

## *Curriculum vitae*

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# Peter A. H. Westley

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Hometown: Anchorage, Alaska

Current Address: Box 355020, University of Washington, School of Aquatic and Fishery Sciences  
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### **CURRENT POSITION**

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March 2012- present. Post-doctoral research associate, School of Aquatic and Fishery Sciences, University of Washington, Seattle. Drs. Thomas Quinn and Andrew Dittman, post-doctoral supervisors  
Project: Patterns of homing and straying by Pacific salmon in the Columbia River Basin, USA. Work funded by the US Army Corps of Engineers.

### **EDUCATION**

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1. Ph.D., Biology, degree June 1, 2012. Memorial University of Newfoundland, Canada.  
Dissertation title (Defended with distinction February 2, 2012): Biological invasions as fortuitous experiments in nature — Ecology, evolution, and phenotypic plasticity of non-native brown trout in Newfoundland, Canada.  
Supervisor: Dr. Ian Fleming
2. M.S., Fisheries and Aquatic Sciences, June 2007, School of Aquatic and Fishery Sciences, University of Washington, Seattle, USA.  
Thesis title: Biocomplexity and rapid natural habitat change in the Chignik Lake system, Alaska.  
Advisor: Dr. Ray Hilborn
3. B.S.. *cum laude* Fisheries and Aquatic Sciences, June 2004, School of Aquatic and Fishery Sciences, University of Washington, Seattle, USA.
4. B.A. candidate, Reed College, Portland, Oregon, 2000-2002.

### **RESEARCH**

#### **RESEARCH APPOINTMENTS**

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1. Post-doctoral research associate, School of Aquatic and Fishery Sciences, University of Washington, Seattle. Drs. Thomas Quinn (UW/SAFS) and Andrew Dittman (NOAA), post-doctoral supervisors, 2012-present
2. Research assistant, Dr. Ian Fleming, supervisor. Ocean Sciences Centre, Memorial University of Newfoundland, St. John's, Newfoundland, Canada, 2007-2012.
3. Research assistant, Dr. Ray Hilborn, supervisor. School of Aquatic and Fishery Sciences, University of Washington, Seattle, 2004-2007.

4. Research assistant, Fisheries Research Institute, Bristol Bay Region, Alaska. Advised by Drs. Thomas Quinn, Ray Hilborn, and Daniel Schindler 2003-2007.
5. Research intern, Alaska Department of Fish & Game, Elmendorf Fish Hatchery, summer 2001.

### **RESEARCH GRANTS, AWARDS, AND SCHOLARSHIPS**

1. PA Larkin Award (runner up) from the Canadian Aquatic Resources Section of AFS, 2011.
2. Fellow of Graduate Studies, Memorial University of Newfoundland (MUN), 2011.
3. Ireland Business Partnerships, travel grant \$6,000. PI: Ian Fleming (Westley grant ghostwriter), 2011.
4. Best PhD presentation at Biology Graduate Student Symposium, MUN, 2010.
5. Atlantic Salmon Federation Olin Fellowship, \$2,000, 2010.
6. Joe Brown Scholarship in Aquatic Ecology & Aquaculture, \$1,000, 2010.
7. Memorial University School of Graduate Studies Award of Excellence, \$8,000, 2008.
8. Conservation Corps of Newfoundland and Labrador Green Team Grant, \$13,000. PIs: Ian Fleming & Peter Westley (written by Westley) in collaboration with the Witless Bay and Area Conservation Group, 2008.
9. Conservation Corps of Newfoundland and Labrador Internship Grant, \$4000. PIs: Ian Fleming & Peter Westley, 2008.
10. Best MS presentation at Graduate Science Symposium, School of Aquatic and Fishery Sciences, University of Washington, 2007.
11. H Mason Keeler fishery scholarship, School of Aquatic and Fishery Sciences, University of Washington, \$2500, 2003.

### **PUBLICATIONS (peer-reviewed)**

1. **Westley, P.A.H.**, E.J. Ward, and I.A. Fleming. 2012\* Fine-scale local adaptation in an invasive freshwater fish has evolved in contemporary time. *Proceedings of the Royal Society B: Biological Sciences* 280: 20122327.
2. **Westley, P.A.H.**, C.M. Conway, and I.A. Fleming. 2012. Phenotypic divergence of exotic fish populations is shaped by spatial proximity and habitat differences across an invaded landscape. *Evolutionary Ecology Research* 14: 147-167.
3. Veinott, G., **P.A.H Westley**, C.F. Purchase, and L.Warner. 2012. Assigning origins in a potentially mixed-stock recreational sea trout (*Salmo trutta*) fishery. *Ecology of Freshwater Fish* 21: 541-551.

4. **Westley, P.A.H.** and I.A. Fleming. 2011\* . Landscape factors that shape a slow and persistent biological invasion: brown trout in Newfoundland 1883-2010. *Diversity & Distributions* 17: 566-579.
5. **Westley, P.A.H.** 2011. What invasive species reveal about the rate and form of contemporary phenotypic change in nature. *American Naturalist* 177: 496-509.
6. **Westley, P.A.H.**, D.E. Schindler, T.P. Quinn, G.R. Ruggerone, and R. Hilborn. 2010. Natural habitat change, commercial fishing, climate, and dispersal interact to restructure an Alaskan fish metacommunity. *Oecologia* 163: 471-484.
7. **Westley, P.A.H.**, R. Hilborn, T.P. Quinn, G.R. Ruggerone, and D.E. Schindler. 2008. Long-term changes in rearing habitat and downstream movement by juvenile sockeye salmon (*Oncorhynchus nerka*) in an interconnected Alaska lake system. *Ecology of Freshwater Fishes* 17: 443-454.
8. **Westley, P.A.H.†** , S.M. Carlson, and T.P. Quinn. 2008. Among-population variation in adipose fin size parallels the expression of other secondary sexual characteristics in sockeye salmon (*Oncorhynchus nerka*). *Environmental Biology of Fishes* 81: 439-446.

### **PUBLICATIONS (in review)**

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1. Oke, K†, **P.A.H. Westley**, D.T.R. Moreau, and I.A. Fleming. Hybridization between genetically-modified Atlantic salmon and wild brown trout alters ecological interactions. *In review* Plos Biology.
2. Veinott, G., **P.A.H. Westley**, C.F. Purchase, and L. Warner. Experimental tests to confirm chemical stability of otolith cores reveal significant variability and post-depositional changes. *In review* Canadian Journal of Fisheries and Aquatic Sciences.

### **PUBLICATIONS (in final prep with co-authors)**

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1. **P.A.H. Westley**, T.P. Quinn, and A.H. Dittman. Straying in Pacific salmon is consistent with juvenile life history and patterns of imprinting. Intended for Canadian Journal of Fisheries and Aquatic Sciences.

### **PUBLICATIONS (peer-reviewed technical reports)**

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1. **Westley, P.A.H.**, D.W. Ings and I.A. Fleming 2011. A review and annotated bibliography of the impacts of invasive brown trout (*Salmo trutta*) on native salmonids, with an emphasis on Newfoundland waters. Canadian Technical Report of Fisheries and Aquatic Sciences 2924, 81 p.
2. **Westley, P.A.H.** and R. Hilborn 2006. Chignik salmon studies: investigations of salmon populations, hydrology, and limnology of the Chignik Lakes, Alaska, during 2005-2006. Available at: <http://fish.washington.edu/research/Publications/pdfs/0604.pdf>
3. **Westley, P.A.H.**, B.E. Chasco, and R Hilborn 2005. Chignik salmon studies: investigations of

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\*Paper featured on journal cover

†Undergraduate at time of research

salmon populations, hydrology, and limnology of the Chignik Lakes, Alaska, during 2004-2005. Available at: <http://fish.washington.edu/research/Publications/pdfs/0603.pdf>

## **PUBLICATIONS (popular literature) AND OUTREACH**

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1. Interview on local CBC news to discuss brown trout in Newfoundland, aired May 24, 2008. Can be viewed on YouTube at: <http://www.youtube.com/watch?v=LhifAODNxBk>.
2. **Westley, P.A.H.** 2008. One trout, two trout, brook trout, brown trout: an overview of the wonderfully bizarre biology of salmonids. *The Osprey* (nature journal of Newfoundland and Labrador) 39: 139-143.
3. **Westley, P.A.H.** 2008. Life-time angler with passion for salmon and trout biology lands ideal job in Newfoundland. *Spawner Magazine*. Published by the Salmon Preservation Association for the Waters of Newfoundland. Page 75.

## **PRESENTATIONS**

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1. Biological invasions, adaptation, and the bride of frankenfish. Departmental Seminar, School of Aquatic and Fishery Sciences, 2012 (**invited**).
2. Adaptive phenotypic plasticity and the successful invasion of novel environments by non-native brown trout. World Congress of Herpetology, symposium on salmonid plasticity and persistence, organized by R. Waples and M. Douglas, 2012 (**invited**).
3. A fortuitous experiment in fine-scale local adaptation: biological invasion of brown trout (presented by I. Fleming). 1<sup>st</sup> Joint Congress on Evolutionary Biology, Ottawa, Canada, 2012.
4. Experimental evidence of fine-scale local adaptation in a naturalized freshwater fish. EVO-WIBO, Fort Townsend, WA, USA, 2012.
5. Adaptive phenotypic plasticity and the successful invasion of novel environments by non-native brown trout. Annual meeting of the American Fisheries Society, Seattle, WA, USA, 2011.
6. The role of the environment in shaping Waltonian variation in introduced brown trout populations. Annual meeting of the Canadian Society of Ecology and Evolution, Banff, AB, 2011.
7. Howietoun and biotic homogenization around the globe. Biology Graduate Student Symposium, MUN, 2011.
8. Phenotypic divergence of introduced brown trout populations in contemporary time. Presented at the third annual Biology Graduate Student Symposium, MUN (**Awarded best PhD talk**), 2010.
9. A biological invasion by any other name: The ecological history of brown trout in Newfoundland. Presented at the Aldrich Conference, MUN, 2010.
10. Diversity of Newfoundland brown trout populations: evolution in action. Presented to the Salmon Association of Eastern Newfoundland (**invited**), 2010.

11. What invasive species reveal about the rate and form of phenotypic evolution in nature. Presented at the Canadian Society of Ecology and Evolution annual meeting, Halifax, N.S, 2009.
12. Contemporary evolution of introduced Newfoundland brown trout: Emerging patterns and preliminary outcomes. Presented to the Salmon Association of Eastern Newfoundland (**invited**), 2009.
13. Insights into life history and ecology of Pacific salmonids. Presented to the Natural history society of Newfoundland and Labrador (**invited**), 2009.
14. Towards unraveling the invasion paradox: Evolutionary ecology of introduced brown trout to Newfoundland. Presented at the Canadian Conference for Fisheries Research in Halifax, NS, 2008.
15. Fish community response to rapid habitat evolution in the Chignik Lake system, Alaska. Presented at the Graduate Student Symposium, University of Washington. (**Awarded best M.S student talk**), 2007.
16. Rapid development of stickleback migratory behavior in Chignik: another good hypothesis bites the dust. Presented at the Alaska Salmon Program Science Symposium, University of Washington, 2006
17. Fish community response to rapid habitat evolution in the Chignik Lake system, Alaska. Presented at the American Fisheries Society national meeting, Lake Placid, NY, 2006.
18. Rapid development of stickleback migratory behavior in the Chignik Lake system, Alaska. Presented at the Fifth International Conference on Stickleback Behavior & Evolution, Anchorage, AK, 2006.
19. Rapid habitat change and apparent life history evolution of sticklebacks in the Chignik Lake system, Alaska. Presented at the Graduate Student Symposium, University of Washington, 2006.
20. Apparent rapid life history responses of sockeye salmon and sticklebacks in the Chignik Lake system, Alaska, during 40 years of habitat change. Presented at the Pacific Ecology and Evolution Conference, Bamfield British Columbia, 2006.
21. A tale of two lakes: highlights from 101 days in Chignik. Presented at the Alaska Salmon Program Science Symposium, University of Washington, 2005.
22. Variable investment in male sockeye salmon secondary sexual characteristics: an adaptation to high predation environments? *Poster* presented at the American Fisheries Society annual meeting, Anchorage, Alaska, 2005.
23. Investigations into a disappearing lake: changes in growth and migration of Chignik system sockeye. Presented at the Alaska Salmon Program Science Symposium, University of Washington, 2004.
24. The male sockeye adipose fin: a sexy trait or a waste of time? Presented at the Undergraduate Research Symposium, University of Washington, 2004.

# **TEACHING AND MENTORING**

## **TEACHING AND LECTURE EXPERIENCE**

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1. Guest lecturer for 'Conservation & Management of Aquatic Resources', instructed by Dr. Gordon Holtgrieve, 2012.
2. Guest lecturer for 'Evolutionary Ecology of Fishes' Department of Biology, Memorial University of Newfoundland, instructed by Dr. Craig Purchase, 2009-2011.
3. Teaching assistant and guest lecturer for Dr. Craig Purchase course 'Evolutionary Ecology of Fishes' Department of Biology, Memorial University of Newfoundland, 2009.
4. Guest lecturer for 'Conservation Biology', instructed by Dr. Craig Purchase and Luise Hermanutz. Department of Biology, Memorial University of Newfoundland, 2008.
5. Workshop facilitator: Model fitting and data manipulation in Excel. Attended by Ocean Sciences Centre, faculty, staff, and students, 2008.
6. Teaching Assistant for Fish 450 "Life History and Behavior of Pacific salmon and trout", Dr. Thomas Quinn, instructor. University of Washington. Teaching evaluation (4.6/5), 2005.
7. Teaching Assistant for Fish 450 "Life History and Behavior of Pacific salmon and trout", Dr. Thomas Quinn, instructor. University of Washington. Teaching evaluation (4.1/5), 2004.
8. Instructor of General Studies 199. Designed and implemented lesson plans for 24 first-year undergraduate students. University of Washington, Seattle, 2003.

## **MENTORING EXPERIENCE**

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1. Unofficial supervisor of Krista Oke, Honour's student in the Fleming Lab, 2009-2011.
2. Managed and oversaw an intern, Stephanie Hughes, sponsored by the Conservation Corp of Newfoundland and Labrador, 2008.
3. Sponsor and project leader for Conservation Corp Green Team (four youths between 15-25 years of age) for eight weeks during the summer of 2008.
4. Unofficial supervisor for Andy Johnsen's Capstone project, School of Aquatic and Fishery Sciences, University of Washington, 2007.
5. Unofficial supervisor for Ian Smith's Capstone project, School of Aquatic and Fishery Sciences, University of Washington, 2006.

# **SERVICE AND COMMUNITY INVOLVEMENT**

## **ACADEMIC SERVICE**

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1. Organizer for 3<sup>rd</sup> annual Biology Graduate Student Symposium, Department of Biology, MUN, 2010.

2. Organizer of departmental seminars Ocean Sciences Centre/Department of Biology, MUN, 2009.
3. Biology graduate student association executive committee member, 2008-2009.
4. Biology graduate student representative at faculty meetings, Department of Biology, MUN, 2009.
5. Initiated and organized first annual graduate student symposium to highlight research conducted by MUN students, 2008.
6. Lead organizer for 28<sup>th</sup> annual Pacific Ecology and Evolution Conference, held at Pack Forest Research Center, Washington State, 2007.

### **EDITORIAL EXPERIENCE**

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Ad-hoc journal reviewer for:

BMC Ecology, Canadian Journal of Aquatic and Fisheries Sciences, Climatic Change, Ecology, Ecology of Freshwater Fish, Environmental Biology of Fishes, Evolutionary Applications, Marine Biology, Oikos, PLOS ONE, Proceedings of the Royal Society B.

Grant reviewer for:

Arctic-Yukon-Kuskokwim Sustainable Salmon Initiative, North Pacific Research Board

### **VOLUNTEER EXPERIENCE**

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Volunteer for Salmon Association of Newfoundland clean up events in rivers of St. John's

Member and science advisor of the Witless Bay and Area Conservation Group, Witless Bay, NL

### **PROFESSIONAL ASSOCIATIONS**

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American Fisheries Society, Ecological Society of America, Canadian Society of Ecology and Evolution, Evolution Society, American Society of Naturalists.