Curriculum Vitae 2012

MICHAEL D. JENNINGS

Department of Geography
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SUMMARY

Expertise and Interest: conservation biology, natural resources planning and policy, biotic response to climate change, community ecology, biogeography, habitat classification, vegetation science, spatial modeling, program development and management.

Education: Ph.D., Environmental Science and Management, University of California, Santa Barbara.

Current Position: Associate Professor, University of Idaho, Department of Geography.

Publications: 58

Invited Presentations: 10

Other Formal Presentations: > 50

Grants Funded: 16

Supervisory Experience: Yes

Teaching / Advising:
- Biogeography
- Field Ecology
- Technical and Policy Workshops: > 20
- Dissertation Committees
- Teaching Assistant

Peer Reviewer for Science Journals: 10

Professional Organization Memberships: 3

Boards, Panels, and Committees: 6

Awards: 7

Other Languages:
- Spanish
- Portuguese

Technical Software Skills: ArcInfo, S+, R, Access, Excel, Fragstats, AutoMate.

EDUCATION

Ph.D., Donald Bren School of Environmental Science and Management, University of California, Santa Barbara.

Fellowship:	National Center for Ecological Analysis and Synthesis
Dissertation:	Vegetation alliances: Composition and function
Major advisor:	Frank W. Davis

Master of Regional Planning, Program in Environmental Science and Regional Planning, Washington State University.

Thesis:	Regulation of environmentally sensitive areas in the Pacific Northwest by local governments
Major advisor:	John P. Reganold

Bachelor of Science, Environmental Science, The Evergreen State College.

Internship:	Leslie Holdredge and Joseph Tosi, Centro Cientifico Tropical, San Jose, Costa Rica: Correlation between agricultural land use patterns and climate zones
Senior Project:	Evaluation of a hand-built rural road development program in Colombia; funded by the Ford Foundation
Major advisors:	Steven G. Herman and Robert Sluss

Additional studies: Biogeography, Portland State University.

EXPERIENCE

DEPARTMENT OF GEOGRAPHY, UNIVERSITY OF IDAHO 2009-Present
Moscow, Idaho

Associate Research Professor

- Ongoing research:
  - Projecting the composition of future landscapes under climate change.
  - Global indicators of biodiversity status and trends.
  - Endangered ecosystems.
  - Detecting and tracking forest clearing worldwide from satellite imagery.
  - Plant community type concept exploration and testing.
- Teaching: Biogeography.
- Advise students through dissertation committee membership as well as supervising research assistants.
- Lecture, conduct seminar discussions, and collaborate with other faculty.

THE NATURE CONSERVANCY CENTER FOR GLOBAL TRENDS 2004-2009
Moscow, Idaho and Arlington, Virginia

Senior Terrestrial Scientist

- Developed new methods, data, analyses, and insights for guiding conservation investments worldwide.
- Provided an integrated synthesis of biological significance, habitat conditions, risks, and current conservation status of biodiversity at biome, realm, and global extents.
- Participated in international efforts to bring such information to bear on multilateral policies. One example is working with the Group on Earth Observation, Biodiversity Observation Network (GEO BON).
- Co-authored "The atlas of global conservation", University of California Press.
- Example projects:
    - A global assessment to identify priority ecoregions for conservation investments;
    - The first worldwide assessment of landscape fragmentation;
    - A gridded global interpolation of climate variables, 1870-2000 from weather station data, in order to derive magnitude of change;
    - Determining phylogenetic diversity among the vertebrate species of terrestrial ecoregions;
    - Modeling human accessibility into wild lands globally;
    - Mapping arable lands of the world not yet converted to agriculture.

ECOLOGICAL SOCIETY OF AMERICA 1995-present
VEGETATION CLASSIFICATION PANEL
Washington, D.C.

Vice Chair, Acting Chair, Founding Member

- Established both standards and a peer review process for the U.S. National Vegetation Classification, which were adopted as U.S. federal standard in 2008.
- Established a new charter, revised bylaws, and oversaw a round of new member appointments while Acting Chair.
- Collaborated on NSF grant development and subsequent implementation of VegBank.org, an open archive and dissemination tool for vegetation field plots.
- Developed more than $600,000 for Panel activities.
- Organized symposia developed and instructed technical workshops.
- Senior author of "Standards for associations and alliances of the U.S. National Vegetation Classification", *Ecological Monographs*, in press for Vol. 79 (2).

U.S. GEOLOGICAL SURVEY 1992-2004
Moscow, Idaho and Reston, Virginia

Ecologist, and Fish and Wildlife Biologist

- Led the development and implementation of the U.S. Gap Analysis Program.
- Established GAP headquarters; hired and supervised staff.

- Managed an annual budget that grew from $250 thousand to $3.7 million, spread over 10-60 annual funding actions.
- Determined program scope and direction.
- Developed operating procedures and measures of progress.
- Handled technical and coordination issues.
- Developed and oversaw projects in each U.S. state, including contracts, grants, and cooperative agreements.
- Contributed substantially to establishing a nationwide infrastructure of large-area biological information, for example:
    - Was instrumental in creating the Multi-Resolution Land Characteristics Consortium—a joint venture for regular acquisition, archiving, and dissemination of Landsat imagery—and later awarded EPA's honor for this accomplishment; see "Professional Recognition" section.

GAP projects map habitat, model species distributions, and map conservation lands in order to provide biodiversity conservation assessments.

U.S. NATIONAL PARK SERVICE 1989-1992
Philadelphia, Pennsylvania

Wild and Scenic Rivers Planner

- Managed multiple studies of candidate National Wild and Scenic Rivers, establishing their biological and physical eligibility as well as social and political suitability for the National Wild and Scenic Rivers System. An example is designation of the Maurice River under the National Wild and Scenic River System as the first to be managed by local governments.
- Built local, state and federal partnerships for managing water and land resources, engaging public process to develop Comprehensive River Corridor Conservation Plans.
- Provided technical conservation assistance to citizen groups, agencies, and Congressional staff, conducting workshops, meetings, special studies, and environmental assessments.

KLICKITAT COUNTY DEPARTMENT OF PLANNING 1987-1989
Goldendale, Washington.

Intern and Consultant

- Provided intermittent assistance for development of the Klickitat County Floodplains Management Plan.

REMOTE SENSING LABORATORY, UNIVERSITY OF IDAHO 1989
Moscow, Idaho

Research Associate

- Trained and managed a team in remote sensing identification and classification of riparian and wetland habitat changes along the Snake River over a 30-year period, for the U.S. Army Corps of Engineers.

DEPARTMENT OF AGRONOMY AND SOILS 1989
WASHINGTON STATE UNIVERSITY
Pullman, Washington

Research Associate

- Researched sustainable agriculture practices for cereal/legume cropping systems.
- Conducted a policy analysis of local government regulations for environmentally sensitive areas.

PROGRAM IN ENVIRONMENTAL SCIENCE AND REGIONAL PLANNING 1986-1987
WASHINGTON STATE UNIVERSITY
Pullman, Washington

Research Assistant

- Awarded an independent research position; published findings from case studies on the utility of the Holdridge Life Zone System in applied ecology.

CITY OF PORTLAND BUREAU OF PLANNING 1986
Portland, Oregon

Environmental Consultant

- Identified and then conducted a complete inventory of natural areas within the Portland Urban Growth Boundary.
- Developed criteria for wetland preservation, development, and mitigation.
- Provided site-specific natural area management plans for a large urban renewal project.

THE NATURE CONSERVANCY and 1985
OREGON NATURAL HERITAGE PROGRAM
Portland, Oregon

Natural Heritage Database Specialist

- Compiled and managed information on rare, threatened, or endangered plants, animals, natural communities and features of Oregon.
- Conducted the Pacific Northwest Rivers Study: Oregon Natural Features.

OREGON DEPARTMENT OF FISH AND WILDLIFE 1984
Corvallis, Oregon

Experimental Biologist

- Conducted hydroacoustic monitoring of migrating juvenile salmon and steelhead and radio tracking of migrating adults at Foster and Green Peter dams on the South Santiam River.

U.S. ARMY CORPS OF ENGINEERS 1981-1983
Cascade Locks, Oregon

Fishery Researcher

- Developed techniques for monitoring migrating juvenile Columbia River salmon and steelhead at John Day Dam on the Columbia River, working seasonally.
- Experimented with and improved high-frequency sonar equipment and data interpretation.
- Established the first quantitative river spill criteria for smolt passage based on observed densities of actively migrating smolt.

WILLDAN ASSOCIATES 1982
Portland, Oregon

Under contract with Bonneville Power Administration, Portland, Oregon

Consulting Biologist

- Conducted field studies of large electric transmission line impacts on concentrations of wintering and migrating waterfowl and raptors at critical Columbia River habitats in central Oregon and Washington.

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE 1974-1977
Olympia, Washington

Fish and Wildlife Technician; Environmental Specialist

- Collected field data on:
    - Columbia River impoundment fluctuation effects on riparian vegetation, and duck and goose nesting success;
    - Wynoochee River Dam impacts on steelhead trout;
    - Dredge spoils deposition impacts on intertidal estuarine seagrasses of Grays Harbor.
- Produced:
    - An Environmental Impact Statement of Lake and stream Rehabilitation;
    - The 1975-76 Hunting Season Environmental Impact Statement.
- Reviewed and commented on federal, state, and local environmental impact assessments regarding potential impacts to the fish and wildlife resources of Washington State.

PUBLICATIONS

REFEREED JOURNAL ARTICLES

Peet, R.K., M.T. Lee, M.D. Jennings, and D. Faber-Langendoen. In press. VegBank: A permanent, open-access archive for vegetation plot data. ***Biodiversity & Ecology***.

Jennings, M. In press. Climate disruption: Are we beyond the worst case scenario? ***Global Policy***.

Franklin, S., D. Faber-Langendoen, M. Jennings, T. Keeler-Wolf, O. Loucks, R. Peet, D. Roberts and A. Mckerrow. 2012. Building the United States National Vegetation Classification. ***Annali di Botanica*** 2: 1-9.

Donovan, S., J.D. Wulfhorst, and M. Jennings. 2011. Geographic expression of social values in bioregional planning. ***Journal of Natural Resources Policy Research*** 3 (2): 125–144.

Rodríguez, J.P., K.M. Rodríguez-Clark, J.E.M. Baillie, N. Ash, J. Benson, T. Boucher, C. Brown, N. Burgess, B. Collen, M. Jennings, D.A. Keith, E. Nicholson, C. Revenga, M. Rouget, T. Smith, M. Spalding, B. Reyers, A. Taber, M. Walpole, I. Zager, T. Zamin. 2010. Towards Red List criteria for threatened ecosystems. ***Conservation Biology*** 25 (1): 21–29.

Jennings, M., D. Faber-Langendoen, O. Loucks, R. Peet, D. Roberts. 2009. Standards for associations and alliances of the U.S. National Vegetation Classification. ***Ecological Monographs*** 79(2): 173–199.

Donovan, S, C. Looney, T. Hanson, Y. Sánchez de León, J.D. Wulfhorst, S. Eigenbrode, M. Jennings, J. Johnson-Maynard, N. Bosque- Pérez. 2009. Reconciling social and biological needs in an endangered ecosystem: the Palouse as a model for bioregional planning. ***Ecology and Society*** 14(1):9.

Jennings, M., Hoekstra, J., Higgins, J., and Boucher, T. 2008. A comparative measure of biodiversity based on species composition. ***Biodiversity and Conservation*** 17(4): 833-840.

Weiser, M.D., B.J. Enquist, B. Boyle, T.J. Killeen, P.M. Jørgensen, G. Fonseca, M.D. Jennings, A.J. Kerkhoff, T.E.J. Lacher, A. Monteagudo, M.P. Núñez Vargas, O.L. Phillips, N.G. Swenson, and R.V. Martínez. 2007. Latitudinal patterns of range size and species richness of New World woody plants. ***Global Ecology and Biogeography*** 16(5): 679-688.

Jennings, M.D., J. Williams, and M. Stromberg. 2005. Diversity and productivity of plant communities across the Inland Northwest, USA. ***Oecologia*** 143(4):607-618.

Jennings, M.D. 2005. Techniques for classifying and understanding vegetation alliances. ***Proceedings of the American Statistical Association***, Section on Statistics & the Environment 2936-2940, Alexandria, Virginia, USA: American Statistical Association.

Jennings, M.D. 2000. Gap Analysis: concepts, methods, and recent results. ***Landscape Ecology*** 15(1):5-20.

Scott, J.M., and M.D. Jennings. 1998. Large-area mapping of biodiversity. ***Annals of the Missouri Botanical Garden*** 85(1):34-47.

Gonzales-Rebelles, C, V.M. Burke, M. D. Jennings, G. Ceballos, and N. Parker. 1998. A transnational gap analysis project in the U.S./Mexico border region. ***Photogrammetric Engineering and Remote Sensing*** 64(11):1115-1117.

Jennings, M.D., B. Csuti, and J.M. Scott. 1997. Wildlife habitat relationship models: distribution and abundance. ***Conservation Biology***, Letters 11(6):1271-1272.

Scott, J.M., M. Jennings, R.G. Wright and B. Csuti. 1996. Landscape approaches to mapping biodiversity. ***BioScience*** 46(2):77-78.

Jennings, M.D. 1995. A confluence of biology, ecology and geography for the management of biological resources. ***The Wildlife Society Bulletin*** 23(4):658-662.

Jennings, M.D., and J.M. Scott. 1993. Building a macroscope: how well do places managed for biodiversity match reality? ***Renewable Resources Journal*** 11(2):16-20.

Jennings, M.D., and J.P. Reganold. 1992. A theoretical basis for managing environmentally sensitive areas. ***Environmental Conservation*** 18(3):211-218.

Jennings, M.D., and J.P. Reganold. 1991. Hierarchy and subsidy-stress as a theoretical basis for managing environmentally sensitive areas. ***Landscape and Urban Planning*** 21:31-45.

Jennings, M.D. 1989. The weak link in land use planning. ***Journal of the American Planning Association*** 55(2):218-220.

Jennings, M.D., and J.P. Reganold. 1989. Local government policies toward environmentally sensitive areas in British Columbia, Washington, and Oregon. ***Environmental Management*** 13(4):443-453.

Jennings, M.D., D.F. Bezdicek, B. Miller, and D. Granatstein. 1989. A historical perspective of farming systems in the Palouse region: The question of sustainability. ***Journal of Soil and Water Conservation*** 45:75-80.

Jennings, M.D., J.L. Alfonso, and W. Budd. 1988. Use of the environmentally sensitive areas rule by county governments in Washington State. ***Environmental Impact Assessment Review*** 8:63-70.

Jennings, M.D., and J.P. Reganold. 1988. The policy and reality of environmentally sensitive areas in Whitman County, Washington, USA. ***Environmental Management*** 12(3):369-380.

IN REVIEW / IN PROGRESS

Keith, D.A., J.P. Rodríguez, K.M. Rodríguez-Clark, M. Asmussen, M. Jennings and others. In review. Scientific foundations of the IUCN Red List of Ecosystems. ***PLoS Biology***.

Jennings, M. In review. Field notes from the future: Environmental conditions at four localities in 2100. *In*: After climate change and culture-shift: Imagining a world, Jim Norwine, Editor. Springer.

Stamper, T.J., J.A. Hicke, M. Jennings, and J. Aycrigg. In development. Spatial and temporal patterns of changes in protected areas across the southwestern United States.

Jennings, M.D., J.P. Rodriguez, K.M. Rodriguez-Clark, D. Faber-Langendoen, D. Keith, J. Benson. In development. Identifying, tracking, and restoring endangered ecosystems of the world. ***BioScience***.

BOOKS

Hoekstra, J., M. Jennings, C. Revenga, M. Spalding, T. Boucher, J. Molnar, J. Robertson, T.J. Hiebel. 2010. The atlas of global conservation: changes, challenges, and opportunities to make a difference. University of California Press. 234p.

Gonzalez-Rebelles, C., and M.D. Jennings (eds.). 2001. Manual para el análisis geográfico de omisiones de conservación. U.S. Geological Survey, Gap Analysis Program, Moscow, Idaho, USA. 157p.

Scott, J.M., and M.D. Jennings, eds. 1994. A Handbook for Gap Analysis. Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho, Moscow, Idaho. 211p. Available online: [ftp://ftp.gap.uidaho.edu/products/handbookpdf/CompleteHandbook.pdf].

Jennings, M.D. 1988. Use of the Holdridge Life Zone System. Vance Bibliographies, Monticello, Illinois, USA. 43pp. ISBN 10: 1555906303. Reprinted by Centro Cientifico Tropical, San Jose, Costa Rica.

BOOK CHAPTERS

Scott, J.M., B. Csuti, R.G. Wright, P.J. Crist, and M.D. Jennings. 1999. Regional approaches to managing and conserving biodiversity. In: Practical Approaches to the Conservation of Biological Diversity, R.K. Baydack, R. Campa, J. Haufler, eds., Island Press. 313p.

Federal Geographic Data Committee, Vegetation Subcommittee. 1997. Vegetation Classification Standard. Reston, Virginia. 58p.

Jennings, M.D. 1996. Mapping units: Their classification and nomenclature for gap analysis land cover data. In: Gap analysis: A landscape approach to biodiversity planning. J.M. Scott et al., eds., American Society of Photogrammetry and Remote Sensing, Bethesda, Maryland. 320p.

Halbert, S., M.D. Jennings, C. Cogan, S. Quisenberry, and J.B. Johnson. 1995. Potential use of suction trap collections of aphids as indicators of plant biodiversity. In: Insects in a changing environment, N. Stark and R. Harrington, eds. Academic Press, London. 535p.

Jennings, M.D. 1995. Habitat assessments. In: Our living resources: A report to the nation on the distribution, abundance, and health of U.S. plants, animals and ecosystems, E.T. LaRoe et al., eds., National Biological Service, Washington, D.C. 530p.

Scott, J.M., E.T. LaRoe, and M.D. Jennings. 1995. Gap Analysis: A geographic approach to planning for biological diversity. In: Our living resources: A report to the nation on the distribution, abundance, and health of U.S. plants, animals and ecosystems, E.T. LaRoe et al., eds., National Biological Service, Washington, D.C. 530p

Shaw, D.M. and M.D. Jennings. 1995. Federal databases of land characteristics. In: Our living resources: A report to the nation on the distribution, abundance, and health of U.S. plants, animals and ecosystems, E.T.LaRoe et al., eds., National Biological Service, Washington, D.C. 530p

Jennings, M.D. 1993. A natural terrestrial cover classification for Gap Analysis. In: Integrated ecological and resource inventories, H.G. Lund, ed. U.S. Department of Agriculture, Forest Service, Washington, D.C. Publication No. WO-WSA-4.

OTHER PUBLICATIONS

Jennings, M. 2010. Invasive species on islands. In: Biodiversity scenarios: Projections of 21st Century change in biodiversity and associated ecosystem services, page 23, Leadley, P., et al., eds. Secretariat of the Convention on Biological Diversity, Montreal. Technical Series No. 50, 132p.

Jennings, M. 2009. Why not reintroduce species? Ask The Conservationist, The Nature Conservancy, online [http://www.nature.org/ourscience/sciencefeatures/ask-the-conservationist---february-2009.xml]

Jennings, M. 2008. Are all species equal? The Next Big Ideas in Conservation, The Nature Conservancy, Arlington, Virginia.

Revenga C., T. Boucher, M. Jennings and J. Hoekstra. 2008. Biodiversity indicators, *in*: 2008 Environmental Performance Index, Esty et al., New Haven: Yale Center for Environmental Law and Policy.

Jennings, M.D., D. Faber-Langendoen, R.K. Peet, O.L. Loucks, D.C. Glenn-Lewin, A. Damman, M.G. Barbour, R. Pfister, D.H. Grossman, D. Roberts, D. Tart, M. Walker, S.S. Talbot, J. Walker, G.S. Hartshorn, G. Waggoner, M.D. Abrams, A. Hill, and M. Rejmanek. 2008. Description, documentation, and evaluation of associations and alliances within the U.S. National Vegetation Classification. Version 5.1. Ecological Society of America, Panel on Vegetation Classification, Washington, D.C. 82p.

Ibisch, P.L., M.D. Jennings, and S. Kreft. 2005. Biodiversity needs the help of global change managers, not museum-keepers. ***Nature*** 438:156.

Jennings, M.D. 2003. War and oil: we had the warning 30 years ago. ***Nature*** 423:15.

Jennings, M.D. 2003. Habitat classification for biodiversity assessment: Lessons learned and options for coastal marine environments. In: Arctic Coastal Dynamics: 4th International Workshop, V. Rachold, and G. Cherkashov, eds. VNIIOkeangeologia (Institute for Geology and Mineral Resources of the Ocean), St. Petersburg, Russia.

Jennings, M.D. 2003. Vegetation alliances: composition and function. Ph.D. dissertation, University of California Santa Barbara.

Jennings, M.D. 2002. INW vegetation plots. A data set. The SALVIAS Project, University of Arizona Department of Ecology and Evolutionary Biology, Tucson, Arizona, USA. Available online [http://www.salvias.net].

Jennings, M.D. 1997. Mapping the diversity of nature: A book review. ***The Condor*** 99(2):557-8.

Jennings, M.D., and J.M. Scott. 1993. Gap analysis: information for conserving biodiversity. ***Idaho Forester*** 1993:40-41.

Jennings, M.D. 1990. River corridor conservation comes of age for common landscapes: The Maurice River & its tributaries. ***Watershed*** 9:7-9.

Jennings, M.D. 1988. Regulation of environmentally sensitive areas in the Pacific Northwest by local governments. MRP thesis, Washington State University.

Jennings, M.D. 1988. Agroforestry - A textbook at last. A book review of "Sistemas Agroforestales: Principios y Aplicaciones en los Trópicos" (Spanish, 818pp). ***Ceres, The United Nations Food and Agriculture Organization*** 21(2):49. Reprinted by ***Women in Natural Resources*** 9(2):5.

BULLETIN ARTICLES

Jennings, M.D. 1997. Progressing toward a standardized classification of vegetation for the U.S. *Gap Analysis Bulletin* 6:16-19.

Jennings, M.D. 1997. In pursuit of the aquatic component of gap analysis. *Gap Analysis Bulletin* 6:3-5.

Jennings, M.D. 1996. Some scales for describing biodiversity. *Gap Analysis Bulletin* 5:3-4.

Jennings, M.D. 1996. The Ecological Society of America's Vegetation Classification Panel. *Gap Analysis Bulletin* 5:13-14.

Jennings, M.D. 1994. Adoption and diffusion of gap analysis as a technical innovation. *Gap Analysis Bulletin* 4:3-6.

Jennings, M.D. 1993. National coordination: Putting state data together is the nexus of Gap. *Gap Analysis Bulletin* 3:8-9.

Master, L., and M.D. Jennings. 1993. Hexagons: A new way to display predicted distributions of vertebrate species. *Gap Analysis Bulletin* 3:6-7.

Jennings, M.D. 1993. Natural terrestrial cover classification: Assumptions and definitions. *Gap Analysis Technical Bulletin*, No. 2, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho, Moscow. 28p.

FUNDED RESEARCH

Jennings, M.D. Climate projections of southwestern ecosystems: Modeling ecological systems, plant communities, and vertebrate species distributions. U.S. Fish and Wildlife Service, 2010, $127,246.

Jennings, M.D., and R.G. Wright. Restoration of *Howellia aquatilis* habitat along the Palouse River in Idaho. U.S. Fish and Wildlife Service, 2009, $15,000.

Peet, R.K., M.D. Jennings, M. Walker, and D. Grossman. An information infrastructure for vegetation science. National Science Foundation, 2002-2005, $1,050,000. Matching funds from the National Center for Ecological Analysis and Synthesis, $20,000.

Peet, R.K., M.D. Jennings, M. Walker, and D.Grossman. A perfectly archived, continuously updated database system for analysis of North American vegetation. National Science Foundation, 2000-2003, $350,000. Matching funds from the National Center for Ecological Analysis and Synthesis, $70,000.

Jennings, M.D., and G. Beauvais. Predicted distributions of selected vertebrate species in the U.S. Forest Service Region 2. U.S. Forest Service, 2003-2005, $100,000.

Jennings, M.D., S. Menard, S. Gregonis, G. Hayward, and G. Beauvais. Vertebrate species distributions, land cover, and ecological systems: GIS Data for the U.S. Forest Service Region 2. U.S. Forest Service, 2002, $30,000.

Barber, M., D.C. Glenn-Lewin, M.D. Jennings, and L. Hidinger. National standards for the floristic levels of vegetation classification in the United States. U.S. Federal Geographic Data Committee, 1998-2000, $40,000.

Jennings, M.D., C. Gonzales-Rebelles, V.J. Burke, G. Ceballos, and N. Parker. Biodiversity inventory methods for the Mexico-U.S. borderlands. U.S. Department of Interior, 1997-2000, $40,000.

Jennings, M.D. and D. Grossman. Regional vegetation classifications of the U.S. U.S. Department of Defense, 1998, $100,000.

Jennings, M.D., S.P. Sowa, and D.D. Diamond. Aquatic gap analysis research in Missouri. U.S. Department of Defense, 1998, $100,000.

Jennings, M.D., S.P. Sowa, and D.D. Diamond. Methods for aquatic gap analysis. U.S. Department of Defense, 1997, $150,000.

Jennings, M.D. Development of land cover mapping for the U.S. U.S. Environmental Protection Agency, 1994-1997, $1,585,000.

Jennings, M.D. Gap analysis methods for Texas, Oklahoma, and Louisiana, phase II. U.S. Department of Defense, 1994-1995, $1,026,000.

Jennings, M.D. Gap analysis methods for Texas, Oklahoma, and Louisiana, phase I. U.S. Department of Defense, 1993, $300,000.

Jennings, M.D., and J.P. Reganold. Policies on environmentally sensitive areas in Washington, Oregon, & British Columbia. Washington State University Office of Grant and Research Development, 1988, $2,000.

TEACHING / ADVISING

Biogeography, University of Idaho, 2010, 2011, 2012.

Field Ecology, University of Notre Dame, 2009.

Dissertation advising for Ph.D. and M.S. students, University of Idaho, 2004-Present.

Introduction to VegBank: An Online Public Archive for Vegetation Plots. Two-day workshop, at the 89th Annual Meeting of the Ecological Society of America, Portland Oregon, 2004.

Vegetation Ordination and Classification. Workshop at the 88th Annual Meeting of the Ecological Society of America, Savannah, Georgia, 2003.

VegBank: A Tool for Data Entry, Acquisition, and Archiving. Workshop at the 87th Annual Meeting of the Ecological Society of America, 2002, Tucson, Arizona, 2002.

GeoConnections Land Cover Managers' Workshop. Natural Resources, Ottawa, Canada, 2002.

Methods for Conservation Gap Analysis, including land cover mapping, vegetation classification, predictive modeling of vertebrate species distributions, and conservation assessment. Developed and instructed more than 20 one- to three-day workshops 1995-2004.

Land Inventory and Analysis, Teaching Assistant, Washington State University, 1987.

Environmental Impact Assessment, Teaching Assistant, Washington State University, 1988.

PROFESSIONAL SERVICE

BOARDS, PANELS, AND COMMITTEES

IUCN Commission on Ecosystem Management

World Commission on Protected Areas

Group on Earth Observation, Biodiversity Observation Network

Ecological Society of America, Vegetation Classification Panel

Global Environmental Facility Science and Technical Advisory Panel

Palouse Land Trust, Board of Directors

REVIEWER: SELECTED JOURNALS AND INSTITUTIONS

Biodiversity and Conservation

BioScience

Conservation Biology

Biological Conservation

Conservation Ecology

Environmental Management

Journal of Soil and Water Conservation

Natural Science and Engineering Research Council of Canada

Photogrammetric Engineering and Remote Sensing Science

The Natural Areas Journal

World Wildlife Fund and Canadian Council on Ecological Areas

SELECTED PRESENTATIONS

Evaluating the influence of climate on the vegetation composition of ecological systems. Annual Meeting of the Ecological Society of America, session on The Role of Vegetation and Ecosystem Types in Guiding Ecological Assessments, 2011, Austin, Texas.

Climate disruption and future habitats. Testimony before the Idaho Senate Committee on Environment and Resources, January 25, 2008, Boise, Idaho.

Understanding Landscape Fragmentation Globally. Space Matters: Landscape Approaches in Ecology and Conservation Lecture Series. College of Natural Resources and Department of Geography, University of Idaho, February 22, 2008, Moscow, Idaho.

The relationship between dominant and subdominant species in vegetation alliances of the Inland Northwest, USA. Annual Meeting of the Ecological Society of America, session on North American Vegetation Classification, 2007, San Jose, California.

Falling to pieces: global estimates of habitat loss and fragmentation, oral presentation, 19th Annual Meeting of the Society for Conservation Biology, 2005, Brasilia, Brazil.

Techniques for classifying and understanding vegetation alliances, oral presentation, 2004 Joint Statistical Meeting, Toronto, Canada.

Applied informatics for studies of vegetation alliances, 47th Annual Meeting of the International Association of Vegetation Science, 2004, Kona, Hawaii.

Habitat classification methods, 4th Arctic Coastal Dynamics Workshop, International Arctic Science Committee and the International Permafrost Association, 2003, VNIIOkeangeologia, St. Petersburg, Russia.

Concepts for conservation assessment and management, 46th Annual Conference of the International Association for Great Lakes Research, 2003, Chicago, Illinois.

Gap analysis in natural resources management, 1998 conference of the International Association of Landscape Ecology, East Lansing, Michigan.

Development of the U.S. Gap Analysis Program, 22nd Annual Natural Areas Association Conference, 1995, Fayetteville, Arkansas.

Applied plant community ecology writ large. 38th Symposium of the International Association of Vegetation Scientists, 1995, Houston, Texas.

PROFESSIONAL ORGANIZATION MEMBERSHIPS

Ecological Society of America

Society for Conservation Biology

American Institute of Biological Sciences

PROFESSIONAL RECOGNITION

Performance award 2008, The Nature Conservancy.

Merit pay increases 2006, 2007, The Nature Conservancy.

Environmental Protection Agency ***Silver Medal*** "For leading a hugely successful interagency production and application of the first continental satellite-derived land cover database for use on environmental quality issues," 2001.

Performance award, U.S. Geological Survey, "for outstanding success in developing the National Gap Analysis Program," 1994, 1995.

Performance award, National Park Service, "for work that far exceeded all performance standards on a sustained basis," 1991.