

**CURRICULUM VITAE**  
**JON D. WITMAN**  
**November, 2001**

**Work Address:**

Assistant Professor  
Department of Ecology and Evolutionary Biology  
Box G-W, Brown University  
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**Education:**

1970-1972 Franklin and Marshall College, Lancaster, PA  
1973-1974 University of Otago, New Zealand (Independent study, Geology)  
1977 B.A., University of New Hampshire, Durham (Zoology)  
1984 Ph.D, University of New Hampshire, Durham (Zoology)

**Academic Positions:**

1985 Instructor, Semester Program in Tropical Ecology, School for Field Studies  
1986 - 1992 Assistant Professor of Marine Biology, Northeastern University  
1992 - 1993 Visiting Scientist, Department of Marine Science, University of Otago,  
Dunedin, New Zealand  
1992 - 1994 Associate Professor of Marine Biology, Northeastern University  
1994 - present Associate Professor of Biology, Department of Ecology and Evolutionary  
Biology, Brown University

**Major Recent Professional Service:** (last 6 yr)

1995, 1998 National Science Foundation, panel member (Biological Oceanography)  
1995-1996 Co - Chair of Local Planning Committee for 1996 Ecological Society of America Annual  
Meeting, Providence, RI  
1996 - 1997 Member, Technical Advisory Committee, North Cape Oil Spill Impact Assessment  
1997 Tenure Review Committee, Woods Hole Oceanographic Institution  
1997 - 1999 Panel Member for research in Marine Ecology and Conservation, CONICYT  
Foundation, Santiago, Chile  
1998 - present Member, Science Advisory Board, Conservation Law Foundation, Boston, MA  
1998 - 2002 Member, Editorial Board, Ecology, Ecological Society of America (Marine ecology)

**Book:**

Coyer, J., D. Steller and J.D. Witman 1999. The underwater catalog: a guide to methods in underwater  
research, 2<sup>nd</sup> Edition. 151 pp. Shoals Marine Laboratory Press. Ithaca, NY

**Chapters in Books:**

Suchanek, T.H., R. Carpenter, J.D Witman, C.D. Harvell. 1983. Sponges as important space competitors  
in deep Caribbean coral reef communities. NOAA Symposium Series for Undersea Research  
Reports. Coral Reefs V1: 55 - 67

- Witman, J.D. and K.P. Sebens. 1988. Benthic community structure at a subtidal rock pinnacle in the central Gulf of Maine. in I. Babb and M. De Luca eds., Benthic Productivity and Marine Resources of the Gulf of Maine. National Undersea Research Program Research Report 88-3 : 67-104.
- Sebens, K.P., J.D. Witman, R. Allmon, and E.J. Maney. 1988. Early community development experiments in rocky subtidal habitats (Gulf of Maine, 30 - 80 m). in I. Babb and M. DeLuca eds., Benthic Productivity and Marine Resources of the Gulf of Maine. National Undersea Research Program Research Report 88-3: 45 - 66.
- Witman, J. D. and K. P. Sebens. 1990. Distribution and ecology of sponges at a subtidal rock ledge in the central Gulf of Maine. pp. 391-396. in K. Rutzler, ed, New Perspectives in Sponge Biology. Smithsonian Institution Press, Washington, D.C.
- Witman, J.D., 1996. Dynamics of Gulf of Maine benthic communities. Pp 51-69 in, D. and E. Braasch eds. The health of the Gulf of Maine ecosystem: cumulative impacts of multiple stressors. RARGOM Report 96-1. Dartmouth College, Hanover, NH.
- Witman, J.D. 1998. Natural disturbance and colonization on subtidal hard substrates in the Gulf of Maine. pp. 30-37 in. E. M. Dorsey and J. Pederson eds. Effects of fishing gear on the sea floor of New England. MIT Sea Grant Publication 98-4.
- Witman, J.D., and P.K. Dayton, 2001 Rocky subtidal communities. pp 339-366 in Bertness, M.D., S.D. Gaines and M. Hay eds. Marine Community Ecology. Sinauer Press.
- Witman, J.D., M.R. Patterson and S.J. Genovese, *in press*. Benthic -pelagic linkages in rocky subtidal communities: influence of food subsidy by internal waves *in* G.A. Polis, M. Power and G. Huxel eds. Food webs at the landscape level, Univ. of Chicago Press (reviewed book chapter)
- Witman, J. D. , J. C. Ellis and W. B. Anderson, *in press*. The influence of physical processes, organisms and permeability on cross ecosystem fluxes, Synthetic Chapter 1 *in* G.A. Polis, M. Power and G. Huxel eds. Food webs at the landscape level, Univ. of Chicago Press (reviewed book chapter).
- Branch, G.M., J. Witman, R. Bensted-Smith, R.H. Bustamante, G.M. Wellington, F. Smith & G. Edgar. 'Conservation Criteria for the Marine Biome'. In: A Biodiversity Vision for the Galapagos Islands: An Exercise for Ecoregional Planning. WWF, Washington DC, USA.
- Bensted-Smith, R., T. Allnut, G.M. Branch, R.H. Bustamante, C. Causton, E. Dinerstein, G. Powell, H. Snell, A. Tye, G.M. Wellington and J. Witman. 'Summary of the Vision For Conservation Of Galapagos Biodiversity And The Issues Central To Its Achievement'. In: A Biodiversity Vision for the Galapagos Islands: An Exercise for Ecoregional Planning. WWF, Washington DC, USA.

### Referred Journal Articles

- Witman, J.D. and R.A. Cooper. 1983. Disturbance and contrasting patterns of population structure in the brachiopod *Terebratulina septentrionalis* from two subtidal habitats. J.Exp.Mar. Biol. Ecol 73: 57-79.
- Witman, J.D. and T.H. Suchanek. 1984. Mussels in flow: drag and dislodgment by epizoans. Mar.Ecol. Prog. Ser. 16: 259 - 268.
- Witman, J. D. 1985. Refuges, biological disturbance, and rocky subtidal community structure in New England. Ecological Monographs 55: 421-445.
- Witman, J. D. 1987. Subtidal coexistence: storms, grazing, mutualism, and the zonation of kelps and mussels. Ecological Monographs 57: 167-187.
- Witman, J. D. 1988. Effects of predation by the fireworm *Hermodice carunculata* on milleporid hydrocorals. Bulletin of Marine Science. 42: 446-458.

- Witman, J. D. 1988. Stability of Atlantic kelp forests. *Trends in Ecology and Evolution*. 3: 285-286.
- Edmunds, P.J and J.D. Witman. 1991. Effect of Hurricane Hugo on the primary framework of a reef along the south shore of St. John, US Virgin Islands. *Mar. Ecol. Prog. Ser.* 78: 201-204.
- Witman, J. D. and K. P. Sebens. 1992. Regional variation in fish predation intensity: a historical perspective in the Gulf of Maine. *Oecologia* 90: 305 - 315.
- Witman, J. D. 1992. Physical disturbance and community structure of exposed and protected reefs: a case study from St. John, U.S. Virgin Islands. *American Zoologist* 32: 641-634.
- Witman, J.D., J.J. Leichter, S.J. Genovese, and D.A. Brooks. 1993 Pulsed phytoplankton supply to the rocky subtidal zone: influence of internal waves *Proceedings of the National Academy of Sciences, USA* 90: 1686-1690.
- Sheild, C.J. and J. D.Witman. 1993. The impact of *Henricia sanginolenta* predation on the finger sponges, *Isodictya* spp. *J. Exp. Mar. Biol. Ecol.* 166: 107 -133.
- Dumas, J.V. and J.D. Witman 1993. Predation by gulls on two rocky intertidal crabs, *Cancer irroratus* and *Carcinus maenus*. *J. Exp. Mar. Biol. Ecol.* 169: 89 – 101
- Lesser, M.P, J.D.Witman and K.P. Sebens. 1994. Effects of flow and seston availability on scope for growth of benthic suspension feeding invertebrates from the Gulf of Maine. *Biological Bulletin* 187:319-335
- Andres, N. G. and J.D. Witman 1995. Trends in community structure on a Jamaican reef. *Marine Ecology Progress Series.* 118: 305-310.
- Pile, A.J., M.R. Patterson and J.D. Witman. 1996. In situ grazing on plankton < 10 um by the boreal sponge *Mycale lingua*.. *Marine Ecology Progress Series.* 141: 95-102
- Bruno, F and J.D.Witman. 1996. Defensive mechanisms of scleractinian cup corals against overgrowth by colonial invertebrates. *Journal of Experimental Marine Biology and Ecology.* 207: 229-241.
- Leichter, J.J. and J.D. Witman. 1997. Water flow over subtidal rock walls: effects on distribution and growth of suspension feeders. *J. Exp. Mar. Biol. Ecology.* 209: 293-307.
- Witman, J.D and K.R. Grange. 1998. Links between rain, salinity and predation in a rocky subtidal community. *Ecology* 79: 2429-2447
- Smith, F. and J.D. Witman. 1999 Species diversity in subtidal landscapes: maintenance by physical processes and larval recruitment. *Ecology* 80: 51-69
- Genovese, S.J and J.D. Witman 1999 Interactive effects of flow speed and particle concentration on growth rates of an active suspension feeder. *Limnology and Oceanography.* 44: 1120- 1131
- Bruno, J.F., C. Siddon, J.D. Witman and P.L. Colin. 2001. El Niño related coral bleaching in Palau, Western Caroline Islands. *Coral Reefs.* 20: 127-136
- Witman, J.D and F. Smith, *in press*. Rapid community change at a tropical upwelling site in the Galápagos Marine Reserve. *Biodiversity and Conservation*

**Journal papers provisionally accepted pending final revision:**

- Patterson, M.R. and J.D. Witman. Internal waves and scope for growth of suspension feeding benthos at an offshore pinnacle *Limnology and Oceanography.*
- Hill, M., J. D. Witman and H. Caswell. Temporal and spatial variation in successional patterns in a rocky subtidal community : statistical methods, Markov chain models and species interactions. *Ecological Modeling*
- Lucky, A., T.L. Erwin and J.D. Witman. Diversity of arboreal carabid beetles in Ecuadorian Amazonia. *Biotropica*

**Journal Articles in editorial review:**

- Byrnes, J. E. and J. D. Witman. Impact of an invasive flatworm, *Convoluta convoluta*, in the southern Gulf of Maine, USA. *Journal of Experimental Marine Biology and Ecology*
- Witman, J.D., S.J. Genovese, J. F. Bruno, J. W. McLaughlin and B. I. Pavlin. Massive prey recruitment and the control of rocky subtidal communities on regional spatial scales. *Ecological Monographs*

**Invited Lectures (Since 1994):**

- 1994 Department of Marine Science, University of Alaska, Fairbanks
- 1994 Population Biologists of New England Annual Meeting, Smith College
- 1994 Section of Ecology and Systematics, Cornell University
- 1995 “*Dynamics of Gulf of Maine Benthic Communities*” Workshop on The Health of the Gulf of Maine Ecosystem, sponsored by the Regional Association for Research on the Gulf of Maine, Hanover, NH
- 1995 American Society for Limnology and Oceanography, San Diego, CA
- 1995 Benthic Ecology Meetings, Rutgers University, NJ
- 1996 Biology Department, Woods Hole Oceanographic Institution
- 1996 Fourth International Temperate Reef Symposium, Santiago, Chile
- 1996 Graduate School of Oceanography University of Rhode Island
- 1997 Benthic Ecology Meetings, Portland ME
- 1997 “*Disturbance in hard bottom habitats*” Workshop on the Effect of Fishing Gear Disturbance on the Sea Floor of New England, sponsored by Conservation Law Foundation and MIT Sea Grant, Boston, MA
- 1997 “*Benthic-pelagic links in rocky subtidal communities: effects of food input by internal waves*” Workshop on Cross -Ecosystem Exchanges of Nutrients, Prey and Consumers, VII International Congress of Ecology, Florence, Italy
- 1997 “*Physical stress and consumer pressure in the rocky subtidal zone*” Biomechanics and Marine Ecology: Is the Marriage Working? Symposium at Western Society of Naturalists Annual Meeting, Monterey, CA
- 1998 Workshop on Long-Term Observatories in the Gulf of Maine, Boston, MA
- 1998 Biology Department, Mt.Holyoke College
- 1998 Charles Darwin Research Station, Galapagos Islands
- 1998 Coral Reef Research Foundation, Palau Islands
- 1999 Workshop on Biodiversity Vision for the Galápagos Islands Eco-Region, sponsored by the World Wildlife Foundation and the Charles Darwin Foundation, Galápagos Islands
- 1999 Workshop on Marine Priority Areas of the Gulf of Maine, Boston, MA sponsored by Marine Conservation Biology Institute
- 2000 Benthic Ecology Meetings, University of North Carolina, Wilmington
- 2000 Department of Zoology, University of Rhode Island
- 2001 “*Connecting local marine communities to processes on large spatial scales*” Biology Dept., California State College at Northridge
- 2000 “*Do regional processes influence the species richness of local marine communities? : a global perspective*” Dept. of Biological Sciences, Stanford University
- 2000 “*Community regulation on a regional scale: influence of massive mussel recruitment*” Dept. of Ecology and Evolutionary Biology, University of California at Davis

- 2000 “*How are local marine communities influenced by large scale processes?*” Virginia Institute of Marine Science, College of William and Mary
- 2000 “*How important are regional processes in determining the local species richness of marine communities?*” at FONDAP Workshop on Marine Macroecology and Conservation: Contrasting Patterns Between Hemispheres, Vina del Mar, Chile
- 2001 “*Connecting local marine communities to processes on large spatial scales*” Biology Dept., California State College at Northridge
- 2001 Benthic Ecology Meetings, University of New Hampshire, Durham

### **Technical Reports:**

- Sebens, K.P., J.D. Witman, N. Maciolek, and B. Brown. 1987. Rocky Subtidal Ecology: Marine Ecology and Water Quality Field Studies for Outfall Siting Deer Island Secondary Treatment Facilities Plan. Battelle Ocean Sciences. Duxbury, MA 45 pp.
- Witman, J.D. and K.P. Sebens. 1992. Rocky Subtidal Community Structure Along a Pollution Gradient in Massachusetts Bay. Mass. Water Resource Authority Tech. Report. 57 pp.
- Witman, J.D. and K.P. Sebens. 1993. Rocky Subtidal Communities in Massachusetts Bay: Lovell’s Island to Nahant Transect. Massachusetts Water Resource Authority, 136 pp.
- Witman, J.D., S.J. Genovese, F. Smith and J. Bruno. 1997. Quantitative assessment of subtidal epifaunal populations in vicinity of North Cape Oil Spill, Rhode Island 40 pp.

### **Research in Progress**

My primary research goals for 2001- 2002 are to 1) complete the global species richness database and submit the first paper on it to a high profile journal, 2) continue investigating how upwelling and predation regulate biodiversity and food web structure in the Galapagos and 3) collaborate with my students to bring their projects to publication. I’m currently working on drafts of the manuscripts listed below:

- Kane, J., J.D. Witman and J.C.Ellis Impact of gulls at exposed and protected rocky intertidal sites in New England. (*for Marine Ecology Progress Series*)
- Genovese, S.G. and J.D. Witman. Patterns and consequences of wind-mediated diel variation in water flow in back reef environments (*for Journal of Marine Research*)
- Siddon, C. and J.D. Witman Hydrodynamic limitation of consumer pressure in the shallow rocky subtidal zone (*for Marine Ecology Progress Series*)

### **Brown University Service:**

- Environmental Science Curriculum Committee 1996- present
- Committee on Strategic Planning for Brown University 1996 - 1997
- Sophomore Biology Advising Program 1997- present
- Forum participant, Graduate Programs in Biology, Brown Undergraduate Program, 1998
- Guest lecturer, Undersea Life of New England, Brown Staff Day, 1998
- Forum participant, Postdoctoral opportunities in Science, Brown Graduate School, 2000

### **Recent Teaching at Brown University:**

- BI 42 Principles of Ecology (undergraduate, enrollment 100 – 180 students) Taught Semester II, 1998, 1999, (sabbatical leave 2000).
- BI 243, 244 Topics in Ecology and Evolutionary Biology (graduate) - co-taught with M. Bertness as

Community Ecology (2000), Macroecology: Past and Present, (2001, currently co-teaching with C. Janis)

BI 142 Experimental Design in Ecology (undergraduate, graduate, enrollment 6-20 students Semester I, 1999, 2001)

BI 195/196 Independent Study in Biology (advanced undergraduate)

### List of Independent Study Students: (last 3 yr)

- 1998 Alison Hartman "Effect of eelgrass bed size on the species richness of the associate epifaunal invertebrate community"
- 1999 Pamela Flanagan "A stage-based model of population growth of the predaceous snail, *Buccinum undatum*"  
Jennifer Kane "Species impact of gulls at exposed and protected sites"
- 2000 Jarrett Byrne "Effects of an invasive flatworm in the Gulf of Maine"  
Erika Brown "Habitat variability in subtidal predation"  
Nathan Kraft "Predation limits to intertidal snails"  
Andrea Lucky "Diversity and distribution of arboreal Carabidae"(co-advised with D. Morse)  
Kristen Michaelopoulus "A matrix model of a subtidal sponge population"
- 2001 Michelle Rome "Interspecific effects of gull predation Royce Foundation Fellow  
Emily Lindsay "Recruitment of subtidal consumer species in Narragansett Bay"  
Andrew Shelton "Age and growth of sea urchins in Alaskan fjords"

### Teaching at Shoals Marine Lab:

2000 summer, primary advisor of one and co-advisor of two undergraduate students in 7 wk research project in field marine ecology, NSF REU program

2001 summer, primary advisor of one and co-advisor of two undergraduate students in 7 wk research project in field marine ecology, NSF REU program

### Graduate Students:

*Brown University:*

Christopher Siddon (PhD begun 1997 - advanced to candidacy)

Julie Ellis (PhD begun 1998 - advanced to candidacy)

Andrew Altieri (PhD begun Sept., 2000)

### Post-Doctoral Students:

Salvatore Genovese	1996 – 1997	sponsored by NSF
Douglas McNaught	1999 – 2001	sponsored by Mellon Foundation
Jose Miguel Farina	2001- 2003	sponsored by Mellon Foundation

### Member of PhD Committee, Brown Graduate Students:

Brian Sillman  
John Bruno  
Tatyana Rand  
Paul Schmidt  
Adam Fry

Patrick Ewanchuk  
George Leonard  
Sally Hacker  
Jeffrey Parrish  
Alice Brown  
Caittlin Mullan

**External PhD Committee Service:**

Maria Abate, Marine Science Center, Northeastern University, 1994 - 2000  
Jan Witting, Marine Science Center, Northeastern University, 1994 - 2000  
John Zardus, Marine Science Center, Northeastern University, 1995 - 2000  
Adele Pile, College of William and Mary / Virginia Institute of Marine Science, 1996 - 1999  
Mark Hill, Biology Department, Woods Hole Oceanographic Institution, 1997 - 2000  
Robert Miller, Biology Department, University of Massachusetts, Boston, 2000 - present  
Piers K. Dustan, University of Tasmania, 2001  
Nathan Knott, University of Sydney, 2001