CURRICULUM VITAE

Thomas Daniel Sisk

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Current Positions

Professor of Ecology
Director for Graduate Programs, Center for Sustainable Environments

Education

B.A., Biology, with Distinction, Colorado College, 1983
Thesis: *Biology and agricultural impacts of the Central American pocket gopher*
Advisors: Richard Storey and Christopher Vaughan
Ph.D., Biological Sciences, Stanford University, 1992
Specialization: Ecology and Conservation Biology
Dissertation: *Distributions of birds and butterflies in heterogeneous landscapes*
Advisor: Paul R. Ehrlich
Post-doctoral Scholar, Center for Conservation Biology, Stanford University, 1992-93
Specialization: Tropical ecology and conservation
Supervisor: Paul R. Ehrlich
Post-doctoral Scholar, Institute of Ecology, University of Georgia, 1994
Specialization: Spatial modeling of animal populations
Supervisor: H. Ronald Pulliam

Research Interests

Biodiversity conservation: landscape ecology; community ecology of birds, butterflies and arid grasslands; forest ecology and restoration; fire ecology; biological invasions. Environmental policy: the science/policy interface; social and political aspects of biodiversity conservation; land use and landcover change; discursive approaches to policy development. Primary focus: forests, grasslands, and riparian ecosystems of arid North America.

Teaching Experience

Primary advisor for 14 M.S. and 3 Ph.D. students, and supervisor of 4 postdoctoral scholars. Courses: Conservation Biology, Landscape Ecology, The Environmental Science/Policy Interface, Environmental Ecology: Synthesis and Applications, Metapopulations, Modeling the Environment for Social Outcomes, Leadership and Planning for Environmental Professionals, Web of Life: Culture and Environment on the Colorado Plateau, Introduction to Environmental Sciences (Northern Arizona University, 1996-2008); The Biology of Birds, Research in Bird Biology (Stanford University, 1989-92).

Grants and Contracts Received (past 5 yrs)

Received support for18 distinct projects totaling US$ 2.6M, during the past 5 yrs. Current projects range from spatial modeling of forest structure, fire and biodiversity at landscape-regional scales, to the

development of spatial models of population and biophysical responses to habitat edges; to field studies of birds, butterflies, bison, and livestock impacts. My lab benefits from generous support for the development of collaborative approaches to forest planning, livestock management, and environmental monitoring, work that brings science into broad and inclusive deliberative processes that guide policy development and the management of public lands. I am also PI on several grants supporting the interdisciplinary graduate degree program in Environmental Sciences and Policy that I direct, and experiential field study for CSE students at all levels.

International and Tribal Experience

Research and on-the-ground conservation experience in Australia, Costa Rica, Guatemala, and Mexico, as well as on the Navajo Nation and Hopi Reservation. Commitment to long-term partnerships and collaborative approaches to science and its application.
Fluent in English and Spanish.

Professional Service

Senior Science Advisor, *Grand Canyon Trust*, Flagstaff, AZ, 2004-present
Board of Directors, *The Forest Guild*, Santa Fe, NM. 2001-present
Advisor, *Black Mesa Trust*, Kykotsmovi, AZ. 2004-present
Forest Health Advisory Council, *Western Governors' Association*. 2003-present
Mentor, *Smith Fellows Program*, 2008-present
Co-chair, Governor's Committee to develop a *Statewide Strategy for Arizona's Forests,* 2006-2007
Board of Governors, *Society for Conservation Biology*. 2005-2008
Public Affairs Committee, *Ecological Society of America*. 2004-2005
Panel on Peer Review Policy, *Ecological Society of America*. 2004
Ad-hoc Assigning Editor, *Conservation Biology. 2003-present*
Associate Editor, *Ecological Applications*. 2001-2005
Peer Reviewer for *BioScience, Conservation Biology, Ecography, Ecological Applications, Ecology, J. Wildlife Management, PNAS, Restoration Ecology*, and others. 1990-present

Employment History

2005-present – Professor of Ecology, Northern Arizona University, Flagstaff, AZ
2001-2005 – Associate Professor
1996-2001 – Assistant Professor

1994-96 ~ Special Assistant to the Director (Science), National Biological Service, U.S. Department of the Interior, Washington D.C.
Worked on a broad range of science and policy issues, reporting to the director of the Interior Department's integrated natural resources research agency. Responsibilities included research program planning and review, policy development, supervision of a national project on land use history, chairing a committee on scientific peer review policy development for the DOI, and a personal research program in avian and invertebrate ecology and conservation.

1992-94 ~ Tropical Program Coordinator, Center for Conservation Biology, Stanford University
Managed all aspects of an international program for applying science to the design and management of conservation areas and monitoring programs for tropical biodiversity. Responsibilities included the development of collaborative projects involving international scientists and organizations, advising and supervision of North and Central American students and research associates, development, program planning, and personnel management. Program included networked projects in Costa Rica, Ecuador,

Guatemala, and the Malagasy Republic.

1987-92 ~ Research Associate, Center for Conservation Biology, Stanford University
Conducted research on the population biology, ecology, and conservation of birds and butterflies, the biological effects of human land use, habitat restoration, and the causes and consequences of extinctions.

1984-87 ~ Assistant Director and Wildlife Specialist, Forest Guild, Santa Fe, NM
Responsibilities included program development and project implementation for a regional, non-profit forest conservation organization and land trust. Worked with landowners, community groups, and federal, state and local governments on forestry and wildlife planning and management.

Selected Publications (total 65)

Refereed Journal Articles (total 34)

Ries, L. and T.D. Sisk. 2008. *Edge effects are predicted by a simple model for a complex landscape.* Oecologia 156:75–86.

Xu, Y., J. Prather, H. Hampton, B. Dickson, J. Palumbo, and T. D. Sisk. 2007. *Effects of mismatches of scale and location between ground data and remote sensing imagery on forest structure mapping*. Photogrammetric Engineering and Remote Sensing 72:31-38.

Lindemayer, D, and 26 Coauthors, incl. T. Sisk. 2007. *A checklist for ecological management of landscapes for conservation.* Ecology Letters 10:1-14.

Prather, J.W., R. Noss, and T.D. Sisk. 2007. *Real versus perceived conflicts between restoration of ponderosa pine forests and conservation of the Mexican spotted owl*. Forest Policy and Economics 10:140-150.

Muñoz-Erickson, T., B. Aguilar-Gonzáles, and T.D. Sisk. 2007. *Linking Ecosystem Health Indicators and Collaborative Management: A Systematic Framework to Evaluate Ecological and Social Outcomes*. Ecology and Society 12:6.

Loeser, M.E., T.E. Crews, and T.D. Sisk. 2007. *Impact of grazing intensity during drought in an Arizona grassland*. Conservation Biology 21:87-97.

Sisk, T.D., A.E. Castellanos V., and G.W. Koch. 2007. *Ecological impacts of Wildlife Conservation Units (UMAs) policy in Mexico*. Frontiers in Ecology and the Environment 5:209-212.

Sisk, T.D., E.N. Aumack, H.M. Hampton, J. Prather, and Y. Xu. 2006. *Landscape analysis to link science and policy: ecological restoration of ponderosa pine forests in arid North America*. Landscape and Urban Planning 78:300-310.

Brand, L.A., B.R. Noon, and T.D. Sisk. 2006. *Predicting abundance of desert riparian birds: Validation and calibration of the Effective Area Model.* Ecological Applications 116: 1090-1102.

Dickson, B. G., Y. Xu, J. W. Prather, H. M. Hampton, E. N. Aumack, and T. D. Sisk. 2006. *Mapping the occurrence and probability of large fire ignitions in northern Arizona*. Landscape Ecology 21:747-761.

Prather, J. W., N. L. Dodd, B. G. Dickson, H. M. Hampton, Y. Xu, E. N. Aumack, and T. D. Sisk. 2006. *Landscape models to predict the influence of forest structure on Tassel-eared Squirrel populations*. Journal of Wildlife Management 70:723-731.

Noss, R. F., P. Beier, W. W. Covington, R. E. Grumbine, D. B. Lindenmayer, J. W. Prather, F. Schmiegelow, T. D. Sisk, and D. J. Vosick. 2006. *Integrating restoration ecology and conservation biology: a case study from Ponderosa Pine forests of the Southwestern USA*. Restoration Ecology 14: 4 -10

Ries, L. and T.D. Sisk. 2004. A predictive model of edge effects. Ecology 85: 2917-2926.

Ries, L., R.J. Fletcher Jr., J. Battin, and T.D. Sisk. 2004. Ecological responses to habitat edges: mechanisms, models and variability explained. Annual Review of Ecology, Evolution, and Systematics 35:491-522.

Schlosberg, D. and T.D. Sisk. 2000. The environmental science/policy interface: Crossing disciplinary

boundaries with a team-teaching experiment. PS: Political Science and Politics 33:75-79.

Sisk, T.D., N. Haddad, and P.R. Ehrlich. 1997. Bird assemblages in patchy woodlands: Modeling the effects of edge and matrix habitats. Ecological Applications 7:1170-1180.

Sparrow, H.R., T.D. Sisk, P.R. Ehrlich, and D.D. Murphy. 1994. Techniques and guidelines for monitoring neotropical butterflies. Conservation Biology 8:800-809.

Sisk, T.D., A.E. Launer, K.R. Switky, and P.R. Ehrlich. 1994. Evaluating extinctions threats: the distribution of global biodiversity and the expansion of the human enterprise. BioScience 44:592-604.

Refereed Book Chapters (total 19)

Sisk, T.D. 2007. *Incorporating edges effects into landscape design*. Pp. 151-164 in D. Lindenmayer and R. Hobbs (eds.) Managing and designing landscapes for conservation: moving from perspectives to principles. Blackwell Publishing, Ltd. Oxford. 587 pp.

Sisk, T.D. 2007. *Wild times in cow country: Working landscapes and conservation*. In S. Silbert, G. Chanler and G.P. Nabhan (eds.) Five ways to value working landscapes in the West. Center for Sustainable Environments, Flagstaff, AZ.

Hampton, H. M., E. N. Aumack, J. W. Prather, B. G. Dickson, Y. Xu, and T. D. Sisk. 2006. *Development and transfer of spatial tools based on landscape ecology principles: supporting public participation in forest restoration planning in the southwestern U.S. by transferring knowledge into practice*. Pp. 65-95 in A. Perera, L. Buse, and T. Crow (eds.) Forest Landscape Ecology: Transferring Knowledge to Practice. Springer, New York.

Books and Major Digital Works

Governor's Forest Health Councils, State of Arizona. 2007. *Statewide Strategy for Restoring Arizona's Forests*, Aumack, E., T. Sisk, and J. Palumbo, editors. Arizona Public Service, Phoenix, AZ. 151 pp.

Grahame, J.D., T.D. Sisk, and collaborators. 2000. *Canyons, cultures, and environmental change: an introduction to the land use history of the Colorado Plateau*. CD-ROM and web site (URL: www.cpluhna.nau.edu). Northern Arizona University. 350+ pp.

Sisk, T.D., editor. 1998. *Perspectives on the land use history of North America: A context for understanding our changing environment*. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-1998-0003. 104 pp.

Selected Non-Refereed Publications

Sisk, T.D. 2006. *Thriving paradox: Life and beauty on the Colorado Plateau*. Natural Area News 10:1,5.

Sisk, T.D. and J.A. Palumbo. 2006. *Collaborative science: Making research a participatory endeavor for solving environmental challenges*. Quivira Coalition Newsletter 7:1, 22-27.

Speaking Engagements and Scientific Presentations

Over 50 engagements during the past 5 years, including invited addresses and seminars for the Natural Areas Association conference, the State of the Rockies conference, Australia National Univ, Colorado State Univ, Univ Idaho, and Univ Queensland, among others, and for many state and federal agencies. Contributed talks at meetings of the Ecological Society of America, Society for Conservation Biology, International Association for Landscape Ecology, and at national and international symposia. I also regularly address landowners and non-governmental organizations about place-based research and conservation initiatives. All honoraria are contributed to the Conservation Science Gift Fund of the NAU Foundation, for the purpose of supporting student research and engagement in biodiversity conservation.

(Revised August 2008; comprehensive cv available on request)