

## CURRICULUM VITAE

### Peter V. Hodson

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Queen's University, Kingston, ON K7L 3N6

#### PERSONAL DATA

Birthdate : November 16, 1947  
Marital Status: Married – Kerry J. Hodson  
Two children: Elise.M.Hodson  
James K. Hodson  
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#### EDUCATION

PhD 1974	U of Guelph, Guelph, ON Canada	Zoology	Thesis: The effect of temperature on the toxicity of zinc to fish
MSc 1970	U of New Brunswick, Fredericton, NB, Canada	Biology	Thesis: The effect of DDT on the responses to temperature of fish
BSc 1968	McGill U, Montreal QC, Canada	Physiology	

#### WORK HISTORY:

1974-89	Fisheries and Oceans Canada, Burlington, ON	Res Scientist 3 & Program leader
1984	Chisholm Institute of Technology, Melbourne AUS	Prof. Development Leave
1989-92	Fisheries and Oceans, Canada, Mont-Joli, QC	Res Scientist 4 & Program Leader
1992-95	Environment Canada, Burlington, ON	Res Scientist 4 & Project Leader
1995 - present	Queen's University, Kingston, ON	Professor
1995-2000	School of Environmental Studies, Queen's	Director
2001-2006		
2009-10		

## RESEARCH PROGRAM (Last 5 years)

1. **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant.** 2008-2013. *The toxicological significance of chemical metabolism in fish.* Peter V. Hodson (PI), Queen's University. (\$200,000 CAN)
2. **NSERC Interaction Grant *Meetings to identify research opportunities on risk assessment of oil spills in rivers.*** 2012. Ana daSilva and Kevin Mumford (Civil Engineering, Queen's). (\$5,000)
3. **NSERC Strategic Grant. *Identification and bioavailability of toxic components in heavy oil.*** 2008-2012. **Peter V. Hodson (PI)**, Queen's University; **Niels C. Bols (co-PI)**, U. of Waterloo; **R. Stephen Brown (co-PI)**, Queen's; **Ken Lee (Collaborator)**, COOGER, Fisheries and Oceans; **Zhendi Wang (Collaborator)**, Environment Canada; **Bruce Hollebone (Collaborator)**, Environment Canada. (\$489,300 CAN)
4. **Fisheries and Oceans Canada and the Prince William Sound Regional Citizen's Advisory Council. (2009-2011). *Toxicology Effects of Dispersed Alaska North Slope Oil on Fish – Wave-Tank Experiments.*** **Peter V Hodson (PI)**, Queen's University (PI) **Ken Lee (Project Manager, PI)** Centre for Offshore Oil and Gas Environmental Research, Fisheries and Oceans Canada, NS; **Les Burridge (co-PI)**, St. Andrews Biological Station, Fisheries and Oceans Canada, NB; **Simon Courtenay (co-PI)**, Gulf Region, Fisheries and Oceans Canada, NB; **Les Burridge (co-PI)** St. Andrews Biological Station, Fisheries and Oceans Canada, NB; **Peter Hodson (co-PI)**, Queen's University, ON, **Albert Venosa (co-PI)**, National Risk Management Research Laboratory (NRMRL), U.S. Environmental Protection Agency, OH. (\$74,250 CAN)
5. **STRATUS Consulting, Boulder CO. 2011-2012. *Optimization and calibration of a fluorescence-based analytical scheme for monitoring PAH concentrations in toxicity tests with oil.*** **Peter V. Hodson (PI)**, Queen's University. (\$135,000)
6. **NSERC Strategic Grant. 2007-2011. *Are chemical contaminants contributing to the decline in the recruitment of American eel (Anguilla rostrata)?*** **Peter V. Hodson (PI)** Queen's University; **Mehran Alaei, (co-PI)**, Environment Canada, Burlington; **R. Stephen Brown, (co-PI)**, Queen's University; **Catherine M. Couillard (co-PI)**, Fisheries and Oceans; U de Québec Rimouski; **Niels C. Bols (co-PI)**, U of Waterloo; **Michel Lebeuf (co-PI)** Fisheries and Oceans; U de Québec Rimouski; **John Casselman (co-PI)**, Queen's University; **Jocelyne Pellerin (co-PI)** U de Québec Rimouski; **Emilien Pelletier, (co-PI)** U de Québec Rimouski. (\$464,000 CAN)
7. **Ontario Ministry of the Environment, Best in Science Grant. 2008-2010. *Sources of Mercury to Walleye in Lake St Francis, St Lawrence River: the roles of historical contamination, mercury bioavailability and food chain transfer.*** **Jeff Ridal (PI)**, St. Lawrence River Institute, Cornwall, ON; **Peter Hodson (co-PI)**, Queen's University, **Linda Campbell (co-PI)** Queen's University; **Brian Hickey (co-PI)** River Institute; **David Lean (co-PI)**, Ottawa University, Ottawa ON. (\$150,000 CAN)
8. ***The history of pesticide use at EXPO 67 to control nuisance aquatic insects.*** **Peter V. Hodson, (PI)**, Queen's University. **Collaborators: Magella Pelletier**, Centre St. Laurent, Environment Canada, Montreal, QC
9. **Petroleum Exploration and Research Development Fund (Fisheries and Oceans Canada). 2007-2008. Interactions between exposure time and the toxicity of dispersed oil to embryonic Atlantic herring (*Clupea harengus*) (2007-08)** **Peter V Hodson (PI)**, Queen's University (PI) (\$61,960 CAN)

## **SERVICE:**

### ***Science Societies***

#### **Society of Environmental Toxicology and Chemistry (SETAC)**

- I was the ***Vice-President*** of SETAC) in 1993-94, ***President*** in 1994-95, and ***Past President*** in 1995-96. I twice served on its Board of Directors, and was a member of the SETAC World Council and Chair of its Science Committee from 2004-2007. I was the program Chair of SETAC 89, SETAC's 10th Annual Meeting in Toronto, Ontario Canada in 1989.

#### **Annual Aquatic Toxicity Workshop.(ATW)**

- I was a co-organizer of the ATW annual meeting in Hamilton, Ontario in 1979, sat on the Steering Committee from 1979 to 1984, and have organized many sessions for its annual meeting. My student, Adrian Fowlie, won the *ATW Best Masters Thesis Award* when it was first offered in 2009

#### **International Association for Great Lakes Research (IAGLR)**

- I was the co-Chair of the Organizing Committee of the 2012 Annual meeting of IAGLR, Cornwall, Ontario, May 13-17, 2012

### ***Grant reviews***

- Annually I review 2 to 4 grants for the Natural Sciences and Engineering Research Council of Canada, sat for one year as a member of member of the Environment A Panel for the NSERC Strategic Grant Program; and periodically review grants for equivalent granting agencies in Quebec, Canada, the US, and European countries
- I chaired the Cumulative Effects Project Review Panel of the Toxic Substances Research Initiative (1999-2002)

### ***Publishing***

- I am a past Aquatic Toxicology editor of the journal *Environmental Toxicology and Chemistry* (5 years)
- I sat as a member of the Editorial Board of *Fish Physiology and Biochemistry* and the *Canadian Journal of Fisheries and Aquatic Sciences*;
- I review about 10 manuscripts annually for a wide array of leading journals, including Aquatic Toxicology, Toxicological Sciences, Proceedings of the National Academy of Sciences (Guest Editor), Environmental Toxicology and Chemistry, Chemosphere, and many others

### ***Technical Panels***

- I have contributed to many technical panels and committees, particularly those of the International Joint Commission (Water Quality Objectives Subcommittee and Aquatic Ecosystems Objectives Committee), the American Fisheries Society (Water Quality Criteria Review Committee), the Department of Fisheries and Oceans (Deputy Minister's Science Advisory Committee; Assistant Deputy Minister's Working Group on Contaminants Science) and Environment Canada (National Environmental Effects Monitoring Committee).
- Invited member of two expert panels on Selenium struck by Alberta Environment and the coal industry
- Appointed a Working Group Chair for a 2009 SETAC Pellston Workshop on selenium in aquatic environments, and was senior editor of one chapter of the proceedings
- Co-organizer with Dr. John Carey, Environment Canada of a 1994 Pellston Workshop on Chlorinated Organic Chemicals, hosted at Alliston, Ontario by the Society of Environmental

Toxicology and Chemistry, Pensacola, FL. The results of this workshop influenced Environment Canada Policy on the management of chlorinated compounds in commerce and were published as a textbook by SETAC in 1998.

- Sat on technical teams that provided outside program review for research laboratories of the US Environmental Protection Agency, the US Geological Survey, and the Exxon-Mobil Corporation.
- Invited member of two "Expert examination and evaluation" (E3) workshops, the first on harmful levels of produced water discharges in the Arctic, Montreal, QC. (26-27 October 2009), and the second on "Biomarker data for Arctic organisms - are there enough data for monitoring and can they be used as a basis for environmental management?" Paris, France (26-27 November 2009)
- Member of a review team for the Finnish Academy of sciences that reviewed environmental research in Finland.
- Invited keynote presentation, 36<sup>th</sup> Annual Larval Fish Conference, Os, Norway, July 2-6, 2012. The role of chemical structure and metabolism in the toxicity of alkyl PAH to fish embryos.
- Invited presentation, Oil Sands Products training Workshop, U. of Southern Maine, Dec 4-5, 2012. Coastal Response Research Centre, U. of New Hampshire. Effects of oil sands products on aquatic biota.

## REFEREED PUBLICATIONS:

Lifetime 125, last 5 years = 32; Funding Sources: \* Natural Sciences and Engineering research Council of Canada; \*\* Government contracts; \*\*\* Industry contracts; \*\*\*\* Foundation contracts.

**bold = student or PDF; (Circled) = publications relevant to the toxicity of oil and alkyl PAH**

### Submitted or in Press

1. **Byer, J.D.**, Alaei, M., Brown, R.S., Lebeuf, M., Backus, S., Keir, M., Pacepavicius, G., Hodson, P.V. 2013. Spatial trends of dioxin-like compounds in Atlantic eels. *Chemosphere* Accepted January 19, 2013 (in press)
2. **Razavi, NR**, JJ Ridal, W de Wit, MBC Hickey, LM Campbell and PV Hodson. 2013. Ebullition rates and mercury concentrations in St. Lawrence River sediments and a benthic invertebrate. *Env. Toxicol. Chem.* Accepted November 17, 2012

### Published

3. Hodson, PV. 2013. A history of environmental contamination by oil sands extraction. Invited commentary. *Proc Nat Acad Sci published ahead of print January 11, 2013*, doi:10.1073/pnas.1221660110
4. **Byer, J.D.**, Lebeuf, M., Alaei, M., Brown, R.S., Trottier, S., Backus, S., Keir, M., Casselman, J., Hodson, P.V. 2013. Spatial trends of organochlorinated pesticides, polychlorinated biphenyls, and polybrominated diphenyl ethers in Atlantic eels. *Chemosphere*; 90:1719–1728 published on-line November 19, 2012  
<http://www.sciencedirect.com/science/article/pii/S004565351201257X>
5. **Rigaud, C**, CM Couillard, J Pellerin, B Legare, P Gonzalez, PV Hodson. 2013. Relative potency of PCB126 to TCDD for sublethal embryotoxicity in the mummichog (*Fundulus heteroclitus*). *Aq Tox.* 128-129:203-214 <http://dx.doi.org/10.1016/j.aquatox.2012.12.013>,
6. Gagnon, M.M., Hodson, P.V. 2012. Field studies using fish biomarkers – how many fish are enough? *Mar. Poll. Bull.* 64 :2871-2876 <http://dx.doi.org/10.1016/j.marpolbul.2012.08.016>
7. **Greer, CD**, Hodson, PV, Li, Z, King, T, Lee, L. 2012. Toxicity of crude oil chemically dispersed in a wave tank to Atlantic herring (*Clupea harengus*) embryos. *Env. Tox. Chem.* 31: 1324-1333 (\*\*)
8. Wu, D., Wang, Z., Hollebone, B., McIntosh, S., King, T., Hodson, P.V. 2012. Comparative toxicity of four chemically-dispersed and undispersed crude oils to rainbow trout embryos. *Environ Toxicol Chem* 31:754-765(\*\*)
9. **Arthur, T., Harjani, J.R., Phan, L., Scott, L.M.**, Jessop, P.G., Hodson, P.V. 2012. Effects-driven chemical design: the acute toxicity of CO<sub>2</sub>-triggered switchable surfactants to rainbow trout can be predicted from octanol-water partition coefficients. *Green Chem* 15:357-362. DOI: 10.1039/C1GC15620A (\*)
10. **Fallahtafi, S., Rantanen, T.**, Brown, R.S., Snieckus, V., Hodson, P.V. 2012. Toxicity of hydroxylated alkyl-phenanthrenes to the early life stages of Japanese medaka (*Oryzias latipes*). *Aq. Tox.* 106-107:56-64 doi:10.1016/j.aquatox.2011.10.007 publ ol 8 /11/11(\*)
11. **Turcotte, D**, Headley, JV, **Abudulai, NL**, Hodson, PV, Brown, RS. 2011. Identification of phase II *in vivo* metabolites of alkyl-anthracenes in rainbow trout (*Oncorhynchus mykiss*). *Chemosphere* published on-line October 11, 2011 doi:10.1016/j.chemosphere.2011.08.005
12. **Turcotte, T. , Akhtar, P., Bowerman, M., Kiparissis, Y.**, Brown, R.S., Hodson, P.V. 2011. Measuring the toxicity of alkyl-phenanthrenes to early life stages of medaka (*Oryzias latipes*) using partition controlled delivery. *Environ Toxicol Chem* 30:487–495, 2011(doi: 10.1002/etc.404) (\*)

13. **Scott, JA**, Incardona, JP, Pelkki, K, Shepardson, S, Hodson, P.V. 2011. AhR2-mediated, CYP1A-independent cardiovascular toxicity in zebrafish (*Danio rerio*) embryos exposed to retene. *Aq. Tox* 101:165–174. doi:[10.1016/j.aquatox.2010.09.016](https://doi.org/10.1016/j.aquatox.2010.09.016) (publ on-line Nov 5, 2010) (\*)
14. **Kelly, EN**, Schindler, DW, Hodson, PV, Short, JW, **Radmanovich, R**, **Nielsen, CW**. 2010. Oil sands development contributes elements toxic at low concentrations in the Athabasca River and its tributaries. *PNAS* 107:16178-16183. [www.pnas.org/doi/10.1073/pnas.1008754107](http://www.pnas.org/doi/10.1073/pnas.1008754107) (\*\*\*\*)
15. **McIntosh, S**, King, T, **Wu, D**, Hodson, PV. 2010. Toxicity of dispersed crude oil to early life stages of Atlantic herring (*Clupea harengus*). *Environ Toxicol. Chem* 29:1160-1167 (\*,\*\*)
  16. Ridal, J.J., **E. Yanch, A. Fowlie, N.R. Razavi, T. Delongchamp, M. Fathi**, P.V. Hodson, L.M. Campbell, J.M. Blais, M.B.C. Hickey, E. Yumihovize, and D.R.S. Lean. 2010. Potential Causes of Accelerated Transfer of Sediment Mercury to St. Lawrence River Biota: Implications for Sediment Management Strategies at Cornwall, Ontario, Canada. *Hydrobiologia* 647:81-98. (\*,\*\*)
    17. **Kelly, EN**, Short, JW, Schindler, DW, Hodson, PV, Ma, M, Kwan, AK, **Fortin, BL**. 2009. Oil sands development contributes polycyclic aromatic compounds to the Athabasca River and its tributaries. *PNAS* 106:22346-22351  
[www.pnas.org/cgi/doi/10.1073/pnas.0912050106](http://www.pnas.org/cgi/doi/10.1073/pnas.0912050106) (\*\*\*\*)
    18. **Scott, JA , M Ross , BC Lemire**, PV Hodson. 2009. Embryotoxicity of retene in cotreatment with 2-aminoanthracene, a cytochrome P450 inhibitor in rainbow trout (*Oncorhynchus mykiss*). *Env Tox. Chem.* 28:1304-1310. (\*)
    19. Boudreau, M., **M Sweezey**, K Lee, PV Hodson, SC Courtenay. 2009. Toxicity of Orimulsion-400 to early life stages of Atlantic herring (*Clupea harengus*) and mummichog (*Fundulus heteroclitus*). *Env Toxicol Chem.* 28:1206-1217 (\*,\*\*)
      20. **Schein, A, JA Scott**, L Mos, PV Hodson. 2009. Chemical dispersant increases the apparent bioavailability and toxicity of diesel to rainbow trout (*Oncorhynchus mykiss*). *Env. Tox. Chem.* 28:595-602(\*)
      21. Short, JW KR Springman, MR Lindeberg, LG Holland, ML Larsen, C Sloan, **C Khan**, PV Hodson, SD Rice. 2008. Semi-permeable membrane devices link site-specific contaminants to effects: Part II – A comparison of lingering Exxon Valdez oil with other potential sources of cytochrome P450 1A inducers in Prince William Sound, Alaska. *Mar. Environ. Res.* 66:487-498 (\*\*)
      22. Springman, KR, JW Short, MR Lindeberg, JM Maselko, **C Khan**, PV Hodson, SD Rice. 2008. Semipermeable membrane devices link site-specific contaminants to effects: Part I - induction of CYP1A in rainbow trout from contaminants in Prince William Sound, Alaska. *Mar. Environ Res.* 66:477-486.(\*\*)
      23. **Scott JA**, Hodson PV. 2008. Evidence for multiple mechanisms of toxicity in larval rainbow trout (*Oncorhynchus mykiss*) co-treated with retene and a-naphthoflavone. *Aquat Toxicol* 88:200-206.(\*)
      24. **Fowlie, AR**, PV Hodson, MBC Hickey. 2008. Spatial and seasonal patterns of mercury concentrations in fish from the St. Lawrence River at Cornwall, Ontario: Implications for monitoring. *J. Great Lakes Res* 34:72-85 (\*)
      25. **Choy, ES**, PV Hodson, LM Campbell, **AR Fowlie**, J Ridal. 2008. Temporal and Spatial Trends of Mercury Concentrations in Young-of-the-Year Spottail Shiners (*Notropis hudsonius*) in the St. Lawrence River at Cornwall, ON . *Arch Env Tox Chem* 54:473-481(\*)
      26. **Billiard, SM, JN Meyer, DM Wassenberg**, PV Hodson, RT Di Giulio. 2008. Non-additive effects of PAHs on early vertebrate development: mechanisms and implications for risk assessment. *Tox Sci* 105:5-23 (\*).

27. **Gavril, M**, PV Hodson, J McLellan. 2007. Decoloration of amaranth by the white-rot fungus *Trametes versicolor*. Part I Statistical analysis. Can J. Microbiol. 53:313-326 (\*)
28. **Gavril, M**, PV Hodson, J McLellan. 2007. Decoloration of amaranth by the white-rot fungus *Trametes versicolor*. Part II Verification study. Can J. Microbiol. 53:327-336 (\*)
29. Hodson, PV, **K Qureshi, CAJ Noble, P Akhtar**, RS Brown. 2007. Inhibition of CYP1A enzymes by alpha-naphthoflavone causes both synergism and antagonism of retene toxicity to rainbow trout (*Oncorhynchus mykiss*) Aquat Toxicol 81:275-285 (\*)
30. **Saravanabhavan, G, A Helferty**, PV Hodson, RS Brown. 2007. A multi-dimensional HPLC method for polycyclic aromatic hydrocarbons and their alkyl homolog fingerprinting in heavy gas oil fraction of Alaskan North Slope Crude. J Chrom A 1156:124-133 (\*\*, \*\*\*)
31. **Colavecchia MV**, Hodson PV, Parrott JL. 2007. The relationships among CYP1A induction, toxicity and eye pathology in early life stages of fish exposed to oil sands. J Tox Env Health 70:1542-1555(\*\*)
32. **Gavril, M.** and P.V. Hodson. 2007. Chemical evidence for the mechanism of the biodecoloration of Amaranth by *Trametes versicolor*. World J Microbiol Biotechnol 23:103-124 (\*)
33. **Ramachandran, SD, MJ Swezey**, PV Hodson, M Boudreau, S Courtenay, T King, JA Dixon, K Lee. 2006. Influence of salinity and fish species on PAH uptake from dispersed MESA crude oil. Mar Poll Bull 52:1182-1189 (\*\*)
34. **Fragoso, NM**, PV Hodson, **S Zambon**. 2006. Evaluation of an exposure assay to measure uptake of sediment PAH by fish. Environ Monitor Assess 116:481-511(\*\*)
35. **Colavecchia, MV**, PV Hodson, JL Parrott. 2006. CYP1A induction and blue sac disease on early life stages of white suckers exposed to oil sands. J. Tox Env Health A 69:1-28(\*\*)
36. **Bauder, MB, VP Palace**, PV Hodson. 2005. Is Oxidative stress the mechanism of toxicity in retene-exposed trout larvae? Env. Toxicol. Chem. 24:694-702. (\*)
37. **Kuzyk, ZA**, PV Hodson, SM Solomon, KJ Reimer. 2005. Biological responses to PCB exposure in shorthorn sculpin from Sagley Bay, Labrador. Sci Total Environ 351-352:285-300. (\*\*)
38. Anderson, BC, **T Bell**, P Hodson, J Marsalek., WE Watt. 2004. Accumulation of trace metals in freshwater invertebrates in stormwater management facilities. Water Res J Canada 39: 362-373(\*\*)
39. **Billiard, SM**, NC Bols, PV Hodson. 2004. *In vitro* and *in vivo* comparisons of fish-specific CYP1A induction relative potency factors for selected polycyclic aromatic hydrocarbons. Ecotox Env Safety 59:292-299 (\*)
40. **Colavecchia, MV**, SM Backus, PV Hodson, JL Parrott. 2004. Toxicity of oil sands to early life stages of fathead minnows. Env Toxicol Chem 23:1709-1718. (\*\*)
41. **Ramachandran, SD**, PV Hodson, CW Khan, K Lee. 2004. Oil dispersant increases PAH uptake by fish exposed to crude oil. Ecotox Env Safety 59:300-308. (\*\*)
42. **Cai, X**, RS Brown, PV Hodson, V Snieckus. 2004. Regiospecific synthesis of alkylphenanthrenes using a combined directed *ortho* and remote metalation – Suzuki-Miyaura cross coupling strategy. Can J Chem 82: 195-205. (\*, \*\*)
43. **Kiparissis, Y, P Akhtar**, PV Hodson, RS Brown. 2003. Partition Controlled Delivery (PCD) of toxicants: a novel *in vivo* approach for embryotoxicity testing. Environ. Sci. Technol. 37:2262-2266.
44. **Brinkworth, LC**, PV Hodson, **S Tabash**, and **P Lee**. 2003. CYP1A induction and blue sac disease in early developmental stages of rainbow trout (*Oncorhynchus mykiss*) exposed to retene. J. Toxicol. Environ. Health - Part A. 66:47-66
45. **Ryan, RWJ.**, JL Post, M Solc, PV Hodson, GM Ross. 2002. Catecholaminergic neuronal degeneration in rainbow trout assessed by skin color change; A model system for identification of environmental risk factors. NeuroToxicol 23:545-555

46. **Billiard, SM**, ME Hahn, DG Franks, RE Peterson, NC Bols, PV Hodson. 2002. Binding of polycyclic aromatic hydrocarbons (PAHs) to teleost arylhydrocarbon receptors (AHRs). *Comp. Biochem. Physiol. B*.133:55-68.
47. **Hawkins, SA, SM Billiard, SP Tabash, DC Depew**, RS Brown, PV Hodson. 2002. Altering cytochrome P4501A activity affects polycyclic aromatic hydrocarbon metabolism and toxicity in rainbow trout (*Oncorhynchus mykiss*). *Env. Toxicol. Chem.* 21:1845-1853.
48. **Basu, N**, PV Hodson, CJ Kennedy, GK Iwama. 2002. Altered stress responses in trout exposed to B-naphthoflavone and cortisol. *Fish Physiol. Biochem.* 25:131-140.
49. Hodson, PV, **I Ibrahim, S Zambon, A Ewert**, K Lee. 2002. Bioavailability to fish of sediment PAH from an experimental oil spill. *Bioremed. J.* 6:297-313
50. Oikari, A, N Fragoso, H Leppanen, **T Chan**, PV Hodson. 2002. Bioavailability to juvenile rainbow trout (*Oncorhynchus mykiss*) of retene and other mixed function oxygenase-active compounds from sediments. *Env. Toxicol. Chem* 21:121-128.
51. **Basu, N, S Billiard**, N Fragoso, A Omoike, S Tabash, S Brown, P Hodson. 2001 Ethoxyresorufin-*o*-de-ethylase induction in trout exposed to mixtures of polycyclic aromatic hydrocarbons. *Env. Toxicol. Chem* 20:1244-1251.
52. **Coakley, J**, PV Hodson, A van Heiningen, T Cross 2001. MFO induction in fish by filtrates from chlorine dioxide bleaching of wood pulp. *Water Research*, 35:921-928.
53. **Gagnon, MM**, D Bussieres, JJ Dodson, PV Hodson 2000. Secondary and tertiary stress responses to BKME exposure in St., Maurice R. fish populations. *J. Aquat. Ecosys. Stress & Recovery* 7:247-257.
54. **Hickie, BE**, MCS Kingsley, PV Hodson, DCG Muir, P Béland, D Mackay, 2000. A modelling-based perspective on the past, present, and future PCB contamination of the St. Lawrence Beluga whale population (*Delphinapterus leucas*). *Can. J. Fish. Aquat Sci.* 57 (suppl):101-112.
55. Schnell, A, P Steel, H Melcer, PV Hodson, JH Carey 2000. Enhanced biological treatment of bleached kraft mill effluents. I. Removal of chlorinated organic compounds and toxicity. *Water Res* 34:493-500.
56. Schnell, A, PV Hodson, P Steel, H Melcer, J H Carey 2000. Enhanced biological treatment of bleached kraft mill effluents - II. Reduction of mixed function oxygenase (MFO) induction response in fish. *Water Res* 34:501-509
57. Bright, DA, PV Hodson, K-J Lehtinen, B McKague, J Rogers, K Solomon 2000. Use of chlorine dioxide for the bleaching of pulp: a re-evaluation of ecological risks based on scientific progress since 1993. *Pulp & Paper Canada* 101:T9-11.
58. **Billiard, S.**, P.V. Hodson, and N.C. Bols. 2000. Does the potency of polycyclic aromatic hydrocarbons (PAH) for inducing CYP1A in juvenile trout (*Oncorhynchus mykiss*) predict dioxin-like toxicity in early life stages? *Mar. Env. Res.* 50:308-309
59. **Sturm, A**, Hodson, PV, Carey, JH, Hansen, P-D. 1999. Hepatic UDP-glucuronosyl-transferase in rainbow trout and preliminary assessment of pulp mill effluent. *Bull. Env. Cont. Tox.* 62:608-615
60. **Billiard, SM, K Querbach**, PV Hodson. 1999. Toxicity of retene to early life stages of two freshwater fish species. *Env. Tox. Chem.* 18:2070-2077.
61. **Fragoso, N**, P Hodson, I Kozin, R Brown, J Parrott. 1999. Kinetics of mixed function oxygenase induction and retene excretion in retene-exposed rainbow trout. *Env Tox Chem* 18:2268-2274.
62. Sherry, J, A Gamble, M Fielden, P Hodson, K Solomon, K Burnison, J Carey. 1999. An ELISA for brown trout vitellogenin and its use in bioassays for environmental estrogen. *Sci Tot Env* 225:13-31
63. **Fragoso, NM**, JLParratt, ME Hahn, PV Hodson 1998. Chronic retene exposure causes sustained induction of CYP1A activity and protein in rainbow trout. *Env. Tox Chem.* 17:2347-2353.



64. Bussieres,D, **MM Gagnon**, JJ Dodson, PV Hodson 1998. Does inter-annual variability in growth and sexual maturation of white sucker confound comparisons between pulp mill-contaminated and reference rivers? *Can. J. Fish. Aquat. Sci.* 55:1068-1077.
65. Hodgson, A.T., A.J. Hitzroth, S.J.B. Duff, **P. Premdas**, and P.V. Hodson 1998. Effect of tertiary coagulation and flocculation treatment on bleached kraft mill effluent quality. *TAPPI JOURNAL* 81 (2):166-172.
66. Hodson, P.V., **M.K. Maj**, **S. Efler**, B.K. Burnison, A.R.P. Van Heiningen, R. Girard, and J.H. Carey. 1997. MFO induction in fish by spent cooking liquors from kraft pulp mills. *Env. Toxicol. and Chem.* 16:908-916.
67. Couillard, C.M., P.V. Hodson, and M. Castonguay. 1997. Correlations between pathological changes and chemical contamination in American Eels, *Anguilla rostrata*, from the St. Lawrence River. *Can. J. Fish. Aquat. Sci.* 54:1916-1927.
68. Couillard, C.M. and P.V. Hodson. 1996. Pigmented macrophage aggregates: a toxic response in fish exposed to bleached kraft mill effluent? *Env. Toxicol. Chem.* 15:1844-1854
69. **Welsh, P.G.**, J.L. Parrott, D.G. Dixon, P.V. Hodson, **D.J. Spry** and G. Mierle. 1996. Estimating acute copper toxicity to larval fathead minnows in soft water from measurements of dissolved organic carbon, calcium and pH. *Can. J. Fish. Aquat. Sci.* 53:1263-1271.
70. Hodson, P.V., K.R. Munkittrick, R. Stevens and A. Colodey. 1996. A tier-testing strategy for managing programs of environmental effects monitoring. *Water Qual. Res. J. Can.* 31:215-224.
71. Burnison, B.K., P.V. Hodson, D.J. Nuttley and **S. Efler**. 1996. A bleached kraft mill effluent fraction causing induction of a fish mixed function oxygenase (MFO) enzyme. *Env. Toxicol. Chem.* 15:1524-1531.
72. Hodson, P.V., **S. Efler**, **J.Y. Wilson**, A. El-Shaarawi, M. Maj and T.G. Williams. 1996. Measuring the potency of pulp mill effluents for induction of hepatic mixed function oxygenase activity in fish. *J. Toxicol. Environ. Health* 49:101-128.
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