

CURRICULUM VITA FOR WEB (MARCH 18 2017)

David Carl Shaw
Associate Professor
Extension Forest Health Specialist
Director, Swiss Needle Cast Cooperative
Department of Forest Engineering, Resources and Management
Oregon State University

FTE allocation: 0.55 Extension Education, 0.10 Teaching, 0.15 Administration, 0.15 Research, 0.05 Service.

EDUCATION AND EMPLOYMENT INFORMATION

Education

1991. Ph.D. Forest Pathology, Protection and Silviculture. College of Forest Resources, University of Washington, Seattle.

1982. MS. Biology, Plant Ecology. Biology Department, Western Washington University, Bellingham.

1977. BS. Biology, extended major in Applied Plant Science. Biology Department, Northern Arizona University, Flagstaff, Arizona.

Fields of Specialization

Forest Health. Forest Pathology, Forest Entomology, Forest Ecology, Mistletoes, Insects/Diseases interaction with Fire, Silviculture and Management, Disturbance Ecology.

Employment

2011-Present. Associate Professor, Forestry and Natural Resources Extension Forest Health Specialist, Director, Swiss Needle Cast Cooperative. Department of Forest Engineering, Resources and Management, Oregon State University. Corvallis, Oregon.

2008-2011. Assistant Professor, Extension Forest Health Specialist (*change to 0.65 Extension Education, 0.15 Administration, 0.15 Research, 0.05 Service, July 1, 2008*). Director, Swiss Needle Cast Cooperative. Department of Forest Engineering, Resources and Management, Oregon State University. Corvallis, Oregon.

2005-2008. Assistant Professor, Extension Forest Health Specialist (15% research, 85% extension). Director, Swiss Needle Cast Cooperative, Department of Forest Science, Oregon State University. Corvallis, Oregon.

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

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

1987-1990. Graduate Research Assistantships, University of Washington, Seattle, WA.
1990. (Feb-Dec). *Project Leader. Tree Inventory and Hazard Tree Survey, Ft. Lewis Military Reservation Historical District, Washington.*
1987-1990. *Graduate Research Assistant. Influence of pre-commercial thinning on Annosus root disease in coastal western hemlock.*

1983-1989. Term Ecologist, Seasonal Field Botanist. US Forest Service, Area Ecology Program. Colville, Olympic, and Mt. Baker-Snoqualmie National Forests, Washington.

1983-1986. Soil Resource Specialist. Seasonal, spring and fall. Multnomah County Educational Service District, Outdoor School, Environmental Education, Portland, Oregon. Portland, Oregon.

1980-1982. Graduate Teaching Assistant, Graduate Research Assistant. Biology Department, Western Washington University, Bellingham, WA.

Current Duties

Graduate students
Teaching
Research
Extension Forest Health Specialist
Continuing Education
Outreach, collaboration with Extension Foresters
Volunteer Training; Master Woodland Managers, Pest Scene Investigators
Swiss Needle Cast Cooperative
Permanent Vegetation Sample Plot System, NSF- LTER7

Organizations

American Phytopathological Society
California Botanical Society
Ecological Society of America
International Union of Forest Research Organizations
Chair, IUFRO WP 7.02.11 Parasitic flowering plants in forests.
Northwest Scientific Association
Society of American Foresters
Western International Forest Disease Work Conference

Publications

Refereed Journal Publications

- 58) Davis, L., D. Shaw, T. Woolley, D. Rolph. In press. Comparing old-growth rainforest remnants to young, regrowth forests, with implications for coastal rainforest restoration. Northwest Science.
- 57) Shaw, D.C. and M.C. Agne. 2017. Fire and Dwarf Mistletoe (Viscaceae: *Arceuthobium* species) in Western North America: Contrasting *Arceuthobium tsugense* and *Arceuthobium americanum*. Botany 95(3): 231-246, 10.1139/cjb-2016-0245.
- 56) Pritchard, K.R., J.C. Hagar, and D.C. Shaw. 2017. Avian Abundance and Diversity are Associated with Oak Mistletoe (*Phoradendron villosum*) in Willamette Valley *Quercus* Woodlands. Botany 95(3): 283-294, 10.1139/cjb-2016-0249.
- 55) Shaw, D.C., T. Woolley, R.G. Kelsey, B.A. McPherson, D. Westlind, D.L. Wood, and E.K. Peterson. 2017. Surface fuels in recent *Phytophthora ramorum* created gaps and

adjacent intact *Quercus agrifolia* forests, East Bay Regional Parks, California, USA. *Forest Ecology and Management*. 384: 331-338.

- 54) Hrinkevich KH, Progar RA, Shaw DC (2016) Climate Risk Modelling of Balsam Woolly Adelgid Damage Severity in Subalpine Fir Stands of Western North America. *PLoS ONE* 11(10): e0165094. doi:10.1371/journal.pone.0165094
- 53) Ritokova, G., D.C. Shaw, G. Filip, A. Kanaskie, J. Browning, and D. Norlander. 2016. Swiss needle cast in Western Oregon Douglas-fir plantations: 20-year monitoring results. *Forests* 7, 155; doi:10.3390/f7080155.
- 52) Hrinkevich, K., R. Progar, and D.C. Shaw. 2016. A severity rating system for evaluating stand-level balsam woolly adelgid (Hemiptera: Adelgidae) damage in two *Abies* species in western North America. *Forest Science* 62: 181-189.
- 51) Meigs, G.W., J.L. Campbell, H.S.J. Zald, J.D. Bailey, D.C. Shaw, and R.E. Kennedy. 2015. Does wildfire likelihood increase following insect outbreaks in conifer forests. *Ecosphere* 6(7):118. <http://dx.doi.org/10.1890/ES15-00037.1>
- 50) Mortenson, L.A., A.N. Gray, and D.C. Shaw. 2015. A forest health inventory assessment of red fir (*Abies magnifica*) in upper montane California. *Ecoscience* <http://dx.doi.org/10.1080/11956860.2015.1047142>
- 49) Miller-Pierce, M., D.C. Shaw, A. DeMarco, and P.T. Oester. 2015. Introduced and native parasitoid wasps associated with larch casebearer (Lepidoptera: Coleophoridae) in western larch. *Environmental Entomology*. 44: 27-33; DOI: 10.1093/ee/nvu016. (Erratum (map problem) published: **Vol. 44: 919**, June 2015).
- 48) Agne, M. C., D.C. Shaw, T.J. Woolley, and M. E. Queijeiro-Bolaños. 2014. Effects of dwarf mistletoe on stand structure of lodgepole pine forests 21-28 years post-mountain pine beetle mortality in central Oregon. *PLoS ONE* 9: e107532. Doi: 10.1371/journal.pone.0107532..
- 47) Ganio, L.M., T.Woolley, D.Shaw, and S. Fitzgerald. 2014. The discriminatory ability of postfire tree mortality logistic regression models. *Forest Science* 60: doi:10.5849/forsci.13-146.
- 46) Marias, D., F. Meinzer, D.R. Woodruff, D.C.Shaw, S. Voelker, R.J. Brooks, J. McKay, and K. Falk. 2014. Impacts of dwarf mistletoe on the physiology of host *Tsuga heterophylla* trees as recorded in tree ring C and O stable isotopes. *Tree Physiology* doi:10.1093/treephys/tpu046.
- 45) Saffell, B.J., F.C. Meinzer, D.R. Woodruff, D.C. Shaw, S.L. Voelker, B. Lachenbruch, K. Falk. 2014. Seasonal carbohydrate dynamics and growth in Douglas-fir trees experiencing chronic fungal-mediated reduction in functional leaf area. *Tree Physiology*. doi:10.1093/treephys/tpu002
- 44) Shaw, D.C., T. Woolley, and A. Kanaskie. 2014. Vertical foliage retention in Douglas-fir across environmental gradients of the western Oregon Coast Range influenced by Swiss needle cast. *Northwest Science* 88: 23-32.
- 43) Saffell, B.J., F.C. Meinzer, S.L. Voelker, D.C. Shaw, J.R. Brooks, B. Lachenbruch, J. McKay. 2014. Tree-ring stable isotopes record the impact of a foliar fungal pathogen on CO₂ assimilation and growth in Douglas-fir. *Plant, Cell and Environment*: doi: 10.1111/pce.12256 (accepted online Dec 2013).

- 42) Lee, E.H., P.A. Beedlow, R.S. Waschmann, C.A. Burdick, D.C. Shaw. 2013. Tree-ring analysis of the fungal disease Swiss needle cast in Western Oregon coastal forests. *Canadian Journal of Forest Research*.43: 677-690.
- 41) Kelsey, R.G., M. Beh, D.C. Shaw, and D.K. Manter. 2013. Ethanol attracts scolytid beetles to *Phytophthora ramoum* cankers on coast live oak. *Journal of Chemical Ecology*. 39: 494-506. Online ISSN 0098-0331, DOI 10.1007/s10886-013-0271-6.
- 40) Mulvey, R.L., D.C. Shaw, and D.A. Maguire. 2013. Fertilization impacts on Swiss needle cast disease severity in Douglas-fir. *Forest Ecology and Management* 287: 147-158.
- 39) Woolley, T., D.C. Shaw, L.M. Ganio, and S. Fitzgerald. 2012. A review of logistic regression models used to predict post-fire tree mortality of western North American conifers. *International Journal of Wildland Fire* 21:1-35. <http://dx.doi.org/10.1071/WF09039>.
- 38) Chumura, D.J., P.D. Anderson, G.T. Howe, C.A. Harrington, J.E. Halofsky, D.L. Peterson, D.C. Shaw, and B. St. Clair. 2011. Forest Responses to climate change in the northwestern United States: ecophysiological foundations for adaptive management. *Forest Ecology and Management*. 261: 1121-1142.
- 37) Shaw, D.C., GM. Filip, A. Kanaskie, D.A. Maguire, and W. Littke. 2011. Managing an epidemic of Swiss needle cast in the Douglas-fir region of Oregon: The Swiss Needle Cast Cooperative. *Journal of Forestry* 109: 109-119. [Led the writing of this synthesis article].
- 36) Black, B.A., D.C. Shaw, and J.K. Stone. 2010. Impacts of Swiss needle cast on overstory Douglas-fir forests of western Oregon Coast Range. *Forest Ecology and Management* 259: 1673-1680. [I played a major role in the process].
- 35) Butnor, J., M. Pruyn, D.C. Shaw, M. Harmon, A. Mucciardi, and M. Ryan. 2009. Detecting Defects in Conifers with Ground Penetrating Radar: Applications and Challenges. *Forest Pathology*. 39:309-322. DOI: 10.1111/j.1439-0329.2009.00590.x [I played a key role, helping with concepts, doing field work, and helping with writing].
- 34) Mathiasen, R.L., D.L. Nickrent, D.C. Shaw, and D.M. Watson. 2008. Mistletoes: Systematics, Pathology, Ecology, and Management. *Plant Disease*. 92: 988-1006. This paper was chosen by the editor as #5, in the top eight papers of 2008 for the journal. [Invited review and featured article. I was asked to join group, wrote the section on managing mistletoes, revised and co-wrote section on ecology, commented on other sections.]
- 33) 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. [I was senior author and led this work, wrote the ms]
- 32) 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. [I coordinated this project and worked closely with coauthors to do field work and analysis, and writing.]
- 31) 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. [wrote the ms, led the work]
- 30) 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. [had a minor but key role in this project]

- 29) 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. [led this work, wrote the ms]
- 28) 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. [collaborated with authors on this one, I led the writing]
- 27) Chen, J., Song, B., Rudnicki, M., Moeur, M., Bible, K., North, M., Shaw, D.C., Franklin, J.F., and Braun, D.M. 2004. Spatial relationship of biomass and species distribution in an old-growth *Pseudotsuga-Tsuga* forest. *For. Sci.* 50(3): 364-375.. [contributed field work, data, and concepts].
- 26) 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. [worked closely with co-authors on the project, their expertise was what made it happen].
- 25) 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. [led this writing effort, including data collection, vegetation surveys]
- 24) 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. [contributed data and ideas]
- 23) 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. [contributed data, work, ideas]
- 22) 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. [led all aspects of the work and writing]
- 21) 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. [led all aspects of the work and writing]
- 20) 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. [led all aspects of the work and writing]
- 19) 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. [all co-authors employed by me, original idea mine, worked with these folks on all aspects of the project]
- 18) 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. [contributed ideas]

- 17) 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. [played key role in all aspects of this work]
- 16) 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. [collaborated closely with co-author on all aspects]
- 15) 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. [played a minor but key role]
- 14) 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. [led all aspects of the work and writing]
- 13) Shaw, D.C. and C. Flick. 1999. Are resident songbirds stratified within the canopy of a coniferous old-growth forest? *Selbyana* 20: 324-331. [led all aspects of the work and writing]
- 12) 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. [was on Clements MS committee, hired him to do the field work, worked closely with the writing process]
- 11) 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. [played a key role in data]
- 10) 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. [played a minor but key role]
- 9) 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. [collaborated on all aspects of the project]
- 8) 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. [led all aspects of the work and writing]
- 7) McCune, B. et al. 1997. Vertical profile of epiphytes in a Pacific Northwest old-growth forest. *Northwest Science* 71: 145-152. [played a minor but key role]
- 6) 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. [led writing effort]
- 5) Parks, C.G. and D.C. Shaw. 1996. Death and decay: A vital part of living canopies. *Northwest Science* 70, Special Issue: 46-53. [collaborated on writing]

- 4) 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. [based on my PhD work]
- 3) Shaw, D.C., J. Greenleaf, and D. Berg. 1993. Monitoring new forestry. *Environmental Monitoring and Assessment* 26: 187-193. [led all aspects of the work and writing]
- 2) 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. [led all aspects of the work and writing, my MS thesis]
- 1) 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. [my first research project, the result of lab and field work collaborating with my professor]

Invited Book Reviews, Journals

- 2) Shaw, D.C. 2016. Future in flux; ectotherms might like it. *Ecology* 97(6): 1627-1628. Invited Book Review of; Christer Björkman and Pekka Niemelä, editors. 2015. *Climate change and insect pests*. CABI, Boston, Massachusetts.
- 1) Shaw, D.C. 2012. Forest Health for Ecologists. *Ecology*: 93(2) 436-437. Invited Book Review of, "Forest Health, An Integrated Perspective." Edited by J.D. Castello and S.A. Teale.

Introduction to Special Issues

- 1) Shaw, D.C. and S.F. Shamoun. 2017. Introduction to "Mistletoes: Pathogens, Keystone Resource, and Medicinal Wonder". *Botany* 95(3): v-vi, 10.1139/cjb-2017-0011

Journal of Extension

- 1) Strong, N.A., P.T. Oester, and D.C. Shaw. 2012. Pest Scene Investigators: A Peer-Learning Effort to Improve Forest Health in Oregon. *Journal of Extension* 50 (2). Article Number 2IAW2.

OSU Extension Publications (reviewed): Book

- 1) EM 8980. *Managing Insects and Diseases of Oregon Conifers*. June 2009. 98 pages. Authors: David C. Shaw, Paul T. Oester, Greg M. Filip.

OSU Extension Publications (reviewed): Extension Circulars, and Extension Manuals

- 7) EM 9137. March 2016. *The Hidden Threat in Firewood: Invasive Forest Pests*. Shaw, D., A Grotta, W. Williams, R. Rippey, and S. Bowers. OSU Extension Service EM 9137. 6 pg.
- 6) EM 9015. *Common Insects and Diseases of Sitka Spruce on the Oregon Coast*. January 2015. 23 pages. Authors: Jim Reeb and David Shaw.
- 5) EM 9008. *Common Insects and Diseases of Shore Pine on the Oregon Coast*. September 2010. 14 pages. Authors: Jim Reeb and David Shaw.
- 4) EC 1916-E, *Diseases and Insects Pests of Pacific Madrone*. May 2008. 5 pages. Authors : Max Bennett, David Shaw. <http://extension.oregonstate.edu/catalog/pdf/ec/ec1619-e.pdf>

- 3) 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>
- 2) 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>
- 1) 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>

OSU Extension Publications (Contributor)

Plant Disease Management Handbook. Contribute information for specific disease updates.

Swiss Needle Cast Cooperative Annual Reports (available: <http://sncc.forestry.oregonstate.edu/>)

Guest Editor, Journal

- 2) D.C. Shaw and S. Shamoun. Guest editors, 2017 Issue of Botany,,special section on mistletoes from the IUFRO 7.02.11 Meeting in Ashland, Oregon.
- 1) 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.

Book Chapters

- 6) Shaw, D.C. and R.L. Mathiasen. 2013. Management of Higher Parasitic Plants – Mistletoes. Chapter 5. In: Infectious Forest Diseases. Edited by G. Nicolotti, and P. Gonthier. CABI Press. Invited Chapter Contribution.
- 5) Shaw, D.C. 2004. Vertical Organization of Canopy Biota. Chapter 4, In: M. Lowman and B. Rinker. Forest Canopies 2nd Edition. Elsevier/Academic Press.
- 4) Shaw, D.C., F. Meinzer, K. Bible, and G. Parker. 2003. Wind River Canopy Crane. Chapter 4.2.6. In: Bassett, Y., V. Horlyck, and J. Wright. Studying the Forest Canopy from Above: The International Canopy Crane Network. United Nations Environment Program and Smithsonian Tropical Research Institute.
- 3) Shaw, D.C. Wind River Canopy Crane, USA. Pg 60-65. In: Mitchell, A.W., K.Secoy, and T. Jackson. 2002. The Global Canopy Handbook. Techniques of Access and Study in the Forest Roof. Global Canopy Programme, Global Canopy Foundation, Halifax House, Oxford, UK.
- 2) Shaw, D.C. Sampling birds in the forest canopy using a canopy crane. Pg 156-159. In: Mitchell, A.W., K.Secoy, and T. Jackson. 2002. The Global Canopy Handbook. Techniques of Access and Study in the Forest Roof. Global Canopy Programme, Global Canopy Foundation, Halifax House, Oxford, UK.
- 1) Kitching, R.L. and D.C. Shaw. Volunteers: Their use and management. Pg 219-224. In: Mitchell, A.W., K.Secoy, and T. Jackson. 2002. The Global Canopy Handbook. Techniques of Access and Study in the Forest Roof. Global Canopy Programme, Global Canopy Foundation, Halifax House, Oxford, UK.

Proceedings

- 4) Shaw, D.C. 2014. Interacting threats to forest plantations in the Douglas-fir region, USA. In: Parrotta et al. (editors). XXIV IUFRO World Congress (Salt Lake City, USA) Sustaining Forests, Sustaining People: The Role of research. The International Forestry Review 16: 334.
- 3) Latta, G., D. Adams, and D.C. Shaw. 2011. Using a needle retention model and a log market model to estimate the economic impacts of Swiss needle cast in western Oregon. Pages 21-22. In: Proceedings of the 58th Annual Western International Forest Disease Work Conference. M.L. Fairweather and P. Palacios compilers.
- 2) Woolley, T., Ganio, L.M., Shaw, D.C., Fitzgerald, S., and C. Shaw., 2008. A Framework to Evaluate Post-fire Tree Mortality Logistic Models. Pages 000-000 in R.E. Masters, K.E.M. Galley, and D.G., Despain (eds.). The '88 Fires: Yellowstone and Beyond. Tall Timbers Miscellaneous Publication No. 16, Tall Timbers Research Station, Tallahassee, Florida, USA.
- 1) 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.

USFS General Technical Reports

- 2) Jayawickrama, K.J.S., D. Shaw, and T.Z. Ye. 2012. Genetic Selection in Coastal Douglas-fir for tolerance to Swiss Needle Cast Disease. In: Sniezko, Richard A.; Yanchuk, Alvin D.; Kliejunas, John T.; Palmieri, Katharine M.; Alexander, Janice M.; Frankel, Susan J., tech. coords. 2012. Proceedings of the fourth international workshop on the genetics of host-parasite interactions in forestry: Disease and insect resistance in forest trees. Gen. Tech. Rep. PSW-GTR-240. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture. 372 p.
- 1) 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: Orosina, 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.

USFS, Forest Insect and Disease Leaflets (FIDL)

- 1) Mulvey, R.L., D.C. Shaw, G.M. Filip, and G.A. Chastagner. 2013. Swiss Needle Cast of Douglas-fir. Forest Insect and Disease Leaflet (FIDL) 181. USDA Forest Service, Washington DC.

USFS Plant Association Field Guides

- 2) 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.

- 1) 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.

Non-Refereed Scientific Society Bulletin Reports

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