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### **Areas of Academic Interest**

Marine community ecology, especially food web interactions, species invasions, and conservation

### **Education**

University of Washington, Ph.D. Zoology (1996)

Cambridge University, England, M.Phil. Botany (1990)

Cornell University, B.A. Biology, Summa Cum Laude (1989)

### **Employment**

Assistant Professor, Department of Zoology (now Biology), University of Washington (Sept. 1999-)

Post-doctoral fellow, Department of Zoology, University of British Columbia (1996-99)

Lecturer, Department of Forest Sciences, University of British Columbia (1998)

### **Grants and Awards**

Andrew W. Mellon Foundation, Ecological studies of Willapa Bay, Washington, in the context of historical data and local knowledge, \$290,000, 2004-2007

Sea Grant, Linking nearshore processes with intertidal diversity in Puget Sound, \$187,000, 2004-2007

USDA, Western Regional Aquaculture Center, Scale-dependent and indirect effects of filter feeders on eelgrass: understanding complex ecological interactions to improve environmental impacts of aquaculture, \$320,000, 2003-2007

Gulf Ecosystem Monitoring/ NOAA, Understanding the roles of natural disturbance and shoreline harvest in affecting composition and stability of the Kenai Peninsula's rocky intertidal, \$150,000, 2003-2005

NOAA/NMFS Northwest Fisheries Science Center subcontract, Food web dynamics, \$13,000, 2002-2003

Sea Grant, Impacts and dynamics of two introduced drills consuming cultured and threatened oysters, \$67,366, 2001-2003

Washington Department of Natural Resources, Shoreline biota in Puget Sound: Extending Spatial and Temporal Comparisons, \$77,351, 2002

Sea Grant, Ocean-estuarine coupling and material processing by oysters, \$480,000, 2001-2004

Pacific Northwest Coastal Ecosystems Regional Study, Oysters as integrators, \$46,649, 2000-2002

Postdoctoral fellow, Centre for Biodiversity Research, University of British Columbia, 1996-1999

Achievement Rewards for College Scientists, \$20,000, 1992

Smithsonian Predoctoral Fellowship, 1992

National Science Foundation Graduate Fellowship, 1990-1994

## **Publications**

- Ruesink, J.L. and L. Collado-Vides. Modeling the increase and control of *Caulerpa taxifolia*, an invasive marine macroalga. *Biological Invasions*, in revision.
- Ruesink, J.L. Across-habitat comparison of interactions between native species and an introduced oyster. *Marine Ecology Progress Series*, in revision.
- Solan, M., B. Cardinale, A. Downing, K. Engelhardt, J. Ruesink and D. Srivastava. Extinction and ecosystem function in the marine benthos. *Science*, in revision.
- Salomon, A.K., J.L. Ruesink and R.E. DeWreede. Intertidal biodiversity and productivity: implications for marine reserves. *Biological Conservation*, in revision.
- Ruesink, J.L. Global analysis of factors affecting the outcome of freshwater fish introductions. *Conservation Biology*, in press.
- Buhle, E.R., M. Margolis and J.L. Ruesink. 2004. Bang for buck: cost-effective control of invasive species with different life histories. *Ecological Economics*, in press.
- Ruesink, J.L., E.O'Connor and G.B. Sparks. 2004. Biodiversity and ecosystem functioning: exploring principles of ecology with agricultural plants. *American Biology Teacher*, in press.
- Moore, J.W., J.L. Ruesink and K.A. MacDonald. 2004. Impact of supply side ecology on consumer-mediated coexistence: evidence from meta-analysis. *American Naturalist* 163:480-487.
- Ruesink, J.L., G.C. Roegner, B.R. Dumbauld, J.A. Newton and D. Armstrong. 2003. Contributions of oceanic and watershed energy sources to secondary production in a northeastern Pacific estuary. *Estuaries* 26:1079-1093.
- Holsman, K.K., D.A. Beauchamp, D.A. Armstrong and J.L. Ruesink. 2003. The necessity for intertidal foraging by estuarine populations of sub-adult Dungeness crab, *Cancer magister*: Evidence from a bioenergetic model. *Estuaries* 26:1155-1173.
- Ruesink, J.L. 2003. One fish, two fish, old fish, new fish: which invasions matter? Pages 161-178 in (S.A. Levin and P.M. Kareiva, eds.) *The Importance of Species: Expendability and Triage*. Princeton University Press.
- Jenkins, C., M.E. Haas, A. Olson and J.L. Ruesink. 2002. Impacts of trampling on a rocky shoreline of San Juan Island, Washington. *Natural Areas Journal* 22(4):260-269.
- Ruesink, J.L., K.E. Hodges and C.J. Krebs. 2002. Mass-balance analyses of boreal forest population cycles: merging demographic and ecosystem approaches. *Ecosystems* 5:138-158.
- Ruesink, J.L. 2002. *Invasion Biology*. In (D. Pimentel, ed.) *Encyclopedia of Pest Management*. Dekker, New York.

- Salomon, A.K., J.L. Ruesink, B.X. Semmens and R.T. Paine. 2001. Incorporating human and ecological communities in marine conservation: an alternative to Zacharias and Roff. *Conservation Biology* 15:1452-1455.
- Ruesink, J.L. and D.S. Srivastava. 2001. Numerical and per capita responses to species loss: mechanisms maintaining ecosystem function in a community of stream insect detritivores. *Oikos* 93:221-234.
- Ruesink, J.L. and K.E. Hodges. 2001. Trophic mass-balance models of the Kluane Boreal Forest Ecosystem. Pp. 464-490 in (C.J. Krebs, S. Boutin and R. Boonstra, eds.) *Ecosystem Dynamics of the Boreal Forest: The Kluane Project*, Oxford University.
- Driskell, W.B., J.L. Ruesink, D.C. Lees, J.P. Houghton and S.C. Lindstrom. 2001. Long-term signal of disturbance: *Fucus gardneri* after the *Exxon Valdez* oil spill. *Ecological Applications* 11:815-827.
- Ruesink, J.L. 2000. Assessing density dependence using intraannual counts. *Ecology* 81:3377-3390.
- Ruesink, J.L. 2000. Intertidal mesograzers in field microcosms: linking laboratory feeding rates to community dynamics. *J. Exp. Mar. Biol. Ecol.* 248:163-176.
- Ruesink, J.L. 1999. Invasion ecology. *McGraw-Hill Yearbook of Science and Technology*, pp. 226-228.
- Ruesink, J.L. 1998. Scope and impact of invasions. *Invasive Alien Species. Yale Forest Forum Review* 1(2): 11-14.
- Ruesink, J.L. 1998. On caricatures: the case of Prince William Sound. Pages 89-91 in (T.A. Okey and D. Pauly, eds.) *Trophic mass-balance model of Alaska's Prince William Sound ecosystem, for the post-spill period 1994-1996. Fisheries Centre Research Reports* 6(4).
- Ruesink, J.L. 1998. Variation in per capita interaction strength: thresholds due to nonlinear dynamics and nonequilibrium conditions. *Proc. Nat. Acad. Sci.* 95(12): 6843-6847.
- Ruesink, J.L. 1998. Diatom epiphytes on *Odonthalia floccosa*: the importance of extent and timing. *J. Phycology* 34(1): 29-38.
- Srivastava, D.S. and J.L. Ruesink. 1998. Population growth and environmental destruction: It isn't that simple! *Bull. Ecol. Soc. Am.* 79: 219-221.
- Ruesink, J.L. 1997. Coral injury and recovery: matrix models link process to pattern. *J. Exp. Mar. Biol. Ecol.* 210: 187-208.
- Paine, R.T., J.L. Ruesink, et al. 1996. Trouble on oiled waters: lessons from the *Exxon Valdez* oil spill. *Ann. Rev. Ecol. Syst.* 27: 197-235.
- Ruesink, J., M. Groom, I. Parker and P. Kareiva. 1995. Reducing the risks of nonindigenous species introductions. *BioScience* 47: 465-477.
- Ruesink, J.L. 1994. Chalk grassland snails: site comparisons and implications for management. *J. Molluscan Studies* 61: 9-21.
- Harvell, C.D., W. Fenical, V. Roussis, J.L. Ruesink, C.C. Griggs and C.H. Greene. 1993. Local and geographic variation in the defensive chemistry of a West Indian gorgonian coral (*Briareum asbestinum*). *Marine Ecology Progress Series* 93:165-173.

Ruesink, J.L. 1992. The contribution of epiphytes to algal biodiversity in the northeast Pacific. *Northwest Envir. J.* 8: 140-142.

Ruesink, J.L. and C.D. Harvell. 1990. Specialist predation on the Caribbean gorgonian *Plexaurella* spp. by *Cyphoma signatum* (Gastropoda). *Mar. Ecol. Prog. Ser.* 65: 265-272.

## Book Reviews

Pacific Seaweeds: A guide to common seaweeds of the West coast, by L. Druel, in *Discovery* (2001) 30:71.

The Ecology of Invasions by Animals and Plants, by C. S. Elton, in *Ecoscience* (2001) 8:139-140.

Discover Burns Bog, by Bill Burns, in *Discovery* (1998) 27(2): 81-82

Shells and Shellfish of the Pacific Northwest, by Rick Harbo, in *Discovery* (1997) 26: 83-84.

The Idea of Biodiversity: Philosophies of Paradise, by David Takacs, in *Ecoscience* (1997) 4: 421-422  
(with K.E. Hodges).

## Other Print

November 13, 2003, Aberdeen Daily World article on mysterious blobs of jelly (freshwater bryozoans)

March 10, 2003, Seattle Times interview on Willapa Bay research on estuarine productivity

Winter 2001, Seattle P-I interview on undergraduate student projects on effects of Canada geese

February 14, 1997, Vancouver Sun interview on marine invasions

## Teaching Experience

### Undergraduate courses

Introductory Biology (Autumn 2001 – 03, University of Washington)

Ecology (Winter 2000-2004, University of Washington)

Marine Ecology (Spring 2003, University of Washington)

Disturbance Ecology (Spring 2000, University of Washington)

Biodiversity and Forest Management (Autumn 1998, University of British Columbia)

### Graduate Seminars

Multivariate statistics (Winter 2003, University of Washington)

Advanced ecology (Autumn 2001, 2003, University of Washington)

Ecological controversies (Autumn 2000, 2001, University of Washington)

Experimental design and analysis (Autumn 2000, University of Washington)

Functional groups and species redundancy (Autumn 1999, University of Washington)

Interaction strength (Autumn 1999, University of Washington)

Marine conservation biology (Summer 1998, 1999, 2000, University of Washington)

## **Professional Service**

### Committee Memberships, National:

Committee to Review the Science on Western Alaska Salmon (National Research Council, 2003-present)

California Sea Grant Advisory Committee (2003-present)

Committee to Review the Gulf of Alaska Ecosystem Monitoring Plan (National Research Council, 2000-2002)

Selection committee for Churchill Fellowship (1999)

Society for Conservation Biology investment committee (1998-present)

Sustainable Ecosystems Institute Science Panel

### Committee Memberships, Local:

UW Program on the Environment governing board (2003-present)

University Disciplinary Committee (2002-03)

Washington Aquatic Nuisance Species Task Force research and education subcommittee (2000-2001)

- revised section of Washington's ANS Plan

Puget Sound/ Georgia Basin Task Force on Marine Nonindigenous Species (1996-98)

- coordinated response to a federal draft policy on risk assessment of aquatic introductions

### Invited reviews and workshops:

2004: Washington Sea Grant program review, presenter

2003: University of Wyoming 2003 Ecologic/Economic Conference on Bioinvasions  
Northwest Straits Initiative review: Marine Protected Areas panel

2002: Intertidal monitoring design for the Olympic National Park

2001: Marine Protected Area design for the Olympic Coast National Marine Sanctuary  
Marine Protected Area design for Puget Sound (People for Puget Sound)

2000: Salmon research and recovery workshop (National Center for Ecological Analysis and Synthesis,  
National Marine Fisheries Service)

Sediment Monitoring Standards review (WA Department of Ecology)

West Coast Marine Protected Areas workshop, COMPASS (COMMunication PARTnership for  
Science and the Sea)

Presentation: The Ecology of Marine Protected Areas, Northwest Straits Marine Resource  
Committee Workshop

1999: Northwest Straits Commission Missing Science Workshop and review of State of the Straits  
(Washington Sea Grant)

Viable Salmon Populations review (National Marine Fisheries Service)

1998: Ecosystems Panel Workshop, National Research Council

Judge for best student paper, Western Society of Naturalists (December 2000), Estuarine Research Federation (September 2003)

Prepared 1-day workshop for Canadian Wildlife Service on Multispecies Management (May 1998)

Prepared an educational brochure on marine life of Barkley Sound, and presented weekly lectures to tourists on the M/V Frances Barkley (summer 1997)

### **Seminars and Conferences** (\*=invited presentation)

2004: \*US EPA Newport Lab: "Contributions of coastal and watershed energy sources to secondary production in Willapa Bay," April 28, Newport, OR

Ecological Society of America, Aug. 1-6, Portland, OR

\*Korean Fisheries Research and Development Institute: "Spatial and temporal variation in productivity of oysters (*Crassostrea gigas*) in a northeast Pacific estuary, Sept. 1, Busan, Korea

\*Inha University: "Spatial and temporal variation in productivity of oysters (*Crassostrea gigas*) in a northeast Pacific estuary, Sept. 2, Incheon, Korea

2003: Estuarine Research Federation, Sept. 14-18, Seattle, WA

National Shellfisheries Meeting, Pacific Coast, Oct. 8-11, Portland, OR

\*12<sup>th</sup> Annual Shellfish Growers Meeting, "Oyster drill ecology and management", March 3-4, Olympia, WA

\*Western Washington University, "Interactive effects of anthropogenic change on invasion impacts", February 26, Bellingham, WA

\*University of Montana, January 31, Missoula, MT

\*Washington State Cooperative Fish and Wildlife seminar series, "Where are estuaries most productive? Oceanic and terrestrial inputs to Willapa Bay and Puget Sound," March 12, 2003, Olympia, WA

3<sup>rd</sup> International Conference on Marine Biological Invasions, March 16-19, 2003, San Diego, CA

\*Washington State University, Vancouver, April 7, 2003

\*Northwest Fisheries Science Center, April 10, 2003

2002: American Society of Limnology and Oceanography, June 10-14 2002, Victoria, BC

\*Bamfield Marine Station, "How species come and go: lessons from a century of experiments in Willapa Bay", November 27, 2002, Bamfield, BC

\*PNCERS Workshops for Managers

\*Friday Harbor Laboratories, East/West Program

- \*University of Washington, School of Aquatic and Fishery Sciences, "Estuarine productivity in space and time: the story from oysters in Willapa Bay", October 17, Seattle, WA
- Pacific Coast Shellfish Growers Association/ National Shellfisheries Association, September 27-29, Newport, OR
- \*Pacific Ecology Conference, "Four ways ecologists can change the world... and why it's so hard", February, Port Townsend, WA
- 2001: Ecological Society of America
- Society for Conservation Biology
- National Shellfisheries Association, "Spatial variation in oyster growth and recruitment: factors affecting yield in a west coast estuary", September 20-22, Silverdale, WA
- PICES, "Assessing benthic-pelagic coupling through demography of oysters (*Crassostrea gigas*)", October 2001, Victoria, BC
- Puget Sound Research Conference, "Watch your step! Impacts of trampling on a rocky shoreline of San Juan Island, Washington. (With Carolyn Jenkins, presenter, Ashley Olson, and Melora Haas)
- PNCERS Eat and Learn Seminar, "Oyster growth in 3-D: tidal elevation, mudflat, and bay-wide effects"
- \*Native Plant Society: Nature Out of Place
- Marine Biological Invasions Conference, "Biotic resistance against an invasive oyster"
- 2000: Western Society of Naturalists, "Community assembly: lessons from plates and patches in marine environments"
- \*Yukon Science Institute, "Detecting change in the Gulf of Alaska: post-spill research and a new monitoring plan"
- \*Bamfield Marine Station, "Community assembly: lessons from plates and patches"
- UBC Fisheries Centre: Economics of Marine Protected Areas
- Society for Conservation Biology annual meeting
- National Shellfish Association annual meeting
- \*Friday Harbor Laboratories, "Factors influencing invasions by nonindigenous species"
- \*Washington Lake Protection Association, "Aquatic invasions"
- 1999: Ecological Society of America annual meeting
- \*Bamfield Marine Station, "Community structure and resistance to biological invasions"
- \*Cornell University, "Community structure and resistance to biological invasions"
- 1998: \*University of Washington, Fisheries, "Tradeoffs between growth and survival in *Crassostrea gigas*"
- \*Yale University, "Scope and impact of invasive aliens"

## **Society memberships**

Ecological Society of America, National Shellfisheries Association, American Institute of Biological Sciences, Society for Conservation Biology, Western Society of Naturalists

## **Scientific Reviewer**

American Naturalist, Conservation Biology, Ecological Applications, Ecology, Ecoscience, Ecosystems, Hydrobiologia, Marine Ecology Progress Series, Nature, Phycologia, Trends in Ecology and Evolution, Journal of Animal Ecology, Ecology Letters, Proceedings of the National Academy of Sciences USA

## **Student Supervision**

Primary advisor (current): B.X. Semmens (PhD), A.K. Salomon (PhD), E. Buhle (PhD), Fernanda Oyarzun (PhD)

Thesis committee (current): T. Francis (PhD), M. Jacobs (PhD), M. Lakeman (PhD), H. Tallis (PhD), J. Moore (PhD), W. Palen (PhD), K.A. MacDonald (PhD), K. Holsman (PhD), P.S. MacDonald (PhD), T. Fletcher (PhD), S. Busch (PhD), C. Abrey (PhD), B. Scott (MS)

Thesis committee (past): G. Tsai (MS), K. Howe (PhD), L. Amsberry (PhD), J. D'Amore (MEd), G. Schurmann (PhD), D. Hahn (PhD), G. Hosack (MS)

Undergraduates: A. Olson, C. Jenkins, K. Shaber, J. Barkas (2000); A. Olson, C. Jenkins, J. Breach, E. Bridges, J. Adler, J. Hempelman (2001); J. Adler, N. Richardson, T. Olive (2002); J. Adler, N. Richardson, J. White (2003)