

CURRICULUM VITAE

MAILE CATHERINE NEEL

PRESENT POSITION

Assistant Professor 2003 – present.
Department of Natural Resource Sciences and Landscape Architecture &
Department of Entomology
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EDUCATION

Ph.D. Botany 2000. University of California, Riverside.
Dissertation: The Structure of Diversity: Implications for Reserve Design.
Laboratory of Norman C. Ellstrand

M.A. Biology 1994. University of California, Santa Barbara.
Thesis: Morphological and Allozyme Variation in the Cactus *Echinocereus engelmannii* var. *munzii*.
Laboratory of J. Robert Haller

B.S. Environmental Biology and Conservation 1985. Humboldt State University.
Magna Cum Laude and Distinguished Presidential Scholar.

POSITIONS HELD

Postdoctoral Positions

Postdoctoral Research Associate 2001 - 2003. David H. Smith Conservation Research Fellow (through The Nature Conservancy). University of Massachusetts. Department of Natural Resources Conservation.
Laboratory of Kevin McGarigal

Postgraduate Researcher 2000 - 2001. University of California, Riverside. Department of Botany and Plant Sciences.
Laboratory of Norman C. Ellstrand

Other Professional Positions

Visiting Investigator 1998 – 2003. The Marine Biological Laboratory. Woods Hole, Massachusetts.

Assistant Forest Botanist 1987-1998. San Bernardino National Forest. Fawnskin, California.

Ranger Naturalist 1983-1986. Channel Islands National Park. Ventura, California.

AWARDS AND HONORS

Fellowships

- 2001-2003 David H. Smith Postdoctoral Conservation Research Fellowship, The Nature Conservancy. "Conservation of Multiple Levels of Biological Diversity Using Community Based Reserve Selection Approaches."
- 2001-2003 National Science Foundation Postdoctoral Fellowship in Biological Informatics. "Geographic Information System-Based Comparison of Effectiveness of Reserve Selection Methods for Conserving Biodiversity." Offered but declined.
- 1998 Science to Achieve Results Graduate Fellowship. U.S. Environmental Protection Agency, National Center for Environmental Research and Quality Assurance. Offered but declined.
- 1996 Switzer Environmental Graduate Fellowship. Robert K. and Patricia Switzer Foundation. For commitment to and leadership in slowing and reversing environmental degradation.

Scholarship

- 1998 Outstanding Graduate Student Researcher. Department of Botany and Plant Sciences, University of California, Riverside.
- 1998 Certificate of Merit. Charles A. and Anne Morrow Lindbergh Foundation. For research focused on balancing advancing technology and preserving the natural and human environment.
- 1990 Best Paper, Proposed Research Category, for "Morphological and Allozyme Variation in the Cactus *Echinocereus engelmannii* var. *munzii*". California Botanical Society Graduate Student Meetings, Rancho Santa Ana Botanic Gardens.

Teaching

- 1998 Outstanding Teaching Assistant. Department of Botany and Plant Sciences, University of California, Riverside.

Conservation Management and Leadership

- 1993 Certificate of Merit for completion of an outstanding habitat restoration plan for damaged pebble plain habitat. San Bernardino National Forest.
- 1992 Regional award for outstanding accomplishments and leadership in recovery and conservation of threatened, endangered and sensitive plants. Pacific Southwest Region, USDA Forest Service.
- 1992 National award for outstanding accomplishments and leadership in recovery and conservation of threatened, endangered and sensitive plants. USDA Forest Service.
- 1991 Certificate of Appreciation for professional stewardship of botanical resources on the Big Bear Ranger District. Pacific Southwest Region, USDA Forest Service.
- 1990 Certificate of Appreciation for developing creative partnerships for Challenge Cost-Share Projects. Pacific Southwest Region, USDA Forest Service.
- 1989 Quality Step Increase for outstanding performance. San Bernardino National Forest, USDA Forest Service.
- 1987 & 1988 Certificates of Merit for outstanding work accomplishments. San Bernardino National Forest, USDA Forest Service.

FUNDING

Received

Active

- 2007-2009 Sea Grant. Co-Principal Investigator. The Role of Genetic Diversity in Restoration Success for *Vallisneria americana* in the Chesapeake Bay. This is a collaborative project with Katharina Engelhardt at the University of Maryland Appalachian Laboratory. Total grant = \$172,098, my portion = \$108,341
- 2006-2010 United States Department of Defense. Co-Principal Investigator with William Fagan (Department of Biology, University of Maryland). "A Bioinformatic Approach to Developing Recovery Objectives". \$1,833,016
- 2006-2007 Maryland Agricultural Experiment Station. Principal Investigator. Quantifying Effects of Fragmentation on Reproductive Success and Mating Patterns in the Endangered Plant Species *Agalinis acuta*. \$19,984
- 2005-2007 United States Fish and Wildlife Service. "Evaluation of the Evolutionary Distinctiveness of *Agalinis acuta*". \$111,260

Completed

- 2006 University of Maryland International Programs, International Travel Grant. For travel to Western Australia. \$2,300
- 2004-2005 University of Maryland Center for Teaching Excellence. Teaching with Technology Course Improvement Grant. \$3,500.
- 2000-2001 Massachusetts Natural Heritage and Endangered Species Program, Massachusetts Division of Fisheries and Wildlife. "Development of reserve design, selection, and evaluation protocols". \$11,500
- 2000-2001 U.S. Fish and Wildlife Service. "Investigation of Reproductive Ecology in the Endangered Plant *Agalinis acuta*". \$2,500
- 1997-2001 Co-author. U.S. Environmental Protection Agency. "The Structure of Diversity: Implications for Reserve Design". N.C. Ellstrand Principal Investigator \$272,495
- 1994-1995 California Off-Highway Vehicle Green Sticker Fund. Development of Native Plant Propagation Facility on the San Bernardino National Forest. \$12,000
- 1993-1998 County of San Bernardino, CA. Restoration of Illegally Damaged Habitat at the North Baldwin Lake Pebble Plains. \$174,000
- 1993-1995 USDA Forest Service Washington Office to the San Bernardino National Forest. Development of a conservation strategy for five federally-listed plant taxa in the San Bernardino Mountains. \$300,000
- 1992-1995 California Off-Highway Vehicle Green Sticker Fund. Annual funding in operations and maintenance grants for restoration activities associated with damage from off-highway vehicle activity. \$5,000-\$10,000/year
- 1992-1994 California Department of Fish and Game. Revegetation of Mined Lands on the San Bernardino National Forest. \$4,000
- 1991-1992 California Department of Fish and Game. Study of Habitat Characteristics of the Federally Endangered Plant *Thelypodium stenopetalum*. \$3,000
- 1990-1993 The California Nature Conservancy. Research Grant: Morphological and Allozyme Variation in the Cactus *Echinocereus engelmannii* var. *munzii*. \$5,000
- 1989-1991 California Department of Fish and Game. Protection of Pebble Plain Habitat on Gold Mountain from Off-highway Vehicle Damage. \$4,000
- 1989-1991 California Native Plant Society. Educational Grant: Morphological and Allozyme Variation in the Cactus *Echinocereus engelmannii* var. *munzii*. \$575

Other Funding in the Lab

2005-2007 NSF Postdoctoral Fellowship in Biological Informatics. Awarded to Joanna Grand. \$120,000
2007 Fulbright Fellowship awarded to Christina Kennedy for her dissertation research on effects of fragmentation on bird communities in Jamaica.

APPLIED CONSERVATION EXPERIENCE

Managed threatened, endangered and sensitive plant program for 43 plant taxa of concern (including 8 federally-listed endangered, 1 federally-listed threatened and 4 state-listed endangered taxa) in many different plant community types on the San Bernardino National Forest.

Conducted threatened, endangered and sensitive plant surveys to assess ecological impacts; completed evaluations and assessments in compliance with Forest Service policy, the Endangered Species Act, and the National Environmental Policy Act.

Designed and implemented monitoring programs for plant species and communities of concern. Programs included sampling design, data collection, data analysis and report writing.

Wrote and implemented species and habitat management guides designed to ensure long-term viability of sensitive species and integrity of habitats and to reduce conflicts with other land uses. The Pebble Plain Habitat Management Guide was the first multi-species guide in the Pacific Southwest Region.

Established and managed native plant restoration program including seed collection, seed storage, propagation and planting to supply locally adapted stock for restoration projects. This included establishing and managing a greenhouse facility.

Developed and maintained relationships with agencies and groups such as the California Department of Fish and Game, U.S. Fish and Wildlife Service, National Park Service, The Nature Conservancy, California Association of Four-Wheel-Drive Clubs, the Sierra Club, the California Native Plant Society, University of Redlands, and the Audubon Society.

Managed annual budgets between \$25,000 and \$300,000; supervised up to 11 employees and large numbers of volunteers in field, office and lab settings.

TEACHING

Positions

Faculty 2004-present. University of Maryland Department of Natural Resource Sciences and Landscape Architecture. PLSC 253/INAG 113 Woody Plants for Mid-Atlantic Landscapes I (35-60 students every fall). PLSC 254/INAG 220 Woody Plants for Mid-Atlantic Landscapes II (30-40 students every spring).

Faculty 2002 & 2005. Applied Conservation Genetics. National Conservation Training Center (US Fish and Wildlife Service and Biological Resources Division of the US Geological Survey).

Teaching Assistant 1997. Spring Wildflowers. University of California, Riverside.

Teaching Assistant 1996. Human Heredity. University of California, Riverside.

Instructor 1995-1996. Plant Identification and Conservation. Elderhostel International, California State University San Bernardino.

Adjunct Faculty 1995. One course in Wilderness Management and one course in Restoration Ecology. Prescott College, Arizona.

Teaching Assistant 1991. California Flora. University of California Santa Barbara.

Additional Teaching Experience

Developed curriculum for and taught revegetation portion of a training program in mined-land reclamation for the Pacific Southwest Region, USDA Forest Service.

Co-developed curriculum for training program in sensitive plant surveying and monitoring for the Bureau of Land Management.

Gave guided tours and talks and taught classes for the general public and to specialized groups on flora, vegetation, plant identification, conservation, and land management.

Designed, developed and oversaw production of displays, signs and brochures to interpret threatened, endangered and sensitive plant and wildlife resources.

Invited Lectures in University Courses

2005 "What Do We Know About Extinction Risks For Endangered Plants?" Extinction Risk Honors Course, University of Maryland, College Park.

2003 "Genetic Diversity and Conservation of Endangered Plant Species". Genetic Engineering Honors Course, University of Maryland, College Park.

2002 "Development of the BioMap, a Conservation Plan for Rare Species in Massachusetts". Ecosystem Management, University of Massachusetts, Amherst.

2001 "Application of Ecological Methods in Reserve Design and Conservation". General Ecology, Brown University.

1997 "Plant Conservation in California". Spring Wildflowers, University of California, Riverside.

1996 Panel Member, Career Options for Biology Majors. Biology of Human Problems (undergraduate senior honors course), University of California, Riverside.

1993-1995 "Resource Conservation on National Forest Lands". Environmental Design Studio, University of Redlands.

1992 "Conservation and Management of Rare Plants and Communities of the Big Bear Region, San Bernardino Mountains". Ecology, University of Redlands.

PROFESSIONAL ACTIVITIES

Students Supervised and Student Committees

Undergraduate

2007 Laura Templeton-Brandt

2006 Robert Burnett

2005 Marjorie Linares

2005 - 2006 Adam Pyle

2005 - 2006 Chris Seabolt.

2005 Allison Kuzniar

2004 Robin Noonan

2004 - 2005 Kristy Sikorski

2003 - 2006 Ana Marcela Lewis (Honors Student)

Master's

Advisor

Graduated

2004 - 2005 Joseph Ferrari, Natural Resource Sciences Graduate Program. "Behavior of Graph Theory Metrics Along Gradients of Habitat Area."

Committee Member

In Progress

2004 - present. Kimberly Mead. Natural Resource Sciences, University of Maryland College Park.

Graduated

2003 - 2004. Erin Schlag, Marine, Estuarine and Environmental Science Graduate Program, University of Maryland College Park.

1992 - 1994 Michael Paul Gonella, San Jose State University, San Jose, California.

Doctoral

Advisor

In Progress

2004 - present. James Pettengill (Ph.D. anticipated 2009), Natural Resource Sciences Graduate Program.
Assessing the evolutionary distinctiveness of the endangered plant species *Agalinis acuta*.

2004 - present. Co-advisor. Christina Kennedy, BEES/Biology. Effects of patch area, isolation and matrix characteristics on Jamaican bird communities.

Committee Member

In Progress

2005 - present Judy Che, BEES/Biology, University of Maryland College Park

2005 - present. Eric Lind, BEES/Entomology, University of Maryland College Park.

2005 - present. Holly Martinson, BEES/Entomology, University of Maryland College Park.

2004 - present. Kevin Barry, Department of Biology, University of Maryland College Park.

2004 - present. Julie Byrd, BEES/Entomology, University of Maryland College Park.

2004 - present. Kuong-Yu Chen, Natural Resource Sciences, University of Maryland College Park.

2003 - present. John Hall, Molecular and Cellular Biology, University of Maryland College Park.

2003 - 2006. Melissa Songer, Department of Geography, University of Maryland College Park.

Graduated

2005 Justin Calabrese BEES/Biology, University of Maryland College Park.

2002 - 2004. Joanna Grand, Organismal and Evolutionary Biology. University of Massachusetts, Amherst
Massachusetts.

Post Doctoral Researchers Supervised

2007 - present. Lesley Campbell.

2004 - present. Joanna Grand. NSF Biological Informatics Postdoctoral Fellow; Mike Cummings (UMD) and
Taylor Ricketts (World Wildlife Fund) are coadvisors.

Selected Invited Talks, Seminars and Symposia

2006 College of Natural and Agricultural Sciences. University of California Riverside

2006 US Regional Association of the International Association of Landscape Ecology Annual Symposium.
Graph Theoretic Landscape Connectivity Assessment Across Gradients in Habitat Amount.
(talk coauthored with my Masters student Joe Ferrari).

2005 David H. Smith Fellows Meeting on Bridging the Gap Between Science and Practice. Society for
Conservation Biology

2003 USDA Forest Service National Botanist's and Ecologist's Meeting (1/2 day continuing education
course in plant conservation genetics).

2003 Department of Biology and Institute for Arctic Biology, University of Alaska, Fairbanks.

2003 Colleges of Life Sciences and Agriculture and Natural Resources University of Maryland, College
Park, Maryland.

2003 Department of Biology, University of Denver. Denver, Colorado.

2003 Department of Biology, Wesleyan University. Middletown, Connecticut.

2003 Department of Biology, University of Central Florida. Orlando, Florida.

2003 Department of Wildlife Ecology, University of Maine. Orono, Maine.

2002 Department of Biology, McGill University. Montreal, Canada.

- 2002 The Nature Conservancy's All Science Meeting. Albuquerque, New Mexico.
- 2002 US Fish and Wildlife Service Recovery Plan Meeting for the Endangered plant *Agalinis acuta*.
- 2001 Symposium on Marine Protected Areas: Design and Implementation for Conservation and Fisheries Restoration. Woods Hole Oceanographic Institution. Woods Hole, Massachusetts.
- 2001 Commonwealth Scientific and Industrial Research Organization (CSIRO), Plant Industry Division. Canberra, Australian Capital Territory, Australia.
- 2000 New England Botanical Club. Cambridge, Massachusetts.
- 2000 Department of Ecology and Evolutionary Biology, University of Connecticut. Storrs, Connecticut.
- 2000 Ecosystems Center, Marine Biological Laboratory. Woods Hole, Massachusetts.
- 1999 Department of Biology, Trinity College. Hartford, Connecticut.
- 1999 Southern California Botanists Symposium: Perspectives on Biodiversity. California State University Fullerton. Fullerton, California.
- 1999 Department of Ecology and Evolutionary Biology, Yale University. New Haven, Connecticut.
- 1999 Josephine Bay Paul Center in Comparative Molecular Biology and Evolution, Marine Biological Laboratory. Woods Hole, Massachusetts.
- 1997 Department of Biology, University of California. Riverside, California.
- 1997 USDA Forest Service Pacific Southwest Region Annual Meeting of Botanists and Ecologists. Morro Bay, California.
- 1993 & 1994 Rancho Santa Ana Botanic Garden Public Education Series. Claremont, California.
- 1992 American Association for the Advancement of Science Symposium: Rare Plant Communities. Santa Barbara, California.
- 1989 National Association for Interpretation National Conference. Big Bear City, California.

Workshops and Symposia Organized

- 2006 Making Conservation Decisions in a Data-Limited World. University of Maryland. College of Chemical and Life Sciences BioScience Day. Organizer & Speaker.
- 2006 Contributed Session: Conservation Planning Across Temporal and Spatial Scales: Strengthening Links Between Research and Practice. Meetings of the Society for Conservation Biology. San Jose California. Sponsored by the David H. Smith Fellowship Program. Organizer and Speaker.
- 2003 Short Course: Landscape Pattern Analysis Using FRAGSTATS. International Association of Landscape Ecologists World Congress, Darwin, Australia. Co-Organizer and Instructor
- 2003 Symposium: Conserving the Ecological and Evolutionary Functions of Movement. Meetings of the Society for Conservation Biology. Duluth, Minnesota. Sponsored by the David H. Smith Fellowship Program. Co-organizer.
- 2002 Short Course: Landscape Pattern Analysis Using FRAGSTATS. International Association of Landscape Ecologists, US Chapter Meeting. Lincoln, Nebraska. Co-Instructor
- 2002 Workshop: Graduate and Post-Doctoral Research in Ecology: Achieving Conservation Relevance. Meetings of the Ecological Society of America. Tucson, Arizona. Sponsored by the David H. Smith Fellowship Program. Co-organizer and speaker.

Manuscript Review

American Journal of Botany, American Midland Naturalist, American Naturalist, Conservation Biology, Biodiversity and Conservation, Canadian Journal of Botany, Crosossoma, Ecography, International Journal of Plant Sciences, Journal of Applied Ecology, Journal of Ecology, Journal of the Torrey Botanical Club, Landscape Ecology, Molecular Ecology, Oikos, Plant Systematics and Evolution, Regional Environmental Change.

Other Activities

UMCP Committees

Departmental.

- 2007 Member. Search Committee for Faculty Position in Landscape Architecture.
- 2003-present Member. Natural Resource Sciences Graduate Program Committee. Natural Resource Sciences and Landscape Architecture
- 2003-present Member. Urban Forestry Program Advisory Board. Natural Resource Sciences and Landscape Architecture
- 2004-present Member. Faculty Search Committee in Ecological Sustainability. Department of Entomology.
- 2004-present Member. Awards Committee. Natural Resource Sciences and Landscape Architecture
- 2004-2005 Member. Mentoring and Diversity Committee. Natural Resource Sciences and Landscape Architecture

College

- 2004-present Member. Steering Committee to develop a new undergraduate course in Agriculture and Natural Resources (AGNR 101). University of Maryland.
- 2004-2005 Member. Behavior, Ecology, Evolution and Systematics Graduate Program Admissions Committee (Review ~60-70 applications each year). University of Maryland.
- 2004 Member. Department Chair Search Committee for Natural Resource Sciences and Landscape Architecture. University of Maryland.

Other Service

- 2007 Invited Peer Reviewer for USFWS Proposed Critical Habitat Rule for Pebble Plains Plants.
- 2003 & 2004 Selection panel for fellowship interviewees). David H. Smith Fellowship Program, The Nature Conservancy.
- 2003, 2005 & 2007 Interview panel for fellowship candidates (2003 only). David H. Smith Fellowship Program, The Nature Conservancy (2003 & 2005) and Society for Conservation Biology (2007).
- 2003-2004 Invited Member. Committee working with The Nature Conservancy writing a five year plan for the David H. Smith Conservation Research Fellowship. This plan reviews the accomplishments from the first five years of the fellowship, details activities for the second five years and requests \$5,000,000 from the David H. Smith Foundation.
- 2002 - present Member. Scientific Advisory Committee for the Native Plant Conservation Campaign.
- 2002 Invited peer reviewer. Inventory and Monitoring Technical Guide: Direction for Developing Study Plans and Field Protocols for Inventory and Monitoring of Wildlife, Fish, and Rare Plant Populations and Habitats. USDA Forest Service.
- 2002 Invited peer reviewer. Rare Plant Outplanting Plan for United States Army's Pohakuloa Training Area, Hawaii.
- 2002 Invited peer reviewer. Revised Pebble Plain Habitat Management Guide for the San Bernardino National Forest, California.
- 2002 Reviewer of research proposals for the David H. Smith Fellowship Program.
- 1998 - 2004 Member. Massachusetts Rare Plant Task Force.
- 2000-2003 Reviewer. Rare plant conservation plans. New England Wild Flower Society.
- 2000 Interviewer. Switzer Environmental Fellowship Program. New Hampshire Charitable Trusts.
- 1999 Reviewer. Rare plant species accounts for the West Mojave Plan. California Desert District, Bureau of Land Management.
- 1998 Member. Search Committee for Center for Conservation Biology Director, University of California, Riverside.

- 1997 - 1998 Co-Chairperson of the Department of Botany and Plant Sciences Graduate Student Association and the annual departmental research retreat, University of California, Riverside.
- 1997 Grant Reviewer. The Netherlands Life Sciences Foundation (Stichting Levenswetenschappen).
- 1996 Judge of talks, 16th California Botanical Society Graduate Student Meetings, Rancho Santa Ana Botanic Garden, Claremont, California.
- 1992 - 1994 Member. Masters Thesis Committee for Michael Paul Gonella, San Jose State University, San Jose, California.
- 1990 - 1992 Director at Large, Board of Directors, California Native Plant Society.

PUBLICATIONS

Peer Reviewed Papers

10. J. Grand, M. P. Cummings, A.G. Rebelo, T. H. Ricketts, and M. C. Neel. Accepted. Biased Data Reduce Efficiency and Effectiveness of Conservation Reserve Networks. *Ecology Letters*
11. Grand, J., J. Buonaccorsi, S.A. Cushman, C.R. Griffin, and M.C. Neel. 2004. A Multi-Scale Landscape Approach to Predicting Bird and Moth Rarity Hotspots in a Threatened Pitch Pine-Scrub Oak Community. *Conservation Biology* 18:1063-1077.
9. Neel, M. C., K. McGarigal, and S. Cushman. 2004. Evaluation of Class-Level Landscape Structure Metrics Across Gradients of Area and Aggregation in Neutral Landscapes. *Landscape Ecology* 19: 435-455.
8. Neel, M. C. and M. P. Cummings. 2004. Section-Level Relationships of North American *Agalinis* (Orobanchaceae) Based on DNA Sequence Analysis of Three Chloroplast Gene Regions. *BMC Evolutionary Biology* 4:15.
7. Neel, M. C., and M. P. Cummings. 2003. Genetic Consequences of Ecological Reserve Design Guidelines: An Empirical Investigation. *Conservation Genetics* 4: 427-439.
6. Neel, M. C., and N. C. Ellstrand. 2003. Conservation of Genetic Diversity in the Endangered Plant *Eriogonum ovalifolium* var. *vineum* (Polygonaceae). *Conservation Genetics* 4:337-352.
5. Neel, M. C., and M. P. Cummings. 2003. Effectiveness of Conservation Targets in Capturing Genetic Diversity. *Conservation Biology* 17:219-229.
4. Neel, M. C. 2002. Conservation Implications of Reproductive Ecology in the Federally Endangered Plant *Agalinis acuta* (Scrophulariaceae). *American Journal of Botany* 89:972-980.
3. Neel M. C., J. Ross-Ibarra, and N. C. Ellstrand. 2001. Implications of Mating Patterns for Conservation of the Endangered Plant *Eriogonum ovalifolium* var. *vineum*. *American Journal of Botany* 88:1214-1222.
2. Neel, M. C., and N. C. Ellstrand. 2001. Patterns of Allozyme Diversity in the Threatened Plant *Erigeron parishii* (Asteraceae). *American Journal of Botany* 88:810-818
1. Neel, M. C., J. Clegg, and N. C. Ellstrand. 1996. Isozyme Variation in *Echinocereus engelmannii* var. *munzii*. *Conservation Biology* 10:622-631.

Peer Reviewed Book Chapters

2. Neel, M. C. Submitted. Conserving Genetic Diversity in Reserves. *Conservation Biology: Evolution in Action*. S. P. Carroll and C. W. Fox, Editors.
3. Neel, M. C. 2003. Genetic Diversity in Nature Reserves. Pages 149-151. In: McGraw Hill Yearbook of Science and Technology. McGraw-Hill Companies. New York, NY.
1. Gonella, M. P., and M. C. Neel. 1995. Characterization of Rare Plant Habitat for Restoration in the San Bernardino National Forest. Pages 81-93. In: B. A. Roundy, E. D. McArthur, J. S. Haley, D. K. Mann. Compilers. Proceedings: Wildland Shrub and Arid Land Restoration Symposium; October 19-21 1993; Las Vegas, NV. Gen. Tech. Rep. INT-GTR-315. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Research Station.

Manuscripts in Preparation (in order of intended submission)

- Grand, J., M. P. Cummings, T. Rebelo, T. Ricketts, M. C. Neel. Can Limited Data Be Used to Design Effective and Efficient Reserve Networks? Intended for Ecology Letters.
- Ferrari, J.R., T.R. Lookingbill, M.C. Neel. Extending the Use of Graph Theory in Landscape Analysis. Intended for Landscape Ecology.
- Neel, M. C., B.W. Compton, and K. McGarigal. Can We Conserve Biodiversity Without Really Trying? Capturing Non-target Biodiversity Using Community-Based Representative Reserve Designs. Intended for Ecological Applications or Conservation Biology.
- Neel, M. C. and J. Grand. Multi-scale Gradient Analysis of Vegetation on the North Slope of the San Bernardino Mountains of Southern California. Intended for Plant Ecology.
- Neel, M. C. Plant Conservation Genetics and the U.S. Endangered Species Act: A Review and Assessment of the Impact of Genetic Data on Endangered Species Conservation. Intended for Bioscience or Conservation Biology.
- Cummings, M.P., M.C. Neel, and K.L. Shaw. A Genealogical Approach to Quantifying Genetic Differentiation. Intended for Genetics.

Reports, Plans and Non-peer Reviewed Papers

8. Neel, M. 2001. Identifying Supporting Natural Landscape. Pages 52-55 In: *BioMap Technical Report: A Supplement to BioMap: Guiding Land Conservation for Biodiversity in Massachusetts*. Massachusetts Natural Heritage & Endangered Species Program, Division of Fisheries and Wildlife, Westborough, Massachusetts.
7. Neel, M, S. Neid, and D. Szczebak. 2001. GIS Metadata. Pages 56-67 In: *BioMap Technical Report: A Supplement to BioMap: Guiding Land Conservation for Biodiversity in Massachusetts*. Massachusetts Natural Heritage & Endangered Species Program, Division of Fisheries and Wildlife, Westborough, Massachusetts.
6. Neel, M. and P. Somers. 2000. Summary Report on Six Experiments Examining Establishment and Maintenance of *Agalinis acuta* Populations. Prepared for the U. S. Fish & Wildlife Service New England Field Office. Contract 14-48-0005-93-90002 with The Nature Conservancy. 62 pages.
5. Tilford, D., M. Holden and M. Neel. 1993. Reconnaissance of Natural Vegetation Recovery at Mine Sites in the California Desert. Unpublished report submitted to the US Bureau of Mines. 136 pages.
4. Neel, M. C. and J. Greene. 1993. Revegetation Plan for Gordon Quarry. Big Bear Ranger District, San Bernardino National Forest.
3. Neel, M. and S. Chaney. 1992. Damage Assessment and Rehabilitation Plan for Vehicle Trespass at North Baldwin Lake. Big Bear Ranger District, San Bernardino National Forest. 37 pages.
2. Neel, M. C. and K. Barrows. 1990. Pebble Plain Habitat Management Guide. Produced in Cooperation Between the San Bernardino National Forest and The California Nature Conservancy. 60 pages.
1. Neel, M. 1989. Cooperation - The Key to Plant Habitat Conservation on the San Bernardino National Forest. *Crossosoma*. 15:1-4.

Photographs

- Beacham, W., F. V. Castronova, and S. Sessine, editors. 2001. Beacham's Guide to the Endangered Species of North America. Six Volumes. The Gale Group. Farmington Hills, MI. (Photographs of *Dodecahema leptoceras*, *Eriogonum kennedyi* ssp. *austromontanum*, and *Arenaria ursina*).
- Mohlenbrock, R. H. 1993. This Land: Pebble Plains, California. *Natural History* 102:14-17.
- San Bernardino National Forest. 1994. Forest Recreation Map. *Lupinus* in meadow.
- Krantz, T. 1990. A guide to the rare and unusual wildflowers of the Big Bear Valley Preserve. Friends of the Big Bear Valley Preserve. Pages 17, 19 (3 photos), 27 (2 photos) and 28.