

CURRICULUM VITAE

David Oakes Wallin

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Education:

Ph.D., Environmental Sciences, University of Virginia, Charlottesville, VA, August 1990;
Dissertation title: Habitat dynamics for an African weaver-bird: the red-billed quelea
(*Quelea quelea*); advisor: Herman H. Shugart

M.A., Biology, The College of William and Mary, Williamsburg, VA, January 1982; Thesis title:
The influence of environmental conditions on the breeding biology of the bald eagle in
Virginia; advisor: Mitchell A. Byrd

B.S., Biology, Juniata College, Huntingdon, PA, May 1978

Professional Experience:

Current: Professor, Western Washington University (see below for employment history)

Research focus: landscape ecology and remote sensing, land-use effects on ecosystem structure and function, landscape genetics, regional analysis of biodiversity patterns, life history attributes and habitat heterogeneity in space and time as determinants of species distribution and abundance patterns, analysis of landscape pattern and pattern change under shifting management objectives, effect of land-use on carbon storage in forest ecosystems.

Research Activities and Tools: remote sensing; image analysis and GIS, univariate and multivariate statistics, spatial analysis, computer programming, simulation modeling, vegetation sampling, habitat analysis, GPS telemetry.

Teaching: Fundamentals of Ecology, Landscape Ecology, Terrestrial Ecology, Forest Ecosystems, Introduction to Remote Sensing, GIS and Environmental Modeling.

Honors and Awards:

National Aeronautics and Space Administration Fellowship (1986-1989)

The William and Mary Fellowship in Biology (1979-1980)

Beta Beta Beta (1977) and Phi Sigma (1979) Biological Honor Societies

Funded Proposals: (PI or Co-PI for over \$2,600,000 of funded proposals since 1992)

North Cascades Elk Population Study (Stillaguamish Indian Tribe; \$30,076; 9/2012-12/2014;
Seattle City Light; Wildlife Research Program \$4,835; 5/2013-12/2014)

Landscape Effects on Connectivity and Genetic Diversity of Cougar (*Puma concolor*)
Populations in Washington (Seattle City Light; Wildlife Research Program; \$6,471;
5/2012-6/2013; WA Chapter of the Wildlife Society Research Grant; \$2,500; 2012)

Funded Proposals: (continued)

- Patterns of Genetic Diversity and Connectivity Among Mountain Goat Populations in Washington and Southern British Columbia (Mountaineers Foundation Research Grant, \$4,000; 4/11-6/12)
- Mountain Goat Conservation and Restoration in the North Cascades: Connectivity and Genetic Diversity (Washington Department of Fish and Wildlife; ALEA Cooperative Project, \$10,700 summer 2011)
- Mountain Goat Conservation and Restoration in the North Cascades: Connectivity and Genetic Diversity (Washington Department of Fish and Wildlife; ALEA Cooperative Project, \$8,688 summer 2010)
- Mountain Goat Conservation and Restoration in Washington State: Field Sampling (Washington Department of Fish and Wildlife; ALEA Cooperative Project, \$24,088, summer 2007)
- Mountain Goat Conservation and Restoration in Washington State: Genetic Analysis (The Mazamas Foundation Research Grant, \$2,400, 5/1/07 – 7/15/08)
- Mountain Goat Conservation and Restoration in Washington State: A Landscape Genetics Approach (Seattle City Light, \$36,640, 7/1/07 – 12/31/09)
- Mountain Goat Conservation and Restoration in Washington State: Genetic Analysis (The Mountaineers Foundation Research Grant, \$4,803, 5/1/07 – 12/31/08)
- Mountain Goat Genetic Analysis (Washington Department of Fish and Wildlife, \$12,000, 3/1/07 – 6/30/07)
- Helicopter-based Biopsy Darting of Mountain Goats for Genetic Analysis (Washington Department of Fish and Wildlife, \$20,000, 6/1/07 – 6/30/07)
- Mountain Goat Behavioral Observations and Survey Ground Observations (Washington Department of Fish and Wildlife; ALEA Cooperative Project, \$14,262, summer 2006)
- Assessment of Mountain Goat Habitat in the North Cascades (Sauk-Suiattle Indian Tribe, multiple contracts, \$54,000, 2002-2006)
- Mountain Goat Ecology and Management (Washington Department of Fish and Wildlife, \$12,684, 3/06 – 9/06)
- Mountain Goat Ecology in Washington (Seattle City Light, \$59,000, 2003-2005) Co-PI with Clifford G. Rice, Washington Dept. of Fisheries and Wildlife, Douglas McMurtrie, Sauk-Suiattle Tribe, Phyllis Reed Mount Baker/Snoqualmie National Forest, Robert C. Kuntz II, North Cascades National Park
- Modeling carbon dynamics at multiple spatial scales in two forest regions: Pacific Northwestern USA and Northwestern Russia (NASA, \$581,850, 1997-2000). co-PI with M.E. Harmon, O.N. Krankina, P.S. Homann, W.B. Cohen
- Modeling forest carbon dynamics in the Pacific Northwest of the United States. (NASA, \$96,000, 1995-96) co-PI with W.B. Cohen and M.E. Harmon
- Fire history of the Cherry Creek Basin Research Natural Area, Winema NF. (USDA Forest Service, \$60,000, FY95, 96, 97) PI
- Spatio-temporal analysis of ecological and physical systems at landscape to regional scales. (NSF Training grant, \$537,000, 1995-2000) Faculty Participant
- Analysis of land-use effects on landscape patterns and biological diversity in Pacific Northwest forests: 1972-1992. (NASA, \$485,000, 1993-98) PI; co-PI's W.B. Cohen, G.A. Bradshaw, T.A. Spies, A. Hansen, M.H. Huff, J.F. Lehmkuhl, M.G. Raphael and W.J. Ripple

Funded Proposals: (continued)

- Landscape dynamics in pre-settlement and managed forests. (USDA Forest Service, \$75,000, 1994-95) PI
- Land use and wildfire effects on landscape patterns and avian diversity: a comparison of the greater Yellowstone ecosystem and the Pacific Northwest. (NASA, \$111,000, 1994) co-PI with A. Hansen, W.B. Cohen, J. Wilson, J. Rotella, R. Redmond and R. Patten
- Modeling the effects of land use and climate change on carbon storage in the forests of the Pacific Northwest. (NASA, \$395,000, 1992-94) co-PI with W.B. Cohen, M.E. Harmon, P. Sollins, W.K. Ferrell
- Mapping regional biodiversity patterns using satellite-based estimates of forest structure. (USDA Forest Service, \$15,000, 1992) PI; co-PI's W.B. Cohen, T. Spies, A. Hansen, M.G. Raphael and K.B. Aubry
- Using satellite-measurable environmental parameters for extending models of ecological processes to large spatial scales: a test case. (NASA, \$150,000, 1986-89), graduate student on grant to H.H. Shugart

Western Washington University Internal Funding:

- Acquisition of Small Unmanned Aircraft Systems (sUAS) to enhance and support teaching and research (Student Technology Fee Program, WWU, \$89,134, 2013) primary author with two co-authors)
- Remote Sensing Software Equipment (Student Technology Fee Program, WWU, \$7,600, 2009) proposal author
- Spatial Analysis Lab Global Positioning System Equipment (Student Technology Fee Program, WWU, \$15,000, 2004) proposal co-author
- Spatial Analysis Computer Lab Upgrades (Student Technology Fee Program, WWU, \$40,000, 2002) proposal co-author
- Global Positioning System Equipment for Huxley College and the Departments of Anthropology, Biology and Geology (Student Technology Fee Program, WWU, \$72,000, 1999) primary author with numerous co-authors
- Huxley Map Library Equipment (Student Technology Fee Program, WWU, \$32,000, 1998) proposal co-author
- Spatial Analysis Computer Lab for Huxley College and the Department of Geology (Student Technology Fee Program, WWU, \$150,000, 1997), proposal co-author

Employment:

- Professor, Department of Environmental Sciences, Huxley College of the Environment, Western Washington University (4/04 – present); Associate Professor (9/98 – 4/04); Assistant Prof. (9/95 - 9/98).
- Courtesy Faculty, Forest Science Department, Oregon State University (9/95 – 12/99)
- Research Assistant Professor, Forest Science Department, Oregon State University (1/94-9/95)
- Postdoctoral Research Associate, Forest Science Department, Oregon State University (2/91 - 12/93); supervisor, F.J. Swanson
- Doctoral Student; Environmental Sciences Department, University of Virginia, Charlottesville, Virginia (9/85-8/90); regional-scale study of factors affecting the distribution and abundance of organisms in space & time

Employment (continued):

NASA Fellow; One year in residence (during 1986-90) at Goddard Space Flight Center learning remote sensing, image analysis and GIS; experience with a wide range of remotely sensed data; supervisor: Compton J. Tucker

Wildlife Biologist; The Virginia Commission of Game and Inland Fisheries, Richmond, Virginia (10/84-8/85); endangered and non-game species research and management.

Publications (* indicates graduate student author):

- *Wells., A.G., C.C. Blair, E.O. Garton, C.G. Rice, J.S. Horne, J.L. Rachlow, D.O. Wallin. 2014. The Brownian bridge synoptic model of habitat selection and space use for animals using GPS telemetry data. *Ecological Modeling* 273:242-250.
- * Wasserman, T.N., S.A. Cushman, D.O. Wallin, J. Hayden. 2012. Multi Scale Habitat Relationships of *Martes americana* in Northern Idaho, U.S.A. . USDA Forest Service, Rocky Mountain Research Station Research Paper, RMRS-RP-94, May 2012.
- *Wells, A.G., D.O. Wallin, C.G. Rice and W-Y Chang. 2011. GPS Bias Correction and Habitat Selection by Mountain Goats. *Remote Sensing* 3:435-459; doi:10.3390/rs3030435
- *Shirk, A.J., D.O. Wallin, S.A. Cushman, C.G. Rice and K.I. Warheit. 2010. Inferring landscape effects on gene flow: a new model selection framework. *Molecular Ecology* 19:3603-3619.
- *Wasserman, T.N., S.A. Cushman, M.K. Schwartz and D.O. Wallin. 2010. Spatial scaling and multi-model inference in landscape genetics: *Martes americana* in northern Idaho. *Landscape Ecology*. Published online 29 August 2010. doi:10.1007/s10980-010-9525-7
- *Schroeder, T.A., A. Gray, M.E. Harmon, D.O. Wallin, W.B. Cohen. 2008. Estimating live forest carbon dynamics with a Landsat-based curve-fitting approach. *J. of Applied Remote Sensing* Vol. 2,023519 (9 May 2008) [DOI: 10.1117/1.2937821]
- Wallin, D.O., M.E. Harmon, W.B. Cohen (in press). Modeling regional-scale carbon dynamics in Pacific Northwest forests: 1972-95. Pages xx-xx In: O. Krankina and M.E. Harmon (eds.) Carbon Dynamics of Two Forest Regions: Northwestern Russian and the Pacific Northwest. Springer-Verlag, New York.
- *Call, K.A., J.T. Hardy and D.O. Wallin. 2003. Coral reef habitat discrimination using multivariate spectral analysis and satellite remote sensing. *International Journal of Remote Sensing* 24(13):2627-2639.
- *Cushman, S.A. and D.O. Wallin. 2002. Separating the effects of environmental, spatial and disturbance factors of forest community structure in the Russian Far East. *Forest Ecology and Management* 168(1-3):201-215.
- *Richards, W.H., D.O. Wallin, and N.H. Schumaker. 2002. An analysis of late-seral forest connectivity in western Oregon. *Conservation Biology* 16(5):1409-1421.
- Urban, D.L., and D.O. Wallin. (2001). Models of landscape change: introduction to Markov models. Pages 35-48 In: Gergel, S.E. and M.G. Turner (eds.). Learning landscape ecology: a practical guide to concepts and techniques. Springer-Verlag, New York. ISBN 0-387-95254-3
- *Cushman, S.A. and D.O. Wallin. 2000. Rates and patterns of landscape change in the central Sikhote-alin Mountains, Russian far east. *Landscape Ecology* 15(7):643-659
- Cissel, J.H., D. O. Wallin and others. 1998. A landscape plan based on historical fire regimes for a managed forest ecosystem: the Augusta Creek study. USDA For. Ser. Gen. Tech.

Publications: (continued)

- Rep. PNW-GTR-422. Pacific Northwest Forest and Range Experiment Station, Portland, OR.
- Zheng, D., D.O. Wallin and Z. Hao*. 1997. Use of remote sensing to detect rates and patterns of landscape change in the Changbai Mountain area of China and Korea: 1972-1988. *Landscape Ecology*. 12(4): 241-254.
- Wallin, D.O., F.J. Swanson, B. Marks, J. Kertis and J. Cissel. 1996. Comparison of managed and pre-settlement landscape dynamics in forests of the Pacific Northwest, U.S.A.. *Forest Ecology and Management* 85:291-310.
- Wallin, D.O., Harmon, M.E., Cohen, W.B., Fiorella, M. and Ferrell, W.K. 1996. Use of remote sensing to model land use effects on carbon flux in forests of the Pacific Northwest, USA. Pages 219-237 In: Gholz, H.L., Nakane, K. and Shimoda, H. (eds). The use of remote sensing in the modeling of forest productivity at scales from the stand to the globe. Kluwer Academic Publishers, Dordrecht. ISBN 0-7923-4278-X
- Cohen, W.B., M.E. Harmon, D.O. Wallin and M. Fiorella. 1996. Two decades of carbon flux from forests of the Pacific Northwest. *Bioscience* 46(11):836-844.
- Cohen, W.B., T.A. Spies, F.J. Swanson and D.O. Wallin. 1995. Land cover on the western slopes of the central Oregon Cascade Range. *International Journal of Remote Sensing* 16:595-596.
- Wallin, D.O., F.J. Swanson and B. Marks. 1994. Landscape pattern response to changes in the pattern-generation rules: land-use legacies in forestry. *Ecological Applications* 4(3):569-580.
- Cohen, W.B., P. Sollins, P. Homann, W.K. Ferrell, M.E. Harmon, D.O. Wallin, and M. Fiorella. 1994. Using a GIS to model effects of land use on carbon storage in the forests of the Pacific Northwest, USA. Pages 483-495 In Environmental Information Management and Analysis: Ecosystem to Global Scales, W.K. Mitchener, J.W. Brunt and S.G. Stafford, (eds.), Taylor and Francis, Bristol, PA.
- Swanson, F.J., J.A. Jones, D.O. Wallin and J. Cissel. 1993. Natural variability: Implications for ecosystem management. Pages 89-103 In: Jensen, M.E. and Bourgeron, P.S. (eds.) Eastside forest ecosystem health assessment--Volume II: Ecosystem management: principles and applications. Portland, OR: U.S. Dept. of Agriculture, Forest Service, Pacific Northwest Research Station.
- Marquet, P., S. Bollens, J. Clark, M.-J. Fortin, C.M. Jacobi, J. Pineda, D.O. Wallin and Y. Wu. 1993. The ecological and evolutionary consequences of patchiness: a marine-terrestrial perspective. Pages 277-304 In: Patch Dynamics, Volume 96: Lecture Notes in Biomathematics, S. Levin, T. Powell, J. Steele (eds.), Springer-Verlag, New York.
- Cohen, W.B., D.O. Wallin, M.E. Harmon, P. Sollins, C. Daly, and W.K. Ferrell. 1992. Modeling the effect of land use on carbon storage in the forests of the Pacific Northwest. (invited paper) Pages 1023-1026 In: Proceedings of the International Geosciences and Remote Sensing Symposium, IEEE Catalog #92CH3041-1.
- Wallin, D.O., C.C.H. Elliott, H.H. Shugart, C.J. Tucker and F. Wilhelmi. 1992. Satellite remote sensing of breeding habitat for an African weaver-bird. *Landscape Ecology* 7(2):87-99.
- Urban, D.L., A.J. Hansen, D.O. Wallin and P.J. Halpin. 1992. Life-history attributes and avian diversity: scaling implications for global change. (invited paper) Pages 173-195 In:

Publications: (continued)

O.T. Solbrig, H.M. van Emden and P.G.W.J. van Oordt (eds.). Biodiversity and Global Change, Monograph No. 8, International Union of Biological Sciences, Paris, France.

Presentations:

- Warren, M.J., D.O. Wallin, and R.A. Beausoleil. Cougar gene flow in a heterogeneous landscape. Presented at: U.S. International Association for Landscape Ecology 2013 Annual Meeting; 2013 April 14-18; Austin, TX.
- Warren, M.J., D.O. Wallin and R.A. Beausoleil. 2013. Cougar population structure and spatial genetic variation in the Pacific Northwest. Poster session presented at: Oregon and Washington Chapters of the Wildlife Society 2013 Annual Meeting; 2013 February 13-15; Stevenson, WA. (**winner best graduate poster**)
- Parks, L., D.O. Wallin, B. McCrae and A. Shirk. 2013. Mountain Goat Population Connectivity in WA and southern BC. Oregon and Washington Chapters of the Wildlife Society 2013 Annual Meeting; 2013 February 13-15; Stevenson, WA. (**winner best student paper**)
- Parks, L., D.O. Wallin. 2012. Mountain Goat Population Connectivity in WA and southern BC. The Wildlife Society, National Conference in Portland, OR, October 2012
- Wallin, D.O., M. Harmon, W.B. Cohen and R. Kennedy. 2011. Modeling regional scale carbon dynamics in Pacific Northwest forests: 1972-2008. (oral presentation) US Chapter of the International Association of Landscape Ecologists; 26th Annual Landscape Ecology Symposium. Portland, OR April 2011.
- Shirk, A., D. Wallin, S. Cushman, C. Rice and K. Warheit. 2009. Mountain Goat Gene Flow in the Cascade Range of Washington. (oral presentation) US Chapter of the International Association of Landscape Ecologists; 24th Annual Landscape Ecology Symposium. Snowbird, Utah. April 2009.
- Shirk, A., D. Wallin, C. Rice, S. Cushman and K. Warheit. 2009. Mountain Goat Population Structure in the Washington Cascades. (oral presentation) NW Chapter of the Wildlife Society annual meeting, Skamania Lodge, Washington March, 2009.
- Shirk, A., D. Wallin, C. Rice, S. Cushman and K. Warheit. 2009. Gene Flow and Landscape Resistance for Mountain Goat Populations in the Washington Cascades. NW Chapter of the Wildlife Society annual meeting, Skamania Lodge, Washington March, 2009. (**best student paper award**)
- Beus, T., D. Wallin., and C. Rice. 2008. Multi-scale Modeling: Delineating Mountain Goat Habitat (*Oreamnos americanus*) in the Washington Cascades. (Presentation) Northern Wild Sheep and Goat Council 16th Biennial Symposium Heber Valley, UT April 27-May 1, 2008.
- Beus, T., D. Wallin, C. Rice and S. Cushman. 2008. Multi-scale Seasonal Habitat Modeling: Delineating Mountain Goat Habitat (*Oreamnos americanus*) in the Washington Cascades. (Poster Presentation) The 2008 Joint Annual Meeting of the Washington Chapter and Northwest Section of The Wildlife Society, Spokane, WA March 19-21, 2008.
- Shirk, A., C. Rice, and D. Wallin. 2008. Mountain Goat Translocations: History and Effectiveness. NW Chapter of the Wildlife Society annual meeting, Spokane, Washington March, 2008.

Presentations: (continued)

- Wasserman, T., S. Cushman and D.O. Wallin. 2007. Influences of Landscape Features on Gene Flow of American Marten in Northern Idaho, USA. International Association for Landscape Ecology Conference (IALE). Wageningen, Netherlands. July 8-13, 2007.
- Wasserman, T., S. Cushman and D.O. Wallin. 2007. Multi-Scale Habitat Modeling of *Martes americana* in Northern Idaho. (poster presentation) Sigma Xi Scientific Research Society, WWU Chapter. May 18th 2007.
- Wasserman, T., S. Cushman and D.O. Wallin. 2007. Multi-Scale Habitat Modeling of *Martes americana* in Northern Idaho. (poster presentation) 22nd US-IALE International Association for Landscape Ecology Conference Tucson, AZ April 9-13 2007.
- Wasserman, T., S. Cushman and D.O. Wallin. 2007. Non-invasive Sampling of Fisher and Marten Using Hair Snares and Molecular Genetics. **(invited talk)** Annual Meeting of The Society for Northwestern Vertebrate Biology. Victoria, BC Canada. February 21-24, 2007.
- Wallin, D.O. and A. Wells. 2006. Habitat analysis of mountain goats in the Washington Cascades. Joint Annual Meeting of the Society for Northwestern Vertebrate Biology and the Washington Chapter of the Wildlife Society; March 27-31, 2006; Olympia, WA.
- Wells, A. and D.O. Wallin. 2006. GPS bias correction in the Washington Cascades. Joint Annual Meeting of the Society for Northwestern Vertebrate Biology and the Washington Chapter of the Wildlife Society; March 27-31, 2006; Olympia, WA.
- Wells, A. and D.O. Wallin. 2006. GPS bias correction and mountain goat habitat analysis. Proceedings of the 27th Annual Pacific Ecology and Evolution Conference. March 3-5, 2006, Bamfield Marine Science Centre, Bamfield, British Columbia, Canada.
- Wells, A. and D.O. Wallin. 2005. GPS Bias Correction and Seasonal Mountain Goat (*Oreamnos americanus*) Habitat Analysis in the Washington Cascades. Third Annual Research Advances in Fisheries, Wildlife and Ecology; November 9th, 2005; La Sells Stewart Center, OSU Corvallis, OR.
- Wallin, D.O. and A. Wells. 2005. GPS bias correction for wildlife habitat modeling. Invited seminar in the College of Forestry, University of Washington.
- Wallin, D.O. and C. Gardner. 2003. Modeling habitat availability for the Mountain Goat (*Oreamnos americanus*) in the North Cascades of Washington. **(invited paper)** Native American Fish and Wildlife Society, Pacific Region Conference, Ocean Shores, WA October, 2003.
- Wallin, D.O., M.E. Harmon, W.B. Cohen. 2003. Modeling regional-scale carbon dynamics in Pacific Northwest forests: 1972-95. Annual meeting of the U.S. chapter of the International Association for Landscape Ecology, Banff, Alberta, Canada; April 2003.
- Wallin, D.O. 2001. Land-use effects on spatial and temporal patterns of carbon storage and flux in PNW forests. **(invited paper)** Workshop on Climate Change, Carbon and Forestry in Northwestern North America. November 2001, Orcas Island, WA.
- Wallin, D.O., E. Heyerdahl and J.S. Foster. 1999. Paleo-Landscape Ecology: Reconstructing the spatial and temporal dynamics of Pacific Northwest forests. **(invited paper)** The 84th Annual Ecological Society of America Conference: Legacies, Landscapes and Limits - Bridging Borders. August 8-12, 1999. Spokane, WA.
- Richards, W.H., D.O. Wallin, and N.H. Schumaker. 1999. An analysis of late-seral forest connectivity in western Oregon. The 84th Annual Ecological Society of America

Presentations: (continued)

- Conference: Legacies, Landscapes and Limits - Bridging Borders. August 8-12, 1999. Spokane, WA.
- Boyce, A. and D.O. Wallin. 1999. Rates and patterns of forest disturbance in the Cascades of Washington and British Columbia. The 84th Annual Ecological Society of America Conference: Legacies, Landscapes and Limits - Bridging Borders. August 8-12, 1999. Spokane, WA.
- Antonova, N.V. and D.O. Wallin. 1999. Mapping potential Ferruginous Hawk habitat using satellite data. The 84th Annual Ecological Society of America Conference: Legacies, Landscapes and Limits - Bridging Borders. August 8-12, 1999. Spokane, WA.
- Antonova, N.V. and D.O. Wallin. 1999. Mapping potential Ferruginous Hawk habitat using satellite data. The Association of American Geographers 95th Annual Meeting. 23-27 March 1999. Honolulu, Hawaii. **(note: this received an award for "best student poster")**
- Randgaard, D.K. and D.O. Wallin. 1999. The effects of forest roads on *Peromyscus* movements. Washington State Wildlife Society Meetings. March 30 - April 2, 1999. Wenatchee, WA.
- Wallin, D.O., A. Boyce, S. K. Nelson, T.A. Spies and W.B. Cohen. 1998. Mapping potential habitat for the marbled murrelet (*Brachyramphus marmoratus*) in the Oregon Coast Range using satellite data. Annual meeting of the U.S. chapter of the International Association for Landscape Ecology, East Lansing, MI. March, 1998.
- Richards, W.H., D.O. Wallin, N.H. Schumaker and W.B. Cohen. 1998. A Regional-Scale Analysis of Wildlife Dispersal Success in a Forested Landscape. Annual meeting of the U.S. chapter of the International Association for Landscape Ecology, East Lansing, MI. March, 1998.
- Richards, W.H., D.O. Wallin, N.H. Schumaker and W.B. Cohen. 1998. A regional scale analysis of wildlife dispersal success in a fragmented landscape. Landscape Management of Pacific Northwest Forests: Exploring Practical Tools for Managers. February 18-20, 1998. Olympia, WA. Hosted by WDFW, USFWS, and The Wildlife Society.
- Cushman, S. and D.O. Wallin. 1998. Rates and patterns of landscape change in the central Sikhote-alin Mountains of the Russian far east. Annual meeting of the U.S. chapter of the International Association for Landscape Ecology, East Lansing, MI. March, 1998.
- Wallin, D.O., A. Boyce, D. Zheng, M. Huff, A. Hansen, L. Ganio, W. McComb, M. Hunter, J. Lehmkuhl, W.B. Cohen and M. Fiorella. 1997. Landuse Effects on Bird Communities in the Oregon Coast Range (1972-1991): Mapping potential Habitat Using Satellite Data. Annual meeting of the U.S. chapter on the International Association for Landscape Ecology, Durham, N.C. March, 1997.
- Wallin, D.O. 1996. Pattern and process in PNW forests: lessons for ecosystem management **(Invited paper)** Ecosystem management for wildlife conservation in the Pacific Northwest, Olympia, WA; October 24-25, 1996.
- Wallin, D.O., Harmon, M.E., Cohen, W.B., Fiorella, M. and Ferrell, W.K. 1996. Use of remote sensing to model land use effects on carbon flux in forests of the Pacific Northwest, USA.

Presentations: (continued)

- Annual meeting of the Ecological Society of America; Providence, Rhode Island; August 1996.
- Wallin, D.O., Harmon, M.E., Cohen, W.B., Fiorella, M. and Ferrell, W.K. 1996. Use of remote sensing to model land use effects on carbon flux in forests of the Pacific Northwest, USA. **(Invited paper)** Sustainable Forestry Partnership: Forging a Network of Excellence, March 1996, Edmonton, Alberta
- Wallin, D.O., D. Zheng, M. Huff, A. Hansen, L. Ganio, W. McComb, M. Hunter, J. Lehmkuhl, W.B. Cohen, and M. Fiorella. 1995. Land-use effects on bird communities in U.S. Pacific Northwest forests (1972-1992): mapping potential habitat using satellite data. Annual meeting of the Ecological Society of America; Snow Bird, Utah; August 1995.
- Hansen, A., R. Patten, R. Redmond, Z. Ma, W. Cohen, J. Wilson and D.O. Wallin. 1995. Landscape heterogeneity under natural and human disturbances in Greater Yellowstone. Annual meeting of the Ecological Society of America; Snow Bird, Utah; August 1995.
- Hao, Z., D. Zheng and D.O. Wallin. 1995. Detecting rates and patterns of landscape change in the Changbai Mountain area of China and North Korea: 1972-1988. (poster), Annual meeting of the Ecological Society of America; Snow Bird, Utah; August 1995.
- Purnell, C.S., D.O. Wallin and W.B. Cohen. 1995. Analysis of riparian vegetation and land use in the Oregon Cascades using Landsat TM data. (poster), GIS '95, Ninth Annual Symposium on GIS in Natural Resource Management, Vancouver, British Columbia, March 27-30, 1995.
- Wallin, D.O., F.J. Swanson, B. Marks, J. Kertis and J. Cissel. 1995. Landscape dynamics in Pacific Northwest forests: a comparison of 400 years of pre-settlement conditions to current and alternative future conditions. **(Invited paper)** American Association for the Advancement of Science, Pacific Division, June 20, 1995, Vancouver, British Columbia.
- Wallin, D.O., D. Zheng, A. Hansen, W. McComb, M. Huff, J. Lehmkuhl, W.B. Cohen and M. Fiorella. 1995. Use of satellite data to map potential forest bird habitat in the central Oregon Cascade Range: land use effects on habitat abundance between 1972 and 1991. Annual meeting of the U.S. chapter on the International Association for Landscape Ecology, Minneapolis, Minn. April, 1995.
- Wallin, D.O., F.J. Swanson, B. Marks, J. Kertis and J. Cissel. Natural variability as a management paradigm: implications for conserving biological diversity. **(Invited paper)** International Forest Biodiversity Conference: Conserving biological diversity in temperate forest ecosystems - Towards sustainable management; Canberra, Australia, December, 1994.
- Wallin, D.O., D. Zheng, A. Hansen, W. McComb, M. Huff, J. Lehmkuhl, W.B. Cohen and M. Fiorella. 1994. Land use effects on bird communities in forests of the U.S. Pacific Northwest: Mapping potential habitat using satellite data. International Forest Biodiversity Conference: Conserving biological diversity in temperate forest ecosystems - Towards sustainable management; Canberra, Australia, December, 1994.
- Purnell, C.S., D.O. Wallin and W.B. Cohen. 1994. Analysis of riparian vegetation and land use in the Oregon Cascades using Landsat TM data. (poster), p. 332, Fifth Biennial USDA Forest Service Remote Sensing Applications Conference. Portland, Oregon. April 12-15, 1994.

Presentations: (continued)

- Wickland, D.E., M.L. Imhoff, C. Ladd, W.B. Cohen, D.O. Wallin et al.. 1994. Ecosystem management--the NASA perspective. (**Invited poster**), Symposium on Ecosystem Management, Congressional Research Service, Library of Congress, March 24, 1994, Washington, D.C..
- Homann, P.S., P. Sollins, H.N. Chappell, M. Fiorella, W.B. Cohen, D.O. Wallin, M.E. Harmon and W.K. Ferrell. 1993. Contribution of soils to organic C storage in western Oregon forest ecosystems. (poster), Soils Science Society of America Annual Meeting; Cincinnati, OH, November 1993.
- Wallin, D.O., J. Cissel, J. Kertis and B. Marks. Comparison of landscape patterns generated by timber harvesting and a natural fire regime in Pacific Northwest Forests. (Creating a Forestry for the 21st Century; Portland, OR, August 1993).
- Wallin, D.O., M.E. Harmon, W.B. Cohen, W.K. Ferrell, P. Sollins, P. Homann, M. Fiorella and C. Daly. Modeling the effect of land-use on carbon storage in public forests in the Pacific Northwest. Ecological Society of America Annual Meeting; Madison, Wisconsin; August 1993.
- Wallin, D.O., J. Kertis, B. Marks and J. Cissel. Comparison of landscape pattern dynamics generated by a natural fire regime and timber harvesting in Pacific Northwest Forests. (**Invited paper**) GIS and Spatial Analysis Workshop, USDA Forest Service; Ft. Collins, CO, June 1993.
- Cohen, W.B., M.E. Harmon, D.O. Wallin, W.K. Ferrell, P. Homann, P. Sollins, and M. Fiorella. 1993. Modeling the effects of land use on carbon storage in the forests of the Pacific Northwest: a test of methods, Proceedings, *25th International Symposium on Remote Sensing and Global Environmental Change*, Graz, Austria, 4-8 April 93, pp.II.533-539.
- Wallin, D.O., B. Marks, J. Kertis and J. Cissel. Comparison of landscape pattern dynamics generated by a natural fire regime and timber harvesting in Pacific Northwest Forests. (International Association of Landscape Ecologists, Annual Meeting; Oak Ridge, TN March 1993).
- Cohen, W.B., D.O. Wallin, M.E. Harmon, P. Sollins, C. Daly, and W.K. Ferrell. 1992. Modeling the effect of land use on carbon storage in the forests of the Pacific Northwest, (**Invited paper**), *International Geosciences and Remote Sensing Symposium*, 26-29 May, 1992, Houston, TX, Vol. 2, pp. 1023-1026.
- Cohen, W.B., M.E. Harmon, D.O. Wallin, P. Sollins, and W.K. Ferrell. 1992. Land use effects on the storage of carbon in Pacific Northwest forests. (International Association of Landscape Ecologists, Annual Meeting; Corvallis, OR, April 1992).
- Wallin, D.O., F.J. Swanson and B. Marks. Modeling the ecological consequences of alternative cutting rules on pattern and pattern legacy in a forested landscape. (International Association of Landscape Ecologists, Annual Meeting; Corvallis, OR, April 1992).
- Wallin, D.O. and N. Schumaker. The influence of species dispersal characteristics and landscape heterogeneity on population persistence in a simple predator - prey system. (International Association of Landscape Ecologists, Annual Meeting; Corvallis, OR, April 1992).
- Wallin, D.O., H.H. Shugart, C.C.H. Elliott, J. Ngondi and C.J. Tucker. Forecasting potential breeding habitat for the red-billed quelea in East Africa using AVHRR satellite data. (Ecological Society of America Annual Meeting, Toronto, Canada; August 1989)

Presentations: (continued)

Wallin, D.O., H.H. Shugart, C.J. Tucker, C.C.H. Elliott and J. Ngondi. Assessment of the use of satellite data to monitor potential breeding habitat for the red-billed quelea (Ecological Society of America Annual Meeting, Davis, California; August 1988)

Current Support:

North Cascades Elk Population Study (Stillaguamish Indian Tribe; \$30,076; 9/2012-12/2014, Seattle City Light; Wildlife Research Program \$4,835; 5/2013-12/2014)

Committee Work:

National Ecological Observatory Network (NEON); Advisory Panel Member for Domain 16: Pacific Northwest. NEON is a National Science Foundation Program. (2009-)
Whatcom County Executive's Review Panel on the Reconveyance and Transfer of Lands within the Lake Whatcom Watershed Reservoir (2008)
WWU Academic Coordinating Committee (2005-06)
WWU Faculty Senate (2000-02, 2009-13)
WWU Graduate Council (1996-98, 2011-13; Vice Chair 2012-13)
WWU Research Advisory Committee (2000-2002)
WWU Faculty Senate Representative to the Student Technology Fee Committee (1999-2001)
WWU Faculty Grievance Committee (1998-2001)
WWU Advisory Committee for the Canyon Lake Creek Community Forest, **Chair** (1999-00)
Lake Whatcom Citizen's Advisory Task Force (1999-2001) (Appointed by the Mayor and the County Executive to provide input on the management of the L. Whatcom Watershed)
County Executive's Review Panel on the Reconveyance and Transfer of Lands within the Lake Whatcom Watershed Reservoir (2007-08) (Appointment by the County Executive)
WWU Huxley College By Laws Revision Committee Chair (2011-12)
WWU Huxley College Graduate Program Committee (1998-99, 2002-2003, 2009-2011)
WWU Huxley College Personnel Committee, (1998), **Chair** (1999-01), (2002-04), (2007-2009)
WWU Huxley College Curriculum Committee member (1995), **Chair** (2001-02, 2005-06, 2006-07)
WWU Huxley College Policy Committee (2006-07)
WWU Huxley College Academic Technology Committee member (1996-97)
WWU Academic Technology Committee member (1996)
OSU Forest Science Department representative to Remote Sensing and GIS Coordinating Committee (coordination of course work and research activities across departments; helped develop an interdisciplinary minor in this area).
OSU Forest Science Department representative to Conservation Biology Coordinating Committee (helped develop an interdisciplinary minor in this area).
OSU Forest Science Department representative on NSF Landscape Studies Graduate Faculty Oversight Committee (administration of NSF Training Grant).

Invited Peer Review:

Proposal Review Panels: USDA Cooperative Research Program, NASA Land-use Land-cover Change Research

Manuscript and Proposal Reviews for: *Canadian Journal of Forest Research*, *Conservation Biology*, *Journal of Environmental Management*, *Ecological Applications*, *Landscape Ecology*, *Northwest Science*, *Photogrammetric Engineering and Remote Sensing*, NASA, USDA, NSF and the Canadian Research Chairs Program.

Graduate Student Advisement; Major Professor:

Natalya V. Antonova, M.S., WWU, Huxley College, Geography, **completed 12/00**; Mapping potential habitat for the Ferruginous Hawk in Utah using satellite remote sensing.

(Current employment: North Cascades National Park)

Tana Beus, M.S. WWU, Huxley College, Environmental Sciences, **completed 7/10**; Habitat Modeling Using Path Analysis: Delineating Mountain Goat Habitat in the Washington Cascades.

Andrew Boyce, M.S., WWU, Huxley College, Geography, **completed 6/99**; Rates and patterns of disturbance in forests of Washington and British Columbia. (Current employment: Private Environmental Consulting, Vermont)

Erica Capuana, M.S., WWU, Huxley College, Environmental Sciences, **completed 11/13**; Assessment of Riparian Conditions in the Nooksack River Basin with the Combination of Lidar, Multi-Spectral Imagery and GIS

Sam Cushman, M.S., WWU, Huxley College, Environmental Sciences, **completed 10/97**; Analysis of landscape patterns and rates of landscape change in Russian far east using satellite remote sensing. (Completed a Ph.D. at the U. of Massachusetts in 2003. Current employment: Research Scientist, US Forest Service, Missoula, Montana)

John Foster, M.S., OSU, Forest Science, **completed 6/99**; Fire history of the Cherry Creek Basin Research Natural Area. (Current employment: The Nature Conservancy, Seattle, WA)

Lise Grace, M.S., WWU, Huxley College, Environmental Sciences, **completed 7/03**; Mapping Bald Eagle communal night roosts habitat in Northwest Washington using satellite imagery. (Current employment: North Cascades National Park)

Sally Manifold, M.S., WWU, Huxley College, Environmental Sciences, **completed 6/99**; Factors influencing avian nesting success in greenway corridors. (Former employment: Greenways Coordinator, Bellingham Parks and Recreation; now retired)

Kari Odden, M.S., WWU, Huxley College, Environmental Sciences, **completed 11/04**; Landuse effects on stream temperatures in Western Washington.

Melissa Oscarson, M.S. WWU, Huxley College, Environmental Sciences, expected 12/16; Elk population dynamics and movement.

Leslie Parks, M.S. WWU, Huxley College, Environmental Sciences, **completed 12/12**; Gene flow and habitat connectivity for mountain goats in the Washington Cascades and southern British Columbia.

Christopher S. Purnell, M.S., Oregon State University, Geosciences, **completed 6/94**; Analysis of riparian vegetation and land use in the Oregon Cascades using Landsat TM data. (deceased)

Graduate Student Advisement; Major Professor (continued):

- Diane Rangaard, M.S., WWU, Huxley College, Environmental Sciences, **completed 2/99**;
Effects of forest roads on small mammal and amphibian habitat connectivity. (Current
employment: Teacher)
- Nathan Rice, M.S., WWU, Huxley College, Environmental Sciences, expected 12/14; North
Cascades Elk population study.
- William Richards, M.S., WWU, Huxley College, Environmental Sciences, **completed 10/98**;
Analysis of patterns of vertebrate diversity in Pacific Northwest forests. (Current
employment: Wildlife Biologist, Cedar River Watershed, City of Seattle)
- Kari Secrest, M.S., WWU, Huxley College, Geography, **completed 2/07**; Use of high resolution
multispectral imagery and LIDAR to map riparian vegetation. (Current employment:
Skagit County; Geographic Information Services)
- Andrew Shirk, M.S., WWU, Huxley College, Environmental Sciences, **completed 6/09**;
Landscape genetic for Mountain Goats in the Washington Cascades.. (Currently
employment: Research Scientist for the Climate Impacts Group at the University of
Washington)
- Misty Tyler, M.S., WWU, Huxley College, Environmental Sciences, **completed 6/03**; Coral reef
habitat mapping using IKONOS satellite imagery. (Current employment: Teacher)
- Matthew J. Warren, M.S., Huxley College, Environmental Sciences, **completed 6/13**; Landscape
Effects on Connectivity and Genetic Diversity of Cougar (*Puma concolor*) Populations in
Washington. (Current employment; Alaska Department of Fish and Wildlife, Fairbanks,
Alaska)
- Tzeidle Wasserman, M.S., Huxley College, Environmental Sciences, **completed 3/2008**; Gene
flow and habitat relationships of Marten (*Martes americana*) and Fisher (*Martes
pennanti*) in Northern Idaho. (Current employment: Began working on a Ph.D. at
Northern Arizona University in the Fall of 2009)
- Adam Wells, M.S., WWU, Huxley College, Environmental Sciences, **completed 7/06**; Habitat
relationships for Mountain Goats in the North Cascades of Washington State. (Current
employment: Completed Ph.D. at the University of Idaho in June 2012)

Graduate Student Advisement; Graduate Committee Member:

- Jay Abramo, M.S. WWU, Biology, expected 2014; Population Genetics and Fluctuating
Diversity of *Sceloporus occidentalis*, Experimental Testing of the Serial Founders Effect
Model of Range Expansion.
- Paul Backus, M.S. Biology, expected 2014; Use of patchy early successional slope habitat along
coastal beaches by the Western Fence Lizard *Sceloporus occidentalis* at the species'
northern geographic extreme
- Logan Berner, M.S., WWU Huxley College, Environmental Sciences, **completed 4/10**;
Evaluation of high-latitude boreal forest growth using satellite-derived vegetation indices.
- Dan Welsh-Bon, M.S., WWU, Huxley College, Environmental Sciences, **completed 11/99**;
Spectral characteristics of coral reef communities.
- Kori Buford, M.A., WWU, Huxley College, Environmental Studies, **completed 6/04**; Fire
behavior modeling in the Washington Cascades.
- Melissa Brown, M.S., WWU, Huxley College, Environmental Sciences, **completed 6/01**;
Reproductive success of wild and hatchery-reared Steelhead.

Graduate Student Advisement; Graduate Committee Member (continued):

- Katherine Call, M.S., WWU, Huxley College, Environmental Sciences, **completed 9/99**; Coral reef habitat mapping using satellite remote sensing and optical spectra data.
- Katherine Callahan, M.S., WWU, Department of Geology, **completed 12/06**; Hydrological response of the Lake Whatcom watershed using a distributed hydrologic-soils-vegetation model.
- Brigitte Dorner, Ph.D., Simon Frasier University, School of Resource and Environmental Management, **completed 9/02**; Forest management effects on landscape pattern in British Columbia.
- Brenna Forester. WWU, Huxley College, Environmental Sciences. **Completed 3/12**; Climate change, landscape genetics and shifts in plant distributions. (Entered Ph.D. program at Duke University in the fall of 2011)
- Jill Fullagar, M.S., WWU, Huxley College, Environmental Sciences, **completed, 11/06**; Effects of sea level rise on coastal wetlands.
- Leslie Gonzalez, M.S., WWU, Biology, **completed 2/07**; Plant species and functional diversity across gradients of resource availability and grazing in a California serpentine grassland.
- Peter Horne, M.S., WWU, Huxley College, Environmental Sciences, **completed 11/02**; Mapping potential Grizzly Bear habitat in the North Cascades.
- Kathleen M. Hurley, M.S., WWU, Huxley College, Environmental Sciences, **completed 12/02**; Change in benthic marine habitats of the middle Florida Keys by analysis of satellite images.
- Cindy Jackson, WWU, Huxley College, Environmental Sciences, **completed 12/03**; Alpine plant ecology.
- Jacobsen, Aaron. M.S., WWU Biology, **completed 9/08**; Post-fire responses of great basin desert scrub communities.
- Geraldine J. Jordan, Ph.D., Simon Frasier University, School of Resource and Environmental Management. **completed 8/02**; Detection of spatio-temporal characteristics of fire disturbance boundaries in a forest landscape and their relationship with riparian zones. (I served as the External Examiner for the dissertation defense.)
- Jason S. Kapchinske, M.S., WWU, Huxley College, Environmental Sciences, **completed 10/98**; Soil carbon-nitrogen relationships affected by climate, soil texture, and vegetation: a continental evaluation.
- Peter Kairis, M.S., Huxley College, Environmental Sciences, **completed 3/08**; A spatially explicit relative elevation model for Padilla Bay, Washington.
- Casey Kula, M.S. WWU, Huxley College, Environmental Sciences, **completed 5/06**. Effects of climate change on subalpine forests.
- Michael Leech, M.S., WWU, Huxley College, Geography, **completed 5/06**; Use of high resolution remote sensing to map invasive plant communities in Hawaii.
- Cara Leverett. M.S., WWU, Biology **completed 6/02**; The effects of reed canarygrass on riparian nutrient dynamics.
- Thomas K. Maiersperger, M.S., Oregon State University, Geosciences, **completed 6/97**; Estimating compositional attributes of Douglas-Fir/Western Hemlock forest stands using Landsat imagery.
- Donald S. Meyer, M.S., WWU, Huxley College, Environmental Sciences, **completed 12/03**; Depressurization stress in rockfish.

Graduate Student Advisement; Graduate Committee Member (continued):

Drew Monks, M.D., WWU Biology, expected June 2015; Using APEX to Model Riparian Buffers in Whatcom County: an investigation of factors affecting nutrient uptake.

Virginia Naef, M.S., WWU, Huxley College, Environmental Sciences, **completed 12/96**; Susceptibility of forest and riparian avifauna to nest predation in varying northwestern Washington landscapes.

Andrew Rothstein, M.S., WWU, Biology, expected 6/14; Harbor Seal diet study using non-invasive genetic sampling

Kate Ramsden, M.A., WWU, Huxley College, Environmental Studies, **completed 6/04**; Tree encroachment onto the Ozette Prairies, Olympic National Park, Washington.

Suzanne Schull, M.S., WWU, Huxley College, Environmental Sciences, **completed 1/00**; Distribution of sea grass in Padilla Bay.

Chad Stellern, M.S. WWU, Geology, expected 6/14; Effects of Estuarine Vegetation on Waves, Sediment Dynamics, and Coastal Hazards within Port Susan Bay of Washington State

Cathi Wining, M.A. WWU, Huxley College, Environmental Studies, **completed 12/12**; Use of LIDAR and high resolution imagery to map alpine treeline.

August 2014