CURRICULUM VITAE

1.MARK D. BERTNESS

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3. Birth Date

July 13, 1949, Tacoma, Washington, USA

4. Education

B.S. 1971 psychology/chemistry, University of Puget Sound, Tacoma, WA

M.S. 1975 biology, Western Washington University, Bellingham, Washington. Thesis, "Distributional patterns in natural populations of *Thais lamellosa* and *Thais emarginata,* their behavioral mechanisms, physiological adaptations and ecological significance."

Ph.D. 1979 evolutionary ecology, University of Maryland, College Park, Maryland. Thesis, "Community dynamics of a tropical hermit crab assemblage."

5. Professional appointments

1975-76	Research Associate (biology), Western Washington University
1977-79	Visiting Scientist, Smithsonian Tropical Research Institute, Panama.
1979	Visiting Scientist, R/V Alpha Helix Morro Expedition
1980-92	Assistant – Associate Professor, Brown University
1987-2002	Director, Graduate Program in Ecology and Evolutionary Biology
1997-2000	Professor, Department of Ecology and Evolutionary Biology
2000-	Robert P. Brown Professor of Biology
2002-	Chair, Department of Ecology and Evolutionary Biology
2003-	Senior Scientist (Brown/MBL Partnership), Marine Biological Laboratory, Woods Hole

2004- 2008 Visiting Chair in Ecology, University of Groningen, Holland
2004- Senior Fellow, Center for Biodiversity Research Catholic University of Santiago, Chile

6. Completed Publications:

a. books and monographs

Bertness, M. D. 1999. The Ecology of Atlantic Shorelines. 465 pages, Sinauer Associates, Sunderland, Massachusetts.

Bertness, M. D., S. D. Gaines, and M. Hay (Editors). 2001. Marine Community Ecology. 550 pages, Sinauer Associates, Sunderland, Massachusetts.

Nybakken, J. and M. D. Bertness. 2004. Marine Biology: an ecological approach. Sixth edition. Benjamin Cummings.

Bertness, M.D. 2006. Atlantic Shoreline Ecology: A Natural History. Princeton University Press

B.R. Silliman and M. D. Bertness (Editors). 2009. Human Impacts on Salt Marsh Ecosystems: Causes, Consequences and Solutions. University of California Press

b. chapters in books

Bertness, M. D. and S. C. Pennings. 2000. Spatial Variation in Process and Pattern in Salt Marsh Plant Communities. Pp 39-58, In: Concepts and Controversies in Tidal Marsh Ecology, M. Weinstein (ed) Kluwer Press, Boston

Pennings, S.C. and M. D. Bertness. 2001. Salt Marsh Communities. In: Marine Community Ecology. M. D. Bertness, S.D. Gaines, and M. Hay (Editors). Sinauer Associates, Sunderland Massachusetts.

Bruno, J. and M. D. Bertness. 2001. Positive Interactions, Facilitations and Foundation Species. In: Marine Community Ecology. M. D. Bertness, S. D. Gaines and M. Hay (Editors). Sinauer Associates, Sunderland Massachusetts.

Adam, P., A. Davy, M. D. Bertness and J. Zedler. 2005. Salt Marsh Ecosystems. In: The Environmental Future of Aquatic Ecosystems. N.

Pullen (Ed) Cambridge Press.

Sanford, E and M.D. Bertness. 2008. Latitudinal Gradients in Biological Interactions. In Marine Macroecology, J. Witman and G. Roy (Ed), Oxford Press

Bertness, M.D. and B.R. Silliman. 2009. Shoreline development impacts on salt marsh community process and pattern. In: Human Impacts on Salt Marsh Ecosystems: Causes, Consequences and Solutions. B.R. Silliman, and M.D. Bertness (Eds.) University of California Press

Silliman, B.R. and M.D. Bertness. 2009. Will over fishing lead to salt marsh loss? In: Human Impacts on Salt Marsh Ecosystems: Causes, Consequences and Solutions. B.R. Silliman, and M.D. Bertness (Eds.) University of California Press

c. Referred journal articles

Bertness, M.D. and D.E. Schneider. 1976. Temperature relations of Puget Sound thaids in reference to intertidal distribution. *Veliger* 19(1): 47-58.

Bertness, M.D. 1977. Behavioral and ecological aspects of shore-level size gradients in *Thais lamellosa* and *Thais emarginata. Ecology* 58(1): 86-97.

Bertness, M.D. 1980. Growth and mortality in the ribbed mussel, *Geukensia demissa. Veliger* 23: 62-69.

Bertness, M.D. 1980. Shell utilization and preference patterns in hermit crabs from the Bay of Panama. *J. exp. mar. Biol. Ecol.* 48:1-16.

Bertness, M.D. 1981. Interference, exploitation, and sexual components of competition in hermit crabs. *J. exp. mar. Biol. Ecol.* 49:189-202.

Bertness, M.D. 1981. Pattern and plasticity in tropical hermit crab reproduction. *Amer. Nat.* 117:754-773.

Bertness, M.D. and C. Cunningham*. 1981. Crab predation and gastropod shell architecture. *J. Exp. Mar. Biol. Ecol.* 50:213-230.

Bertness, M.D. 1981. The influence of shell-type on hermit crab growth rate and clutch size. *Crustaceana* 40:197-205.

Bertness, M.D. 1981. Predation, physical stress, and the organization

of a tropical hermit crab community. *Ecology* 62(2): 411-425.

Bertness, M.D. 1981. Competitive dynamics of a tropical hermit crab assemblage. *Ecology* 62(3): 751-761.

Bertness, M.D. 1981. Conflicting advantages in resource utilization: the hermit crab housing dilemma. *Amer. Nat.* 118:432-437.

Bertness, M.D. 1981. Seasonality in hermit crab reproduction in the Bay of Panama. *Biotropica* 13(4): 292-300.

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Bertness, M.D. 1982. Shell utilization, predation pressure and thermal stress in Panamanian hermit crabs: an interoceanic comparison. *J. exp. mar. Biol. Ecol.* 64:159-187.

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Kemp, P.* and M.D. Bertness. 1984. Snail shape and growth rates; evidence for plastic shell allometry in *Littorina littorea. Proceedings of the National Academy of Sciences* 81:811-813.

Hoffman, J.*, J. Katz*, and M.D. Bertness. 1984. Fiddler crab regulation of meiofauna abundance. *J. exp. mar. Biol. Ecol.* 82:161-174.

Bertness, M.D. and T. Miller*. 1984. The distribution and dynamics of *Uea pugnax* burrows in a New England salt marsh. *J. exp. mar. Biol. Ecol.* 83:211-237.

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Trussell, G.C., P.J. Ewanchuk, and M.D. Bertness. 2002. Field evidence of trait-mediated indirect interactions in a rocky intertidal food web. *Ecological Letters* 5: 1-5.

Bertness, M.D., P. Ewanchuk, and B.R. Silliman. 2002. Anthropogenic modification of New England salt marsh landscapes. *Proceedings of the National Academy of Science* 99 (3): 1395-1398.

Bruno, J., J.J. Stackowitz, and M. D. Bertness. 2003. Including positive interactions in ecological theory. *Trends in Ecology and Evolution* 18: 119-125

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Bertness, MD, BR Silliman and R. Jefferies. 2004. Salt marshes under siege. American Scientist 92:54-61.

Silliman, B. R. and M. D. Bertness. 2004. Shoreline Development Drives the Invasion of *Phragmites australis* and the Loss of New England Salt Marsh Plant Diversity. Conservation Biology 18: 1424-1434.

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d. book reviews

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e. invited lectures

1979 Smithsonian Tropical Research Institute, Panama.
University of Alberta, Edmonton, Canada.
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Woods Hole Oceanographic Institute, Coastal Ocean Forum
University of Utrecht, Netherlands
U Mass, Boston
Spartina Invasion Conference, San Francisco
Western Society of Naturalists, Sonoma, California
University of New Hampshire
Mt. Holyoke College

2005 Hopkins Marine Station, Stanford University
University Of Massachusetts, Dartmouth
Groningen University, Ecology Group, Groningen Holland
University of St Andrews, Scotland
Brown Woman's Club of Rhode Island
Georgia Tech
Brown Club of Connecticut
McGill University
Laval University
Netherlands Royal Institute of Marine Science
Wellesley University
University of Mar De Plata, Biology Department, Argentina

2006 Graduate School of Oceanography, URI
University of Groningen, Marine Biology Department
Save the Bay, Providence, RI
St Francis Xavier University, Nova Scotia
Scripps Institute of Oceanography

2007 Rutgers University
Cal State University, Los Angeles
Miami University of Ohio
University of Puget Sound, Tacoma, Wa

University of New Hampshire
National Estuarine Research Reserve Annual Meeting
Bowdoin College
Southeastern New England Marine Educators
Boston University
Massachusetts Audibon
Marine Biological Laboratory, Woods Hole

2008 Riser Lecture, Marine Science Center, Northeastern University
Restoring America's Estuaries, Providence, RI

2009 University of Connecticut
Madison Conservation Trust, Connecticut
Fudan University Department of Ecology and Evolutionary Biology, Shanghi, China
Institute for Coastal Studies, Fudan University, Shanghi, China

2010 Wheaton College
University of Southern Maine
Marine Biological Association of the United Kingdom, Annual Meeting Keynote, Plymouth
Marine Biological Associations of the United Kingdom and Italy Joint Meeting, Keynote, Malta

7. Research Grants:

Current Grants

"Is overfishing driving the die-off of New England salt marshes?" NSF Biological Oceanography Program ($500K, 9/09-8/12)

"Is crab herbivory causing the die-off of New England salt marshes? Rhode Island Sea Grant ($200K, 6/08-5/10)

"Top-Down Control of Southwestern Atlantic Salt Marsh Plant Communities "with Brian Silliman, University of Florida, NSF Ecology Program, ($275K, 8/06-7/10)

Completed Grants

"The role of *Geukensia demissa* in the productivity and stability of New England salt marshes," National Science Foundation ($124,000, 1982-85).

"Animal-sediment interactions and the productivity and structure of salt marsh communities," National Science Foundation ($79,000, 1984-86).

"The role of *Geukensia demissa* in the productivity and stability

of New England salt marshes: supplement," National Science Foundation ($18,000, 1985).

"Structure and dynamics of a New England salt marsh plant community," National Science Foundation ($206,000, 1985-88).

"Plant-Animal interactions in Mangrove plant communities," with A. M. Ellison. Center for Field Research ($46,000, 1987).

"Patch dynamics of a New England marsh plant community," National Science Foundation ($210,000, 1989-92).

"Causes and consequences of variable recruitment in acorn barnacles," with S. Gaines and R. Geyer (WHOI). National Science Foundation ($330,000, 1990-94).

"Recruitment variation in economically important species," with S. D. Gaines. Rhode Island Sea Grant ($10,000, 1991).

"Coastal ecosystems" with S. D. Gaines. Mellon Foundation ($310,000, 1992-95)

"The role of facilitative processes in marsh plant communities" NSF ($150,000, 1993-96)

"Linkages between oceanographic and benthic population processes" NSF (190,000, 1994-97)

"The evolutionary and ecological significance of natural disturbance in a New England salt marsh" with Steven Brewer NSF ($55,000, 1994)

"The dynamics of marine ecosystems" Mellon Foundation ($450,000, 1995-2000) with J. Witman

"The molecular genetics of the common acorn barnacle" NSF ($250,000, 1995-1999) with D. Rand

"Climate-driven process and pattern in western Atlantic salt marsh plant communities" DOE ($300,000, 1995-1999) with S. Pennings (University of Georgia)

"The role of nutrient limitation in the zonation and structure of New England salt marsh plant communities" NSF ($210,000, 1996-1999) with S. Brewer (University of Mississippi)

"Towards a unified understanding of the invasion of Phragmites australis into New England salt marshes" with Todd Minchinton.

Rhode Island Sea Grant ($300,000, 1997-2000)

“The ecology of New England cobble beach plant communities” National Estuarine Research Reserve Graduate Fellowship support for John Bruno ($45,0000, 1997-2000)

“Patch persistence and seedling dynamics in a southern Maine marsh” National Estuarine Research Reserve Graduate Fellowship support for Pat Ewanchuk ($45,0000, 1998-2001)

“Distribution and abundance of forbs across a salt marsh landscape: Relative effects of seed supply, physiological stress and species interactions” NSF dissertation improvement grant for Tatyana Rand ($4,500, 1998-2001)

“Keystone facilitation by cordgrass on cobble beach plant communities” NSF dissertation improvement grant for John Bruno ($4,500, 1998-2000)

“The biogeography and consequences of positive interactions in New England rocky intertidal communities” NSF Biological Oceanography ($236,000, 1998-2001)

“The ecology of the pulmanate snail *Melampus* in New England salt marsh plant communities” National Estuarine Research Reserve Graduate Fellowship support for Brian Silliman ($45,0000, 2000-2003)

"Contrasting the marine communities of North and South America" Mellon Foundation with Jon Witman ($225,000, 7/00-6/03)

“A long-term monitoring program for Narragansett Bay salt marshes” Rhode Island Sea Grant - ($200,000, 7/00-6/03)

“Understanding how salt marsh plant communities are influenced by estuarine salinity gradients” National Estuarine Research Reserve Graduate Fellowship support for Caitlin Mullan ($45,0000, 7/00-6/04)

“Top-down control of Primary Production in Georgia Salt marshes” with Brian Silliman, NSF Ecology Program ($375,000, 7/00-6/06)

“Understanding the potential for top-down control in Southeastern salt marshes” with Brian Silliman. Georgia Sea Grant ($180K, 6/04-5/06)

"Experimental studies of drought effects of New England salt marsh services" National Estuarine Research Reserve Graduate Fellowship support for Kristy Kroecker ($60,0000, 7/06-6/07)

"Elucidating the ecology of tidal estuary plant communities for their conservation and management" with Caitlin Mullan Crain. Rhode Island Sea Grant ($200K, 6/04-5/07)

"How does shoreline development impact the services provided by New England salt marshes" Rhode Island Sea Grant ($218K, 6/06-5/08)

"Do Alternate Stable Community States Exist in the Gulf of Maine Rocky Intertidal Zone?" NSF Biological Oceanography. ($480,000, 7/01-6/08)

" A Graduate Training Exchange Between Program between Brown and Argentina" Mellon Foundation ($300,000, 7/01-12/09)

8. Service:

(i) to the University

Concentration Advisor: Aquatic Biology, 1982-84, 1990-91.
Undergraduate Advisor, 1984-86.
Population Biology Seminar series coordinator, Fall 1984, Spring 1987, 1991,1993, Fall 1996, Spring1998, Fall 2000, Fall 2001, Fall 2002, Fall 2003, Fall 2006
Greenhouse Renovation Committee, 1981.
Greenhouse Supervisor 1992, 2006
Faculty Search Committees:
- Plant Ecologist, 1981
- Population Ecologist, 1983
- Population Geneticist, 1985
- Ecologist, 1987
- Evolutionary Morphologist, 1988
- Evolutionary Morphologist, 1989
- Marine Ecologist, 1993
- Conservation biologist, 2000, 2007
- Director, Environmental Change Initiative (ECI), 2003
- ECI Junior Faculty, 2005, 2006, 2008

University Graduate Council 1985-87.
Brown Continuing Education Program (University Relations)
- "Salt Marshes of Rhode Island," April 1982 with W. Prell (Geology).
- "Belize: Coral Reef Ecology," 1984, 1985.

High School Teacher Development Program (co-sponsored by the Biology and Education Departments:

"Rhode Island Shorelines as classrooms," April 1985.
"Rhode Island Salt Marshes," July 1990
"Teaching hands-on marine ecology" June 1994
Director Graduate Program in Ecology and Evolutionary Biology, 1987- 2002
Academic Priorities Committee, 1999- 2003
Chair, Department of Ecology and Evolutionary Biology, 2002-
Chair, Brown/MBL graduate program 2003-2006
Steering Committee, Environmental Change Initiative 2003-
Steering Committee, Brown/MBL Institutional Partnership 2003-2006 (chair), 2006- (member)
Concentration advisor, Marine Biology 2004-
Search Committee - Director of the Ecosystem Center at the Marine Biological Laboratory at Woods Hole 2005-
Provost's committee to increase the visibility of undergraduate science 2005
Environmental council 2008-

(ii) to the profession

Reviewer for: *Ecology; American Naturalist; Journal of Experimental Marine Biology and Ecology; Journal of Crustacean Biology; Science; Journal of Chemical Ecology; Veliger; Biotropica; Crustaceana; Evolution; American Scientist.*
National Science Foundation (programs in Ecology, Population Biology, and Biological Oceanography).
Organizing Committee, Population Biologists of New England, Brown University, 1983.
Editorial Board, Ecology/Ecological Monographs, 1989-92.
Somerset Conservation Commission. 1985-89
Outside Thesis Examiner: SUNY, Stony Brook, University of Maine (twice), University of Connecticut, University of Alabama (twice), University of Virginia, University of Sydney (twice), University of South Carolina, Colby College (twice), Rutgers University, University of New Hampshire (twice), University of Mar Del Plata (twice), Catholic University of Santiago, Chile, University of Groningen, Holland (three times)
NYC Natural Resource Council, Wetland Advisory Board 1993
Panel Member, NSF Dissertation Improvement Awards 1991,1992,1994
Panel Member, NSF Marine Laboratory and Field Station Improvement Awards 1992, 1993
National Academy of Science Marine Biodiversity Workshop 1994
Panel Member, NSF Conservation Biology 1995, 1996
Academy of Natural Sciences, Estuarine Research Committee, 1995
Panel Member, NOAA - Sea Grant, Invasive Species Awards 1998
Chair, Editor Search Committee, The American Naturalist 1998
Panel Member, National Estuarine Research Reserve -

Ecological Monitoring Advisory Committee, Ecological Society of America, 1998
Ecological Monitoring Advisory Committee, Restoring America's Estuaries, 1999
Scientific Advisory Board, Save the Bay 1999-
Scientific Advisory Board, Narragansett Bay National Estuarine Research Reserve 1999-
Panel Member, National Estuarine Research Reserve - Invasive Species Monitoring Advisory Committee, 2001
Advisory Board, Marine Science Center, Northeastern University 2002-
Steering Committee – NSF North Atlantic Project 2002-
Scientific Advisor to The Nature Conservancy (TNC), developing a salt marsh conservation strategy for North America 2003-
Scientific Advisor, TNC Rhode Island 2004-
Editorial Board, Estuaries 2004-2008
Trustee, Marine Biological Association, United Kingdom 2004-2008
Scientific Advisor, Narragansett Bay National Estuarine Research Reserve Research Committee 2004-
Scientific Advisor, Georgia Tech Ecosystem Engineering Workshop 2004-
Scientific Advisor, California Department of the Environment, Pelagic Organism Decline in San Francisco Bay Advisory Board, 2005
Organizer, Workshop on Marine Experimental Ecology and Conservation Biology, University Mar De Plata, Argentina, 2005
Graduate Program Review – SUNY Buffalo 2006
Chair American Naturalist Young Investigator Prize Committee, 2007
Advisory Committee on the Environment - United States Senator Sheldon Whitehouse (Rhode Island) 2007-
Outside Reviewer – Georgia Tech, School of Biology, 2008
Ecological Society of America, Eminent Ecologist Award Committee 2009

9. Academic honors:

1998 Walter W. Annenburg University Professor
1999 Elizabeth Leduc Prize for Distinguished Teaching in the Life Sciences
2000 Robert P. Brown Professor of Biology
2002 Designated ISI Web of Science Highly Cited Researcher in Environmental Science
2003 Eminent Ecologist, University of California, Davis
2003 Distinguished Wetland Ecologist, Duke University

2004 Visiting Chair in Ecology, University of Groningen, Holland
Distinguished Ecologist, Mt Holyoke College
Senior Fellow, Catholic University of Santiago, Chile
2008 Riser Lecture, Marine Science Center, Northeastern University, Nahant, Mass
2009 Fellow, American Association for the Advancement of Science

10. Teaching

Bio 19: Freshman Seminar in Tropical Biology, fall semester 2004, 2005, 2006, 2007. responsible for all lectures, laboratories and field trips, ~10 students

Bio 41: Invertebrate Zoology, fall semesters 1980 to 2008, responsible for all lectures and laboratories, 35-40 students/year

Bio 144: Marine Ecology, spring semesters in even numbered years 1980 to present, 15 students/year

Bio 195: Independent Study. I typically have 2-4 undergraduates doing independent projects in my lab at any given time

Bio 294: Graduate Seminar. I teach this course ~ every 3 or 4 years, 12 student/year

Bio 295: Graduate Student Tropical Field Course. I teach this course every 2-3 years, 1991 to present 12-15 students/year

ES 150: Human Impacts on Ecosystem Services. With Osvaldo Sala. Spring Semester. 20-30 students/year. Course showcasing Brown and Marine Biological Laboratory research on Human impacts on natural systems 2005- 2008

ES 140: Coastal Ecology and Conservation. With Heather Leslie. Fall Semester. 10-15 students/year. 2009-present

Undergraduate Honors Theses – on average 2-3/year

I typically have 5-10 advises/year

In addition to my teaching at Brown, over the past 10 years (1999-2010) with support from the Mellon Foundation and NSF I have been the primary advisor to 6 Argentinean graduate students and on the thesis committee of 3 others.

Also, as part of my duties as visiting chair in Ecology at the University of Groningen, Holland (2007-2008) I served as an advisor to a half dozen Dutch doctoral students

Many undergraduate researchers from my laboratory have gone on to highly successful careers in ecology and evolutionary biology including:

Cliff Cunningham, professor, Duke University
Edwin Grosholz, associate professor, UC Davis
Steve Pennings, associate professor, University of Houston
Laura Gough, associate professor, U West Texas
Elizabeth Farnsworth, Bullard Fellow, Harvard
Tecumseh Fitch, Associate Professor, University of St Andrews
Chris Harley, assistant professor at U British Columbia
Eric Sanford, assistant professor at UC Davis
Kelly Benoit, assistant professor, Oregon State University
Eric Berlow, research assistant professor, UC Berkeley
Jonathan Levine, assistant professor, UC Santa Barbara

Graduate Students: 15 total

A. M. Ellison, Ph.D., 1986 – Professor, Harvard University
F. M. Thomas, M.S., 1987 – Professor, University of South Florida
D. Hirata, M.S., 1990 – stockbroker and magician, San Francisco
S. W. Shumway, Ph.D., 1991 – Professor, Wheaton College
P. Halpin, Ph.D., 1994 – Senior Researcher, UC Santa Barbara
S. Hacker Ph.D., 1996 – Associate Professor, Oregon State University
M. Baker M.S., 1996 – high school biology teacher, Portland, OR
G. Leonard, Ph.D. 1998 – research scientist Monterey Bay Aquarium
T. Rand, Ph.D., 2000 – Postdoctoral Researcher, University of Dresden
P. Ewanchuk, Ph.D. 2002 - Assistant professor Providence College
J. Bruno, Ph.D., 2000 – Assistant professor, UNC, Chapel Hill
B. Silliman Ph.D. 2004 - Assistant professor, University of Florida
C. Crain Ph.D. 2006 –Postdoctoral Researcher, UC Santa Cruz
K. Bromberg (current)

Post-doctoral Associates: 12 total

Phil Yund, 1987-88 – Director, University of New England Marine Research Lab
Rick Wahle 1990 – Senior scientist Bigelow Marine Lab
Steve Brewer 1993-95 – Professor, University of Mississippi, Oxford
Todd Minchinton 1996-98 – Assistant professor, University of Adelaide
Geoff Trussell 1998- 2001 – Associate professor, Northeastern University
Alejandro Bortolus 2001-2003 – Research scientist, University of Central

Patagonia
Cesar Costa 2001- 2002 – Professor, University of Rio Grande, Brazil
Eric Sanford 2002- 2004 - Assistant professor, UC Davis
Johan Van de Koppel 2003-2004 – Assistant Professor Netherlands Institute of Marine Ecology, Zeeland
Andrew Irving 2005-2007, Postdoctoral Researcher, U Adelaide
Erica Garcia 2006-2008, Postdoctoral Researcher, Darwin, Australia
Andrew Altieri 2007-