

# Aimee Lee Stephanie Houde

## Department of Fisheries and Oceans

Pacific Biological Station, Molecular Genetics Lab  
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## Department of Forest and Conservation Sciences

University of British Columbia, Vancouver Campus  
2424 Main Mall, Vancouver, BC, V6T 1Z4  
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## ACADEMIC POSITIONS

### NSERC Postdoctoral Fellow

January 2016 - present

*Department of Fisheries and Oceans, Pacific Biological Station, Molecular Genetics Lab*  
*Department of Forest and Conservation Sciences, University of British Columbia*

Work: Development of biomarkers for measuring Pacific salmon smolt quality. Effects of hatchery rearing manipulations on Pacific salmon smolt quality. Advisers: Drs. Kristi Miller (Saunders), Scott Hinch, and Tony Farrell.

### Postdoctoral Fellow

June 2015 - August 2015

*Great Lakes Institute for Environmental Research, University of Windsor, Windsor, Ontario, Canada*  
*Department of Biology, University of Western Ontario (Western University), London, Ontario, Canada*

Work: Analysis of the genetic and maternal variance components of traits. Effects of thiamine deficiency on the performance of Atlantic salmon. Advisers: Drs. Trevor Pitcher and Bryan Neff.

## EDUCATION

### Doctor of Philosophy in Biology

September 2010 - May 2015

*Department of Biology, University of Western Ontario (Western University), London, Ontario, Canada*

Thesis: Restoration of native biodiversity in altered environments: reintroduction of Atlantic salmon into Lake Ontario. Supervisor: Dr. Bryan Neff. [\[PDF\]](#)

### Certificate in University Teaching and Learning

March 2013

*Teaching Support Centre, Western University, London, Ontario, Canada*

### Master of Science in Biology

September 2007 - December 2009

*Department of Biology, Dalhousie University, Halifax, Nova Scotia, Canada*

Thesis: The relative risks of inbreeding and outbreeding endangered populations of Atlantic salmon, *Salmo salar* L. Supervisor: Dr. Jeffrey Hutchings. [\[PDF\]](#)

### Bachelor of Science in Marine Biology (Honours Co-op)

September 2003 - August 2007

*Department of Biology, Dalhousie University, Halifax, Nova Scotia, Canada*

Thesis: Ecological interactions between juveniles of multi-generational crosses of farmed and wild Atlantic salmon, *Salmo salar* L. Supervisor: Dr. Jeffrey Hutchings. [\[PDF\]](#)

GPA: 4.17 out of 4.30

## FUNDING AWARDS

### MAJOR SCHOLARSHIPS, GRANTS OR CONTRACTS

- 2016- NSERC Postdoctoral Fellowship (\$45 000 a year)
- 2016- Mitacs Accelerate Internship (\$30 000 a year)
- 2012-14 Queen Elizabeth II Graduate Scholarship (\$15 000 a year)
- 2010-12 NSERC Alexander Graham Bell Canada Graduate Scholarship (\$35 000 a year)
- 2007-09 NSERC Alexander Graham Bell Canada Graduate Scholarship (\$17 500 a year)
- 2006 NSERC Undergraduate Student Research Award (\$4 500)

#### **OTHER SCHOLARSHIPS AND GRANTS**

- 2014 Ontario Federation of Anglers and Hunters Fisheries Research Award (\$2 000)
- 2013 Canadian Society of Zoologists Leo Margolis Scholarship (\$500)
- 2010-14 Graduate Research Scholarship top-up, School of Graduate and Postdoctoral Studies, Western University (\$4 000 a year)
- 2009 Faculty Research Grant Scholarship, Faculty of Graduate Studies, Dalhousie University (\$3 000)
- 2007 Faculty Research Grant Scholarship, Faculty of Graduate Studies, Dalhousie University (\$800)
- 2006 Atlantic Salmon Federation Olin Fellowship (\$1 000)
- 2006 In-course Scholarship, Dalhousie University, NS (\$1 500)
- 2006 Hugh P. Bell Scholarship, Dalhousie University, NS (awarded to the most promising honours biology and marine biology students, 1 of 4; \$500)
- 2005 Constance MacFarlane Scholarship, Dalhousie University, NS (awarded to a deserving student in the biology or marine biology honours program; \$2 000)
- 2004 In-course Scholarship, Dalhousie University, NS (\$2 500)
- 2003 Entrance Scholarship, Dalhousie University, NS (\$750)

#### **DISTINGUISHED AWARDS**

- 2016 Royal Society of Canada Alice Wilson Award, Academy of Science
- 2016 L'Oréal-UNESCO For Women in Science – NSERC Postdoctoral Fellowship Supplement (nominated)
- 2016 Canadian Association of Graduate Studies/ ProQuest Distinguished Dissertation Award (nominated)
- 2016 Canadian Society of Zoologists T.W.M. Cameron Outstanding Ph.D. thesis Award (runner-up)
- 2012 Society of Graduate Students, Graduate Student Teaching Award, Western University, ON (nominated)
- 2007 Dalhousie Student Union Letter of Distinction, Dalhousie University, NS (awarded for outstanding contributions to university life)
- 2007 NSERC award for innovation, APICS Undergraduate Biology Conference, St. John, NB (\$200)
- 2007 Top undergraduate presentation, APICS Aquaculture Conference, St. John, NB (\$400)
- 2007 Overall winning presentation, APICS Aquaculture Conference, St. John, NB (\$100 and plaque)
- 2006 Dr. Ming Fang Li Memorial Prize, Dalhousie University, NS (student with the best academic standing and work term performance in his/her third-year of the marine biology co-op program; \$1 242)
- 2003-07 Dean's List, Dalhousie University, NS
- 2003 Science Department Achievement Award, St. Peter Catholic High School, ON (awarded to the graduate that displayed exceptional skills in Physics, Chemistry, and Biology)

#### **CONTRIBUTIONS TO RESEARCH**

##### **PUBLICATIONS IN REFEREED JOURNALS**

- He, X., **Houde, A.L.S.**, Neff, B.D., Heath, D.D. 2017. Genetic architecture of gene transcription in two Atlantic salmon (*Salmo salar*) populations. *Heredity* 119: 117–124. [\[PDF\]](#)
- Smith, A.D., **Houde, A.L.S.**, Neff, B.D., Peres-Neto, P.R. 2017. Effects of competition on fitness-related traits. *Oecologia* 183: 701–713. [\[PDF\]](#)
- Houde, A.L.S.**, Wilson, C.C., Neff, B.D. 2017. Performance of four salmonids species in competition with Atlantic salmon. *Journal of Great Lakes Research* 43: 211–215. [\[PDF\]](#)

- Houde, A.L.S.**, Wilson, C.C., Pitcher, T.E. 2016. Genetic architecture and maternal contributions of early-life survival in lake trout. *Journal of Fish Biology* 88: 2088–2094. [\[PDF\]](#)
- Houde, A.L.S.**, Smith, A.D., Wilson, C.C., Peres-Neto, P.R., Neff, B.D. 2016. Competitive effects between rainbow trout and Atlantic salmon in natural and artificial streams. *Ecology of Freshwater Fish* 25: 248–260. [\[PDF\]](#)
- Houde, A.L.S.**, Pitcher, T.E. 2016. fullfact: an R package for the analysis of genetic and maternal variance components from full factorial mating designs. *Ecology and Evolution* 6: 1656–1665. [\[PDF\]](#)
- Houde, A.L.S.**, Garner, S.R., Neff, B.D. 2015. Restoring species through reintroductions: strategies for source population selection. *Restoration Ecology* 23: 746–753. [\[PDF\]](#)
- Houde, A.L.S.**, Saez, P.J., Wilson, C.C., Bureau, D.P., Neff, B.D. 2015. Effects of feeding high dietary thiaminase to sub-adult Atlantic salmon from three populations. *Journal of Great Lakes Research* 41: 898–906. [\[PDF\]](#)
- Houde, A.L.S.**, Wilson, C.C., Neff, B.D. 2015. Effects of competition with four non-native salmonid species on Atlantic salmon from three populations. *Transactions of the American Fisheries Society* 144: 1081–1090. [\[PDF\]](#)
- Houde, A.L.S.**, Black, C.A., Wilson, C.C., Pitcher, T.E., Neff, B.D. 2015. Genetic and maternal effects on juvenile survival and fitness-related traits in three populations of Atlantic salmon. *Canadian Journal of Fisheries and Aquatic Sciences* 72: 751–758. [\[PDF\]](#)
- Houde, A.L.S.**, Wilson, C.C., Neff, B.D. 2015. Predictability of multi-species competitive interactions in three populations of Atlantic salmon. *Journal of Fish Biology* 86: 1438–1443. [\[PDF\]](#)
- He, X., Wilson, C.C., Wellband, K.W., **Houde, A.L.S.**, Neff, B.D., Heath, D.D. 2015. Transcriptional profiling of two Atlantic salmon strains: implications for reintroduction into Lake Ontario. *Conservation Genetics* 16: 277–287. [\[PDF\]](#)
- Houde, A.L.S.**, Wilson, C.C., Neff, B.D. 2015. Competitive interactions among multiple non-native salmonids and two populations of Atlantic salmon. *Ecology of Freshwater Fish* 24: 44–55. [\[PDF\]](#)
- Rollinson, N., Keith, D., **Houde, A.L.S.**, Debes, P.V., McBride, M., Hutchings, J.A. 2014. Risk assessment of inbreeding and outbreeding depression in a captive breeding program. *Conservation Biology* 28: 529–540. [\[PDF\]](#)
- Houde, A.L.S.**, Wilson, C.C., Neff, B.D. 2013. Genetic architecture of fitness-related traits in two populations of Atlantic salmon. *Heredity* 111: 513–519. [\[PDF\]](#)
- Houde, A.L.S.**, Fraser, D.J., O'Reilly, P., Hutchings, J.A. 2011. Relative risks of inbreeding and outbreeding depression in the wild in endangered salmon. *Evolutionary Applications* 4: 634–647. [\[PDF\]](#)
- Anderson, S.C., Farmer, R.G., Ferretti, F., **Houde, A.L.S.**, Hutchings, J.A. 2011. Correlates of extinction risk in Canada. *BioScience* 61: 538–549. [\[PDF\]](#)
- Houde, A.L.S.**, Fraser, D.J., O'Reilly, P., Hutchings, J.A. 2011. Maternal and paternal effects on fitness correlates in outbred and inbred Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 68: 534–549. [\[PDF\]](#)
- Fraser, D.J., **Houde, A.L.S.**, Debes, P.V., O'Reilly, P., Eddington, J.D., Hutchings, J.A. 2010. Consequences of farmed-wild hybridization across divergent wild populations and multiple traits in salmon. *Ecological Applications* 20: 935–953. [\[PDF\]](#)
- Houde, A.L.S.**, Fraser, D.J., Hutchings, J.A. 2010. Fitness-related consequences of competitive interactions between farmed and wild Atlantic salmon at different proportional representations of wild-farmed hybrids. *ICES Journal of Marine Science* 67: 657–667. [\[PDF\]](#)
- Houde, A.L.S.**, Fraser, D.J., Hutchings, J.A. 2010. Reduced anti-predator responses in multi-generational hybrids of farmed and wild Atlantic salmon (*Salmo salar* L.). *Conservation Genetics* 11: 785–794. [\[PDF\]](#)

#### **SUBMITTED ARTICLES FOR PUBLICATION**

- He, X., **Houde, A.L.S.**, Neff, B.D., Heath, D.D. 2017. Transcriptome response of Atlantic salmon (*Salmo salar*) to competition with similar non-native species. *Diversity and Distributions*. In Review.

## **TEACHING EXPERIENCE**

### **COURSE LECTURING AND PREPARATION**

#### ***Western University***

- 2013 Western Certificate in University Teaching and Learning
- 2013 Create a Course Outline (10 hours)
- 2012 Teaching Mentor Program for Graduate Students (6 hours)
- 2011 Create a Teaching Dossier (3 hours)
- 2010 Advanced Teaching Program (20 hours)

#### ***Guest Lecturing***

- 2014-15 Research Presentation. Behavioural Ecology (0.5 hour, Western University)
- 2014 Statistical Analyses. Behavioural Ecology (0.5 hour, Western University)
- 2014 Fisheries Conservation. Conservation Biology (1 hour, Western University)
- 2013 Fish Diversity. Marine Environments (1.5 hours, Western University)
- 2013 Fish Adaptations. Marine Environments (1.5 hours, Western University)
- 2013 Behaviour Experiments. Animal Behaviour (0.5 hour, Western University)
- 2013 Conservation Genetics. Molecular Ecology (1.5 hours, Western University)

### **STUDENT MENTORING**

#### ***Graduate or Undergraduate Thesis Advising***

- 2013-16 "Innate and learned predator recognition in four strains of captive-bred Atlantic salmon, *Salmo salar*" (M. Lau, MSc Biology, Western University)
- 2012-15 "Thermal performance covaries with environmental temperature across populations of Atlantic salmon (*Salmo salar*)" (K. Gradil, MSc Biology, Western University)
- 2014-15 "Validation of non-invasive techniques for estimating egg size, ovary size, and muscle fat content of sexually-mature fish" (B. Tieu, BSc Honours in Biology, Western University)
- 2013-14 "Determination of population size, survival rate and spatial distribution of the Bog Copper butterfly *Lycaena epixhanthe*, in a highly isolated bog" (J. Zafar, BSc Honours in Biology, Western University)
- 2012-13 "Egg fatty acid composition and its effect on juvenile survival in introduced populations of Chinook salmon" (L. Oviedo, BSc Honours in Biology, Western University)

#### ***Other***

- 2014 Teaching Assistant: Analysis and Interpretation of Biological Data (one semester; Western University)
- 2014 Teaching Assistant: Tropical Marine Environments (one semester; Western University)
- 2013-14 Teaching Assistant: Behavioural Ecology (two semesters; Western University)
- 2011-12 Teaching Assistant: First-year Biology (three semesters; Western University)
- 2011 Teaching Assistant: Animal Behaviour (one semester; Western University)
- 2008-09 Undergraduate Co-op Supervisor (two semesters; Dalhousie University)
- 2007-09 Co-supervisor of Laboratory Research Assistants (two students; Dalhousie University)
- 2007-09 Teaching Assistant: Ecology (two semesters; Dalhousie University)
- 2007-08 Teaching Assistant: Ecology and Evolution of Fishes (two semesters; Dalhousie University)
- 2007 Teaching Assistant: Dalhousie Integrated Science Program (one semester, Dalhousie University)

## Curriculum Vitae: Aimee Lee Houde, July 2017

- 2006-08 Peer Tutor: Biology and Marine Biology Peer Tutoring Program (Dalhousie University)
- 2006 Aquatron Facility Educational Tour Coordinator, John Batt (Dalhousie University)
- 2000-03 Science Peer Tutor (St. Peter Catholic High School, ON)

### OTHER CONTRIBUTIONS TO RESEARCH

#### ORAL PRESENTATIONS AT INTERNATIONAL OR NATIONAL MEETINGS

- 2017 Sockeye Enhancement Meeting, Harrison Hot Springs, BC
- 2015 Canadian Conference for Fisheries Research, Ottawa, ON
- 2014 American Fisheries Society, Quebec, PQ
- 2014 Canadian Society for Ecology and Evolution, Montreal, PQ
- 2012 Thiamine Deficiency Complex, Ann Arbor, MI
- 2012 Ecological and Evolutionary Ethology of Fishes, Windsor, ON
- 2012 International Association for Great Lakes Research, Cornwall, ON
- 2010 Canadian Conference for Fisheries Research, Winnipeg, MB
- 2008 Canadian Conference for Fisheries Research, Halifax, NS (Poster)

#### ORAL PRESENTATIONS AT PROVINCIAL MEETINGS

- 2016-17 Annual Watershed Enhancement Managers' Meeting, Campbell River, BC
- 2014 Lake Ontario Atlantic salmon science workshop, Alliston, ON
- 2013 Ontario Ecology, Ethology, and Evolution Colloquium, London, ON
- 2011-13 Lake Ontario Atlantic salmon Restoration Program, Port Hope, ON (annual)
- 2007 Atlantic Provinces Council on the Sciences (APICS), Aquaculture Conference, University of New Brunswick (St. John), St. John, NB
- 2007 Atlantic Provinces Council on the Sciences (APICS), Undergraduate Biology Conference, University of New Brunswick (St. John), St. John, NB

#### ORAL PRESENTATIONS AT UNIVERSITIES

- 2015 Harwood Fish Culture Station, Harwood, ON
- 2014 Friday Philosophicals, Western University, London, ON
- 2012 Biology Graduate Research Forum, London, ON (Poster)
- 2011 Friday Philosophicals, Western University, London, ON
- 2010 Lett Symposium, Dalhousie University, Halifax, NS
- 2009 Friday Informal Seminar Hour, Dalhousie University, Halifax, NS (October)
- 2009 Friday Informal Seminar Hour, Dalhousie University, Halifax, NS (January)
- 2007 Cameron Conference, Dalhousie University, Halifax, NS
- 2006 NSERC Undergraduate Student Research poster session, Dalhousie University, NS (Poster)

### OTHER PUBLICATIONS

Warnock, W.G., Stroud, D.H.P, Merz, J.E. (**Houde, A.L.S.**, formal reviewer). 2016. Donor stock selection of Chinook salmon for reintroduction to the transboundary Reach of the Columbia River. Report prepared for the Canadian Columbia River Inter-Tribal Fisheries Commission. 153 pp. [PDF](#)

**Houde, A.L.S.**, Hall, E. 2014. A risk assessment on the impacts of salmonids on Atlantic salmon in Lake Ontario tributaries. In *Proceedings of the Lake Ontario Atlantic Salmon Restoration Science Workshop, February 18–20, 2014, Alliston, Ontario* (Stewart, T.J., Bowly, A., Wilson, C.C., eds.). Ontario Ministry of Natural Resources and Forestry, File Report LOA 14.08. [PDF](#)

Fitzsimons, J.D., **Houde, A.L.S.** 2014. Review of thiamine for Atlantic salmon workshop 2014. In *Proceedings of the Lake Ontario Atlantic Salmon Restoration Science Workshop, February*

## **Curriculum Vitae: Aimee Lee Houde, July 2017**

18–20, 2014, Alliston, Ontario (Stewart, T.J., Bowlby, A., Wilson, C.C., eds.). Ontario Ministry of Natural Resources and Forestry, File Report LOA 14.08. [\[PDF\]](#)

**Houde, A.L.S.** 2011. Integrating problem solving and critical reflection opportunities in first- and second-year science courses. *Teaching Innovation Projects 1*: Article 7. [\[PDF\]](#)

**Houde, A.L.S.** 2006. Ecological interactions between juveniles of multi-generational crosses of farmed and wild Atlantic salmon, *Salmo salar* L: relevance for conservation? *Atlantic Salmon Federation Olin Fellowship Progress Report*. [\[PDF\]](#)

### **OTHER WORK EXPERIENCE**

- 2010 Fisheries Biologist, 15 February- 26 March, Dr. Doug Swain (DFO Moncton, NB)
- 2009 Introduction to fish stock assessment course: model fitting and interpretation, Coby Needle, 31 August- 4 September (Dalhousie University)
- 2007-09 Scientific Diver, Dr. Alan Pinder and Dr. Bob Scheibling (Dalhousie University)
- 2006 Wet Laboratory Research Assistant, Dr. Dylan Fraser (Dalhousie University)
- 2006 Molecular Ecology Laboratory Research Assistant, Dr. Daniel Ruzzante (Dalhousie University)
- 2005 Assistant to the Aquatron Facility Research Technician, Jim Eddington (Dalhousie University)
- 2005 Alzheimer's Disease Drug Research Laboratory Technician, Dr. Sultan Darvesh and Prof. Earl Martin (Mount Saint Vincent University, NS)

### **PEER REVIEWING EXPERIENCE**

I have served as a reviewer for *Heredity*, *BMC Evolutionary Biology*, *Journal of Experimental Marine Biology and Ecology*, *Canadian Journal of Fisheries and Aquatic Sciences*, *FACETS*, *Evolutionary Applications*, *Conservation Physiology*, *Transactions of the American Fisheries Society*, *Marine and Coastal Fisheries*, *Journal of Great Lakes Research*, *Journal of Fish Biology*, *Ecology of Freshwater Fish*, *Environmental Biology of Fishes*, *North Pacific Anadromous Fish Commission Bulletin*, *Aquatic Invasions*, *Aquatic Living Resources*, *Aquaculture Environment Interactions*, and *The Southwestern Naturalist*.

### **RELEVANT EXPERIENCE**

#### **LEADERSHIP AND COMMITTEE EXPERIENCE**

- 2013-14 President: Society of Biology Graduate Students (Western University)
- 2012-14 Sponsorship Coordinator: Biology Graduate Research Forum Committee (Western University)
- 2012-13 Biology Representative and Website Designer: Ontario Ecology, Ethology, and Evolution Colloquium Committee (Western University)
- 2012-13 Constitution and Bylaws Committee: Society of Biology Graduate Students (Western University)
- 2011-13 Outreach Representative: Society of Biology Graduate Students (Western University)
- 2010-11 Undergraduate Education Representative: Society of Biology Graduate Students (Western University)
- 2008-09 President: Biology Organization of Graduate Students (Dalhousie University)
- 2007-09 Member: Lett Biology Conference Committee (Dalhousie University)
- 2007-09 Fire Warden: 4th floor Life Science Centre (Dalhousie University)
- 2006-09 President: Dalhousie SCUBA Diving Club (Dalhousie University)
- 2006-08 Member: Dalhousie Student Union Shinerama Committee (Dalhousie University)
- 2008 Marine Biology Representative: Biology Undergraduate Education Committee (Dalhousie University)
- 2007-08 Treasurer: Biology Organization of Graduate Students (Dalhousie University)
- 2007 Science Representative: Dalhousie Student Union (Dalhousie University)
- 2007 Vice President: Dalhousie Science Society (Dalhousie University)

## ***Curriculum Vitae: Aimee Lee Houde, July 2017***

- 2006-07 Vice President: Dalhousie Association of Marine Biology Students (Dalhousie University)

### **SCUBA DIVING AND OCEAN CERTIFICATIONS**

- 2010 CAUS Scientific Diver Level 1 (in-training)
- 2010 PADI Divemaster
- 2010 PADI Enriched Air Diver
- 2008 Pleasure Craft Operator's Card
- 2006 DAN Oxygen First Aid for SCUBA Diving Injuries
- 2006 Restricted Maritime Radio Operator's Certificate

### **OTHER CERTIFICATIONS**

- 2017 Fish Transport Course, Fisheries and Oceans, Nanaimo, BC
- 2017 Introduction to Fish Husbandry, Fisheries and Oceans, Nanaimo, BC
- 2017 Water Monitoring Course, Fisheries and Oceans, Nanaimo, BC
- 2016 St John Ambulance Transportation of Dangerous Goods
- 2016 St John Ambulance Transportation Endorsement
- 2016 St John Ambulance Emergency First Aid for Industry (OFA Level 1 Equivalent)
- 2016 Canadian Aquaculture Institute The Experimental Fish
- 2016 WHIMIS Comprehensive Training
- 2015 Introduction to Geographic Information Systems (Western University)
- 2010 Single Handed Fly Rod, Atlantic Fly Fishing School, Brookfield, NS
- 2008 Backpack Electrofishing Crew Supervisor
- 2007 Canadian Council on Animal Care certification for the care and use of fish
- 2003 French Immersion Certificate, St. Peter Catholic High School, Ottawa, ON

### **SKILLS, ACTIVITIES AND INTERESTS**

- Read, write, and speak fluently both English and French
- Comprehensive knowledge of R/Splus
- Website design using HTML and Dreamweaver
- Ichthyology, fisheries, aquariums
- SCUBA diving, fly fishing, photography