# CURRICULUM VITAE

# SALLY D. HACKER

Department of Integrative Biology Email: hackers@oregonstate.edu Phone: 541-737-3707 **Oregon State University Coast Range Building** Fax: 541-737-0501 Corvallis, OR 97331 Webpage: https://www.sallyhacker.org **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. 18 Associate Head, Department of Integrative Biology, Oregon State University, Corvallis, OR. 04–11: Associate Professor, Department of Zoology, Oregon State University, Corvallis, OR. Chair of Graduate Studies, Department of Zoology, Oregon State University, Corvallis, OR. 07-09 02–04: Associate Professor, School of Biological Sciences and Program in Environmental Science, Washington State University Vancouver. Assistant Professor, School of Biological Sciences and Program in Environmental Science, 96-02: Washington State University Vancouver. 94-96: Mellon Graduate Fellowship, Brown University, Providence, RI 92-94: Graduate Teaching Assistant, Brown University, Providence, RI. 91-92: Clare Booth Luce Graduate Fellowship for Women in Science, Brown University, RI. 89–91: Research Technician, Woods Hole Oceanographic Institution, Woods Hole, MA. 85-88: Graduate Teaching Assistant, University of Maine, Orono, ME.

# AWARDS/FELLOWSHIPS/RECOGNITION

- 22: Mote Eminent Scholar Honoree, Mote Marine Lab and Florida State University, Tallahassee, Florida
- 21: 2021 Honoree, Authors and Editors Recognition, Oregon State University, Corvallis, OR.
- 17: Elected AAAS Fellow 2017, American Association for the Advancement of Science.
- 11–17: Co-author of the best-selling textbook, *Ecology* (Bowman and Hacker) (2011, 2014, 2017, 2020, 2023).
- 17: Co-author of second best-selling introductory biology textbook *Life: The Science of Biology* (Hillis, Heller, Hacker, Hill, Laskowski, Sadava) (2017, 2020, 2023 editions).
- 06–09: Chair, National Center for Ecological Analysis and Synthesis 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 (IB 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**

#### Publications

#### Total Career (1990-2023)

Total peer-reviewed publications as of November 22, 2023 = 160 publications (99 articles/book chapters, 60 textbook chapters, 1 book review)

Total Citations as of November 22, 2023 = 14,139, H-index = 43, i10-index = 72

#### **BOOKS PUBLISHED**

9. Bowman, W.D. and S.D. Hacker. 2023. Ecology, 6<sup>th</sup> Edition, Oxford University Press.

- 8. Hillis, D.M., H.C. Heller, **S.D. Hacker**, D.W. Hall, M. Laskowski, and D. Sadava. Forthcoming **2023**. *Life: The Science of Biology* 13<sup>th</sup> *Edition*, MacMillan Publishers/Oxford University Press.
- 7. Bowman, W.D. and **S.D. Hacker**. **2020**. *Ecology*, *5*<sup>th</sup> *Edition*, Oxford University Press.
- 6. Hillis, D.M., H.C. Heller, **S.D. Hacker**, D.W. Hall, M. Laskowski, and D. Sadava. **2020**. *Life: The Science of Biology* 12<sup>th</sup> Edition, MacMillan Publishers/Oxford University Press.
- 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.
- 4. Bowman, W.D., S.D. Hacker, M.L. Cain. 2017. Ecology, 4th Edition, Sinauer Associates, Sunderland, MA.
- 3. Cain, M.L., W.D. Bowman, S.D. Hacker. 2014. Ecology, 3rd Edition, Sinauer Associates, Sunderland, MA. 667 pp.
- 2. Cain, M.L., W.D. Bowman, and S.D. Hacker. 2011. Ecology, 2<sup>nd</sup> Edition, Sinauer Associates, Sunderland, MA.
- 1. Cain, M.L., W.D. Bowman, and S.D. Hacker. 2008. Ecology, 1st Ed. Sinauer Associates, Sunderland, MA. 648 pp.

#### **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

- 99. 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. In Press. Physical ecosystem engineers and the functioning of estuaries and coasts. Pages XX-XX 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.
- 98. Magel, C. L., S. D. Hacker, F. Chan, and A.R. Helms. 2023. Eelgrass and macroalgae loss in an Oregon estuary: consequences for ocean acidification and hypoxia. Ocean-Land-Atmosphere Research. https://doi.org/10.34133/olar.0023
- Petillon, J., E. McKinley, M. Alexander, J.B. Adams, C. Angelini, T. Balke, J.N. Griffin, T. Bouma, S.D. Hacker, Q. He, M.J.S. Hensel, C. Ibanez, P.I. Macreadie, S. Martino, E. Sharps, R. Ballinger, D. de Battisti, N. Beuamont, D. Burdon, P. Daleo, A. D'Alpaos, M. Duggan-Edwards, A. Garbutt, S. Jenkins, Cai J.T. Ladd, H. Lewis, G. Mariotti, O. McDermott, R. Mills, I. Moller, S. Nolte, J. Pages, B. Silliman, L. Zhang, and M.W. Skov. 2023. Top ten priorities for

global saltmarsh restoration, conservation, and ecosystem service research. Science of the Total Environment. 898:165544.

- 96. LaPorte-Fauret, Q., R. Askerooth, M. Wengrove, S. Hacker, P. Ruggiero, J. Dickey, R. Edgell, and I. Silvernail.
  2023. Experimental test of the influence of native and non-native plant species on sand accretion on a U.S. Pacific Northwest dune. Coastal Sediments 2023: 627–641.
- 95. Hovenga, P. A., P. Ruggiero, M. Itzkin, K. R. Jay, L. Moore, and **S. D. Hacker**. **2022**. Quantifying the relative influence of coastal foredune growth factors on the U.S. Mid-Atlantic Coast using field observations and the process-based numerical model Windsurf. Coastal Engineering https://doi.org/10.1016/j.coastaleng.2022.104272
- 94. Dickey, J., M. Wengrove, N. Cohn, P. Ruggiero, and **S. Hacker 2022**. Observations and modeling of shear stress reduction and sediment flux within sparse dune grass canopies on managed coastal dunes. Earth Surface Processes and Landforms. Doi: 10.1002/esp.5526.
- 93. Jay, K., **S.D. Hacker**, P.A. Hovenga, L.J. Moore, and P. Ruggiero. **2022**. Sand supply and dune grass species density affect foredune shape along the US Central Atlantic Coast. **Ecosphere**. Doi: 10.1002/ecs2.4256
- 92. Jay, K., S.D. Hacker, P.A. Hovenga, L.J. Moore, P. Ruggiero, M. Itzkin, R. Mostow, J. Wood, E. Mullins, I. Reeves, N. Cohn, C. Hagen, E. B. Goldstein, and C. L. Magel. 2022. Surveys of coastal foredune topography and vegetation abundance, U.S. North Carolina Outer Banks, 2016-2018. Ver. 1. Environmental Data Initiative. Doi.org/10.6073/pasta/59770602ba34230815f55da5c61e5.
- 91. Nguyen, T., D.M. Kling, S.J. Dundas, **S.D. Hacker**, D. K. Lew, P. Ruggiero, and K. Roy. **2022**. Quality over quantity: non-market values of restoring coastal dunes in the US Pacific Northwest. **Land Economics**.
- 90. Itzkin, M., L. J. Moore, P. Ruggiero, P. A. Hovenga, and **S. D. Hacker**. **2022**. Combining process-based and datadriven approaches to forecast beach and dune change. Environmental Modelling and Software https://doi.org/10.1016/j.envsoft.2022.105404.
- Magel, C. L., F. Chan, M. Hessing-Lewis, and S. D. Hacker. 2022. Differential responses of eelgrass and macroalgae in Pacific Northwest estuaries following an unprecedented NE Pacific Ocean marine heatwave. Frontiers in Marine Science. doi: 10.3389/fmars.2022.838967.
- Barrez, J. L., S. D. Hacker, M. A. Coombes, C. Wild, G. H. Pereira-Filho, and M. G. Palomo. 2022. Chapter 10: Marine Hard Substrate Communities. Pages 232-273 in Pan, J., P. Pratolongo, editors. Marine Biology: A Functional Approach to the Oceans and their Organisms. Science Publishers, CRC Press, Boca Raton, FL.
- 87. Biel, R. and **S.D. Hacker**. **2021**. Warming alters the interaction of two invasive beachgrasses with implications for range shifts and coastal dune functions. **Oecologia** https://doi.org/10.1007/s00442-021-05050-2.
- 86. Hovenga, P., P. Ruggiero, E. B. Goldstein, S. D. Hacker, and L. J. Moore. 2021. The relative role of constructive and destructive processes in dune evolution on Cape Lookout National Seashore, North Carolina, USA. Earth Surface Processes and Landforms 2021:1–17. Doi: 10.1002/esp.5210.
- Itzkin, M., L. J. Moore, P. Ruggiero, S. D. Hacker, and R. Biel. 2021. The influence of dune aspect ratio and storm characteristics on dune erosion. Earth Surface Dynamics 9: 1223–1237 https://doi.org/10.5194/esurf-9-1223-2021
- 84. Mostow, R. S., F. Barreto, R. Biel, E. Meyer, and **S. D. Hacker**. **2021**. Discovery of a dune-building hybrid beachgrass (*Ammophila arenaria* × *Ammophila breviligulata*) on the U.S. Pacific Northwest. **Ecosphere** 12(4):e03501. Doi:10.1002/ecs2.3501
- Menge, B.A., S. Close, S.D. Hacker, K. Nielsen, F. Chan. 2020. Biogeography of macrophyte productivity: effects of oceanic and climate regimes across spatiotemporal scales. Limnology and Oceanography doi: 10.1002/Ino.11635.
- Close, S., S.D. Hacker, B.A. Menge, F. Chan, K.J. Nielsen. 2020. Elemental composition of rocky intertidal macrophytes: variation with spatial scale, ocean upwelling, and climate cycles of the California Current System. Ecosystems. <u>https://doi.org/10.1007/s10021-020-00484-w</u>

- 81. Emery, S. M., L. L. Reid, and S.D. Hacker. 2020. Soil nematodes differ in association with native and non-native dune-building grass species. Applied Soil Ecology. https://doi.org/10.1016/j.apsoil.2019.06.009.
- 80. Itzkin, M., L. J. Moore, P. Ruggiero, and S. D. Hacker. 2020. The effect of sand fencing on the morphology of natural dune systems. Geomorphology 352:106995. https://doi.org/10.1016/j.geomorph.2019.106995.
- 79. Hacker, S. D. 2019. Marshes: Salt and Brackish. Handbook of Natural Resources, Second Edition, Taylor & Francis/CRC Press, Boca Raton, FL USA.
- 78. Bortolus, A., P. Adam, J. Adams, M. Ainouche, D. Ayres, M. Bertness, T. Bouma, J. Bruno, I. Caçador, J. Carlton, J. Castillo, C. Costa, A. Davy, L. Deegan, B. Duarte, E. Figueroa, J. Gerwein, A. Gray, E. Grosholz, S.D. Hacker, A. Hughes, E. Mateos-Naranjo, I. Mendelssohn, J. Morris, A. Muñoz-Rodríguez, F. Nieva, L. Levin, B. Li, W. Liu, S. Pennings, A. Pickart, S. Redondo-Gómez, D. Richardson, A. Salmon, E. Schwindt, B. Silliman, E. Sotka, C. Stace, M. Sytsma, O. S. Temmerman, R. E. Turner, I. Valiela, M. Weinstein, J. Weis. 2019. Supporting *Spartina*: Interdisciplinary perspective shows *Spartina* as a distinct solid genus. Ecology e02863 <u>https://doi.org/10.1002/ecy.2863</u>.
- 77. Lewis, D.J., S.J. Dundas, D.M. Kling, D.K. Lew, and S.D. Hacker. 2019. The value of early and partial gains in threatened species management: Evidence from public preferences for Oregon Coast Coho Salmon recovery. PLOS One https://doi.org/10.1371/journal.pone.0220260
- 76. 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. 10.1029/2018JF004758.
- 75. 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** 100: e02763 <u>https://doi.org/10.1016/j.apsoil.2019.06.009</u>
- 74. Hovenga, P.A., P. Ruggiero, N. Cohn, K. R. Jay, S. D. Hacker, M. Itzkin, and L. Moore. **2019.** Drivers of dune evolution in Cape Lookout National Seashore, NC. Pages 1283–1296 *in* Wing, P., J. D. Rosati, and M. Vallee. Editors. **Coastal Sediments 2019–Proceedings of the 9<sup>th</sup> International Conference**, St. Petersburg, FL.
- 73. Ruggiero, P., N. Cohn, B. Hoonhout, E. Goldstein, S. de Vries, L. Moore, S. Hacker, and O. Duran-Vinent. **2019.** Simulating dune evolution on managed coastlines: exploring management options with the Coastal Recovery from Storms Tool (CReST). **Shore and Beach** 87(2): 36–43.
- 72. 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.** 11, 82, doi:10.3390/d11050082.
- 71. Hayduk, J., **S.D. Hacker**, J.S. Henderson, and F. Tomas Nash. **2019**. Evidence for regional scale controls on eelgrass (*Zostera marina*) and mesograzer community structure in upwelling-influenced estuaries. **Limnology and Oceanography** 64:1120–1134.
- Barner, A.K., F. Chan, A. Hettinger, 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: 10.111/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
- 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.
- 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.

- 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
- 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
- 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
- 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.
- 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. Kaminksy, 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. Wisehart, 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.
- Ruesink J.L., J. Fitzpatrick, B.R., Dumbauld, S.D. Hacker, A.C. Trimble, E.L. Wagner, L.M. Wisehart. 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.
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- 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.
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- 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.
- 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.
- 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.
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- 34. Foley M.M., B.S. Halpern, F. Micheli, M.H. Armsby, M.R. Caldwell, E. Prahler, 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.

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- 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.
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- 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.
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#### **GRANTS FUNDED**

#### Total Career (1996-2023)

Total grants funded as of November 22, 2023 = 33 grants

Total funding as of November 22, 2023 = \$32.5 million, \$3.6 million Hacker share

Title	PI and co-PIs	Agency
33. Using ESLR funded datasets and tools to evaluate	Hacker PI and co-PIs	NOAA/NOS/NCCOS 2023
alternative backshore management options along US Pacific	Wengrove, Ruggiero,	Effects of sea level rise
Northwest coastlines	Dundas	

Cay Dianal an Di-	
	US Army Corp of
	Engineers
	National Science
	Foundation
Askerooth PI (grad	NW Climate Adaptation
student) and co-PI	Science Center Research
Hacker	Fellowship Program, DOI
Wengrove PI with co-	Agricultural Research
PIs Hacker and	Foundation, Oregon
Ruggiero	State University
Hacker PI with co-PI	Oregon Sea Grant
Barreto	Program, NOAA
	U , -
Wengrove PI with co-	Oregon Sea Grant
Pls Hacker, Ruggiero	Program, NOAA
Ruggiero PI with 7 co-	Research Equipment
PIs including Hacker	Reserve Fund
Ruggiero PI with co-	NOAA/NOS/NCCOS/CRP
Pls Hacker, Dundas	2019 Ecological effects
	of sea level rise
Ruggiero PI with co-	NOAA/NOS/NCCOS/CRP
PIs Hacker, Moore	Ecological effects of sea
	level rise
Hacker PI with co-PIs	NOAA
Ruggiero, Chan	Oregon Sea Grant
	Program
Dundas PI with co-PIs	NOAA/NOS/NCCOS/CRP
Hacker, Lewis, Kling,	
Cox, Ruggiero, Parrish	
Ruggiero PI with co-	NOAA/NOS/NCCOS/
Pls Hacker, Moore	CSOR 2014 Ecological
	effects of sea level rise
	NOAA COCA
PIs Hacker, Bolte	
Hill PI with co-PIs	Oregon Sea Grant
	Program, NOAA
,	-0,
Novak, Meyer PIs with	Oregon Sea Grant
co-Pls Chan, Denver,	Program, NOAA
Hacker, Menge, Vega	- ·
Thurber, Weis	
Denver, Hacker Pls	Oregon Sea Grant
Denver, Hacker PIs with co-PIs Chan,	Oregon Sea Grant Program, NOAA
	student) and co-PI Hacker Wengrove PI with co- PIs Hacker and Ruggiero Hacker PI with co-PI Barreto Wengrove PI with co- PIs Hacker, Ruggiero PIs Hacker, Ruggiero PIs Hacker, Dundas Ruggiero PI with co- PIs Hacker, Dundas Ruggiero PI with co- PIs Hacker, Moore Hacker PI with co-PIs Ruggiero, Chan Dundas PI with co-PIs Ruggiero PI with co- PIs Hacker, Lewis, Kling, Cox, Ruggiero, Parrish Ruggiero PI with co- PIs Hacker, Moore Hacker, Lewis, Kling, Cox, Ruggiero, Parrish Ruggiero PI with co- PIs Hacker, Moore Hill PI with co-PIs Hacker, Bolte Hill PI with co-PIs Hacker, Allen Novak, Meyer PIs with co-PIs Chan, Denver, Hacker, Menge, Vega Thurber, Weis

	Menge, Meyer, Novak,	
	Vega Thurber, Weis	
16. Collaborative Research: The role of calcifying algae as a	Menge PI with co-PIs	National Science
determinant of rocky intertidal macrophyte community	Hacker, Chan, Nielsen	Foundation
structure at a meta-ecosystem scale		
15. Beach grass invasions and coastal flood protection:	Hacker PI with co-PIs	EPA, USDA, STAR
forecasting the effects of climate change on coastal	Seabloom, Ruggiero	Program
vulnerability		
14. Integrating invasion ecology and dune geomorphology to	Hacker PI with co–PIs	Oregon Sea Grant
project coastal vulnerability in Oregon and Washington	Seabloom, Ruggiero	Program, NOAA
13. Collaborative: Scaling up from community to meta-	Menge PI with co-PIs	National Science
ecosystem dynamics in the rocky intertidal-a comparative-	Hacker, Chan, Nielsen	Foundation
experimental approach		
12. Scale-dependent and indirect effects of filter feeders on	Ruesink PI with co-PIs	Western Regional
eelgrass: understanding complex ecological interactions to	Hacker, Dumbauld	Aquaculture Center,
improve environmental impacts of aquaculture		USDA
11. The role of marine-influenced primary producers as	Hessing-Lewis PI (grad	NERRS, Graduate
mediators to the light environment of eelgrass habitats in	student) with co-PI	Research fellowship,
the South Slough NERR, Oregon	Hacker	NOAA
10. Communicating the science of marine reserves to Latin	Lubchenco PI with co-	David and Lucile Packard
American audiences	PIs Hacker, B. Simler	Foundation
9. Invasion and removal of two invasive grasses in Pacific	Hacker PI with co–PI E.	Oregon Sea Grant
Northwest coastal dune systems	Seabloom	Program, NOAA
8. Spartina eradication and education service-learning	Hacker PI with co–PIs	Washington Sea Grant
project–Phase 2	S. Richards, J.	Program, NOAA
	Feldman, C. Burt	
7. Does timing of removal of an invasive marine grass	Hacker PI with co-PI	M.J. Murdock Charitable
increase successful control and habitat restoration?	M. Fleming	Trust, Partners in
		Science
6. Spartina eradication and education service-learning	Hacker PI with co–PIs	Washington Sea Grant
project: A regional community based partnership	S. Richards, J.	Program, NOAA
	Feldman, C. Burt	
5. Mechanisms of invasion of the English cordgrass, Spartina	Hacker PI with co–PI	Washington Sea Grant
anglica: seed production and seedling establishment	M. Dethier	Program, NOAA
4. Factors controlling plant species diversity in a Pacific	Hacker PI	WSUV and WSU College
Northwest salt marsh		of Sciences, Mini Grant 2000
3. Predicting the invasion potential and consequences of the	Hacker PI with co-PI E.	National Estuarine
cordgrass, Spartina anglica, within Padilla Bay, WA.	Hellquist	Research Reserve
		System, Graduate
		Fellowship
2. Invasion in salt marshes and mud flats in Puget Sound, WA	Hacker PI with co–PI	National Sea Grant
on and eradication of the alien plant, Spartina anglica	M. Dethier	Program, Aquatic
		Nuisance Species
		Program, NOAA
1. Pattern of invasion and eradication of the alien plant,	Hacker PI	WSU, College of
Spartina anglica, in Puget Sound salt marshes		Sciences Mini Grant

# **SUPERVISION OF GRADUATE STUDENT RESEARCH**

- 23. Ian Clifford, PhD candidate 2023, Integrative Biology, Provost Graduate Fellowship, Thesis proposal pending.
- 22. Danielle Whalen, PhD candidate 2022, Integrative Biology, Thesis proposal pending.
- 21. Zecharian Meunier, PhD Integrative Biology 2017–2023, NSF GRFP, Provost Graduate Fellowship. Thesis title: The roles of Recruitment, Species Interactions, and Oceanographic Context in Structuring Rocky Intertidal Communities of the Pacific Northwest and Atlantic Canada.
- 20. John Stepanek, MS Integrative Biology 2018–2023, NSF GRFP. Thesis title: Carbon Storage in U.S. Pacific Northwest Coastal Dunes: The Role of Invasive Beachgrasses and Sand Supply.
- 19. Risa Askerooth, MS Integrative Biology 2020-2023, NW CASC Internship. Thesis title: The Range, Abundance, Spread, and Biophysical Effects of a Novel, Invasive Beachgrass Hybrid, *Ammophila arenaria* × *A. breviligulata*, on U.S. Pacific Northwest Coastal Dunes.
- Rebecca Mostow, PhD Integrative Biology 2016–2022, NSF GRFP, Provost Graduate Fellowship. Thesis title: Hybridization of Non-Native Dune-Building Beachgrasses on the U.S. Pacific Northwest Coast: Characterization of Functional Morphology, Hybrid Swarm Composition, and Ecological Consequences of Ammophila arenaria x A. breviligulata.
- 17. Katya Jay, PhD Integrative Biology 2016-2021. Thesis title: Investigating the Role of Dune Grasses, Carbon Storage, and Marine Nutrient Subsidies to the Functions and Services of U.S. Atlantic Coastal Dune Ecosystems.
- 16. Caitlin Magel, PhD Integrative Biology 2015-2020, NSF NRT Fellowship. Thesis title: Ecosystem Functions of Pacific Northwest Estuaries: The Role of Ocean and Watershed Drivers in Eelgrass and Coho Salmon Dynamics.
- 15. Vanessa Constant, PhD Integrative Biology 2014-2019. Thesis title: Coastal Dunes as Meta-ecosystems: Connecting Marine Subsidies to Dune Ecosystem Functions on the U.S. Pacific Northwest Coast.
- 14. Reuben Biel, PhD Zoology 2011–2017, Provost Graduate Fellowship, EPA STAR Fellowship. 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, MS Marine Resource Management 2014-2017 (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, PhD Zoology 2010–2016, EPA STAR Fellowship (Co–advisor: Bruce Menge). Thesis title: Predictability and Constraints on the Structure of Ecological Communities in the Context of Climate Change.
- 11. Lindsay Carroll, MS Marine Resource Management 2013–2016. Thesis title: Evaluating Coastal Protection Services Associated with Restoration Management of an Endangered Shorebird in Oregon, U.S.A.
- 10. Jessica Reimer, MS Zoology 2011–2014 (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, MS Zoology 2010–2013. Thesis title: Direct Effects and Tradeoffs Affect Vegetative Growth and Sexual Reproduction in an Invasive Seagrass Experiencing Different Disturbance Regimes.
- 8. Phoebe Zarnetske, PhD Zoology 2006–2011, NSF IGERT Fellowship (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, PhD Zoology 2005–2011, NERRS Graduate Fellowship (Co–advisor: Bruce Menge), Thesis title: Context Dependent Eelgrass-Macroalgal Interactions in Upwelling-Influenced Estuaries.
- 6. Orissa Moulton, MS Zoology 2008–2010. Thesis title: Surfgrasses (*Phyllospadix* spp.) as Dynamic Foundation Species for Macroinvertebrates Along the Oregon coast.
- 5. Paulina Guarderas, MS Environmental Science 2004-2007 (Co-advisor: Jane Lubchenco), Thesis Title: Marine Conservation in Latin America and the Caribbean: An Analysis of Marine Protected Areas (MPAs).

- 4. Lorena Wisehart, MS Environmental Science 2003-2006. Thesis Title: Impacts of Oysters on Eelgrass (*Zostera marina* L.): Importance of Early Life History Stages in Response to Aquaculture Disturbance.
- 3. Nathan Reynolds, MS Environmental Science WSU Vancouver 2002-2009.
- 2. Rebecca Martin, MS Environmental Science WSU Vancouver 2003-2005. Thesis Title: Identifying Common Stream Characteristics Using Geomorphological Associations on the Gifford Pinchot National Forest: Implications for Management and Restoration.
- 1. Tabitha Reeder, MS Environmental Science WSU Vancouver 2000-2002. Thesis Title: Removing a Nonindigenous Marine Plant (*Spartina anglica*): Importance of Habitat Type and Consistent, Long-term Control on Regrowth and Reinvasion.

# Supervision of Postdoctoral Research

- 4. Quentin Laporte Fauret, 2022-present, PhD University of Bordeaux, France. Research of the biophysical feedbacks in coastal dunes. Co-Mentors: Meagan Wengrove and Peter Ruggiero.
- 3. Annaliese Hettinger, 2013-2015, PhD UC Davis. Research on the effects of ocean acidification on marine algae. Co-Mentors: Bruce Menge and Francis Chan.
- 2. Leigh Tate, 2010-2012, PhD University of Canterbury. Research on the effects of ocean acidification on marine algae. Co-Mentors: Bruce Menge and Francis Chan.
- 1. I–Yun Mandy Tu, PhD 2000, University of California Davis. Research on invasion and control on reed canary grass, *Phalaris arundinacea*, in collaboration with The Nature Conservancy.

# Supervision of Faculty Research Assistant Research

- 2. Shawn Gerrity, 2009-2015. Research on dune plant invasions and the effects of ocean acidification.
- 1. Ryan Craig, 2008-2011. Research on community ecology of rocky intertidal systems.

#### **PROFESSIONAL SERVICE**

#### DEPARTMENTAL, COLLEGE, AND UNIVERSITY SERVICE

23/24:	Member, Field Safety Task Force, Integrative Biology, OSU.
21/23:	Member, Executive Committee, Integrative Biology, OSU.
22/23:	Co-Chair, Graduate Curriculum Bridge Committee, Integrative Biology, OSU
22/23:	Member, Promotion and Tenure Committee, College of Science, OSU.
21-22:	Member, Strategic Planning Committee, College of Science, OSU.
20-21:	Member, Research Committee, College of Science, OSU.
19-21:	Chair, Departmental Newsletter Committee, Integrative Biology, OSU.
18–21:	Member, Promotion and Tenure Committee, College of Science, OSU.
18–20:	Coordinator, Ecampus Zoology degree, Integrative Biology, OSU.
18–20:	Chair, Graduate Curriculum Committee, Integrative Biology, OSU.
17–20:	Member, College of Science Curriculum Committee, OSU.
12–20:	Chair, Undergraduate Curriculum Committee, Integrative Biology, OSU.
14–20:	Member, School of Life Sciences Curriculum Committee, College of Science, OSU
18	Diversity, Equity, and Inclusion training, Integrative Biology, OSU.
17–18:	Member (ex officio), Executive Committee, Integrative Biology, OSU.
17–18:	Member (ex officio), Space Committee, Integrative Biology, OSU.
17–18:	Member (ex officio), Graduate Curriculum Committee, Integrative Biology, OSU.
17–18:	Chair, Student Engagement Committee, Integrative Biology, OSU.
17	Co-Chair, Faculty Promotion Committee, Sarah Henkel, 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, Devon Quick, 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. Member, HMSC Director Search, Research Office, OSU. 11-12: 11-12: Chair, Women in Science Award Committee, COS, OSU Member, Provost's HMSC Action Team, Research Office, OSU. 11-12 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. Member, HMSC External Review, Research Office, OSU. 10-11: 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. Member, Strategic Planning Committee, Zoology, OSU. 04-05: 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.