

## CURRICULUM VITAE

### SALLY D. HACKER

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### EDUCATION

- Ph.D. 1996 Department of Ecology and Evolutionary Biology, Brown University, Providence, RI.  
Co-advisors: Dr. Mark Bertness and Dr. Steven Gaines  
Title: *Species diversity in a New England salt marsh: significance of positive plant interactions*
- M.S. 1988 Department of Zoology, University of Maine, Orono, ME.  
Advisor: Dr. Robert Steneck  
Title: *The effect of habitat architecture on the abundance and body size scaling of a mobile phytal amphipod, Gammarellus angulosus (Rathke).*
- B.S. 1984 Department of Zoology, University of Washington, Seattle, WA.

### EMPLOYMENT

- 11-present: Professor, Department of Integrative Biology (formerly Zoology), Oregon State University.
- 17-18 Associate Head, Department of Integrative Biology, Oregon State University, Corvallis, OR.
- 04-11: Associate Professor, Department of Zoology, Oregon State University, Corvallis, OR.
- 07-09 Chair of Graduate Studies, Department of Zoology, Oregon State University, Corvallis, OR.
- 02-04: Associate Professor, School of Biological Sciences and Program in Environmental Science, Washington State University Vancouver.
- 96-02: Assistant Professor, School of Biological Sciences and Program in Environmental Science, Washington State University Vancouver.
- 94-96: Mellon Graduate Fellowship, Brown University, Providence, RI
- 92-94: Teaching Assistant, Brown University, Providence, RI.
- 91-92: Clare Booth Luce Fellowship for Women in Science, Brown University, RI.
- 89-91: Research Technician, Woods Hole Oceanographic Institution, Woods Hole, MA.
- 85-88: Teaching Assistant, University of Maine, Orono, ME.

### AWARDS/FELLOWSHIPS/RECOGNITION

- 17: Elected AAAS Fellow 2017, American Association for the Advancement of Science
- 13: Barbier et al. 2011 (*Ecological Mono.*) ranked first of top ten publications on marine ecosystem services by a global survey of marine academics and professionals. Over 1,400 citations.
- 06-09: Chair, National Center for Ecological Analysis and Synthesis (NCEAS) Science Advisory Board, Santa Barbara, CA.
- 00: Faculty Research Excellence Award, Washington State University Vancouver, WA.
- 97: Young Investigator Prize, American Society of Naturalists, Annual Meeting, Boulder, CO.
- 95: Murray F. Buell Award, Best Student Presentation, Ecological Society of America Meeting, Snowbird, UT.
- 94-96: Mellon Doctoral Fellowship, Brown University, Providence, RI.
- 91-92: Clare Boothe Luce Women in Science Fellowship, Brown University, Providence, RI.

## **TEACHING ASSIGNMENTS**

OSU 2004–present: Ecology (Bi 370), Marine Biology (Bi 450), Community Ecology (Z 594), and Graduate Seminars (Meta-analysis, Species Invasion, Disease Ecology, Generalities in Ecology, Research Presentations, Communicating Science)

WSU Vancouver 1996–2004: General Ecology (Bio 372), Community Ecology (Bot 462/562), Field Ecology (Bot 463/563), and Wetland Ecology (ESRP 490)

## **SCHOLARSHIP**

### **BOOKS PUBLISHED**

5. Sadava, D., D. M. Hillis, H. C. Heller, **S. D. Hacker**. **2017**. *Life: The Science of Biology 11<sup>th</sup> Edition*, MacMillan Publishers/Sinauer Associates, Sunderland, MA.  
Chapter 53: Physical Environment and Biogeography  
Chapter 54: Populations  
Chapter 55: Species Interactions  
Chapter 56: Communities  
Chapter 57: Ecosystem Ecology  
Chapter 58: A Changing Biosphere
4. Bowman, W.D., **S.D. Hacker**, M.L. Cain. **2017**. *Ecology, 4<sup>th</sup> Edition*, Sinauer Associates, Sunderland, MA.  
Chapter 12: Predation and Herbivory  
Chapter 13: Parasitism  
Chapter 14: Competition  
Chapter 15: Mutualism and Commensalism  
Chapter 16: The Nature of Communities  
Chapter 17: Change in Communities  
Chapter 18: Biogeography  
Chapter 19: Species Diversity in Communities
3. Cain, M.L., W.D. Bowman, **S.D. Hacker**. **2014**. *Ecology, 3<sup>rd</sup> Edition*, Sinauer Associates, Sunderland, MA. 667 pp.  
Chapter 16: The Nature of Communities  
Chapter 17: Change in Communities  
Chapter 18: Biogeography  
Chapter 19: Species Diversity in Communities
2. Cain, M.L., W.D. Bowman, and **S.D. Hacker**. **2011**. *Ecology, 2<sup>nd</sup> Edition*, Sinauer Associates, Sunderland, MA.  
Chapter 15: The Nature of Communities  
Chapter 16: Change in Communities  
Chapter 17: Biogeography  
Chapter 18: Species Diversity in Communities
1. Cain, M.L., W.D. Bowman, and **S.D. Hacker**. **2008**. *Ecology, 1<sup>st</sup> Ed.* Sinauer Associates, Sunderland, MA. 648 pp.  
Chapter 15: The Nature of Communities  
Chapter 16: Change in Communities  
Chapter 17: Biogeography  
Chapter 18: Species Diversity in Communities

### **BOOK REVIEWS PUBLISHED**

1. **Hacker, S.D. 2014**. Planning for coastal wetland change: fortress marsh or ecomarsh? **Ecology 95:3453–3454**.

**JOURNAL ARTICLES OR BOOK CHAPTERS PUBLISHED OR IN PRESS**

75. **Hacker, S.D.**, K.R. Jay, E.B. Goldstein, P. Hovenga, M. Itzkin, L.J. Moore, R.S. Mostow, E.V. Mullins, I. Reeves, and P. Ruggiero. **2019**. Species-specific functional morphology of four US Atlantic coast dune grasses: biogeographic implications for dune shape and coastal protection. **Diversity. In Press.**
74. Emery, S. M., L. L. Reid, and **S. D. Hacker**. **2019**. Soil nematodes differ in association with native and non-native dune-building grass species. **Applied Soil Ecology. In Press.**
73. Biel R.G., **S.D. Hacker**, and P. Ruggiero. **2019**. Elucidating coastal foredune ecomorphodynamics in the US Pacific Northwest via Bayesian networks. **Journal of Geophysical Research: Earth Surface. In Press.**
72. **Hacker S.D.**, B.A. Menge, K.J. Nielsen, F. Chan, and T.C. Gouhier. **2019**. Regional processes are stronger determinants of rocky intertidal community dynamics than local biotic interactions. **Ecology. In Press.**
71. Hayduk, J., **S.D. Hacker**, J.S. Henderson, and F. Tomas Nash. **2019**. Evidence for regional scale controls on eelgrass (*Zostera marina*) and mesograzers community structure in upwelling-influenced estuaries. **Limnology and Oceanography 64:1120–1134**
70. Barner, A.K., F. Chan, A. Hetteringer, **S.D. Hacker**, B. Menge, K. Marshall. **2018**. Generality in multispecies responses to ocean acidification revealed through multiple hypothesis testing. **Global Change Biology**. 2018: 1-14. DOI: 10.1111/gcb.14372.
69. Goldstein, E.B., E.V. Mullins, L.J. Moore, R.G. Biel, J.K. Brown, **S.D. Hacker**, K.R. Jay, R.S. Mostow, P. Ruggiero, and J.C. Zinnert. **2018**. Literature-based latitudinal distribution and possible range shifts of two US east coast dune grass species (*Uniola paniculata* and *Ammophila breviligulata*). **PeerJ 6:e4932; DOI 10.7717/peerj.4932**
68. Reimer, J., **S.D. Hacker**, B. A. Menge, and P. Ruggiero. **2018**. Macrophyte wrack on sandy beaches of the US Pacific Northwest is linked to proximity of source habitat, ocean upwelling, and beach morphology. **Marine Ecology Progress Series 594:263-269.**
67. Barner, A. K., K.E. Coblentz, **S.D. Hacker**, and B.A. Menge. **2018**. Fundamental contradictions among observational and experimental estimates of non-trophic species interactions. **Ecology 99:557-566 doi: 10.1002/ecy.2133**
66. Ruggiero, P., **S.D. Hacker**, E. Seabloom, P. Zarnetske. **2018**. The role of vegetation in determining dune morphology, exposure to sea level rise, and storm-induced coastal hazards: A U.S. Pacific Northwest perspective. Chapter 11. Pages 337-362 in Moore, L., B. Murray. **Barrier Dynamics and the Impacts of Climate Change on Barrier Evolution**, Springer.
65. Chan F. J.A., Barth, C.A. Blanchette, R.H. Byrne, F. Chavez, O. Cheriton, R. A. Feely, G. Friederich, B. Gaylord, T. Gouhier, **S.D. Hacker**, T. Hill, G. Hoffman, M.A. McManus, B.A. Menge, K.J. Nielsen, A. Russell, E. Sanford, J. Sevadjian, and L. Washburn. **2017**. Persistent spatial structuring of coastal ocean acidification in the California Current System. **Scientific Reports 7: DOI:10.1038/s41598-017-02777-y**
64. Biel R.G., **S.D. Hacker**, P. Ruggiero, N. Cohn, and E.W. Seabloom. **2017**. Coastal protection and conservation along sandy beaches and dunes: context-dependent tradeoffs in ecosystem services. **Ecosphere 8: e01791. 10.1002/ecs2.1791.**
63. Barner, A. K., **S. D. Hacker**, B. A. Menge, and K. J. Nielsen. **2016**. The complex net effect of reciprocal interactions and recruitment facilitation maintains an intertidal kelp community. **Journal of Ecology 104:33-43.**
62. Henderson, J., **S.D. Hacker**. **2015**. Buried alive: an invasive seagrass (*Zostera japonica*) changes its reproductive allocation in response to sediment disturbance. **Marine Ecology Progress Series 532:123–136.**
61. Zarnetske, P., P. Ruggiero, **S.D. Hacker**, E. Seabloom. **2015**. Coastal foredune evolution: the relative influence of vegetation and sand supply in the US Pacific Northwest. **Journal of the Royal Society Interface 12: http://dx.doi.org/10.1098/rsif.2015.0017.**
60. Hessing-Lewis, M., **S.D. Hacker**, B.A. Menge, S. McConville, J. Henderson. **2015**. Are large macroalgal blooms necessarily bad? Nutrient impacts on seagrass in upwelling-influenced estuaries. **Ecological Applications 25:1330-1347.**

59. David, A.S., P.L. Zarnetske, **S.D. Hacker**, P. Ruggiero, R.G. Biel, and E.W. Seabloom. **2015**. Invasive congeners differ in successional impacts across space and time. **PLoS ONE 10(2): e0117283.doi:10.1371/journal.pone.0117283**
58. Menge, B.A., T.C. Gouhier, **S.D. Hacker**, F. Chan and K. Nielsen. **2015**. Are metaecosystems organized hierarchically? A model and test in rocky intertidal habitats. **Ecological Monographs 85:213–233**.
57. Bakker, J.P., K.J. Nielsen, J. Alberti, F. Chan, **S. D. Hacker**, O.O. Iribarne, D.P.J. Kuijper, B.A. Menge, M. Schrama and B. R. Silliman. **2015**. Bottom-Up and Top-Down Interactions in Coastal Interface Systems. Chapter 7. Pages 157-200 in Hanley, T.C. and K.J. La Pierre. **Bottom-Up and Top-Down Interactions across Aquatic and Terrestrial Systems**, Cambridge University Press, Cambridge.
56. **Hacker S.D. 2014**. Salt and brackish marshes. In: **Encyclopedia of Natural Resources**. Taylor and Francis Group, LLC: New York. Doi: 10.1081/E-ENRL-120047521.
55. Hessing-Lewis, M.L., **S.D. Hacker. 2013**. Latitudinal trends in macroalgal blooms and seagrass production in northeast Pacific upwelling-influenced estuaries. **Limnology and Oceanography 58: 1103–1112**.
54. Keammerer, H., **S.D. Hacker. 2013**. Negative and neutral interactions dominate in early life stages and across stress gradients in an Oregon estuary. **Plant Ecology 214:303-315**.
53. Seabloom, E.W., P. Ruggiero, **S.D. Hacker**, J. Mull, P.L. Zarnetske. **2013**. Invasive grasses, climate change, and exposure to storm-wave overtopping in coastal dune ecosystems. **Global Change Biology 19:824-832**.
52. Zarnetske, P., T. Gouhier, **S.D. Hacker**, E. Seabloom, V. Bokil. **2013**. Indirect effects and facilitation among native and non-native species promote invasion success along an environmental stress gradient. **Journal of Ecology** doi: 10.1111/1365-2745.12093.
51. Ruggiero, P., G. M. Kaminsky, **S.D. Hacker. 2013**. Morphodynamics of prograding beaches. **Coastal Dynamics 2013:1375–1384**
50. Wagner, E., B.R. Dumbauld, **S.D. Hacker**, A.C. Trimble, L.M. Wisheart, J.L. Ruesink. **2012**. Density-dependent effects of an introduced oyster, *Crassostrea gigas*, on a native intertidal seagrass, *Zostera marina*. **Marine Ecology Progress Series 468:149-160**.
49. Ruesink J.L., J. Fitzpatrick, B.R., Dumbauld, **S.D. Hacker**, A.C. Trimble, E.L. Wagner, L.M. Wisheart. **2012**. Life history and morphological shifts in an intertidal seagrass following multiple disturbances. **Journal of Experimental Marine Biology and Ecology 424-425:25-31**
48. Zarnetske, P., **S.D. Hacker**, E.W. Seabloom, P. Ruggiero, J.R. Killian, T.B. Maddux, D. Cox. **2012**. Biophysical feedback mediates effects of invasive grasses on coastal dune shape. **Ecology 93:1439-1450**.
47. Aswani, S., P. Christie, N.A. Muthiga, R. Mahon, J.H. Primavera, L.A. Cramer, E.B. Barbier, E.F. Granek, C. Kennedy, E. Wolanski, and **S.D. Hacker. 2012**. The way forward with ecosystem-based management in tropical contexts: Reconciling with existing management systems. **Marine Policy 36:1-10**.
46. **Hacker S.D.**, P. Zarnetske, E. Seabloom, P. Ruggiero, J. Mull, S. Gerrity, and C. Jones. **2012**. Subtle differences in two non-native congeneric beach grasses significantly affect their colonization, spread, and impact. **Oikos 121:138–148**.
45. Gutierrez J.L., C.G. Jones, J.E. Byers, K.K. Arkema, K. Berkenbusch, J.A. Committo, C.M. Duarte, **S.D. Hacker**, P.J. Hogarth, J.G. Lambrinos, M.G. Palomo, C. Wild, and I.E. Hendriks. **2011**. Physical ecosystem engineers and the functioning of estuaries and coasts. Pages 53-81 in C.H.R. Heip, C.J.M., Philippart, and J.J. Middelburg, editors. Volume 7: Functioning of Estuaries and Coastal Ecosystems, in the **Treatise on Estuarine and Coastal Science** (E. Wolanski, and D. McLusky, series editors), Elsevier. DOI: 10.1016/B978-0-12-374711-2.00705-1.
44. Barbier E., **S.D. Hacker**, E. Koch, B. Silliman, and A.D. Stier. **2011**. Estuarine and coastal ecosystems and their services. Pages 109-127 in M. van den Belt and R. Costanza, editors. Volume 12: Ecological Economics of Estuaries and Coasts, in the **Treatise on Estuarine and Coastal Science** (E. Wolanski, and D. McLusky, series editors), Elsevier.
43. Ruggiero, P., J. Mull, P. L. Zarnetske, S. D. Hacker, and E. W. Seabloom. **2011**. Interannual to decadal foredune evolution. in ASCE, editor. **Proceedings of Coastal Sediments, Miami, FL**.

42. Gouhier, T. C., B. A. Menge, **S.D. Hacker**. 2011. Recruitment facilitation can promote coexistence and buffer population growth in metacommunities. **Ecology Letters** 14: 1201–1210.
41. Menge, B.A., **S.D. Hacker**, T. Freidenburg, J. Lubchenco, R. Craig, G. Rilov, M. Noble, E. Richmond. 2011. Potential impact of climate-related changes is buffered by differential responses to recruitment and interactions. **Ecological Monographs** 81:493–509.
40. Moulton O.M. and **S.D. Hacker**. 2011. Congeneric variation and environmental gradients influence community structure: Surfgrasses and macroinvertebrates along the Oregon coast. **Marine Ecology Progress Series** 433:53–63.
39. Hessing-Lewis M., **S.D. Hacker**, B.A. Menge, S. Rumrill. 2011. Context dependent eelgrass-macroalgae interactions along an estuarine gradient in the Pacific Northwest, USA. **Estuaries and Coasts** 34:1169–1181.
38. Guarderas A.P., **S.D. Hacker**, and J. Lubchenco. 2011. Analysis of the ecological effects of marine reserves in Latin America and the Caribbean. **Marine Ecology Progress Series** 429:219–225.
37. Barbier E., **S.D. Hacker**, C. Kennedy, E. Koch, B. Silliman, and A.D. Stier. 2011. The value of estuarine and coastal ecosystem services. **Ecological Monographs** 81:169–193.
36. Zarnetske P.L., E.W. Seabloom, and **S.D. Hacker**. 2010. Non-target effects of invasive species management: Beach grass, birds, and bulldozers in coastal dunes. **Ecosphere** 1: 13.
35. **Hacker S.D.**, and M.N. Dethier. 2010. Where do we go from here? Alternative control and restoration trajectories for a marine grass (*Spartina anglica*) invader in different habitat types. Pages 211-216 in Ayres, D. R., D. W. Kerr, S.D. Ericson, and P. R. Olofson (editors). **Proceedings of the 3<sup>rd</sup> International Conference on Invasive *Spartina*, San Francisco, CA, USA**. San Francisco Estuary Invasive *Spartina* Project of the California State Coastal Commission, Oakland, CA.
34. Foley M.M., B.S. Halpern, F. Micheli, M.H. Armsby, M.R. Caldwell, E. Praehler, D. Sivas, C.M. Crain, N. Rohr, M.W. Beck, M.H. Carr, L.B. Crowder, J.E. Duffy, **S.D. Hacker**, K. McLeod, C.H. Peterson, H.M. Regan, P.A. Sandifer, and R.S. Steneck. 2010. Guiding ecological principles for marine spatial planning. **Marine Policy** 34: 955-966. DOI: 10.1016/j.marpol.2010.02.001.
33. Ruesink J.L., J-S. Hong, L. Wisehart, **S.D. Hacker**, B.R. Dumbauld, A.C. Trimble, and M. Hessing-Lewis. 2010. Congener comparison of native (*Zostera marina*) and introduced (*Z. japonica*) eelgrass at multiple scales within a Pacific Northwest estuary. **Biological Invasions** 12: 1773–1789.
32. Granek E., Polasky, S., Barbier, C. Kappel, D. Stoms, D.J. Reed, J. Primavera, E.W. Koch, C. Kennedy, L.A. Cramer, **S.D. Hacker**, G.M.E. Perillo, S. Aswani, B. Silliman, E. Barbier, E. Wolanski, and D. Bael. 2010. Ecosystem services as a common language for coastal ecosystem-based management. **Conservation Biology** 24: 207-216. DOI: 10.1111/j.1523-1739.2009.01355.x.
31. **Hacker S.D.** 2009. Positive interspecific interactions. In: **Encyclopedia of Life Sciences (ELS)**. John Wiley & Sons, Ltd: Chichester. DOI: 10.1002/9780470015902.a0021901.
30. Tallis H.M., J.L. Ruesink, B. Dumbauld, **S.D. Hacker**, and L.M. Wisehart. 2009. Oysters and aquaculture practices affect eelgrass density and productivity in a Pacific Northwest estuary. **Journal of Shellfish Research** 28: 251–261.
29. Koch E.W., E.B. Barbier, B. Silliman, G.M.E. Perillo, D.J. Reed, **S.D. Hacker**, E. Wolanski, J. Primavera, E. Granek, S. Polasky, S. Aswani, L.A. Cramer, D. Stoms, C. Kennedy, D. Bael, and C. Kappel. 2009. Nonlinearity in ecosystem services: temporal and spatial variability in coastal protection. **Frontiers in Ecology and the Environment** 7:29–37. DOI: 10.1890/080126.
28. **Hacker S.D.** and M.N. Dethier. 2009. Differing consequences of removing ecosystem-modifying invaders: significance of impact and community context to restoration potential. Pages 375–385 in: **Marine Bioinvasions: Ecology, Conservation and Management Perspectives**, Editors: Gil Rilov and Jeffrey Crooks, Springer-Verlag.
27. Barbier E.B., E.W. Koch, B. Silliman, **S.D. Hacker**, E. Wolanski, J. Primavera, E. Granek, S. Polasky, S. Aswani, L.A. Cramer, D. Stoms, C. Kennedy, D. Bael, C. Kappel, G.M.E. Perillo and D.J. Reed. 2008. Ecological quality changes

- preceding changes in quality of mangrove: Reply. **Science**. Response to N. Koedam and F. Dahdouh-Guebas's E-letter. <http://www.sciencemag.org/cgi/eletters/319/5861/321?ck=nck>.
26. Guarderas A.P., **S.D. Hacker**, and J. Lubchenco. **2008**. Current status of marine protected areas in Latin America and the Caribbean. **Conservation Biology** 22: 1630-1640. DOI: 10.1111/j.1523-1739.2008.01023.x.
  25. Barbier E.B., E.W. Koch, B. Silliman, **S.D. Hacker**, E. Wolanski, J. Primavera, E. Granek, S. Polasky, S. Aswani, L.A. Cramer, D. Stoms, C. Kennedy, D. Bael, C. Kappel, G.M.E. Perillo and D.J. Reed. **2008**. Vegetation's role in coastal protection: Reply. **Science** 320: 176-177.
  24. Barbier E.B., E.W. Koch, B. Silliman, **S.D. Hacker**, E. Wolanski, J. Primavera, E. Granek, S. Polasky, S. Aswani, L.A. Cramer, D. Stoms, C. Kennedy, D. Bael, C. Kappel, G.M.E. Perillo and D.J. Reed. **2008**. Coastal ecosystem-based management with non-linear ecological functions and values. **Science** 319: 321-323.
  23. Richardson N.F., J.L. Ruesink, S. Naaem, **S.D. Hacker**, H.M. Tallis, B.R. Dumbauld, and L.M. Wisehart. **2008**. Bacterial abundance and aerobic microbial activity across natural and oyster aquaculture conditions in a northeastern Pacific estuary. **Hydrobiologia** 596:269-278.
  22. Wisehart L.M., B.R. Dumbauld, J.L. Ruesink, and **S.D. Hacker**. **2007**. Importance of eelgrass life history stages in response to oyster aquaculture disturbance. **Marine Ecology Progress Series** 344:71-80.
  21. **Hacker S.D.** and M.N. Dethier. **2006**. Community modification by a grass invader has differing impacts for marine habitats. **Oikos** 113: 279-286.
  20. Dethier M.N. and **S.D. Hacker**. **2005**. Physical factors vs. biotic resistance in controlling the invasion of an estuarine marsh grass. **Ecological Applications**. 15:1273-1283.
  19. Dethier M.N. and **S.D. Hacker**. **2004**. Improving management practices for invasive cordgrass in the Pacific Northwest: A case study of *Spartina anglica*. **Washington Sea Grant Program Publication**, Seattle, WA. WSG-AS 04-05. 21pp. <http://www.wsg.washington.edu/research/pdfs/spartinaang.pdf>
  18. Reeder T.G. and **S.D. Hacker**. **2004**. Factors contributing to the removal of a marine grass invader (*Spartina anglica*) and subsequent potential for habitat restoration. **Estuaries** 27: 244-252.
  17. **Hacker S.D.** and M.N. Dethier. **2003**. Community dependent invasion and removal of English cordgrass, *Spartina anglica*, in Puget Sound, Washington. **Botanical Electronic News**. No. 312.
  16. **Hacker S.D.** **2002**. Positive Interactions. Pages 591-594 in N. Eldridge, editor. **Encyclopedia of Biodiversity**, ABC-CLIO Publishers, Santa Barbara, CA.
  15. **Hacker S.D.** **2002**. Coastal Wetlands. Pages 234-235 in N. Eldridge, editor. **Encyclopedia of Biodiversity**, ABC-CLIO Publishers, Santa Barbara, CA.
  14. **Hacker S.D.**, D. Heimer, C.E. Hellquist, T.G. Reeder, B. Reeves, T. Riordan, and M.N. Dethier. **2001**. A marine plant (*Spartina anglica*) invades widely varying habitats: potential mechanisms of invasion and control. **Biological Invasions** 3: 211-217.
  13. **Hacker S.D.** and M.D. Bertness. **1999**. Experimental evidence for the factors maintaining plant species diversity in a New England salt marsh. **Ecology** 80: 2064-2073.
  12. Wu M.-Y., **S.D. Hacker**, D. Ayres and D.R. Strong. **1999**. Potential of *Prokelisia* spp. as biological control agents of English cordgrass, *Spartina anglica*. **Biological Control** 16: 267-273.
  11. Levine J.M., **S.D. Hacker**, C.D.G. Harley and M.D. Bertness. **1998**. Nitrogen effects on an interaction chain in a salt marsh community. **Oecologia** 117: 266-272.
  10. **Hacker S.D.** and S.D. Gaines. **1997**. Some implications of direct positive interactions for community species diversity. **Ecology** 78: 1990-2003.
  9. Madin L., P. Kremer, **S.D. Hacker**. **1996**. Distribution and vertical migration of salps (Tunicata, Thaliacea) near Bermuda. **Journal of Plankton Research** 18:747-755.
  8. **Hacker S.D.** and M.D. Bertness. **1996**. Trophic consequences of a positive plant interaction. **The American Naturalist** 148: 559-575.
  7. **Hacker S.D.** and M.D. Bertness. **1995**. Morphological and physiological consequences of a positive plant

- interaction. **Ecology** 76: 2165–2175.
6. **Hacker S.D.** and M.D. Bertness. **1995**. A herbivore paradox: why salt marsh aphids live on poor quality plants. **The American Naturalist** 145: 192–210.
  5. Bertness M.D. and **S.D. Hacker**. **1994**. Physical stress and positive associations among marsh plants. **The American Naturalist** 144: 363–372.
  4. Goyet C. and **S.D. Hacker**. **1992**. Procedure for calibration of a coulometric system used for total inorganic carbon measurements of seawater. **Marine Chemistry** 38: 37–51.
  3. **Hacker S.D.** and L.P. Madin. **1991**. Why habitat architecture and color are important to shrimp living in pelagic *Sargassum*: use of camouflage and plant–part mimicry. **Marine Ecology Progress Series** 70: 143–155.
  2. Steneck R.S., **S.D. Hacker**, and M.N. Dethier. **1991**. Mechanisms of competitive dominance between crustose coralline algae: an herbivore-mediated competitive–reversal. **Ecology** 72: 938–950.
  1. **Hacker S.D.** and R.S. Steneck. **1990**. Habitat architecture and the abundance and body size–dependent habitat selection of a phytal amphipod. **Ecology** 71: 2269–2285.

### **GRANTS FUNDED**

Title	PI and co-PIs	Agency
24. Optimizing the ecosystem services of US Pacific Northwest coastal beaches and dunes through adaptation planning	Ruggiero PI with co-PIs Hacker, Dundas	NOAA/NOS/NCCOS/CRP Ecological effects of sea level rise
23. Does ocean productivity contribute to dune ecosystem function? Connecting wrack subsidies to Oregon dune coastal protection and conservation services	Hacker PI with co-PIs Ruggiero, Chan	NOAA Oregon Sea Grant Program
22. A multidisciplinary, integrative approach to valuing ecosystem services from natural infrastructure	Dundas PI with co-PIs Hacker, Lewis, Kling, Cox, Ruggiero, Parrish	NOAA NCCOS
21. The Coastal Recovery from Storms Tool (CREST): A model for assessing the impact of sea level rise on natural and managed beaches and dunes	Ruggiero PI with co-PIs Hacker, Moore	NOAA/NOS/NCCOS/CRP Ecological effects of sea level rise
20. Consequences of climate change for coastal protection and other ecosystem services provided by coastal dunes	Ruggiero PI with co-PIs Hacker, Bolte	NOAA COCA
19. Preparing for Climate Change in Oregon Estuaries: Flooding, Ecological Impacts, and an Integrated Approach Toward Adaptive Management	Hill PI with co-PIs Hacker, Allen	Oregon Sea Grant Program, NOAA
18. Systems Science in Marine Biology (SSIMBio): Developing the symbiotic anemone <i>Anthopleura elegantissima</i> as a systems biology model for studying response to climate change	Novak, Meyer PIs with co-PIs Chan, Denver, Hacker, Menge, Vega Thurber, Weis	Oregon Sea Grant Program, NOAA
17. Systems Science in Marine Biology (SSIMBio): Building a multidisciplinary research, education, and outreach program to study climate change from molecules to ecosystems	Denver, Hacker PIs with co-PIs Chan, Menge, Meyer, Novak, Vega Thurber, Weis	Oregon Sea Grant Program, NOAA
16. Collaborative Research: The role of calcifying algae as a determinant of rocky intertidal macrophyte community structure at a meta-ecosystem scale	Menge PI with co-PIs Hacker, Chan, Nielsen	National Science Foundation
15. Beach grass invasions and coastal flood protection: forecasting the effects of climate change on coastal vulnerability	Hacker PI with co-PIs Seabloom, Ruggiero	EPA, USDA, STAR Program
14. Integrating invasion ecology and dune geomorphology to project coastal vulnerability in Oregon and Washington	Hacker PI with co-PIs Seabloom, Ruggiero	Oregon Sea Grant Program, NOAA

13. Collaborative: Scaling up from community to meta-ecosystem dynamics in the rocky intertidal—a comparative-experimental approach	Menge PI with co-PIs Hacker, Chan, Nielsen	National Science Foundation
12. Scale-dependent and indirect effects of filter feeders on eelgrass: understanding complex ecological interactions to improve environmental impacts of aquaculture	Ruesink PI with co-PIs Hacker, Dumbauld	Western Regional Aquaculture Center, USDA
11. The role of marine-influenced primary producers as mediators to the light environment of eelgrass habitats in the South Slough NERR, Oregon	Hacker PI with co-PI Hessing-Lewis	NERRS, Graduate Research fellowship, NOAA
10. Communicating the science of marine reserves to Latin American audiences	Lubchenco PI with co-PIs Hacker, B. Simler	David and Lucile Packard Foundation
9. Invasion and removal of two invasive grasses in Pacific Northwest coastal dune systems	Hacker PI with co-PI E. Seabloom	Oregon Sea Grant Program, NOAA
8. <i>Spartina</i> eradication and education service-learning project—Phase 2	Hacker PI with co-PIs S. Richards, J. Feldman, C. Burt	Washington Sea Grant Program, NOAA
7. Does timing of removal of an invasive marine grass increase successful control and habitat restoration?	Hacker PI with co-PI M. Fleming	M.J. Murdock Charitable Trust, Partners in Science
6. <i>Spartina</i> eradication and education service-learning project: A regional community based partnership	Hacker PI with co-PIs S. Richards, J. Feldman, C. Burt	Washington Sea Grant Program, NOAA
5. Mechanisms of invasion of the English cordgrass, <i>Spartina anglica</i> : seed production and seedling establishment	Hacker PI with co-PI M. Dethier	Washington Sea Grant Program, NOAA
4. Factors controlling plant species diversity in a Pacific Northwest salt marsh	Hacker PI	WSUV and WSU College of Sciences, Mini Grant
3. Predicting the invasion potential and consequences of the cordgrass, <i>Spartina anglica</i> , within Padilla Bay, WA.	Hacker PI with co-PI E. Hellquist	National Estuarine Research Reserve System, Graduate Fellowship
2. Invasion in salt marshes and mud flats in Puget Sound, WA on and eradication of the alien plant, <i>Spartina anglica</i>	Hacker PI with co-PI M. Dethier	National Sea Grant Program, NOAA
1. Pattern of invasion and eradication of the alien plant, <i>Spartina anglica</i> , in Puget Sound salt marshes	Hacker PI	WSU, College of Sciences Mini Grant

### **SUPERVISION OF GRADUATE STUDENT RESEARCH**

20. John Stepanek, PhD Integrative Biology, 2018-2023 Pending, Thesis title: TBD.
19. Zecharian Meunier, 2017 Provost Graduate Fellowship, 2019-2022 NSF GRFP, PhD Integrative Biology, 2017-2022 Pending, Thesis title: TBD.
18. Katya Jay, PhD Integrative Biology, 2016–2012 Pending. Thesis proposal title: Coastal dune ecology and geomorphology on the US East Coast: the effects of beachgrasses and climate change on dune building, storm recovery, and two coastal ecosystem services.
17. Rebecca Mostow, 2016 Provost Graduate Fellowship, 2018-2021 NSF GRFP, PhD Integrative Biology, 2016-2021 Pending, Thesis proposal title: Genomic consequences of invasion: genetic and ecological interactions of two invasive beachgrasses (*Ammophila arenaria* and *A. breviligulata*).
16. Caitlin Magel, 2017-2018 NSF NRT Fellowship, OSU PhD Integrative Biology, 2015–2020 Pending, Thesis proposal title: How can eelgrass and salt marsh habitats mitigate ocean acidification and endangered species loss? The role of climate and human driven changes in Pacific Northwest upwelling-influenced estuaries.
15. Vanessa Constant, OSU PhD Integrative Biology, 2014–2019 Pending, Thesis proposal title: Cross-ecosystem productivity in the face of climate change: connecting marine subsidies to dune coastal protection services in the PNW.



14. Reuben Biel, 2011 Provost Graduate Fellowship, 2014 EPA STAR Fellowship, OSU PhD Zoology, 2011–2017 Completed, Thesis title: Coastal Dune Ecology, Geomorphology, and Ecosystem Services: How Invasive Beachgrasses, their Interactions, and Sediment Dynamics Shape U.S. Pacific Northwest Dunes.
13. Jennifer Motley, OSU MS MRM, 2014–2017 Completed (Co-advisor: Fiona Tomas Nash), Thesis title: Local and Regional Patterns in Eelgrass (*Zostera marina* L.) Communities Along an Upwelling-Productivity Gradient in Oregon Estuaries, USA.
12. Alison Barner, 2012 EPA STAR Fellowship, OSU PhD Zoology, 2010–2016 Completed (Co-advisor: Bruce Menge), Thesis title: Predictability and Constraints on the Structure of Ecological Communities in the Context of Climate Change.
11. Lindsay Carroll, OSU MS MRM, 2013–2016 Completed, Thesis title: Evaluating Coastal Protection Services Associated with Restoration Management of an Endangered Shorebird in Oregon, U.S.A.
10. Jessica Reimer, OSU MS Zoology, 2011–2014 Completed (Co-advisor: Bruce Menge), Thesis title: Patterns of macrophyte wrack deposition on sandy beaches of the Pacific Northwest Coast, U.S.A.
9. Jeremy Henderson, OSU MS Zoology, 2010–2013 Completed, Thesis title: Direct effects and tradeoffs affect vegetative growth and sexual reproduction in an invasive seagrass experiencing different disturbance regimes.
8. Phoebe Zarnetske, OSU PhD Zoology, 2006–2011 Completed (Co-advisor: Eric Seabloom), Thesis title: The influence of biophysical feedbacks and species interactions on grass invasions and coastal dune morphology in the Pacific Northwest, USA.
7. Margot Hessing–Lewis, NERRS Graduate Fellowship, OSU PhD Zoology, 2005–2011 Completed (Co-advisor: Bruce Menge), Thesis title: Context dependent eelgrass-macroalgal interactions in upwelling-influenced estuaries.
6. Orissa Moulton, OSU MS Zoology, 2008–2010 Completed, Thesis title: Surfgrasses (*Phyllospadix* spp.) as dynamic foundation species for macroinvertebrates along the Oregon coast.
5. Paulina Guarderas, OSU MS Environmental Science, Completed 2007 (Co-advisor: Jane Lubchenco), An analysis of marine reserves in Latin America: Are they serving their intended role?
4. Lorena Wisheart, OSU MS Environmental Science, Completed 2006, Impacts of oysters on eelgrass (*Zostera marina* L.): Importance of early life history stages in response to disturbance.
3. Nathan Reynolds, WSU Vancouver MS Environmental Science, Completed 2005, Historical plant communities of southwest Washington State.
2. Rebecca Martin, WSU Vancouver MS Environmental Science, Completed 2005, Identifying common stream characteristics using geomorphological associations on the Gifford Pinchot National Forest: implications for management and restoration.
1. Tabitha Reeder, WSU Vancouver MS Environmental Science, Completed 2002, Removing a nonindigenous marine plant (*Spartina anglica*): importance of habitat type and consistent, long-term control on regrowth and reinvasion.

## **PROFESSIONAL SERVICE**

### **DEPARTMENTAL, COLLEGE, AND UNIVERSITY SERVICE**

- 17–present: Chair, Graduate Curriculum Committee, Integrative Biology, OSU.
- 17–present: Chair, Student Engagement Committee, Integrative Biology, OSU.
- 17–present: Member, College of Science Curriculum Committee, OSU.
- 12–present: Chair, Undergraduate Curriculum Committee, Integrative Biology, OSU.
- 14–present: Member, School of Life Sciences Curriculum Committee, College of Science, OSU.
- 17 Co-Chair, Faculty Promotion Committee, Integrative Biology, OSU.
- 16–17: Member, Annual Peer Review of Faculty, Integrative Biology, OSU
- 15–16: Member, Personnel Committee, Integrative Biology, OSU.

- 13–16: Member, *Ad hoc* Marine Studies Strategic Planning Committee, Integrative Biology, OSU.
- 13-16: Senator, Faculty Senate, College of Science, OSU.
- 15–16: Chair, Faculty Promotion Committee, Integrative Biology, OSU.
- 05-15: Member, HMSC Academic Programs Committee, OSU.
- 14–15: Co-Chair, Learning Models Subcommittee, Marine Studies Initiative Executive Committee, OSU
- 13–14: Member, *Ad hoc* Provost Initiative Hiring Committee, Integrative Biology, OSU.
- 13-14: Member, Personnel Committee, Integrative Biology, OSU.
- 12-13: Member, *Ad Hoc* Strategic Planning Subcommittee, Zoology, OSU.
- 12-13: Member, Director of Research Development, Research Office, OSU.
- 12-13: Member, Personnel Committee, Zoology, OSU.
- 11-12: Member, HMSC Director Search, Research Office, OSU.
- 11-12: Chair, Women in Science Award Committee, COS, OSU
- 11-12: Member, Provost’s HMSC Action Team, Research Office, OSU.
- 11-12: WIC faculty training course (5 wks), proposal for WIC approval for Bi 450, OSU.
- 11-12: Chair, Promotion Committee, Jerod Sapp, Zoology, OSU.
- 11-12: Chair, Annual Peer Review of Faculty, Zoology, OSU.
- 10-11: Chair, Ecosystem Ecology Faculty Search, Zoology, OSU.
- 10: Affirmative Action Training, Office of Affirmative Action, OSU.
- 10-11: Member, HMSC External Review, Research Office, OSU.
- 09-10: Member, Ad hoc Life Sciences Reorganization Committee, Zoology, OSU.
- 09-10: Member, Graduate Studies Committee, Zoology, OSU.
- 08-09: Member, Life Sciences Curriculum Committee, COS, OSU.
- 07-09: Chair, Graduate Studies Committee, Zoology, OSU.
- 06-07: Member, Mission Subcommittee, Zoology, OSU.
- 06-07: Member, Life Sciences Reorganization Task Force, COS, OSU.
- 05-06: Member, Ecology and Evolutionary Biology Steering Committee, COS, OSU.
- 05-06: Member, Undergraduate Fellowship Committee, Zoology, OSU.
- 04–05: Member, Graduate Student Admissions, Zoology, OSU.
- 04-05: Member, Strategic Planning Committee, Zoology, OSU.
- 02–04: Member, Faculty Mentoring Committee, WSU Vancouver.
- 01–02: Chair, Ecology Faculty Search, WSU Vancouver.
- 00–01: Member, Conservation Biology Faculty Search, WSU Vancouver.
- 00–04: Member, Graduate Student Admissions, Environmental Science, WSU Vancouver.
- 99–04: Member, Student Conduct Board Committee, WSU Vancouver.
- 98–01: Member, Project Planning Committee, Engineering/Sciences Building, WSU Vancouver.
- 97–99: Member, Academic Integrity Committee, Faculty Senate, WSU Pullman.
- 96–97: Member, Evolutionary Genetics Faculty Search, WSU Vancouver.
- 96–97: Member, Environmental Science Faculty Search, WSU Vancouver.

**INTERNATIONAL/NATIONAL PROFESSIONAL SERVICE**

- 94–present: Journal/Proposal Reviewer; over 500 proposals and scientific papers.
- 11–14: Subject Matter Editor, *Marine Biology Research* journal, Taylor and Francis Group, UK.
- 11: Reviewer, Review of the National Coastal Condition Report IV, Chapter 6: West Coast Coastal Condition, EPA, Triangle Park, NC.
- 09: Member, Review Committee, Conservation Resource Management Program, NCEAS, UC Santa Barbara, Santa Barbara, CA

- 08-09: Chair, Science Advisory Board, National Center for Ecological Analysis and Synthesis, University of California Santa Barbara, CA.
- 06-09: Board Member, Science Advisory Board, National Center for Ecological Analysis and Synthesis, University of California Santa Barbara, CA.
- 01-09: Receiving Editor, *Ecology Letters*, Blackwell Scientific, Paris, France.
- 05: Guest Subject Matter Editor, *Ecology/Ecological Monographs*, Ecological Society of America.
- 04: Panelist, Washington Sea Grant Program Performance Review, University of Washington.
- 02-04: Advisor, Aquatic Nuisance Species Advisory Committee, Washington Sea Grant Program.
- 02: Panel Member, National Science Foundation, Ecology Program Advisory Panel.
- 01-04: Council Member, Natural Heritage Advisory Council, State of Washington.
- 99: Panel Member, National Science Foundation, Physiological Ecology Advisory Panel.
- 98-99: Board Member, Northwest Scientific Association.