

CURRICULUM VITAE

Robert Howard Hilderbrand

Work:

University of Maryland Center for Environmental Science Appalachian Laboratory
301 Braddock Road
Frostburg, Maryland 21532
301-689-7141
hilderbrand@al.umces.edu

Home:

16526 Huff Road
Mount Savage, Maryland 21545
301-264-4171

Professional Positions and Responsibilities:

2008 - Associate Professor, University of Maryland Center for Environmental Science Appalachian Laboratory
2002-2008 Assistant Professor, University of Maryland Center for Environmental Science Appalachian Laboratory
2000-2002 Research Assistant Professor, University of Maryland Center for Environmental Science Appalachian Laboratory
1999-2001 D.H. Smith Conservation Research Fellow, The Nature Conservancy, Utah State University
2000 Interim Assistant Unit Leader (Fish), Utah Cooperative Fish and Wildlife Research Unit, Utah State University, Logan, Utah.
1998-1999 Postdoctoral Fellow, Ecology Center and Department of Fisheries and Wildlife, Utah State University

Areas of Professional Interest and Expertise:

Ecology, management, conservation, and restoration of freshwater ecosystems
Determining alternate states and resilience in freshwater ecosystems
Linking theory and application for better science, management, and conservation
Population simulation modeling
GIS and spatial analysis

Education:

Ph.D. 1998 Utah State University: (Ecology)
M.S. 1994 Virginia Tech (Fisheries Science)
B.S. 1992 Frostburg State University (Wildlife and Fisheries Management with concentrations in both wildlife management and in fisheries management; Minors – Chemistry, Biology)

Teaching Experience:

Readings in Conservation and Restoration Ecology (1 Cr. Graduate seminar, MEES)
Biometry (3 Cr. Graduate, MEES)
Spatial Ecology (2 Cr. Graduate, Utah State University)
Quantitative Methods in Natural Resources (3 Cr. Undergraduate, Utah State University)
Review of Endangered Species Recovery Plans (1 Cr. Graduate seminar, Utah State University)

Publications:

Journal Articles:

- Hilderbrand, R. H., A. D. Lemly, C. A. Dolloff, and K. L. Harpster. 1997. Effects of large woody debris placement on stream channels and benthic macroinvertebrates. *Canadian Journal of Fisheries and Aquatic Sciences* 54:931-939.
- Hilderbrand, R. H., A. D. Lemly, C. A. Dolloff, and K. L. Harpster. 1998. Design considerations for large woody placement in stream enhancement projects. *North American Journal of Fisheries Management* 18:161-167.
- Hilderbrand, R. H., A. D. Lemly, and C. A. Dolloff. 1999. Habitat sequencing and the importance of discharge in inferences. *North American Journal of Fisheries Management* 19:198-202.
- Hilderbrand, R. H., and J. L. Kershner. 2000. Conserving inland cutthroat trout in small streams: how much stream is enough? *North American Journal of Fisheries Management* 20:513-520.
- Hilderbrand, R. H., and J. L. Kershner. 2000. Movement patterns of stream-resident cutthroat trout in Beaver Creek, Idaho-Utah. *Transactions of the American Fisheries Society* 129:1160-1170.
- Lemly, A. D., and R. H. Hilderbrand. 2000. Influence of large woody debris on stream insect communities and benthic detritus. *Hydrobiologia* 421:179-185.
- Rowinski, P. M., J. J. Napiorkowski, and R. H. Hilderbrand. 2001. Measures of assessing the behavior of natural systems. *Proceedings of the Polish Geophysical Society (In Polish)* 76-81.
- Hilderbrand, R. H. 2002. Simulating supplementation strategies for restoring and maintaining stream resident cutthroat trout populations. *North American Journal of Fisheries Management* 22:879-887.
- Hilderbrand, R. H. 2003. The roles of carrying capacity, immigration, and population synchrony on persistence of stream-resident cutthroat trout. *Biological Conservation* 110:257-266.

Hilderbrand, R. H., and J. L. Kershner. 2004. Influence of habitat type on food supply, selectivity, and diet overlap of Bonneville cutthroat trout and nonnative brook trout in Beaver Creek, Idaho. *North American Journal of Fisheries Management* 24:33-40.

Hilderbrand, R. H., and J. L. Kershner. 2004. Are there differences in growth and condition between mobile and resident cutthroat trout? *Transactions of the American Fisheries Society* 133:1042-1046.

Wiley, D. J., R. P. Morgan, II, R. H. Hilderbrand, R. L. Raesly, and D. L. Shumway. 2004. Relations of physical habitat and abundance of American eels in five river basins in Maryland. *Transactions of the American Fisheries Society* 133:515-526.

Barker, J. M., K. R. McKaye, and R. H. Hilderbrand. 2004. The role of dilution and differential predation in brood adoptions of the Midas cichlid (*Amphilophus citrinellus*). *Acta Ethologica* 7:81-87.

Hilderbrand, R. H., A. C. Watts, and A. M. Randle. 2005. The myths of restoration ecology. *Ecology and Society* 10(1): 19. [online] URL: <http://www.ecologyandsociety.org/vol10/iss1/art19/>

Colyer, W. T., J. L. Kershner, and R. H. Hilderbrand. 2005. Movements of fluvial Bonneville cutthroat trout in the Thomas Fork of the Bear River, Idaho-Wyoming. *North American Journal of Fisheries Management* 25:954-963.

Hilderbrand, R.H., R. H. Gardner, M. J. Ratnaswamy, and C. E. Keller. 2007. Evaluating population persistence of Delmarva fox squirrels and potential impacts of climate change. *Biological Conservation* 137:70-77.

Castro, M. S., R. H. Hilderbrand, J. Thompson, A. Heft, and S. E. Rivers. 2007. Relationship between wetlands and mercury in brook trout. *Archives of Environmental Contamination and Toxicology* 52:97-103.

Stranko, S. A., R.H. Hilderbrand, R.P. Morgan, II, M.W. Staley, A.J. Becker, A. Roseberry-Lincoln, E.S. Perry, and P.T. Jacobson. In Press. Brook trout declines with changes to land cover and temperature in Maryland. *North American Journal of Fisheries Management*.

Strain, G.F., R.L. Raesly, and R.H. Hilderbrand. In Press. A comparison of techniques to sample salamander assemblages along highland streams of Maryland. *Environmental Monitoring and Assessment*.

Technical Reports:

Kershner, J. L., and seven co-authors. 1998. Sierra Nevada Province effectiveness monitoring protocols for aquatic and riparian habitats. USDA Forest Service. Fish and Aquatic Ecology Unit Technical Report. 67 p.

- Wiens, J. A., T. Comendant, R. H. Hilderbrand, C. Jordan, N. Sferra, and D. Zollner. 2004. Science capacity assessment, Central US Region. The Nature Conservancy. The Nature Conservancy, Arlington, VA.
- Raesly, R. L., R. H. Hilderbrand, and P. F. Kazyak. 2004. Inventory and biological monitoring of fishes in national parks of the National Capital Region. Final Report to the National Park Service.
- Hilderbrand, R. H., R. L. Raesly, and P. F. Kazyak. 2005. Baseline water resource inventory to support aquatic and watershed management activities in National Capital Region parks. Final Report to the National Park Service.
- Hilderbrand, R.H., R. L. Raesly, and D. M. Boward. 2005. Water resources protocols for streams in the National Capital Region of the National Park Service. Final Report to the National Park Service.
- Hilderbrand, R. H., R. L. Raesly, and D. M. Boward. 2005. Sampling results for inventory and monitoring protocols for water resources of National Capital Region parks. Final Report to the National Park Service.
- Kline, M., R. Hilderbrand, and A. Hairston-Strang. 2005. Maryland Biological Stream Survey 2000-2004 Volume 10: Riparian zone conditions. Maryland Department of Natural Resources Monitoring and Non-tidal Assessment. CBWP-MANTA-EA-05-7. Annapolis, Maryland.
- Heft, A. A., and twenty coauthors. 2006. Maryland brook trout fisheries management plan.

Grants and Awards:

- 1999 The Nature Conservancy. - \$137,000. Design of freshwater conservation reserves using cutthroat trout as a focal species. D.H. Smith Conservation Research Fellowship.
- 2001 Utah Division of Wildlife Resources. - \$23,283. Implementing a spatial database for aquatic biological information for the State of Utah.
- 2002 National Fish and Wildlife Foundation. - \$24,900. Estimating habitat and landscape determinants of population viability of the Delmarva fox squirrel (Co-PI with R. H. Gardner).
2002. National Park Service. - \$70,457. Inventory and biological monitoring of fishes in national parks. (Co-PI with R.L. Raesly)

- 2003 National Park Service. - \$247,692. Aiding management by assessing condition and identifying stressors of aquatic resources in National Capital Region parks.
- 2003 National park Service. - \$99,975. Baseline water resource inventory to support aquatic and watershed management activities in National Capital Region parks. (R.L. Raesly Co-PI)
- 2003 Maryland Department of Natural Resources. - \$100,000. Maryland wildlife habitat grant (Co-PI with P.M. Kazyak and R.L. Raesly)
- 2003 National Park Service. - \$61,207. Inventory and monitoring protocols for water resources of National Capital Region Parks. (R.L. Raesly Co-PI).
- 2005 National Park Service. - \$69,000. Discovery of remnant populations of the endangered dwarf wedgemussel using GIS habitat analysis.
- 2005 Maryland Department of Natural Resources. – \$137,908. MBSS 2005: Maryland Biological Stream Survey (Co-PI with R.P. Morgan, II)
- 2005 Maryland Department of Natural Resources . - \$137,908. Round three Maryland Biological Stream Survey (Co-PI with R.P. Morgan, II)
- 2005 Maryland Department of Natural Resources. - \$20,000. Otter Point Creek submerged aquatic vegetation grid study (Co-PI with K.A.M. Engelhardt).
- 2005 Maryland Department of Natural Resources. - \$7,750. Mercury concentrations in water, invertebrates, forage fish, and brook trout populations in Maryland's upper Savage River watershed (upstream of the Savage River dam) (Co-PI with M.S Castro).
- 2005 EPA STAR. - \$295,079. Quantifying ecological thresholds and resilience in stream ecosystems.
- 2006 National Park Service. -\$18,271. Biological monitoring for water resources of National Capital Region Parks.
- 2006 Maryland Department of Natural Resources. -\$59,938. MBSS 2006: Maryland Biological Stream Survey. (Co-PI with R.P. Morgan, II).
- 2007 Maryland Department of Natural Resources. -\$44,999. Estimating space requirements and extinction risk for Maryland brook trout.
- 2007 Maryland Department of Natural Resources. -\$2,959. Influence of stream accessibility on brook trout population characteristics.

- 2007 Maryland Department of Natural Resources. -\$35,000. Re-inventory of targeted brook trout (GCN species) populations in western Maryland. (Co-PI with R.P. Morgan, II).
- 2007 Maryland Department of Natural Resources. -\$9,553. Field sampling of resilient streams.
- 2007 National Park Service. -\$39,762. Integrative scorecards for using NPS monitoring data to report park status and trends. (Co-PI with T.A. Lookingbill).
- 2007 NOAA Sea Grant. -\$155,315. Investigation of stream restoration as a means of reducing nitrogen pollution from rapidly urbanizing coastal watersheds of the Chesapeake Bay. (Co-PI with S.S. Kaushal et al.).
- 2007 Maryland Department of Natural Resources. -\$159,776. MBSS 2008: Maryland Biological Stream Survey. (Co-PI with R.P. Morgan, II).
- 2008 National Park Service. -\$39,964. Integrative report cards for reporting park status and trends. (Co-PI with T.A. Lookingbill).
- 2008 Maryland Department of Natural Resources. -\$18,999. Translating aquatic research into conservation applications for the State of Maryland.
- 2008 Maryland Department of Natural Resources. -\$30,233. Tier 2 sampling support.

Papers Presented at Meetings:

- Hilderbrand, R. H. and R. P. Morgan II. 1995. Environmental disturbance and within basin population dynamics of brook trout under different land use conditions. East Coast Trout Management and Culture Workshop II. Penn State University, Pennsylvania.
- Hilderbrand, R. H., A. D. Lemly, and C. A. Dolloff. 1995. Stream channel responses to experimental additions of large woody debris in two Appalachian Mountain streams. East Coast Trout Management and Culture Workshop II. Penn State University, Pennsylvania.
- Hilderbrand, R. H., A. D. Lemly, and C. A. Dolloff. 1995. Stream channel responses to experimental additions of large woody debris in two Appalachian Mountain streams. Western Division, American Fisheries Society, Park City, Utah.
- Hilderbrand, R. H., and J. L. Kershner. 1996. Timing and scale of Bonneville cutthroat trout movements in Beaver Creek, Utah. Western Division, American Fisheries Society, Eugene, Oregon.

- Hilderbrand, R. H., and J. L. Kershner. 1996. Timing and scale of Bonneville cutthroat trout movements in Beaver Creek, Utah. Annual Meeting, American Fisheries Society, Dearborn, Michigan.
- Hilderbrand, R. H., and J. L. Kershner. 1997. Movements and growth of stream resident cutthroat and brook trout in Beaver Creek, Idaho. Wild Trout VI, Bozeman, Montana.
- Hilderbrand, R. H., and J. L. Kershner. 1997. Movements and growth of stream resident cutthroat and brook trout in Beaver Creek, Idaho. Annual Meeting, American Fisheries Society, Monterey, California.
- Hilderbrand, R. H., and J. L. Kershner. 1998. Interactions between non-native brook trout and Bonneville cutthroat trout: evidence for competition? Annual Meeting, Ecological Society of America, Baltimore, Maryland.
- Hilderbrand, R. H., and J. L. Kershner. 1998. Critical needs for cutthroat trout recovery and persistence. Plenary Session, American Fisheries Society Meeting of the Bonneville and Wyoming/Colorado Chapters, Grand Junction, Colorado.
- Hilderbrand, R. H., and J. L. Kershner. 1999. Evaluating spatial requirements for conserving interior populations of cutthroat trout. Annual Meeting of the Society of Conservation Biology, College Park, Maryland.
- Discussion Panelist. 2000. How to become an effective conservation biologist. Annual Meeting of the Society for Conservation Biology, Missoula, Montana.
- Hilderbrand, R. H. 2000. Design of freshwater conservation areas. Invited presentation, The Nature Conservancy, International Science and Stewardship Conference, Orlando, Florida.
- Hilderbrand, R.H. 2001. How much stream is enough: maintaining conservation potential in the Intermountain West. Invited talk for workshop entitled *How to make advances in conservation ecology hit the ground*. Annual meeting Ecological Society of America, Madison, Wisconsin.
- Hilderbrand, R. H., J. L. Kershner, and W. C. Colyer. 2003. Maintaining and restoring conservation potential for interior cutthroat trout: paradigms and possibilities. Symposium, Annual meeting of the Society for Conservation Biology, Duluth, Minnesota.
- Whalen, J. K., M. Hudy, and R. H. Hilderbrand. 2003. Analysis of human population over time (1790-2000) for watersheds in the Eastern U.S. Joint meeting of the Virginia and Virginia Tech Chapters of the American Fisheries Society, Blacksburg, Virginia.

- Hilderbrand, R. H., and J. L. Kershner. 2004. Reserve design issues for protecting cutthroat trout and aquatic biodiversity in the Bonneville Basin. Symposium, Annual meeting of the Society for Conservation Biology, New York.
- Hilderbrand, R. H. 2005. Myths and realities: wood in Maryland streams. Maryland streams symposium, Westminster, Maryland.
- Castro, M.S., R. H. Hilderbrand, J. E. Thompson, A. Heft, and S. E. Rivers. 2006. Relationship between wetlands and mercury in brook trout. International Mercury Conference. Madison, WI.
- Schuett, E., and R. H. Hilderbrand. 2006. Confluence effects on benthic macroinvertebrate communities. Annual meeting of the Ecological Society of America. Memphis, TN.
- Hilderbrand, R. H., R. M. Utz, and R. L. Raesly. 2006. Identifying stressor thresholds and alternate states in stream ecosystems of Maryland. Annual meeting of the Ecological Society of America. Memphis, TN.
- Campbell, C.A., W.L. Lellis, R.H. Hilderbrand, and J.E. McKenna, Jr. 2007. Predicting freshwater mussel occurrence in the Delaware River. National Gap Analysis Program Conference, Asheville, NC.
- Cushman, S. F., R. P. Morgan, II, and R. H. Hilderbrand. 2007. Habitat selection by stream cyprinids across the urban-rural gradient: implications for stream restoration. Annual Meeting of the Ecological Society of America, San Jose, CA.
- Dolloff, C.A., C. Roghair, C. Kryger, R.H. Hilderbrand, and A.D. Lemly. 2007. Large wood additions to small Appalachian streams: 1993-2007. Annual meeting of the American Fisheries Society, San Francisco, CA.
- Heft, A.A., R.H. Hilderbrand, R.P. Morgan, II, K. Knotts, and A. Klotz. 2007. Implementation of a catch and release brook trout regulation on a watershed scale. Wild Trout IX, West Yellowstone, MT.
- Hilderbrand, R.H. To be presented November, 2007. The myths of restoration. Mid-Atlantic stream restoration conference, Cumberland, MD
- Hilderbrand, R.H., A. Heft, and R.P. Morgan, II. 2007. Spatially explicit risk assessments of Maryland's brook trout. Annual meeting of the American Fisheries Society, San Francisco, CA.
- Hilderbrand, R.H., R.L. Raesly, E.N. Powers, and R.M. Utz. 2007. Quantifying ecological thresholds and resilience in stream ecosystems. Ecological thresholds in aquatic ecosystems: the role of climate change, anthropogenic disturbance, and invasive species progress review, Washington, DC.

- Powers, E.N., and R.H. Hilderbrand. 2007. Identification of reference fish communities and their stressors in Maryland streams: methods and uses. Annual meeting of the American Fisheries Society, San Francisco, CA.
- Utz, R.M., and R.H. Hilderbrand. 2007. Taxon-specific responses of fish and macroinvertebrates to urbanization in eastern Maryland. Annual meeting of the American Fisheries Society, San Francisco, CA.
- Lookingbill, T., J. Julian, A. Elmore, S. Kaushal, K. Eshleman, W. Boynton, R. Hilderbrand, and R. Gardner. 2008. Ecosystem consequences of landscape change in the Potomac River watershed. Annual meeting of the American Association of Geographers, Boston, MA.
- Hilderbrand, R.H., A. Heft, and R. Morgan. 2008. Spatially explicit risk assessments of Maryland's brook trout populations. Annual meeting of the American Fisheries Society, Southern Division. Wheeling, WV.
- Utz, R., and R. Hilderbrand. 2008. Variation in ecosystem sensitivity to urbanization between physiographic ecoregions in the southeastern, United States. Annual meeting of the American Fisheries Society, Southern Division. Wheeling, WV.
- Powers, E., R. Hilderbrand. 2008. Resilience of fish assemblages: importance of habitat-specific assessments. Annual meeting of the American Fisheries Society, Southern Division. Wheeling, WV.

Invited seminars and lectures:

- Hilderbrand, R. H. 1997. Paradigms born and lost: Is there restricted movement evidence in fish communities. What is the implication for managing small populations? Advanced Concepts in Aquatic Ecosystems short course. USDA Forest Service - Regions 2, 3, 4. Logan UT.
- Hilderbrand, R. H. 1998. Considerations in developing core areas and population reserves for inland salmonids. Advanced Concepts in Aquatic Ecosystems short course. USDA Forest Service - Regions 2, 3, 4. Logan UT.
- Hilderbrand, R. H. 1998. Overview of cutthroat trout research in Utah. Technical session, USDA Forest Service, Region 2 meeting of Biologists and Hydrologists.
- Hilderbrand, R. H. 1999. Considerations in developing conservation strategies to protect aquatic systems. Advanced Concepts in Aquatic Ecosystems short course. USDA Forest Service - Regions 2, 3, 4. Logan UT.

Hilderbrand, R. H. 1999. Bonneville cutthroat trout life history/habitat relationships. Cutthroat conservation and restoration workshop. USDA Forest Service - Region 4. Salt Lake City, UT.

Hilderbrand, R. H. 2001. The new Sisyphus: conservation and restorations of streams. Invited seminar, Maryland Department of Natural Resources headquarters, Annapolis, Maryland.

Hilderbrand, R. H. 2001. Conservation and restoration of populations and physical habitat in coldwater streams. Appalachian Laboratory seminar series, Frostburg, Maryland.

Hilderbrand, R. H. 2001. Conservation and restoration of populations and physical habitat in coldwater streams. Invited seminar, Horn Point Laboratory, Cambridge, Maryland.

Hilderbrand, R. H. 2002. The new Sisyphus: conservation and restoration of stream ecosystems. Invited seminar, Clarion University, Clarion, Pennsylvania.

Hilderbrand, R. H. 2002. Planning for the future: maintaining persistent stream fish populations. Invited half-day lecture. USDA Forest Service Fish Habitat Short Course. Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

Hilderbrand, R. H. 2002. Assembling the puzzle: Maintaining persistent populations of cutthroat trout. Invited seminar, University of Idaho, Moscow, Idaho.

Hilderbrand, R. H. 2002. Assembling the puzzle: Maintaining persistent populations of cutthroat trout. Invited seminar, Idaho Fish and Game Headquarters, Boise, Idaho.

Hilderbrand, R. H. 2002. How much stream is enough: maintaining conservation potential in the Intermountain west. Invited talk, cutthroat trout viability workgroup for western states, Salt Lake City, Utah.

Hilderbrand, R. H. 2002. The new Sisyphus: conservation and restoration of stream ecosystems. Invited seminar, University of Maryland, College Park, Maryland.

Hilderbrand, R. H. 2002. How much is enough: Using cutthroat trout as models for decision making. Invited talk, Conservation workgroup for Idaho Fish and Game, Lewiston, Idaho.

Kershner, J. L., Hilderbrand, R. H., and W. C. Colyer. 2002. Needed: a new paradigm for conservation and management of cutthroat trout populations. Invited talk, Conservation workgroup for Idaho Fish and Game, Lewiston, Idaho.

- Hilderbrand, R. H., and R. H. Gardner. 2003. Population viability analysis for the Delmarva fox squirrel. Delmarva fox squirrel recovery meeting. Annapolis, Maryland.
- Hilderbrand, R. H., R. L. Raesly, and P. F. Kazyak. 2004. Water resources monitoring, assessment, and research in National Capital Region Parks. CESU Federal Managers Meeting, Baltimore, MD.
- Gardner, R. H., and Hilderbrand. 2004. Demographic analysis and estimates of extinction risk for the Delmarva fox squirrel. Delmarva fox squirrel recovery team meeting. Blackwater Wildlife Refuge, Maryland.
- Hilderbrand, R. H. 2004. Using population matrix models for species conservation, management, and recovery. Invited seminar, West Virginia University, Morgantown, West Virginia.
- Hilderbrand, R. H., R. L. Raesly, and P. F. Kazyak. 2004. Water resources monitoring protocols development for National Capital Region Parks. NPS inventory and monitoring protocol development workshop. Patuxent, Maryland.
- Hilderbrand, R. H. 2005. Plenary Address: The futures of Maryland streams. Maryland Streams Symposium, Westminster, Maryland.
- Hilderbrand, R. H. 2006. Attaining population persistence for the endangered Delmarva fox squirrel. Invited Seminar, Conservation Biology Series, Frostburg State University, Frostburg, Maryland.
- Hilderbrand, R. H. 2006. Altered states: streams in Maryland's rapidly changing landscape. Invited seminar, MANTA (Monitoring and Non-Tidal Assessment) seminar series, Maryland Department of Natural Resources, Annapolis Maryland.
- Hilderbrand, R. H. 2006. The myths of restoration. Invited keynote to kick off special symposium on ecosystem restoration, The Nature Conservancy Conservation Science in Practice Conference, Tucson, Arizona.
- Hilderbrand, R.H. 2007. Measuring risk, resilience, and restoration potential at multiple ecosystems scales. Invited seminar, UMCES Chesapeake Biological Laboratory, Solomons, MD.

Graduate Students:

Cara Campbell	PhD	
Amanda Hern	MS	Finished 2006, Currently a consultant
Elissa Schuett	MS	Finished 2007, Toolik Lake LTER - Woods Hole MBL
Gabriel Strain	MS	Finished 2007, PhD program West Virginia University
Ryan Utz	PhD	

Service and Science Advisory Activities:

To UMCES:

Faculty Development committee (2001)
Faculty forum Discussion leader (2001)
Computer Committee (2001-2004)
Faculty Forum Discussion Leader (2002)
Graduate Education Committee (2004-2006)
Chair, Landscape and Watershed Ecology graduate program track (2004-present)
Faculty Search Committee: Landscape Ecologist (2005)
Faculty Senate (2006-present)
Faculty Search Committee: Global Change Scientist (2007-2008)

To the Profession:

Ad Hoc Referee for: Archives of Hydrobiology, Canadian Journal of Fisheries and Aquatic Sciences, Conservation Biology, Ecological Applications, Ecological Engineering, Environmental Biology of Fishes, Environmental Management, Fisheries, Great Basin Naturalist, International Review of Hydrobiology, Journal of Fish Biology, Journal of the North American Benthological Society, Northeastern Naturalist, North American Journal of Fisheries Management, Northwest Science, Restoration Ecology, Transactions of the American Fisheries Society,
National Science Foundation (DEB),
Smith Fellows program (The Nature Conservancy, Society for Conservation Biology),
National Geographic Society

Science Advisory Committee, Smith Fellows Program (2001-2003)
Science Advisory Committee, Maryland Northern Snakehead taskforce (2002)
Reviewer to USFWS for recovery plan for Paiute cutthroat trout, 2002.
Reviewer to State of Maryland for Maryland Physical Habitat Index, 2002.
Team member, science capacity review of Central US region and Canada, The Nature Conservancy 2004.
Peer Reviewer of Hoogland (2005) book – Conservation and Management of Prairie Dogs
Reviewer of Puritan tiger beetle PVA model for Maryland Department of Natural Resources 2005.
Advisor to The Nature Conservancy on freshwater priority watersheds
Advisor to US Fish and Wildlife Service on initial conditions requirements for successful Delmarva fox squirrel translocations
Advisor to the National Park Service National Capital Region on water resources monitoring design and implementation

To the community:

Panel member for Maryland Regional Science and Math Camp, 2004
High School Teacher Internship Program, 2005
Highlands Environmental Leadership Program speaker, 2006, 2007

Advisory Board member, Highlands Action Program (HAP), 2006-present