

DAVID CARL SHAW

CURRICULUM VITAE

Assistant Professor May 2008
Extension Forest Health Specialist
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EDUCATION:

Ph.D. 1991. College of Forest Resources, University of Washington, Seattle.
Forest Protection and Silviculture. Dissertation: Ecology of Root and Butt Rot
Fungi in Young-growth Western Hemlock.
MS 1982. Biology Department, Western Washington University, Bellingham.
Biology, Plant Ecology and Systematics. Thesis: Pollination Ecology of an
Alpine Fell-field Community in the North Cascades, Washington.
BS 1977. Biology Department, Northern Arizona University, Flagstaff, Arizona.
Biology, extended major in Applied Plant Science.

EMPLOYMENT:

2005-Present. Department of Forest Science, Oregon State University.
Assistant Professor, Extension Forest Health Specialist
Director, Swiss Needle Cast Cooperative

1994-2005. Wind River Canopy Crane Research Facility, University of Washington at
the US Forest Service Wind River Experimental Forest, Carson, Washington.
2004-2005: Research Scientist, Senior
2000-2004: Research Manager
1995-2000: Site Director
1994-1995: Project Manager

1991-1994: Olympic Natural Resource Center, College of Forest Resources, University
of Washington.
1991 (October)-1994. Project Manager, Olympic Canopy Crane, Forks, WA.
1991. May-October. Field team leader, based in Seattle, WA.

1987-1990. University of Washington, Graduate Research Assistantships
1990. (Feb-Dec). Project Leader. Tree Inventory and Hazard Tree Survey, Ft.
Lewis Historical District, near Tacoma, Washington.

- 1987-1990. Graduate Research Assistant. Influence of pre-commercial thinning on Annosus root disease in coastal western hemlock.
- 1983-1989. US Forest Service, Area Ecology Program. Term Ecologist, Seasonal Field Botanist. Colville, Olympic, and Mt. Baker-Snoqualmie National Forests, Washington.
- 1983-1986. Resource Specialist. Multnomah County Educational Service District, Outdoor School, Environmental Education, Portland, Oregon.
- 1980-1982. Biology Department, Western Washington University, Bellingham, WA. Graduate Teaching Assistant, Graduate Research Assistant.
- 1972, 1974. Boy Scouts of America. Commissioner-aide, Commissioner. Cuyahoga Valley, Ohio.

PUBLICATIONS:

- Invited review:* Mathiasen, R.L., D.L. Nickrent, D.C. Shaw, and D.M. Watson. "In Press" Mistletoes: Systematics, Pathology, Ecology, and Management. *Plant Disease*.
- Shaw, D.C., M. Huso, H. Bruner. 2008. Basal area growth impacts of dwarf mistletoe on western hemlock in an old-growth forest. *Canadian Journal of Forest Research*. 38: 576-583
- Swanson, M.E., D.C. Shaw, and T.K. Marosi. 2006. Distribution of western hemlock dwarf mistletoe (*Arceuthobium tsugense* [Rosendahl] G.N. Jones subsp. *tsugense*) in mature and old-growth Douglas-fir (*Pseudotsuga menziesii* [Mirb.] Franco) forests. *Northwest Science* 80: 207-217.
- Shaw, D.C., K. Ernest, B. Rinker, M. Lowman. 2006. Stand level herbivory in an old-growth forest canopy. *Western North American Naturalist* 66: 473-481.
- Meinzer, F.C., J.R. Brooks, J.-C. Domec, B.L. Gartner, J.M. Warren, D.R. Woodruff, K. Bible, and D.C. Shaw. 2006. Dynamics of water transport and storage in conifers studied with deuterium and heat tracing techniques. *Plant, Cell and Environment* 29: 105-114.
- Shaw, D.C., J. Chen, E. Freeman, and D. Braun. 2005. Spatial and population characteristics of dwarf mistletoe infected trees in an old-growth Douglas-fir/western hemlock forest. *Canadian Journal of Forest Research* 35: 990-1001.
- Shaw, D.C. 2004. Vertical Organization of Canopy Biota. Chapter 4, In: M. Lowman and B. Rinker. *Forest Canopies 2nd Edition*. Elsevier/Academic Press.
- Shaw, D.C., D.M. Watson, and R.L. Mathiasen. 2004. Comparison of dwarf mistletoes (*Arceuthobium* spp., Viscaceae) in western North America with mistletoes (*Amyema* spp., Loranthaceae) in Australia – ecological analogs and reciprocal models for ecosystem management. *Australian Journal of Botany* 52: 481-498.

- Chen, J., B. Song, M. Moeur, M. Rudnicki, K. Bible, D.C. Shaw, D.M. Braun, and J.F. Franklin. 2004. Spatial relationships of production and species distribution in an old-growth *Pseudotsuga-Tsuga* forest. *Forest Science* 50: 364-375.
- Meinzer, F.C. D.R. Woodruff, and D.C. Shaw. 2004. Integrated responses of hydraulic architecture, water and carbon relations of western hemlock to dwarf mistletoe infection. *Plant, Cell and Environment* 27: 937-946.
- Shaw, D.C., J.F. Franklin, K. Bible, J. Klopatek, E. Freeman, S. Greene, and G.G. Parker. 2004. Ecological setting of the Wind River old-growth forest. *Ecosystems* 7: 427-439.
- Harmon, M.E., K. Bible, M.G. Ryan, D. Shaw, H. Chen, J. Klopatek, and X. Li. 2004. Production, respiration, and overall carbon balance in an old-growth *Pseudotsuga/Tsuga* forest ecosystem. *Ecosystems* 7: 498-512.
- Parker, G.G., M.E. Harmon, M.A. Lefsky, J. Chen, R. Van Pelt, S.B. Weiss, S.C. Thomas, W.E. Winner, D.C. Shaw, and J.F. Franklin. 2004. Three dimensional structure of an old-growth *Pseudotsuga-Tsuga* canopy and its implications for radiation balance, microclimate, and atmospheric gas exchange. *Ecosystems* 7:440-453.
- Shaw, D.C., and S.A. Acker. 2002. Canopy macrolichens from four forest stands in the southern Sierra mixed conifer forests of Sequoia/Kings Canyon National Park. *Madrono* 49:70-77.
- Shaw, D.C., E. Freeman, and C. Flick. 2002. The vertical occurrence of small birds in an old-growth Douglas-fir/western hemlock forest stand. *Northwest Science* 76: 322-334.
- Shaw, D.C. and C.J. Flick. 2002. Seasonal variation in vertical distribution of the Douglas' squirrel, *Tamiasciurus douglasii*, in an old-growth Douglas-fir/western hemlock forest in the morning. *Northwestern Naturalist* 83: 123-125.
- Braun, D.M., B. Runcheng, D.C. Shaw, and M. Van Scoy. 2002. Herbivory of vine maple in an old-growth Douglas-fir/western hemlock forest. *Northwest Science* 76: 315-321.
- Franklin, J.F., T.A. Spies, R. Van Pelt, A.B. Carey, D.A. Thornburgh, D.R. Berg, D.B. Lindenmayer, M.E. Harmon, W.S. Keeton, D.C. Shaw, K. Bible, and J. Chen. 2002. Disturbances and structural development of natural forest ecosystems with silvicultural implications, using Douglas-fir forests as an example. *Forest Ecology and Management* 155: 399-423.
- Clement, J.P., M. Moffett, D.C. Shaw, A. Lara, D. Alarcon, and O. Larrain. 2001. Crown architecture and biodiversity in *Fitzroya cupressoides*, the giant conifers of Alerce National Park, Chile. *Selbyana* 22:76-88.
- Shaw, D.C. and S. B. Weiss. 2000. Canopy light and the distribution of hemlock dwarf mistletoe (*Arceuthobium tsugense* (Rosendahl) G.N. Jones ssp. *tsugense*) aerial shoots in an old-growth Douglas-fir/western hemlock forest. *Northwest Science* 74: 306-315.
- McCune, B., R. Rosentreter, J.M. Ponzetti, and D.C. Shaw. 2000. Epiphyte habitats in an old conifer forest in western Washington, U.S.A. *The Bryologist* 103: 417-427.

- Shaw, D.C., E. Freeman, and R.L. Mathiasen. 2000. Evaluating the accuracy of ground based dwarf mistletoe rating: a test case using the Wind River Canopy Crane. *Western Journal of Applied Forestry* 15: 8-14.
- Shaw, D.C. and C. Flick. 1999. Are resident songbirds stratified within the canopy of a coniferous old-growth forest? *Selbyana* 20: 324-331.
- Clement, J.P. and D.C. Shaw. 1999. Crown structure and the distribution of epiphyte functional group biomass in old growth *Pseudotsuga menziesii* trees. *EcoScience* 6: 243-254.
- Ishii, H., J.P. Clement, and D.C. Shaw. 2000. Branch growth and crown form in old coastal Douglas-fir. *Forest Ecology and Management* 131: 81-91.
- Ishii, H., J. H. Reynolds, E.D. Ford, and D.C. Shaw. 2000. Height growth and vertical development of an old-growth *Pseudotsuga-Tsuga* forest in southwestern Washington State, USA. *Canadian Journal of Forest Research* 30: 17-24.
- Mathiasen, R.L. and D.C. Shaw. 1998. Adult sex ratio of western hemlock dwarf mistletoe at the Wind River Canopy Crane Research Facility, Washington. *Madrono* 45: 210-214.
- Shaw, D.C. 1998. Distribution of larval colonies of *Lophocampa argentata* Packard, the silver spotted tiger moth (Lepidoptera: Arctiidae), in an old growth Douglas-fir, *Pseudotsuga menziesii*/ Western Hemlock, *Tsuga heterophylla*, forest canopy, Cascade Mountains, Washington State. *The Canadian Field Naturalist* 112: 250-253.
- McCune, B. et al. 1997. Vertical profile of epiphytes in a Pacific Northwest old-growth forest. *Northwest Science* 71: 145-152.
- Shaw, D.C., C. Rose, S. Sillett, and A. Carey. Guest Editors. 1996. Northwest Forest Canopies: Biology, Ecology and Silviculture. *Northwest Science* 70, Special Issue: 1-108.
- Shaw, D.C. and K. Bible. 1996. An overview of forest canopy ecosystem functions with reference to urban and riparian systems. *Northwest Science* 70, Special Issue: 1-6.
- Parks, C.G. and D.C. Shaw. 1996. Death and decay: A vital part of living canopies. *Northwest Science* 70, Special Issue: 46-53.
- Shaw, D.C., R.L. Edmonds, W.R. Littke, J.E. Browning and K.W. Russell. 1995. Incidence of wetwood and decay in precommercially thinned western hemlock stands. *Canadian Journal of Forest Research* 25:1269-1277.
- Shaw, D., R. Edmonds, W. Littke, J. Browning, K. Russell, and C. Driver. 1993. Influence of forest management on *Annosus* root disease in coastal western hemlock, Washington state, USA. In: *Proceedings of the Eighth Meeting, IUFRO Working Party, S2.06.01, Root and Butt Rots, August 9-16, 1993, Sweden and Finland.*
- Shaw, D.C., J. Greenleaf, and D. Berg. 1993. Monitoring new forestry. *Environmental Monitoring and Assessment* 26: 187-193.
- Henderson, J.H., R.D. Leshner, D.H. Peter and D.C. Shaw. 1992. Field Guide to the Forested Plant Associations of the Mt. Baker-Snoqualmie National Forest. U.S. Dept. of Agriculture, Forest Service Technical Paper R6-ECOL-TP-028-91, Pacific Northwest Region, Portland, Oregon.

- Edmonds, R.L., D.C. Shaw, T. Hsiang and C.H. Driver. 1989. Impact of precommercial thinning on the development of *Heterobasidion annosum* in western hemlock. In: Otrosina, W.J., and R.F. Scharpf, technical coordinators. Proceedings of the Symposium on Research and Management of Annosus Root Disease in Western North America, April 18-21, 1989. Gen. Tech. Rept. PSW-116. USFS For. Serv., Pacific Southwest Forest and Range Experiment Station, Berkeley, CA.
- Henderson, J.H., D.H. Peter, R.D. Leshner and D.C. Shaw. 1989. Forested Plant Associations of the Olympic National Forest. U.S. Dept. of Agriculture, Forest Service Technical Paper R6-ECOL-TP-001-88. Pacific Northwest Region, Portland, Oregon.
- Shaw, D.C. and R.J. Taylor. 1986. Pollination ecology of an alpine fell-field community in the North Cascades. *Northwest Science* 60: 21-31.
- Taylor, R.J. and D.C. Shaw. 1983. Allelopathic effects of engelmann spruce bark stilbenes and tannin-stilbene combinations on seed germination and seedling growth of selected conifers. *Canadian Journal of Botany* 61: 279-289.

OSU EXTENSION PUBLICATIONS:

EC 1607-E, Sudden Oak Death, new June 2007, 2 pages, no charge

Author: David Shaw

<http://extension.oregonstate.edu/catalog/pdf/ec/ec1607-e.pdf>

EC 1608-E, Stop the spread of Sudden Oak Death, new June 2007, 2 pages, no charge

Authors: Ellen M. Goheen, David Shaw

<http://extension.oregonstate.edu/catalog/pdf/ec/ec1608-e.pdf>

EC 1615-E, Swiss Needle Cast of Douglas-fir in Oregon. January 2008. 4 pages.

Author: David Shaw

<http://extension.oregonstate.edu/catalog/pdf/ec/ec1615-e.pdf>

EC 1916-E, Diseases and Insects Pests of Pacific Madrone. May 2008. 5 pages. Author:

Max Bennett, David Shaw

<http://extension.oregonstate.edu/catalog/pdf/ec/ec1619-e.pdf>

RESEARCH SUPPORT, ASSISTANT PROFESSOR, DEPARTMENT OF FOREST SCIENCE:

Developing a validation approach for post fire tree mortality models. \$31,000 Western Wildland Environmental Threats Assessment Center, USDA, PNW Research Station. 2007-2008. David Shaw, Travis Woolley, Lisa Ganio and Steve Fitzgerald.

Impacts of post-fire salvage logging and wildfire burn intensity on soil productivity and forest recovery. USDA Forest Service. With Jane Smith, USFS. \$15,000. (portion of larger project that ends Jan 2009).

Forest Pest Pocket Guide and Training Sessions. A field guide for landowners, loggers, and foresters and formal training sessions will be developed and implemented. Oregon Forest Resources Institute. \$26,000. 2007-2008. David Shaw, Paul Oester, Greg Filip.

Evaluation of models used to predict post-fire tree mortality. David Shaw, Steve Fitzgerald, Lisa Ganio. July-Dec. 2007. \$23,700. Western Wildland Environmental Threats Assessment Center, USDA, PNW Research Station.

Survey and Monitoring of Clark's Nutcracker, Whitebark Pine, and White Pine Blister Rust in the Oregon Cascades. D. Shaw and M. Betts. June -Dec 2007. USDA, Region 1, Missoula, MT. \$10,000.

Analysis of Data from Monitoring of Created Wildlife Trees on the McKenzie River Ranger District. Willamette National Forest, USDA. Jan -June 2007. \$19,800. David Shaw and Joan Hagar.

RECENT SCIENTIFIC MEETINGS (2006 – 2007):

December 10-17, 2007. American Geophysical Union, Phenology at multiple spatial scales. Poster: Plant phenology patterns at three sites on the H.J. Andrews Experimental Forest, Oregon, 1987 to 2007. Dave Shaw, Craig Creel, Greg Downing, Suzanne Remillard, and Kari O'Connell.

October 22-26, 2007. Society of American Foresters, National Meeting. Portland, Oregon. Organized Symposium and Moderated ½ Day Session (Track Chair), presented paper on Swiss needle cast, for National SAF Conference. Managing Forest Disease on the West Coast. Six papers regarding Swiss Needle Cast in Oregon, Red Band Needle Blight in BC, White Pine Blister Rust in the Pacific States, Sudden Oak Death in California vs. Oregon, and Port Orford Cedar Root Disease.

October 15-19, 2007. Western International Forest Disease Work Conference, Sedona, AZ. Presented Poster: Clark's Nutcracker, Whitebark Pine, and White Pine Blister Rust at the Landscape Scale in the Oregon Cascades (D. Shaw, M. Betts, and T. Manning).

September 16-19, 2007. International Society of Arboriculture, Corvallis, OR, 2007 Annual Training Conference. Invited Presentation: Maintaining the Health of Native Forest Remnants.

August 17-19, 2007. IUFRO Section: Root and Butt Rots of Forest Trees. Attended meeting in Medford, OR, including field trip.

March 5-9, 2007. Sudden Oak Death Science Symposium. Santa Rosa, CA. Reviewer for two presentations, and two papers for proceedings.

March 27-29, 2006. Annual Meeting of the Society for Northwestern Vertebrate Biology, Olympia, Washington. Two presentations, and participation in one day workshop on forest canopy access.

1. Canopy cranes as access tools.
2. Mistletoes and Wildlife in the Pacific Northwest.

October 2-6, 2006. Annual Meeting, Western International Forest Disease Work Conference, Smithers, British Columbia, Canada. Paper presentation: Shaw, D.C., M. Huso, H. Bruner. Growth impacts of hemlock dwarf mistletoe on western hemlock in an old-growth Douglas-fir/western hemlock forest.”

October 6, 7, 2006. International Dothistroma group. Meeting in Smithers, B.C. to discuss international coordination of science concerning Dothistroma foliage disease of pines.

ORGANIZATIONS:

American Bryological and Lichenological Society
American Ornithological Union
American Phytopathological Society
California Botanical Society
Ecological Society of America
International Canopy Network (Vice President, Board of Directors)
Northwest Scientific Association
Society of American Foresters
Western International Forest Disease Work Conference