

Curriculum Vitae

ELISABETH J. DUFFY
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EDUCATION

University of Washington School of Aquatic and Fishery Sciences (Seattle, WA). 2004-present. PhD candidate.

University of Washington School of Aquatic and Fishery Sciences (Seattle, WA). August 2003. M.Sc.

Amherst College (Amherst, MA). May 1997. B.A. in Biology. Cum Laude.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant

University of Washington (Seattle, WA). April 2001 - PRESENT.

- Conducted beach seine and tow netting operations in Puget Sound. Performed gastric lavage on live salmonids. Collected zooplankton using vertical tows, and neuston using surface tows. Small boat operation.
- Lab work included gut content analysis, calorimetry, stable isotope and scale growth analysis.

Teaching

University of Washington (Seattle, WA). Fall 2005, 2006.

- Teaching assistant for lab portion of Fish210: Methods in Aquatic and Fishery Sciences.
- UW hatchery facility tour guide for 5th graders as part of the Salmon in the Classroom educational program.

Pacific Marine Research (Seattle, WA). Spring 2004 – present.

- Marine science education instructor for the Marine Science Afloat Program - all grade levels.

Environmental Science Center (Seattle, WA). Fall 2007 – present.

- Salmon Naturalist for public school field trips - all grade levels.

Hydrologist

U.S. Geological Survey – Water Resources Division (Menlo Park, CA). February 1999-June 2000.

- Worked in Dr. Sam Luoma's metal bioavailability and effects lab performing research on the use of estuarine bivalves and riverine insect larvae as biosentinels, and on the evaluation of metal contamination in sediments.
- Involved in all aspects of above (field collection, sample preparation and digestion, analyses, data reduction and interpretation) in SF Bay, CA and in the Clark Fork River, MT.

Environmental Consultant

Tetra Tech, Inc. (Lafayette, CA). December 1998-February 1999.

- Conducted data analysis, following a multivariate statistical approach, on Everglades periphyton communities.

Research Assistant: Worked as a volunteer research assistant at various research institutions in Australia to gain experience in diverse lab and field components of marine research.

University of Queensland (Brisbane, AUSTRALIA). October 1997-September 1998.

- Field and Lab work with Dr. Bill Dennison of Marine Botany and Dr. Judy O'Neil of School of Marine Science.
- Conducted independent research on the nutrient controls of a toxic cyanobacterial bloom of *Lyngbya majuscula*.

James Cook University (Townsville, AUSTRALIA). July 1998.

- Assisted with goby (*Gobiodon histrio*) sex change field experiments at One Tree Island Research Station, Great Barrier Reef, for Dr. Geoff Jones.

Australian Institute of Marine Science (Townsville, AUSTRALIA). June and July 1998.

- Lab work and data analysis on copepod productivity studies with Dr. David McKinnon
- Field assistant for Dr. Miles Furnas (plankton research) and Dr. Katharina Fabricius (soft coral surveys)

University of Tasmania (Tasmania, AUSTRALIA). March 1998.

- Worked with Dr. Craig Johnson on impacts of an introduced pest starfish (*Asteria amurensis*) in the Derwent River

University of Auckland - Leigh Marine Lab (Leigh, NEW ZEALAND). December 1997.

- Worked with Dr. Russ Babcock conducting kelp (*Ecklonia radiata*) surveys to assess population recovery.

Intern

Woods Hole Marine Biological Laboratory (Woods Hole, MA). June-August 1997.

- Conducted research on trophic control of community structure in Waquoit Bay Estuaries in lab of Dr. Ivan Valiela.

School for Field Studies - Center for Marine Resource Studies (British West Indies). Fall 1995.

- Conducted research on zonation patterns and diversity of Scleractinian Corals with Dr. Sascha Steiner.

Caicos Conch Farm (British West Indies). January 1997.

- Performed stock assessment of 1993 year class Conch (*Strombus gigas*); Daily operations.

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Caribbean Conservation Corporation (*Tortuguero, COSTA RICA*). June-August 1996.

- Assisted in tagging and biometric data recording of nesting marine turtles (*Chelonia mydas*) with Dr. Roldan Valverde. Assisted with volunteer groups and helped run the on-site museum.

SKILLS

- LABORATORY:** Gastric lavage and fish gut content analysis
Fish scale analysis
Bomb Calorimetry
ICP-AES (for heavy metal analysis)
Gas Chromatograph (Nitrogen fixation)
Pulse Amplitude Modulation (PAM) Fluorometry (Photosynthetic research)
Spectrophotometer (Pigment analysis)
Microscopy (Light and Dissecting)
- FIELD:** Transects/Quadrats (Land and S.C.U.B.A.)
Beach Seine and Tow Netting (for fish); Kicknetting (for aquatic insect larvae)
Vertical plankton tows, horizontal neuston tows
Seagrass Tagging (S.C.U.B.A.)
Benthic (sediment and invertebrates) sampling (Box cores, Eckman grabs, suction sampling – collected in mudflats and rivers, and in estuarine and marine waters from boats and on S.C.U.B.A.)
- COMPUTER:** Microsoft Office, WordPerfect, Quattro Pro, Excel, Access, PC-ORD, SigmaPlot, Power Point
- STATISTICS:** Basic statistical methods, Multivariate statistics
- OTHER SKILLS:** S.C.U.B.A. Advanced Diver (NAUI certified) > 160 dives, > 100 hours logged (UW research diver);
Recreational Ship Master's License; Completed U.S. Department of the Interior Motorboat Operator's Certification Course; Radio Operator's License; CPR, First Aid, and O₂ administration training
- LANGUAGES:** Proficient in French, conversational Spanish.

BOAT EXPERIENCE

WE Ricker. (Jul. and Sep. 2001-present). Collaboration with DFO Canada - Puget Sound salmon mid-water trawl surveys.
R/V Lady Basten. Australian Institute of Marine Science. (5 to 15 July, 1998) Research Assistant. Pompeys, Great Barrier Reef, AUSTRALIA.
R/V Warrajamba. University of Queensland. (Jan. and Feb. 1998) Field Assistant. Moreton Bay, AUSTRALIA.
R/V Polaris. U.S. Geological Survey (Feb 1999 – PRESENT). Hydrologist. San Francisco Bay, CA.
R/V Peter Johnston. U.S. Geological Survey (November 1999). Hydrologist. San Joaquin River, CA.
Considerable experience operating small (8-25') boats in Australia, the Caribbean, California, New England, and Puget Sound. Shipboard experience with a variety of benthic and water column sampling, and crew functions.

SCHOLARSHIPS/GRANTS

Pauley Award. October 2002. Runner-up presenter at WACFWRU Cooperators meeting.
Heinle Award. May 2002. Best graduate student presentation at PERS conference.
Keeler Endow Excel Fellowship. Fall 2000 – Summer 2002, Winter 2007. Graduate student support.
E.J. Murphy Fund Award. January 1997. Travel expenses for Caicos Conch Farm internship.

PAPERS PRESENTED

Duffy, E.J., and D.A. Beauchamp. Factors affecting stage-specific early marine survival of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) in Puget Sound. Presented at the American Fisheries Society Annual Meeting in San Francisco, CA. September 2007.

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Duffy, E.J., and D.A. Beauchamp. Spatial and temporal trends in feeding of juvenile Chinook salmon (*Oncorhynchus tshawytscha*) in Puget Sound. Presented at the North Pacific International Chapter Meeting of the American Fisheries Society in Tacoma, WA. June 2007.

Duffy, E.J. Factors affecting early marine survival of juvenile salmon in Puget Sound, with a focus on Chinook salmon. Presented at Western WA University's Shannon Point Marine Center Seminar Series. April 2007.

Duffy, E.J., Beauchamp, D.A. Effects of Distribution and Trophic Interactions on the Potential for Growth of Juvenile Chinook Salmon in Puget Sound. Presented at the summer meeting of the American Society of Limnology and Oceanography in Victoria, B.C., CANADA. June 2006.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound: A Synthesis of Trends among Basins. Presented at the Washington Department of Fish & Wildlife monthly seminar in Olympia, WA. February 2006.

Duffy, E.J., Beauchamp, D.A., and N. Overman. Predation by Cutthroat Trout on Juvenile Salmon in Puget Sound. Presented at the American Fisheries Society Annual Meeting in Anchorage, AK. September 2005.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. Early Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound. Presented at the Estuarine Research Federation Conference, Seattle, WA. September, 2003.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. Early Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound. Presented at the USGS-BRD/WACFWRU Cooperator's Meeting Research Symposium. October 2002.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. Nearshore Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound. Presented at the 25th Annual PERS conference on Urban Estuaries. May 2002.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. Nearshore Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound. Presented at the WDAFS Transboundary conference. April 2002.

Duffy, E.J., O'Neil, J.M. and W.C. Dennison. Cyanobacteria in Australia – the Iron Connection: Factors affecting nitrogen fixation rates in the marine cyanobacterium *Lyngbya majuscula*. Presented at the University of Queensland Marine Botany Lab seminar series. September 1998.

Duffy, E.J., Kinlan, B.P., and I. Valiela. Influence of Grazing and Nitrogen Loading on Benthic Microalgal Biomass in Estuaries of Waquoit Bay, Massachusetts. Presented at Woods Hole Marine Biological Laboratory General Scientific Meetings. August 1997.

PUBLICATIONS

Duffy, E.J., and D.A. Beauchamp. 2008. Seasonal patterns of predation on juvenile Pacific salmon by anadromous cutthroat trout in Puget Sound. Transactions of the American Fisheries Society **137**:165-181.

Duffy, E.J., Beauchamp, D.A., and R.M. Buckley. 2005. Early marine life history of juvenile Pacific salmon in two regions of Puget Sound. Estuarine, Coastal and Shelf Science **64**: 94-107.

Duffy, E.J., Beauchamp, D.A., Overman, N.C., and R.M. Buckley. August 2005. Marine Distribution and Trophic Interactions of Juvenile Salmon in Puget Sound: A Synthesis of Trends among Basins. HSRG Annual Report.

Duffy, E.J., Beauchamp, D.A., Overman, N.C., and R.M. Buckley. August 2005. Predation by Cutthroat Trout on Juvenile Salmon in Puget Sound. HSRG Annual Report.

Duffy, E.J. August 2003. Early marine distribution and trophic interactions of juvenile salmon in Puget Sound. Masters thesis.

Duffy, E.J., Beauchamp, D.A., and R. Buckley. June 2002. Marine Distribution and Trophic Demand of Juvenile Salmon in Puget Sound. 2001 HSRG Annual Report.

Duffy, E.J., Kinlan, B.P., and I. Valiela. 1997. Influence of Grazing and Nitrogen Loading on Benthic Microalgal Biomass in Estuaries of Waquoit Bay, Massachusetts. Biological Bulletin **193**:285-286.

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Dennison, W.C., O'Neil, J.M., Duffy, E.J., Oliver, P.E. and G.R. Shaw. 1999. Blooms of the cyanobacterium *Lyngbya majuscula* in coastal waters of Queensland, Australia. In: Marine Cyanobacteria (Charpy L & Larkum AWD (eds)), Bulletin de l'Institut Océanographique, Monaco, special issue N° 19 (632 pages). p501-506.

Kinlan, B., Duffy, E., Cebrian, J., Hauxwell, J., and I. Valiela. 1997. Control of Periphyton on *Zostera marina* by the Eastern Mud Snail, *Ilyanassa obsoleta* (Say), in a Shallow Temperate Estuary. Biological Bulletin **193**:286-287.

POSTERS

Duffy, E., Beauchamp, D., Overman, N., and R. Buckley. Feeding, Distribution, and Predators: Factors affecting survival of juvenile salmon in Puget Sound. Poster presented at the USGS Western Fisheries Research Center Open House in Seattle, WA. August 2004.