004. Fish migration and passage in forested watersheds. Chapter 7, Pp. 123-142 in Northcote, T.G. and Hartman, G.F. [eds.] *Fishes and Forestry – Worldwide Watershed Interactions & Management*. Blackwell Science, Oxford, UK.

2. NON-REFEREED PUBLICATIONS

(a) *Technical Reports*

Richardson, J.S., M.C. Feller, P.M. Kiffney, R.D. Moore, S. Mitchell, and S.G. Hinch. 2010. Riparian Management of small streams: an experimental trial at the Malcolm Knapp Research Forest. *Streamline Watershed Management Bulletin* 13(2):1-3. Publisher – Forum for Research and Extension in Natural Resources, Kamloops, BC.

Sheldon, K., J.S. Richardson, J. DeGroot, and S.G. Hinch. 2010. The effects of logging second-growth forests on headwater populations of coastal cutthroat trout: a 12 year multi-stream, before-and-after experiment. *Streamline Watershed Management Bulletin* 13(2):11-12. Publisher – Forum for Research and Extension in Natural Resources, Kamloops, BC.

Cooperman, M.S., Hinch, S.G., Bennett, S., Quigley, J.T., Galbraith, R.V., and **Branton, M.A.** 2006. Rapid Assessment of the effectiveness of engineered off-channel habitats in the southern interior of British Columbia for coho salmon production. *Canadian Manuscript Report of Fisheries and Aquatic Sciences*. 2768: v + 30 pgs.

Hinch, S.G., and **P.S. Rand**. 2000b. Energy use and risk of enroute energy exhaustion in adult early Stuart sockeye salmon during 1997. Pgs 59-66, in, S. MacDonald [ed.]. *Effects of high river discharge on the 1997 early Stuart sockeye salmon run*. Can. Technical Report of Fisheries and Aquatic Sciences. 2315.

Mellina, E. and S.G. Hinch. 1995. Overview of large-scale ecological experimental designs and recommendations for the British Columbia Watershed Restoration Program. *Watershed Restoration Project Report No. 1*. Ministry of Environment, Land and Parks, and Ministry of Forests. Victoria, BC. 31 pgs.

Collins, N.C., S.G. Hinch, and K.A. Baia. 1991. Non-intrusive time-lapse video monitoring of shallow aquatic environments. Canadian Technical Report of Fisheries and Aquatic Sciences 1821. 35 pgs.

(b) Conference Proceedings

Hinch, S.G. and J. Gardner (Editors) 2009. Conference on Early Migration and Premature Mortality in Fraser River Late-Run Sockeye Salmon: Proceedings. Vancouver, BC. Published by Pacific Fisheries Resource Conservation Council, Vancouver, BC. 120 pp. Available through http://www.psc.org/info_laterunsockeye.htm

Hinch, S.G. 2009. Overview and Synthesis: Early Migration and Premature Mortality in Fraser River Late-run Sockeye Salmon, p. 8-14, in S.G. Hinch and J. Gardner (eds.) Conference on Early Migration and Premature Mortality in Fraser River Late-Run Sockeye Salmon: Proceedings. Vancouver, BC. Published by Pacific Fisheries Resource Conservation Council, Vancouver, BC. Available through http://www.psc.org/info_laterunsockeye.htm

Cooperman, M.S., S.G. Hinch, A.P. Farrell, S.J. Cooke, **G. Crossin,** D. Patterson. 2009. High mortality of migrating Fraser River salmon: physiological, oceanographic, & temperature causes of a conservation crisis. In Haro, A. J., K. L. Smith, R. A. Rulifson, C. M. Moffitt, R. J. Klauda, M. J. Dadswell, R. A. Cunjak, J. E. Cooper, K. L. Beal, and T. S. Avery, editors. *Challenges for Diadromous Fishes in a Dynamic Global Environment*. American Fisheries Society, Symposium 69, Bethesda, Maryland Challenges for Diadromous Fishes in a Dynamic Global Environment - 2nd International Symposium on Diadromous Fishes. Halifax, Nova Scotia, June 2007. XX pgs. Available at: <http://www.anacat.ca/>

Lapointe, M., **S.J. Cooke,** S.G. Hinch, A. P. Farrell, S. Jones, S. MacDonald, D. Patterson, M.C. Healey, and G. Van Der Kraak. 2003. Early upstream migration and mortality of Late-run sockeye salmon in the Fraser River, British Columbia. in Droscher, Toni and David A. Fraser (eds.) 2003 Georgia Basin/Puget Sound Research Conference, March 31-April 3, 2003, Vancouver, British Columbia -Proceedings (December 2003). 14 pgs. Available at: http://www.psat.wa.gov/03_proceedings/start.htm

Richardson, J.S., and S.G. Hinch. 2003. Monitoring of the lower Fraser River using fish assemblages: can it be done without reference conditions? in Droscher, Toni and David A. Fraser (eds.) 2003 Georgia Basin/Puget Sound Research Conference, March 31-April 3, 2003, Vancouver, British Columbia - Proceedings (December 2003). 4 pgs. Available at: http://www.psat.wa.gov/03_proceedings/start.htm.

Rand, P. S., S. G. Hinch, M.G.G. Foreman. 2002. Migration Success Of Adult Sockeye Salmon Ascending The Fraser River, British Columbia: An Analysis Based On Past, Present And Expected Future River Conditions. Pp. 9-10, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage:Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2002/Migration/migration.htm>.

Standen, E., S. G. Hinch, **P. S. Rand.** 2002. Moving water, swimming fish: Using underwater videography to study the effects of hydraulic condition on energy use in up-river migrating salmon. Pp. 23-24, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage:Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo->

mpo.gc.ca/congress/2002/Migration/migration.htm.

- Crossin, G. and S.G. Hinch.** 2002. Bioenergetic efficiency, adaptive morphology, and reproductive tradeoffs in upriver migrating, adult sockeye salmon: inter-decadal variation, and the influence of migratory distance and elevation. Pp. 25-26, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage: Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2002/Migration/migration.htm>.
- Hinch, S. G., and E. Standen.** 2002. Using physiological telemetry to examine energy use, behaviour and survival of up-river migrating adult Pacific salmon. Pp. 69-70, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage: Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2002/Migration/migration.htm>.
- MacNutt, M. J. C. G. Lee, S. G. Hinch, A. P. Farrell,** 2002. Stock Specific Differences in the Swimming Ability, Metabolic Rates and Post-Exercise Metabolic Recoveries of Fraser River Sockeye (*Oncorhynchus nerka*). Pp. 97-99, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage: Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2002/Migration/migration.htm>.
- Lee, C.G., A.P. Farrell, M. Healey, S. Hinch, and A. Lotto.** 2002. Swimming energetics and EPOC in adult sockeye (*Oncorhynchus nerka*) and coho (*O. kisutch*) salmon. Pp. 123-129, in Joseph J. Cech, Jr., Christina Swanson, Paciencia S. Young, Don MacKinlay [eds.], Proceedings, Fish Migration and Passage: Physiology and Behaviour, International Congress on the Biology of Fish, University of British Columbia, Vancouver, Canada July 21-26, 2002. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2002/Migration/migration.htm>.
- Hinch, S.G., and P.S. Rand.** 2000. Optimal swim speeds and fowards assists: energy conserving behaviours of up-river migrating adult salmon. Pp. 51-56, in Joe Cech, Jr., Steve McCormick, and Don MacKinlay [eds.], Proceedings, Fish Migration and Passage Symposium, International Congress on the Biology of Fish, University of Aberdeen, Scotland July 23-27, 2000. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2000/migration/migration.htm>.
- Rand, P.S., and S.G. Hinch.** 2000. Simulating migration behaviour and metabolic power consumption of up-river migrating Sockeye salmon in the Fraser River, BC, pp. 57-62, in Joe Cech, Jr., Steve McCormick, and Don MacKinlay [eds.], Proceedings, Fish Migration and Passage Symposium, International Congress on the Biology of Fish, University of Aberdeen, Scotland July 23-27, 2000. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/2000/migration/migration.htm>.
- Hicks, J., K.A.Young, and S.G. Hinch.** 2000. Density, movement and growth of cutthroat trout during the fall and winter in small streams exposed to different types of winter riparian logging. Pp. 65-72, In M. Feller and J.R. Richardson [eds.], Proceedings of symposium - Ecology and management of riparian-stream ecosystems: a large scale experiment at the University of British Columbia Malcolm Knapp Research Forest, April 12, 1999. University of British Columbia, B.C. Canada.

- Young, K.A.,** S.G. Hinch, and T.G. Northcote. 2000. Recovery of resident cutthroat trout (*Oncorhynchus clarki*) and their habitat in a small British Columbia 25 years after riparian logging. Pp. 73-83, In M. Feller and J.R. Richardson [eds.], Proceedings of symposium - Ecology and management of riparian-stream ecosystems: a large scale experiment at the University of British Columbia Malcolm Knapp Research Forest, April 1999. University of British Columbia, B.C. Canada.
- Richardson, J. and S.G. Hinch. 1998. Ecological objectives for stream and watershed restoration along the Pacific coast of North America. Pp. 47-56, In Baba, H. [ed.], Proceedings of the International Workshop on Environmental Hydrodynamics and Ecological Restoration in Cold Regions. Science and Technology Agency of Japan.
- Rand, P.S.,** J.P. Scandol, and S.G. Hinch. 1997. Modelling temporal and spatial patterns of salmon migration, feeding and growth in the Northeast Pacific Ocean. Pp. 233-242, In Emmett, R.L., and M.H. Schiewe (editors), Estuarine and Ocean Survival of Northeastern Pacific Salmon, Proceedings of the Workshop, March 20-22, 1996, Newport Oregon. NOAA Technical Memorandum, NMFS-NWFSC-29. 313 p. Available at: <http://www.nwfsc.noaa.gov/publications/techmemos/tm29/tm29.pdf>.
- Hinch, S.G. and **P.S. Rand.** 1996. Evaluating energy use and risk of energy depletion in up-river migrating sockeye salmon. Pp. 63-74, in S. McCormick, M. Sheridan, R. Patino, and D. MacKinlay [eds.], The physiology of migratory fish symposium - The International Congress of Fish Biology, July 14 1996. San Francisco, California. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/1996/migration.htm>.
- Burgetz, I.J.,** S.G. Hinch and D.J. Randall. 1996. Differential recruitment of anaerobic muscle fibres of rainbow trout and sockeye salmon during exhaustive exercise. 6 pages, in Don MacKinlay and Jay Nelson (eds), High Performance Fish II- The International Congress of Fish Biology, July 14 1996. San Francisco, California. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/1996/hiperII.htm>.
- Rand, P.S.** and S.G. Hinch. 1996. Spatial patterns of salmon prey, feeding and growth in the northeast Pacific Ocean. Pp. 91-100, in D. MacKinlay and K. Shearer [eds.], Feeding ecology and nutrition in fish symposium - The International Congress of Fish Biology, July 14 1996. San Francisco, California. Available at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/1996/gutshop96.htm>.
- Healey, M.C., K.A. Thomson, S.G. Hinch, P. LeBlond, J. Scandol, C.J. Walters, J. Ingraham, L. Huato, I. Jardine. 1994. Biophysical controls of salmon migration and production in the northeast Pacific. ICES Working Paper, Mini Symposium on Fish Migration. Sept. 1994. St. Johns, Nfld.
- Green, R.H., and S.G. Hinch. 1986. Freshwater clams as monitors of variation in environmental acidity and trace metal levels. pp. 189-214. Proceedings of the Technology Transfer Conference, Dec. 1986. Ontario Ministry of the Environment, Toronto, Ontario.
- (c) Extension or Consultant Reports*
- Mathes, M.T.,** and S.G. Hinch. 2008. Stream flow and fish habitat assessment for a proposed run-of-the-river hydroelectric power project on the North Alouette River in the Malcolm Knapp Research Forest. Report prepared for the Malcolm Knapp Research Forest, University of British Columbia. November, 2008. 50

pgs.

- Hinch, S.G., **M.S. Cooperman**, **G.T. Crossin**, and **I. Olsson**. 2008. Investigations to determine the cause of early migration behaviour and magnitude of in-river survival and losses above Mission for adult Late-run Fraser River sockeye (UBC Component). Final Report to the Pacific Salmon Commission Southern Boundary Restoration and Enhancement Fund on Research Conducted in 2006. Nov. 7, 2008. 128 pgs.
- Roscoe D.W.**, and S.G. Hinch. 2008. Fishway passage, water diversion and warming temperatures: Factors limiting successful spawning migration of Seton-Anderson watershed sockeye salmon. Final Report for the Bridge Coastal Restoration Program, Project 07.BRG01. Submitted 22 July, 2008, 99 pgs.
- Hinch, S.G. 2008. Review of Draft Biological Opinion conducted by National Marine Fisheries Service, Southwest Region: Operation of Klamath Project (184 pgs). Review solicited by and submitted to the Center for Independent Experts, Miami, Florida. May 24, 2008. 24 pgs.
- Hinch, S.G. 2008. Climate warming and salmon fisheries: a game of double jeopardy. Branchlines, Volume 19, 1: 11-12. <http://www.forestry.ubc.ca/Portals/0/docs/BranchLinesJan08.pdf>
- Mellina, E.**, and S.G. Hinch. 2008. Stream habitat and bull trout (*Salvelinus confluentus*) responses to MPB riparian salvage harvesting in north-central British Columbia. Final Report, Project Number Y091046, submitted to BC Forest Science Program, Victoria, BC. Sept 30, 2008. 12 pp.
- Mellina, E.**, and S.G. Hinch. 2007. Long-term stream habitat and rainbow trout responses to alter riparian management in north central BC. LINK, FORREX Forest Research Extension Partnership, Volume 9, 2:9. http://www.forrex.org/publications/link/ISS46/vol9_no2_art3.pdf
- Hinch, S.G., **M.S. Cooperman**, **G.T. Crossin**, and **I. Olsson**. 2007. Investigations to determine the cause of early migration behaviour and magnitude of in-river survival and losses above Mission for adult Late-run Fraser River sockeye (UBC Component). Preliminary Report to the Pacific Salmon Commission Southern Boundary Restoration and Enhancement Fund on Research Conducted in 2006. Nov. 30, 2007. 112 pgs.
- Mellina, E.**, and S.G. Hinch. 2007. A broad-scale investigation of the effects of streamside clear-cut timber harvesting on small stream ecosystems in British Columbia: analyses of large-scale databases to forecast impacts on physical and thermal habitats and their salmonid populations. Final Report, Project Number Y071039, submitted to BC Forest Science Program, Victoria, BC. April 30, 2007. 53 pp.
- Cooperman, M.S.** and S.G. Hinch. 2006. Scientific Assessment of Restoration Projects: evaluating the effectiveness of restoration actions in the southern interior of British Columbia. Final Contract Report for Project F1651-050010, report prepared for The Pacific Salmon Commission, Vancouver British Columbia, and Fisheries and Oceans Canada - Vancouver, Vancouver British Columbia. 155 pgs.
- Pon, L.B.**, **S. J. Cooke**, and S.G. Hinch. June 2006. Passage efficiency and migration behaviour of salmonid fishes at the Seton Dam Fishway. Final report for the Bridge Coastal Restoration Program, Project 05.Se.01. Submitted June 6, 2006. 105 pgs.

- Mellina, E.**, and S.G. Hinch. 2006. Stream invertebrate and rainbow trout bioenergetic responses to clear-cut logging in north-central British Columbia. Final Report, Project Number Y061038, submitted to BC Forest Science Program, Victoria, BC. April 30, 2006. 69 pp.
- Cooke, S.J.**, and S.G. Hinch. 2005. Survival, behaviour and physiology of migrating adult late-run Fraser River sockeye: identifying the cues and causes of abnormally high mortality prior to spawning. Final Report for 2004 Research Activity. Prepared for the Southern Endowment Fund, Pacific Salmon Commission. Submitted May 15, 2005. 49 pgs.
- Mellina, E.**, S.G. Hinch, and R.D. Moore. 2005. Medium-term stream habitat and rainbow trout responses to clear-cut logging in north-central British Columbia. Final Report, Project Number Y051038, submitted to BC Forest Science Program, Victoria, BC. April 30, 2005. 52 pp.
- Mellina, E.**, S.G. Hinch, and R.D. Moore. 2004. Stream temperature responses to clear-cut logging in the central interior of British Columbia: test of the predictive model developed by Mellina et al. (2002). Final Report, Project Number R04-079, to BC Forest Science Program, Victoria, BC. April 30, 2004. 38 pp.
- Mellina, E.**, and S.G. Hinch. 2003. Stream temperature, invertebrate standing crop, and fish bioenergetic responses to riparian forest harvesting practices in the central interior of British Columbia: the moderating influence of groundwater and lakes. Final Report, Project Number FII R02-10, submitted to BC Forest Science Program, Victoria, BC. April 30, 2003. 29 pp.
- Hinch, S.G. 2001. The loss of fish habitat by forest road crossings - a guest editorial. Branchlines, Newsletter of the Faculty of Forestry, University of British Columbia. Volume 11, Number 2. Pg 1.
- Quamme, D.L., T.L. Slaney, and S.G. Hinch. Oct. 1997. Distribution of fish in Burrard Inlet, Port Moody Arm, and potential effects of migration of adult salmon. Prepared for B.C. Hydro Burrard Thermal Upgrade Project, Port Moody, B.C.
- E.B. Experts Inc. Apr. 1996. Final report on DFO's response to the report of the Fraser River Sockeye Public Review Board. (12 private consultants including S.G. Hinch contributed to this study).
- Clarke, W.C., S.G. Hinch, M. Lapointe, I.V. Williams, and M. Bradford. Dec. 1994. Report of the Enroute Mortality Team to the Fraser River Sockeye Public Review Board, 1994 Fraser River Investigation.

3. Book Chapters:

- Payne, J.C., K. Andrews, C. Chittenden, G. Crossin, F. Goetz, S. Hinch, P. Levin, S. Lindley, S. McKinley, M. Melnychuk, T. Nelson, E. Rechisky, and D. Welch. 2010. *Tracking fish movements and survival on the Northeast Pacific Shelf*. Chapter 14 (pp. 267 – 290) in *Life in the World's Oceans*, Alasdair McIntyre, ed. Wiley-Blackwell, Oxford, U.K.
- Cooke, S.J., and S.G. Hinch. 2006. Fisheries employment in Canada. Pages 135-150 in D.A. Hewitt, W.E. Pine, III, and A.V. Zale, editors. 2006. *The AFS guide to fisheries employment*, 2nd edition. American Fisheries Society, Bethesda, Maryland.
- Hinch S.G. 2005. Fish and Stream Protection. Pp. 155-187 in S.B. Watts and L. Tolland [eds.], *Forestry Handbook for British Columbia*. Fifth Edition. UBC Forestry Undergraduate Society, Vancouver, BC.