

DAVID U. HOOPER

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Positions held

9/2010-present: Professor, Dept. of Biology, Western Washington University.
9/2004-8/2010: Associate Professor, Dept. of Biology, Western Washington University.
9/2000-8/2004: Assistant Professor, Dept. of Biology, Western Washington University.
9/98-9/2000: Visiting Assistant Professor, Dept. of Biology, Western Washington University.

Education

1997-98: NSF Post-Doctoral Fellow with Dr. F.S. Chapin III, Department of Integrative Biology, University of California, Berkeley and at Western Washington University, Bellingham, Washington. Effects of Plant Composition on Arctic Tundra Carbon Balance: Functional Traits and Time Lags.
1996-97: Post-doctoral research with Dr. F.S. Chapin III, Department of Integrative Biology, University of California, Berkeley. Effects of temperature and vegetation type on arctic tundra carbon balance.
1996: Ph.D., Biological Sciences, Stanford University. Thesis: "Effects of plant functional group diversity on nutrient cycling in a restored California serpentine grassland." Dr. Peter Vitousek, advisor.
1984: B.A. *summa cum laude*, Chemistry, concentration in French, Middlebury College, Middlebury, Vermont.

Current Research Interests

Ecosystem and community ecology: effects of plant diversity on ecosystem processes; vegetation effects on biogeochemical processes; mechanisms of plant species coexistence; nutrient cycling; impacts of global change and species invasions; effectiveness of ecological restoration.

Awards and Fellowships

2006: Aldo Leopold Leadership Program, Fellow.
2000: George Mercer Award, with Peter Vitousek, for an outstanding publication in the field of ecology, Ecological Society of America.
1997-98: National Science Foundation Post-Doctoral Fellow in Biosciences Related to the Environment.
1990-93: National Science Foundation Graduate Fellow.
1991: Wessels Teaching Award, Biological Sciences, Stanford University.
1984: Phi Beta Kappa, American Institute of Chemists Award, Charles B. Allen Award, Middlebury College.

Teaching Experience

Courses taught in the Dept. of Biology, Western Washington University, unless otherwise noted.
Introduction to Biology (BIOL 101) W 1999.
The Ecology and Economics of Salmon Recovery (BIOL/ECON 140) W 2009, 2011, with Hart Hodges, Dept. of Economics.
Sustainability Literacy 1 (ESTU 197C) – Lecturer in course organized by Grace Wang (Huxley) and Richard Frye (Sustainability Institute). S, F 2010, W 2011.
General Biology III (Botany; BIOL 203) S 1999, 2001, W 2000.

Ecology, Evolution, and Biodiversity (BIOL 204) 2003-2011
Ecology (BIOL 325) and Ecology Lab (BIOL 326) 1998-2011.
Ecology (ENVR 325) Huxley College of Environmental Studies. W 1999.
Ecology and Economics of Salmon Recovery (HNRS 355). Co-taught with Hart Hodges, Dept. of Economics. S 2006.
Ecosystem Ecology and Global Change/Advanced Ecosystem Ecology and Global Change (BIOL 416/516) W 2000, 2002, 2004, 2006, 2008, 2010.
Fundamentals of Biology Research (BIOL 501) W 2011
Ecosystem Services (BIOL 599) W 2003.
Indicators of Ecosystem Condition (BI 599f) S 2006, W 2009, 2011.

1999: External examiner for students in the Honors Program, Swarthmore College, Swarthmore, Pennsylvania. Dr. Roger Latham, host. May 20-22, 1999.

1991-94: Teaching Assistant for "Biology and Global Change" (BIO 117) and core introductory biology lecture (BIO 33) and lab (BIO 44Y), Stanford University. Designed and implemented field study on oak/mistletoe interactions.

Advising

1994-present

Undergraduate theses: Holly Faulstich (finished S '08), Jody Beh and Rebecca Meredith (graduated 6/05), Rich Gwozdz (graduated 6/03), Jesse Burns (graduated 6/01), Dominic Chiarelli (graduated 6/01), Crystal Elliot (graduated 6/01), and Jeffrey Ninneman (graduated 12/00), Cynthia Benton (graduated 6/94, Stanford University).

Undergraduate research experience: Veronica Bibikova ('08-'09), Min Jung Kwon (Summer '08), Anton Clifford (F '07, S '08), Christy Miller (F '07), Holly Faulstich, Holly Abercrombie (Spring '07), Scott Teas (Summer '06 – Spring '07) LeChi Huynh (Summer '05), Theresa Black, Matt Seifert, Nick Marlatt (Spring '04), Lisa Marko, Sean McGrorey (Fall '03), Rebecca Meredith ('03-'04), Tucker Jones (Squalicum High School student, Spring '03), Erica Davis (Spring '03), Kelsie Mullin (Fall '02, Winter '03), Kara Davis (Winter, Spring '02), Mikki Seagren (Fall '01), James Mason (Spring '01), Colleen Mohl (1998-99).

Masters students: Melissa Habenicht (started F '11), Samantha Hamlin (MBA Program, internship advisor Su'10-S'11), Colin Wahl (started F '08), Daniel Slakey (graduated F '10), Chandra Llewellyn (co-advised, graduated F '10), Matt Certo (graduated W '09), Sarah Harper-Smith (graduated S '08), Allison Neils (graduated F '07), Leslie Gonzalez (graduated W '07), Cara Leverett (graduated S '03), Leslie Allen (graduated S '02).

Masters thesis committees: Matt Fisher (Biology), Tasha Johnson (Biology), Logan Berner (Huxley), Phil Dugger (Biology), Jamie Michel (Huxley), Adria Banks (Biology), Rachel Zack (Biology), David Waltz (Biology), Amy Savage (Biology), Chris Fabry (Biology), Ellie Rose (Biology), Kevin O'Brien (Huxley College).

Grants

2011: Washington Dept. of Ecology, "Merging site and watershed scales to assist restoration prioritization and ecosystem service evaluation for nutrient retention," co-PI's Robert Mitchell, and David Wallin. \$336,000. Pre-proposal submitted 9/19/11, *not funded*.

2011: Project Development Award, WWU, "Effects of riparian restoration on ecosystem services in lowland Whatcom County", \$20,000, *funded 3/11-3/12*. 2010: Environmental Protection Agency, "Quantification of land management effects on ecosystem services to assist development of a natural resources marketplace in the Nooksack watershed", co-PI's Hart Hodges, Robert Mitchell, and David Wallin. \$686,287. Submitted 3/9/10, *not funded*.

2010: Environmental Protection Agency, "Fishtrap Creek Watershed Restoration and Effectiveness Monitoring", with City of Lynden, WA, and agency collaborators, \$224,811 (monitoring component only). Submitted 1/26/10, *not funded*.

- 2010: National Center for Ecological Analysis and Synthesis, “Biodiversity and the Functioning of Ecosystems: Translating Results from Model Experiments into Functional Reality”, with Brad Cardinale (UCSB) and Emmett Duffy (College of William & Mary). \$72,684. *funded 3/2010.*
- 2007-2009: National Science Foundation grant DBI07-23234, “MRI: Acquisition of instruments for biogeochemical analyses of carbon, nitrogen and phosphorus”. *Funded: 8/1/07* \$191,803. Co-PI’s: Peter Homann, David Shull, and John Rybczyk (Huxley College).
- 2007: Environment Canada, Contract #KA611-06-1057, “Planning and delivery of a workshop on establishing habitat based standards for biodiversity conservation under Environment Canada’s National Agri-Environmental Standards Initiative (NAESI)”. CA\$3280.
- 2007: Environment Canada/Eastern Ontario Model Forest, “Synthesis report for NAESI biodiversity workshop.” CA\$2066.
- 2006: National Science Foundation Research Experience for Undergraduates grant supplement. \$6250 to support 1 undergraduate student (Scott Teas) during summer 2006.
- 2005: National Science Foundation Research Experience for Undergraduates grant supplement. \$6250 to support 1 undergraduate student (LeChi Huynh) during summer 2005.
- 2005: National Science Foundation grant DEB05-43168, “RUI: Effects of riparian restoration and watershed condition on stream macroinvertebrate communities”. Not funded, \$465,734.
- 2004: National Science Foundation grant DEB04-47418, “RUI: Effects of riparian restoration on macroinvertebrate communities in lowland streams of the Pacific Northwest”. Not funded, \$540,414.
- 2003: National Science Foundation grant DEB03-40813, “CAREER: Restoring riparian function – linking plant diversity, salmon habitat, and ecological/economic inquiry”. Not funded, \$959,941.
- 2002-2007: National Science Foundation grant DEB02-13187, “Patterns of community assembly in serpentine grasslands: the roles of initial plant composition and functional complementarity”. *Funded: 7/1/02, \$270,000. Extension through 9/31/08.*
- 2003: Lummi Natural Resources, “Census of Wetland Plant Diversity”. \$1800 to support work by one undergraduate student (Rebecca Meredith), 8/8-9/15/2003.
- 2001: National Science Foundation Research Experience for Undergraduates grant supplement. \$5000 to support 1 undergraduate student (Jesse Burns) during summer 2001.
- 2000: National Science Foundation Research Experience for Undergraduates grant supplement. \$5000 to support 2 undergraduate students (Dominic Chiarelli and Crystal Elliot) during summer 2000.
- 1999-2002: National Science Foundation grant DEB99-74159, "Effects of plant diversity and functional characteristics on species invasions", *Funded \$200,000.*
- 1993-94: Morrison Institute for Population and Resource Studies, Stanford University, "Effects of Plant Species Diversity on Nutrient Cycling in a Restored Serpentine Grassland in California", \$7,110.
- 1992-94: National Science Foundation Doctoral Dissertation Improvement Grant DEB-9212995, "Effects of Plant Species Diversity on Nutrient Cycling in a Restored Serpentine Grassland in California", with Dr. P.M. Vitousek (P.I.), \$15,000.
- 1992-93: Stanford-NASA/Ames Cooperative Program in Global Change, "Effects of Plant Functional Group Diversity on Nutrient Cycling in a Restored California Serpentine Grassland", \$9,360.

Peer-Reviewed Publications

In preparation and submitted:

† graduate student author

* undergraduate student author

- † Slakey, D. & Hooper, D.U. (in prep) Invasion resistance in a biodiversity hotspot: effects of biotic interactions, vegetation indices, and environmental gradients. For submission to *Ecology*. From Masters thesis.
- †Gonzalez, L., D.U. **Hooper**, and J.S. Dukes (in prep) Plant species and functional diversity across gradients of resource availability and grazing in a California serpentine grassland. For submission to *Journal of Ecology*. From Masters thesis.
- *Meredith, R.M., D.U. **Hooper**, and J.S. Dukes (in prep) Effects of initial plant composition on patterns of community assembly. For submission to *Oikos*. From undergrad thesis.
- †Niels, A., and D.U. **Hooper** (in prep) Relationships between land use and stream conditions in lowland Whatcom County, WA. For submission to *Freshwater Biology*. From Masters thesis.
- †Harper-Smith, S. and D.U. **Hooper** (in prep) Modeling relative effects of riparian cover and groundwater inflow on stream temperature in lowland Whatcom County, Washington. For submission to *Hydrobiologia*. From Masters thesis.
- *Chiarelli, D., D.U. **Hooper**, and T. Balsler (in prep) Effects of plant functional group diversity on soil microbial communities. For submission to *Functional Ecology*. From undergrad thesis.

In press and published:

- Cardinale, B.J., J.E. Duffy, A. Gonzalez, D.U. **Hooper**, C. Perrings, P. Venail, A. Narwani, G. M. Mace, D. Tilman, D.A. Wardle, A.P. Kinzig, G.C. Daily, M. Loreau, J.B. Grace, A. Larigauderie, D. Srivastava, and S. Naeem. 2012. Impoverishing our planet: Biodiversity loss and its impact on humanity. *Nature*: in press.
- Hooper**, D. U., E. C. Adair, B. J. Cardinale, J. E. K. Byrnes, B. A. Hungate, K. L. Matulich, A. Gonzalez, J. E. Duffy, L. Gamfeldt, and M. I. O'Connor (2012) A global synthesis reveals biodiversity loss as a major driver of ecosystem change. *Nature*: in press.
DOI:10.1038/nature11118.
- Templer, P. H., M. C. Mack, F. S. Chapin III, L. M. Christenson, J. E. Compton, H. D. Crook, W. S. Currie, C. J. Curtis, D. B. Dail, C. M. D'Antonio, B. A. Emmett, H. E. Epstein, C. L. Goodale, P. Gundersen, S. E. Hobbie, K. Holland, D. U. **Hooper**, B. A. Hungate, S. Lamontagne, K. J. Nadelhoffer, C. W. Osenberg, S. S. Perakis, P. Schleppi, J. Schimel, I. K. Schmidt, M. Sommerkorn, J. Spoelstra, A. Tietema, W. W. Wessel, and D. R. Zak (2012) Sinks for Nitrogen Inputs in Terrestrial Ecosystems: A Meta-Analysis of ¹⁵N Tracer Field Studies. *Ecology*: in press.
- ¹Cardinale, B.J., *Matulich, K., **Hooper**, D.U., Byrnes, J.E., Duffy, J.E., Gamfeldt, L., Balvanera, P., O'Connor, M.I. & Gonzales, A. (2011) The functional role of producer diversity in ecosystems. *American Journal of Botany* **98**: 572-592.
- †Chen, Q., **Hooper**, D.U. & Lin, S. (2011) Shifts in species composition constrain restoration of overgrazed grassland using nitrogen fertilization in Inner Mongolian steppe, China. *PLOS One* **6**: e16909.
- †Michel, J.T., J.M. Helfield, and D.U. **Hooper** (2011) Seed rain and revegetation of exposed substrates following dam removal on the Elwha River. *Northwest Science* **85**: 15-29.
- Hooper**, D.U. (2011) Biodiversity, ecosystem functioning, and global change. pp. 329-357 in S. Harrison and N. Rajakaruna, eds. *Serpentine: The Evolution and Ecology of a Model System*, University of California Press, Berkeley, CA, USA.
- Hooper**, D.U., and J.S. Dukes (2010) Functional composition controls invasion success in a California serpentine grassland. *Journal of Ecology*. doi: 10.1111/j.1365-2745.2010.01673.x
- Suding, K.N., S. Lavorel, F.S. Chapin III, H. Cornelissen, S. Díaz, E. Garnier, D. Goldberg, D.U. **Hooper**, S.T. Jackson, and M.L. Navas (2008) Scaling environmental change from traits to communities to ecosystems: a trait-based response-and-effect framework for plants. *Global Change Biology* **14**: 1125-1140.
- Hooper**, D.U., F. S. Chapin, III, J. J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J. H. Lawton, D. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A. J. Symstad, J. Vandermeer, and D. A. Wardle (2005b) Effects of biodiversity on ecosystem processes: Implications for ecosystem

¹ Recognized by the Faculty of 1000.

management. A position statement for the Ecological Society of America.

(<http://www.esa.org/pao/policyStatements/Statements/effectsBiodiversity.php>)

- ²**Hooper**, D. U., F. S. Chapin, III, J. J. Ewel, A. Hector, P. Inchausti, S. Lavorel, J. H. Lawton, D. Lodge, M. Loreau, S. Naeem, B. Schmid, H. Setälä, A. J. Symstad, J. Vandermeer, and D. A. Wardle (2005a) Effects of biodiversity on ecosystem functioning: a consensus of current knowledge. *Ecological Monographs* **75**:3-35.
- Hooper**, D. U., and J. S. Dukes (2004) Overyielding among plant functional groups in a long-term experiment. *Ecology Letters* **7**:95-105.
- Hooper**, D.U., Z.G. Cardon, F.S. Chapin III, and M. Durant (2002) Corrected calculations for whole ecosystem measurements of CO₂ flux using the LI-COR 6200 portable photosynthesis system. *Oecologia* **132**: 1-11. DOI 10.1007/s00442-002-0870-3
- Hooper**, D.U., M. Solan, A. Symstad, S. Díaz, M.O. Gessner, N. Buchmann, V. Degrange, P. Grime, F. Hulot, F. Mermillod-Blondin, J. Roy, E. Spehn, L. van Peer (2002) Species diversity, functional diversity and ecosystem functioning. pp. 195-208 in P. Inchausti, M. Loreau, and S. Naeem, eds. *Biodiversity and ecosystem functioning: synthesis and perspectives*. Oxford University Press, Oxford, UK.
- Neff, J.C., and D.U. **Hooper** (2002) Vegetation and climate controls on potential CO₂, DOC and DON production in northern latitude soils. *Global Change Biology* **8**: 872-884.
- Loreau, M., S. Naeem, P. Inchausti, J. Bengtsson, J.P. Grime, A. Hector, D.U. **Hooper**, M.A. Huston, D. Raffaelli, B. Schmid, D. Tilman, and D.A. Wardle (2001) Biodiversity and ecosystem functioning: current knowledge and future challenges. *Science* **294**: 804-808.
- Thompson, J.N., O. J. Reichman, P.J. Morin, G.A. Polis, M.E. Power, R.W. Sterner, C.A. Couch, L. Gough, R. Holt, D.U. **Hooper**, F. Keesing, C.R. Lovell, B.T. Milne, M.C. Molles, D.W. Roberts, S.Y. Strauss (2001) Frontiers in Ecology. *BioScience*: **51**: 15-24.
- Hooper**, D.U., D.E. Bignell, V.K. Brown, L. Brussaard, J.M. Dangerfield, D.H. Wall, D.A. Wardle, D.C. Coleman, K.E. Giller, P. Lavelle, W.H. v. d. Putten, P.C. d. Ruiter, J. Rusek, W.L. Silver, J.M. Tiedje, and V. Wolters (2000) Interactions between aboveground and belowground biodiversity in terrestrial ecosystems: patterns, mechanisms, and feedbacks. *BioScience* **50**:1049-1061.
- Wolters, V., W.L. Silver, D.E. Bignell, D.C. Coleman, P. Lavelle, W.H. van der Putten, P. de Ruiter, J. Rusek, D.H. Wall, D.A. Wardle, L. Brussaard, J.M. Dangerfield, V.K. Brown, K.E. Giller, D.U. **Hooper**, O. Sala, J. Tiedje, and J.A. van Veen (2000) Effects of global changes on above- and belowground biodiversity in terrestrial ecosystems: Implications for ecosystem functioning. *BioScience* **50**:1089-1098.
- Chapin, F.S. III, E.S. Zavaleta, V.T. Eviner, R.L. Naylor, P.M. Vitousek, H.L. Reynolds, D.U. **Hooper**, S. Lavorel, O.E. Sala, S.E. Hobbie, M.C. Mack, and S. Díaz (2000) Functional and societal consequences of changing biotic diversity. *Nature* **405**: 234-242.
- Hooper**, D.U. and L. Johnson (1999) Nitrogen limitation in dryland ecosystems: responses to geographical and temporal variation in precipitation. *Biogeochemistry* **46**: 247-293.
- Naeem, S., F.S. Chapin III, R. Costanza, P.R. Ehrlich, F.B. Golley, D.U. **Hooper**, J.H. Lawton, R.V. O'Neill, H.A. Mooney, O.E. Sala, A.J. Symstad, and D. Tilman (1999) Biodiversity and ecosystem functioning: maintaining natural life support processes. Issues in Ecology 4. Ecological Society of America. Washington D.C., USA.
- Hooper**, D.U. 1998. The role of complementarity and competition in ecosystem responses to variation in plant diversity. *Ecology* **79**: 704-719.
- Hooper**, D.U. and P.M. Vitousek. 1998. Effects of plant composition and diversity on nutrient cycling. *Ecological Monographs* **68**: 121-149.
- Chapin, F.S. III, O.E. Sala, I.C. Burke, J.P. Grime, D.U. **Hooper**, W.K. Lauenroth, A. Lombard, H.A. Mooney, A.R. Mosier, S. Naeem, S.W. Pacala, J. Roy, W. Steffen, and D. Tilman. 1998. Ecosystem consequences of changing biodiversity. *BioScience* **48**: 45-52.

² Recognized as a "Fast-breaking paper in ecology" by Thomson Essential Science Indicators in Feb. 2006
<http://www.esi-topics.com/fbp/2006/february06-DavidHooper.html>.

- Verville, J.H., S.E. Hobbie, F.S. Chapin III, and D.U. **Hooper**. 1998. Response of tundra CH₄ and CO₂ flux to manipulation of temperature and vegetation. *Biogeochemistry* **41**: 215-235.
- Hooper**, D.U. and P.M. Vitousek. 1997. The effects of plant composition and diversity on ecosystem processes. *Science* **277**: 1302-1305.
- Chapin, F.S. III, B.H. Walker, R.J. Hobbs, D.U. **Hooper**, J.H. Lawton, O.E. Sala, and D. Tilman. 1997. Biotic control over the functioning of ecosystems. *Science* **277**: 500-504.
- Hooper**, D., D. Hawksworth, and S. Dhillon. 1995. Microbial diversity and ecosystem processes. Pages 433-443 in United Nations Environment Programme. *Global Biodiversity Assessment*. Cambridge University Press, Cambridge, UK.
- Vitousek, P.M. and D.U. **Hooper**. 1993. Biological diversity and terrestrial ecosystem biogeochemistry. Pages 3-14 in E.-D. Schulze and H.A. Mooney, editors. *Biodiversity and Ecosystem Function*. Springer-Verlag, Berlin, Germany.

Reports

- †Hamlin, S.L. and D.U. **Hooper** (2011) Understanding costs and benefits of different riparian land management scenarios in the Fishtrap Creek watershed. Report for the Natural Resources Marketplace Working Group, Whatcom Farm Friends, Lynden, WA.
- Hooper, D.U. (2007) A review of the biodiversity assessment and monitoring program of the National Agri-Environmental Standards Initiative (NAESI) at Environment Canada. Synthesis report for Environment Canada from a workshop held February 10-11, 2007, Delta Vancouver Suites, Vancouver, BC.

Book reviews

- Hooper, D.U. (2008) Review of "Measuring Plant Diversity", by Thomas Stohlgren, The Quarterly Review of Biology 83: 220-221.
- Hooper, D.U. (2006) Review of "Demons in Eden: the Paradox of Plant Diversity", by Jonathan Silvertown, The Quarterly Review of Biology 81: 401-402.
- Hooper, D.U. (1998) Review of "Plant functional traits: their relevance to ecosystem properties and global change", T.M. Smith, H.H. Shugart and F.I. Woodward (eds.), The Quarterly Review of Biology 73: 381-382.
- Hooper, D.U. (1997) Review of "Mediterranean-Type Ecosystems: The Function of Biodiversity", G.W. Davis and D.M. Richardson (eds.), The Quarterly Review of Biology 72: 98-99.

Contributed papers

†graduate student author

* undergraduate student author

- Hooper, D.U., E.C. Adair, L. Gamfeldt, A. Gonzalez, B.A. Hungate, M.I. O'Connor, B.J. Cardinale, and J.E. Duffy (2011) Do the effects of species richness on ecosystem function rival other forms of environmental change? In: *Abstracts: The Ecological Society of America 95th Annual Meeting*, Aug. 7-12, 2011. Austin, TX. Ecological Society of America, Washington D.C.
- †Wahl, C., A. Neils†, and D.U. Hooper (2011) Patterns in land use, riparian forest, and biological stream conditions in the Puget Lowlands of western Washington. In: *Abstracts: The Ecological Society of America 95th Annual Meeting*, Aug. 7-12, 2011. Austin, TX. Ecological Society of America, Washington D.C.
- †Hamlin, S. and D.U. Hooper (2010) Understanding costs and benefits of different riparian land management scenarios: Natural resource transactions in the Fishtrap Creek watershed. *Natural Resources Marketplace Symposium: "Land, Water and People: Finding an Effective Balance for Natural Resource Management in Whatcom County"* Bellingham, WA. Organized by Whatcom Farm Friends. Sept. 23, 2010.
- Hooper, D.U., and K. Suding (2009) Plant traits, community assembly, and ecosystem processes: mechanisms underlying ecosystem responses to different components of global change. *10th*

Meeting of the International Congress of Ecology, Aug. 16-21, 2009. Brisbane, Qld., Australia.

- †Slakey, D. and D.U. Hooper (2009) The native-exotic success relationship depends on vegetation indices in a California serpentine grassland. In: *Abstracts: The Ecological Society of America 93rd Annual Meeting*, Aug. 2-7, 2009. Albuquerque, NM. Ecological Society of America, Washington D.C.
- Hooper, D.U., A. Neils†, and S. Harper-Smith† (2009) Searching for synergies: how salmon and other ecosystem services might merge in Whatcom County. Thirteenth Salmon Summit, sponsored by the Nooksack Recovery Team, March 12, 2009, St. Luke's Community Health Education Center, Bellingham, WA.
- †Capuana, E., I. Grettenberger*, N. Johnson†, M. Levine†, J. Michel†, M. Pingree†, and D.U. Hooper (2009) Considerations in indicator selection for an assessment of ecosystem condition in Whatcom County. Thirteenth Salmon Summit, sponsored by the Nooksack Recovery Team, March 12, 2009, St. Luke's Community Health Education Center, Bellingham, WA.
- *Faulstich, H., D.U. Hooper, and J.S. Dukes. 2008. Decay in the effects of initial community composition on success of invading plants during community assembly in California serpentine grasslands. In: *Abstracts: The Ecological Society of America 92nd Annual Meeting*, Aug. 3-8, 2008. Milwaukee, WI. Ecological Society of America, Washington D.C.
- †Harper-Smith, S., and D.U. Hooper. 2008. Modeling relative effects of canopy cover and groundwater inflow on stream temperature in lowland Whatcom County, WA. In: *Abstracts: The Ecological Society of America 92nd Annual Meeting*, Aug. 3-8, 2008. Milwaukee, WI. Ecological Society of America, Washington D.C.
- †Niels, A., and D.U. Hooper. 2008. Relationships between land use and biological conditions in lowland streams of western Washington. In: *Abstracts: The Ecological Society of America 92nd Annual Meeting*, Aug. 3-8, 2008. Milwaukee, WI. Ecological Society of America, Washington D.C.
- Hooper, D.U., L. Gonzalez†, R. Meredith*, and J.S. Dukes. 2007. Community assembly in revegetated serpentine grassland: functional vs. taxonomic perspectives. In: *Abstracts: The Ecological Society of America 91st Annual Meeting*, Aug. 5-10, 2007. San Jose, CA. Ecological Society of America, Washington D.C.
- Hooper, D.U., J.S. Dukes, and R. Meredith*. 2005. Historical effects of community composition on invader success: functional mechanisms in community assembly. In: *Abstracts: The Ecological Society of America 89th Annual Meeting*, Aug. 7-12, 2005. Montreal, Quebec. Ecological Society of America, Washington D.C.
- *Meredith, R.L., D.U. Hooper, and J.S. Dukes. 2005. The effects of initial plant composition on patterns of community assembly. In: *Abstracts: The Ecological Society of America 89th Annual Meeting*, Aug. 7-12, 2005. Montreal, Quebec. Ecological Society of America, Washington D.C.
- †Gonzalez, L.M., D.U. Hooper, and J.S. Dukes. 2005. Patterns of species and functional diversity across gradients of resource availability. In: *Abstracts: The Ecological Society of America 89th Annual Meeting*, Aug. 7-12, 2005. Montreal, Quebec. Ecological Society of America, Washington D.C.
- Hooper, D.U. and J.S. Dukes. 2003. Plant traits, community assembly and ecosystem functioning. p. 154 in: *Abstracts: The Ecological Society of America 88th Annual Meeting*, Aug. 2-8, 2003. Savannah, GA. Ecological Society of America, Washington D.C.
- †Leverett, C. and D.U. Hooper. 2002. Effects of reed canary grass and red alder on riparian nutrient dynamics. *Bulletin of the Ecological Society of America*, Supplement to Vol. 83, No.4.
- Hooper, D.U., and J.S. Dukes. 2001. Complementarity among grassland functional groups. *Bulletin of the Ecological Society of America*, Supplement to Vol. 82, No.4: 20.

- Dukes, J.S., D.U. Hooper, and J. Verville. 2001. The role of resource availability in plant community invasibility. *Bulletin of the Ecological Society of America*, Supplement to Vol.82, No.4: 84.
- Dukes, J.S., D.U. Hooper, and J. Verville. 2001. The role of resource availability in plant community invasibility. *in Sixth Biennial Conference of Research on the Colorado Plateau*, Flagstaff, Arizona.
- Hooper, D.U., J.S. Dukes, and J. Verville (2000) Effects of diversity on the invasibility of plant communities in California serpentine grassland. *Bulletin of the Ecological Society of America*, Supplement to Vol. 81, No.4: 121.
- Hooper, D.U., J.C. Neff, and F.S. Chapin III (1999) Links between production of CO₂ and dissolved organic carbon in soils from Alaskan tundra. *Bulletin of the Ecological Society of America*, Supplement to Vol. 80, No.4: 111.
- Hooper, D.U., and F.S. Chapin III (1998) Effects of latitude and vegetation type on soil organic matter pools in Alaskan tundra. *Bulletin of the Ecological Society of America*, Supplement to Vol. 79, No.4: 177.
- Hooper, D.U. (1997) Effects of plant composition and diversity on primary productivity and nutrient cycling. *Bulletin of the Ecological Society of America*, Supplement to Vol. 78, No.4: 17.
- Hooper, D.U., S.E. Hobbie, J.H.Verville, and F.S. Chapin III (1996) Temperature and vegetation controls on soil CO₂ flux in Alaskan tundra. *Bulletin of the Ecological Society of America*, Supplement to Vol. 77, No.3: 202.
- Hooper, D.U., and P.M. Vitousek (1995) Plant composition has a larger effect on microbial immobilization than does plant diversity in a California serpentine grassland, *Bulletin of the Ecological Society of America*, Supplement to Vol. 76, No.3: 119-120.
- Verville, J.H., F.S. Chapin III, S.E. Hobbie, and D.U. Hooper (1995) Plant growth form more important than temperature in controlling CH₄ flux in Alaskan tundra communities, *Bulletin Of The Ecological Society Of America*. Supplement to Vol. 76, No.3: 398.
- Hooper, D.U., and P.M. Vitousek (1994) What's diversity got to do, got to do with it? Nutrient cycling in a California serpentine grassland, *Bulletin of the Ecological Society of America*, Supplement to Vol. 75, No.3: 98.
- Hooper, D.U., and P.M. Vitousek (1993) Effects of Plant Species Diversity on Nutrient Cycling in a California Serpentine Grassland, *Bulletin of the Ecological Society of America*, Supplement to Vol. 74, No.3: 280.
- Hooper, D.U., and P.M. Vitousek (1992) Effects of plant diversity on terrestrial ecosystem biogeochemistry: patterns, mechanisms, and constraints, *Bulletin of the Ecological Society of America*, Supplement to Vol. 73, No. 3: 211.

Invited Symposia, Conferences, and Talks

2011

Workshop on "Biodiversity and the Functioning of Ecosystems: Translating Results from Model Experiments into Functional Reality". Co-organizer with Brad Cardinale (lead) and Emmett Duffy. Workshop 2: March 21-25, 2011; Workshop 3: Oct. 10-14, 2011. National Center for Ecological Analysis and Synthesis, Santa Barbara, CA.

Invited talk. College of Resources and Environmental Sciences, China Agricultural Univ., Beijing, China. Sept. 14, 2011.

2010

Workshop on "Biodiversity and the Functioning of Ecosystems: Translating Results from Model Experiments into Functional Reality". National Center for Ecological Analysis and Synthesis, Santa Barbara, CA. Co-organizer with Brad Cardinale (lead) and Emmett Duffy. Aug. 9-13, 2010.

Invited workshop on "Ecological Interactions in the Plant-Soil System", College of Resources and Environmental Sciences, China Agricultural Univ., Beijing, China. June 22-25, 2010.

2009

Invited speaker for symposium on Ecological Resilience, organized by Brendan Mackey (Australia National University) and Martin Taylor (WWF-Australia) for the 10th International Congress of Ecology, Aug. 16-21, 2009, Brisbane, Australia.

Invited participant (post-poned), Kavli Frontiers in Science Symposium, June 4-7, 2009.

Invited talk and panel discussion on Salmon Economics and Ecology, organized by Chris Fairbanks. Thirteenth Salmon Summit, March 12, 2009, Bellingham, WA.

2008

Invited talk. University of British Columbia, Nov. 2, 2008.

Invited talk. Northern Arizona University, Oct. 9, 2008.

2007

Invited speaker for symposium on 'Plant functional traits as tools for ecological restoration', organized by Jennifer Funk and Elsa Cleland for 91st Annual Meeting of the Ecological Society of America, Aug. 5-10, 2007, San Jose, CA.

2006

Invited speaker for the conference "Biodiversity in Communities and Ecosystems". Osaka Prefecture University, Osaka, Japan. March 3-6, 2006.

2005

Invited workshop. The fate of nitrogen inputs to terrestrial ecosystems. Pamela Templer, Michelle Mack and Knute Nadelhoffer, organizers. National Center for Ecological Analysis and Synthesis. Santa Barbara, CA. May 9-13, 2005.

Invited talk. "Plant traits, community assembly and ecosystem functioning." Laboratoire d'Ecologie Alpine, CNRS, Université Joseph Fourier, Grenoble, France. 2/8/2005.

2004

Invited workshop. Scaling Plant Functional Traits from Communities to Ecosystems. Borchard Workshop organized by Kate Suding and Sandra Lavorel, Missillac, France. 6/27-7/1, 2004.

Invited workshop. PaleoNorthwest: Science for its own sake, science for decision makers, communication with stakeholders. Organized by Eric Steig, Program on Climate Change, University of Washington. Held at The Chrysalis Inn, Bellingham, WA. 4/15-16/2004.

Invited talk. Northwest Fisheries Science Center, Seattle, WA. 1/22/2004.

Invited talk. Department of Biology, University of British Columbia, 2/10/2004.

Invited talk. Graduate student invited speaker, Institute of Ecology, University of Georgia, 3/5/2004.

2003

Invited workshop and core participant. BioMERGE Adaptive Synthesis Workshop II. Shahid Naeem, organizer, University of Missouri Botanical Gardens, St. Louis, MO, Oct. 24-27, 2003.

Invited talk. Ecological Society of America Organized Oral Session: "Functional ecology and the assembly of plant communities." David Ackerly and Sandra Díaz, organizers. Annual Meeting. Savannah, GA. Aug. 5, 2003.

Invited talks. "The more the merrier? The influence of plant functional traits and diversity on complementarity and invasibility."

- Centre for Biodiversity Research, University of British Columbia, Vancouver, B.C. Jan. 22, 2003.
- Dept. of Ecology and Evolutionary Biology, University of Colorado, Boulder, CO. Feb. 2003.
- Dept. of Ecology, Evolution, and Marine Biology, University of California, Santa Barbara, CA. March, 2003.

2002

Invited workshop and core participant. BioMERGE Adaptive Synthesis Workshop I. Shahid Naeem, organizer, University of Washington, Seattle, Oct. 25-28, 2002.

Invited talk. Department of Zoology, University of Washington, "The more the merrier? The influence of plant functional traits and diversity on complementarity and invasibility." Seattle, WA. Oct. 22, 2002.

Invited talk. Natural Resources Ecology Lab, Colorado State University, "Effects of plant diversity on ecosystem processes: productivity, nutrient cycling, and resistance to invasion." Ft. Collins, CO, March 18, 2002.

2001

Invited talk. Ecological Society of America Symposium: "Functional similarity and functional groups in ecological systems." Annual Meeting. Madison, Wisconsin, Aug. 2001.

Invited talk. "Effects of plant diversity on ecosystem processes: productivity, nutrient cycling, and resistance to invasion." Seminar series for Huxley College of Environmental Sciences, Western Washington University. Feb. 6, 2001.

2000

Organized meeting on "Biodiversity and Ecosystem Functioning: a consensus of current knowledge and needs for future research", under the auspices of the Ecological Society of America. Paris, France. Dec. 10-11, 2000.

Synthesis meeting on Biodiversity and Ecosystem Function. Workshop leader for "Functional or species designations". Paris, France. Dec. 6-9, 2000.

Visiting Scholar (invited), Centre for Population Biology, Imperial College at Silwood Park, Ascot, United Kingdom. June 18-30, 2000. Invited talk: "Plant diversity, complementarity, and invasibility in California serpentine grassland." June 29, 2000.

Invited talk. "Diversity effects on ecosystems: productivity, nutrient cycling, and invasibility," Kansas State University, Manhattan, Kansas. April 13, 2000.

1999

National Science Foundation Workshop: "Frontiers in Ecology". Washington D.C., December 6-9, 1999.

Department seminar. "Effects of plant diversity on ecosystem processes: productivity, nutrient cycling, and resistance to invasion." Department of Biology, Western Washington University. Bellingham, WA. October 12, 1999.

1998

Workshop on "Biodiversity Above and Below the Surface of Soils and Sediments", organized by the Scientific Committee on Problems of the Environment (SCOPE), Lunteren, The Netherlands, October 12-16, 1998.

Invited talk. Symposium on "Biodiversity and Ecosystem Functioning", Wageningen Agricultural University, Wageningen, The Netherlands, October 12, 1998.

Invited talk. "Diversity, ecosystem processes, and policy." Program in Biogeochemistry and Environmental Change, Cornell University, Ithaca, NY. Sept. 11, 1998.

Hewlett Seminar Series, Panel Discussion on Biodiversity and Ecosystem Processes, College of Natural Resources, University of California, Berkeley, Feb. 25, 1998

1997

Invited talk. Ecological Society of America Symposium: "Biodiversity and Ecosystem Processes", Annual Meeting. Albuquerque, New Mexico, Aug. 13, 1997

Workshop on Harvesting in the Boreal Forest of Alaska, sponsored by USDA Forest Service, Institute of Northern Forestry Cooperative Research Unit, and the University of Alaska Fairbanks, Institute of Arctic Biology. Fairbanks, Alaska, June 5-7, 1997.

National Center for Ecological Analysis and Synthesis workshop: Extrapolation of Arctic and Boreal Processes that Feedback to Climate, Workshop II: Changes in trace gas fluxes. Santa Barbara, California, April 10-13, 1997

1996

A Comparative Analysis of Nitrogen Cycling in the Temperate and Tropical Americas, Organized by the Scientific Committee on Problems of the Environment: the International SCOPE Nitrogen Project. Termas de Chillan, Chile, Dec. 2-6, 1996.

Global Change and Tundra Soil Biology - An International Workshop. Organized by the Arctic-Alpine Terrestrial Ecosystems Research Initiative (ARTERI) of the European Community. Danish Polar Centre, Copenhagen, Denmark, Nov. 1-4, 1996.

1994

Biodiversity and Ecosystem Function, Synthesis Meeting. Scientific Committee on Problems of the Environment/United Nations Environment Programme, Project on Biodiversity and Ecosystem Function. Asilomar, Pacific Grove, CA, Feb. 27-March 3, 1994.

1993

Biological Diversity and Ecosystem Function: Islands as Model Systems. Scientific Committee on Problems of the Environment, Programme on Ecosystem Function of Biodiversity. Nassau, Bahamas, Oct. 7-11, 1993.

Committees and Service

Department and University

2011-12 – **Biology Dept.:** Executive Committee, Space and Major Dept. Equipment Committee, BIOL 204 Lab Oversight Committee (Chair); **College:** Personnel Committee.

2010-11 – **Biology Dept.:** Executive Committee, Space and Major Dept. Equipment Committee, BIOL 204 Lab Oversight Committee (Chair), Talent and Entertainment Show (organizer); **College:** Personnel Committee; **University:** Graduate Strategic Advisory Committee.

2009-10 – **Biology Dept.:** Executive Committee, Graduate Committee, Space and Major Dept. Equipment Committee, Talent and Entertainment Show (organizer); BIOL 204 Review Team leader, Biology Dept.; **College:** Steering Committee - Science and the UniverCity Lecture Series; **University:** Judge – Sigma Xi poster session, Graduate Strategic Advisory Committee.

2008-09 – **Biology Dept.:** Executive Committee, Graduate Committee, Space and Major Dept. Equipment Committee, Talent and Entertainment Show (organizer), BIOL 204 Review Team leader, Biology Dept.; **College:** CST Merit Committee, Steering Committee - Science and the UniverCity Lecture Series, College of Science and Technology; **University:** Judge – Sigma Xi poster session, Energy Use Committee, University Merit Committee, WWU.

2007-08 – **Biology Dept.:** Executive Committee, Graduate Committee, Greenhouse Committee, Ecological Geneticist Search Committee, Talent and Entertainment Show (organizer), Biology Dept.; Speaker for Fall Open House; **College:** Steering Committee - Science and the UniverCity Lecture Series.

2006-07 – **Biology Dept.:** Executive Committee, Graduate Committee, Quantitative Geneticist Search Committee, Talent and Entertainment Show (organizer), Dept. of Biology; **College:** Field Scientist Search Committee, Fairhaven College; Steering Committee - Science and the UniverCity Lecture Series, College of Science and Technology.

2005-06 – **Biology Dept.:** Executive Committee; Graduate Committee, Greenhouse Committee (Chair), Plant Biologist Search Committee, Talent and Entertainment Show (organizer),

2003-04 - Executive Committee, Dept. of Biology, WWU.

April, 2004 – helped lead a tour of riparian restoration sites for WWU's Environmental Journalist program.

2001-03 - Chair, Biology Department Library Committee, Western Washington University

Spring 2003 – Organized Biology Department student poster session for Scholar's Week.

2002-03 - Undergraduate Advising Committee, Dept. of Biology

2002-03 – Scholar's Academy, WWU. Provide mentorship for freshmen whose past accomplishments indicate promising academic careers.

1999-2003 - Seminar Committee, Biology Department, Western Washington University

2001-03 - Participant in the Teaching and Learning Academy (TLA) to discuss the General Education reform at Western. Participant in the Creativity Dialogue Group during Fall 2001.

2001-02 – Biology Dept. representative for the Integrated Laboratory Network (ILN) initiative, Bill Wilson (Chemistry, Scientific Technical Services), organizer.

2000-01 - Organized "Ecolunch", an informal seminar series for all faculty and graduate students in ecology at Western, with participants from Mathematics, Biology, Huxley College, and Fairhaven College.

2000-03 - Organized a web page, linked to the Biology Department home page, for student jobs in ecology and environmental biology. <http://fire.biol.wvu.edu/hooper/ecojobs.html>

Profession

2010: NSF Review Panel, Ecosystem Ecology, April 2010.

2009- present: Editorial Board, Ecology Letters. I typically handle 1-2 papers per month.

2000-2005: Co-chair, with Dr. Peter Vitousek (Stanford University), of a consensus committee on Biodiversity and Ecosystem Functioning for the Ecological Society of America.

Reviewer for proposals from NICCR (Department of Energy), the National Science Foundation, Nebraska Experimental Program to Stimulate Competitive Research (EPSCoR), and the National Research Council. I typically review 2-4 grant proposals per year.

Reviewer for papers from Basic & Applied Ecology, BioScience, Canadian Journal of Botany, Conservation Biology (*ad hoc* Editor), Ecology, Ecology Letters, Journal of Ecology, Journal of Vegetation Science, Nature, Plant Ecology, PNAS, Oecologia, Oikos, and Science. I regularly review 4-10 manuscripts per year in addition to editorial duties.

Reviewer for book chapters for Smith and Smith, *Ecology and Field Biology*, (Benjamin Cummings); Gurevitch, Scheiner, and Fox, *Plant Ecology*; and Inchausti, Loreau, and Naeem, *Biodiversity and ecosystem functioning: synthesis and perspectives*.

Community

Dec. 2009-present. Working Group on a Natural Resources Marketplace, organized by Whatcom Farm Friends.

2009 – Public lecture for the Washington Native Plant Society, Komo Kulshan Section, Bellingham, WA. "Serpentine ecosystems: Nasty soils lead to novel evolution, ecology, and conservation challenges", 5/20/09.

2007 - Public Lecture: "The good, the bad, and the beauty: how changing biodiversity affects YOU", for WWU's Science and the UniverCity Series, 4/23/07

2005-2007 – Science Advisor, National Agri-Environmental Standards Initiative (NAESI), Environment Canada.

2006 – Article on "10 Things You Can Do To Help Preserve Species Biodiversity" for Canfei Nesharim ("Wings of the Eagle"), an environmental newsletter for Orthodox Jews. (<http://canfeinesharim.org/newsletter.shtml#3>)

Dec. 1999 - 2008. Board of Directors, Nooksack Salmon Enhancement Association, Bellingham, Washington. Secretary of the Board for 2001, 2002, and 2008.

Previous Work Experience

1987-1989: Research assistant investigating the flux of trace sulfur gases from forest soils, under Dr. J. Melillo and Mr. Paul Steudler, The Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA 02543.

1984-1985: Intern in environmental and public policy conflict mediation. Researched environmental policy alternatives, edited manuscripts, and taught environmental education to school groups and Elder Hostel, under Mr. John Ehrmann, The Keystone Center, Keystone, Colorado 80435.

Professional Societies

American Association for the Advancement of Science

American Geophysical Union

Ecological Society of America

Society for Ecological Restoration