



Bicknell's thrush, three-toed woodpecker and Canada lynx. The environment in these areas is a sensitive habitat characterized by older growth spruce fir forest. The high elevation spruce forest forms the habitat for several species of concern in New Hampshire. These high elevation forests were previously mainly undisturbed by commercial forestry practices.

3. Pursuant to RSA 162-H:10, V, Counsel for the Public may employ such consultants as are necessary to further his duties under ch. 162-H. Also pursuant to RSA 162-H:10, V, the cost of such consultants "shall be borne by the applicant in such amount as may be approved by the Committee." The proposed amendment acknowledges that the access road and the way it has been maintained by the applicant has resulted in increased mortality of American marten.

4. The Applicant's Motion seeks to modify the certificate by ending GRP's obligation to revegetate the access road and instead revegetate other areas.

5. The Applicant has submitted the testimony of Kenneth D. Kimball of the AMC as its only evidence of the effects of the proposal on conservation effects of the current situation and the amendment. Dr. Kimball's testimony is remarkably tepid in his endorsement of the proposal. Kimball Testimony at p. 3, lines 15-23. What is most remarkable about it however is his statement that "AMC would prefer that the roads remain at twelve foot width with the least amount of forest cut back."

6. Counsel for the Public wishes to employ Dr. C. William Kilpatrick, a professor of biology at the University of Vermont to provide expert analysis and opinion concerning the proposed amendment. Professor. Kilpatrick's CV is attached as Exhibit "A." The details of the services Professor Kilpatrick will provide are set

forth in the attached Exhibit "B". Professor Kilpatrick's rates are also set forth in the attached Exhibit "B." He estimates the total cost of his services and expenses for the engagement to be up to \$15,000.

7. Dr. Kilpatrick has spent nearly 50 years studying mammals and other vertebrates (including birds) that have resulted in the publication of over 80 papers and book chapters in addition to approximately 15 reports. During his nearly 40 year tenure at the University of Vermont he has conducted extensive research on mammals in Vermont including surveys of mammals at a number of high elevation sites. In addition, Dr. Kilpatrick has conducted research in high elevation habitats of Pakistan and China and currently has a graduate student working in high elevation habitats in Nepal. Although much of his work has dealt with small mammals (shrews, bats, and rodents), he has studied populations of several carnivores in Vermont and adjoining states. Several papers of his carnivore work have been published, others have been submitted or are in preparation, and he is currently pursuing a study of the recently detected American marten populations in northern and southern Vermont. Dr. Kilpatrick serves as the chair of the Scientific Advisory Group for Mammals which provides advice to the Vermont Endangered Species Committee and the Vermont Agency of Natural Resources. In connection with this advisory role, he regularly reviews post-construction mortality studies of birds and bats in association with request for taking permits for threatened and endangered species by the operating wind facilities in Vermont. Dr. Kilpatrick has testified as an expert witness before the Vermont Public Service Board on several occasions regarding the impacts of wind farm development on wildlife and wildlife habitat at high elevation sites.

8. Under RSA 162-H:10, V, the cost of such a consultant “shall be borne by the applicant in such amount as may be approved by the Committee”, and Counsel for the Public asks the Sub-committee to order and direct the Applicant to pay the consultant’s fees and costs as presented on invoices from the consultant on a monthly basis and in accordance with the terms of the engagement letter attached hereto. Counsel for the Public has done his utmost to fairly and accurately estimate the total budget for the proposed services, but must nevertheless reserve to himself the ability and right to request additional sums should the need arise.

9. Counsel for the Public has requested the other parties to assent to this motion. Lisa Linowes assented. Mr. Samson did not respond. Attorney Pachios initially responded but then did not respond with a position one way or the other.

Wherefore, Counsel for the Public prays that the Sub-committee enter an order authorizing him to retain Professor Kilpatrick pursuant to RSA 162-H:10, V, and directing GRP to bear the fees and costs, as incurred monthly, up to \$15,000, and granting such other relief as may be just.

Respectfully submitted this 18th day of June, 2014,

PETER C.L. ROTH  
COUNSEL TO THE PUBLIC

By his attorneys

JOSEPH A. FOSTER  
ATTORNEY GENERAL



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Peter C.L. Roth  
Senior Assistant Attorney General  
Environmental Protection Bureau  
33 Capitol Street  
Concord, New Hampshire 03301-6397  
Tel. (603) 271-3679

#### **Certificate of Service**

I, Peter C.L. Roth, do hereby certify that I caused the foregoing to be served upon the parties in the case by submitting it to the Committee's Clerk for electronic distribution by her to the Service List and by e-mail to the following:

Lisa Linowes @ [lisa@linowes.com](mailto:lisa@linowes.com)  
Harold Pachios @ [hpachios@preti.com](mailto:hpachios@preti.com)  
Rick Samson @ [rick.samson@cooscountynh.us](mailto:rick.samson@cooscountynh.us)



Dated: June 18, 2014

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Peter C.L. Roth

# Exhibit A

## VITAE

### Personal Data:

**Name:** C. William Kilpatrick

**Current Address:** Department of Biology  
University of Vermont  
Burlington, VT 05405-0086

**Phone:** (802) 656-0453

**Fax:** (802) 656-2914

**E-mail:** C-William.Kilpatrick@uvm.edu

### Education:

Doctor of Philosophy, North Texas State University, 1973  
(Major in Zoology with Dr. Earl G. Zimmerman)

Master of Science, Midwestern State University, 1969  
(Major in Zoology with Dr. Walter W. Dalquest)

Bachelor of Science, Midwestern State University, 1968,  
(Major: Zoology, Minor: Geology)

### Faculty Appointments:

University of Vermont, 1974-present  
Professor, Department of Biology, UVM, 2009-present  
Associate Professor, Department of Biology, UVM, 1980-2009  
Curator of Vertebrates, Zaddock Thompson Museum of Natural History,  
1982-present  
Assistant Professor, Department of Zoology, UVM. 1974-1980  
Graduate Faculty, 1977-present

University of Florida, Gainesville, FL, Spring 1981  
Visiting Associate Professor

St. Lawrence University, Canton, NY, 1973-1974  
Visiting Assistant Professor

North Texas State University, Denton, TX, 1970-1973  
Teaching Fellow (Lecturer), Fall 1971, Spring 1973

Midwestern University, Wichita Falls, TX, Lecturer, 1969-1970

**Administrative Appointments:**

Acting Chair, Department of Zoology, 1985

**Grants Awarded:**

**Extramural Research Grants:**

National Science Foundation, 1978-1980, \$54,837; 2014-2017, \$470,000  
U. S. Fish and Wildlife Service, 1979-1980, \$15,000  
National Science Foundation, 1982-1985, \$70,000  
Center for Field Research, 1986, \$16,000  
Vermont EPSCoR, 1988-1990, \$84,806; 2001, \$6,000; 2003, \$2,100  
Vermont Fish and Wildlife, 1990-1991, \$2,600; 2000-2003, \$8,800,  
collaborator with Dave Hirth; 2007-2008, \$14,000; 2009-2010, \$13,000,  
collaborator with Donna Parrish; 2010, \$8,000; 2013, \$37,688, collaborator  
with Ellen Marsden and William Ardren; 2013-2015, \$14,900  
Vermont Department of Forest, 2002, \$5,000  
Nature Conservancy, 1991-1992, \$2,100  
Nature Conservancy, 1992-1993, \$2,600  
U. S. Fish and Wildlife Service, 1991-1999, \$300,000 (in Pakistan  
Rupies), collaborator on grant to Charles A. Woods  
Royal Geological Society of London, University of Glasgow/University of  
Peshawar 1999 Hindu Kush Expedition, \$50,000, one of about 15  
invited participants, Peter Meadows PI.  
U. S. Forest Service, 2005-2006, \$17,350, CoPI with Donna Parrish; 2006-2007,  
\$15,817, CoPI with Donna Parrish  
Nature Conservancy, 2000, \$11,493  
Conservation International, 2007, \$2,660 grant to Dr. Jan Decher, Research  
Associate, CoPI  
National Geographic Grant to Dr. Jan Decher, Research Associate, CoPI  
Davis Conservation Foundation, 2006, \$5,000, Laura Farrel, CoPI

**Extramural Program Grants:**

National Science Foundation Training Grant, 1995-2000, participant  
Vermont EPSCoR, 1993-1998, \$120,000 to retool my laboratory  
Computational Biology/Bioinformatics Cluster of DOE - EPSCoR

**Research Support Pending:**

**Institutional Grants:**

URS Grants, University of Vermont, 1974, \$3,405; 1974, \$1,700; 1975, \$400;  
1978, \$1,800; 1979, \$2,085; 1981, \$2,300; 1984, \$5,300; 1987, \$5,275;  
1990, \$5,000; 1993, \$5,000; 1999, \$5,000



Faculty Development Initiative, 1987, \$5,000  
Vermont Genetics Network, 2002, \$3,410  
Instructional Development Grants, University of Vermont, 1982, \$2,000;  
1987, \$1,800  
RAC Grants, University of Vermont, 1991, \$11,000, \$4,000

### **Fellowships and Honors:**

Hartley Jackson Award, American Society of Mammalogists, 2013  
Outstanding Alumnus, College of Science and Mathematics, Midwestern  
State University, 2003  
Howard Professorship of Zoology and Natural History, University of  
Vermont, 2001 to present  
National Defense Educational Act Doctoral Fellowship, 1972-1973  
A. Brazier Howell Honorarium, American Society of Mammalogists, 1973  
Wilks Award, Southwestern Association of Naturalists, 1973  
Society of Sigma Xi, 1974  
New York Academy of Science, 1979

### **Professional Societies:**

#### **Membership:**

American Society of Mammalogists (Life Member)  
Northeastern Association of Naturalists  
Society of Molecular Biology and Evolution  
Society for the Study of Mammalian Evolution  
Society of Systematic Biology  
Southwestern Association of Naturalists

#### **Committees:**

American Society of Mammalogists:  
Board of Directors, 2010-2013; 2014-present  
Education and Graduate Students, 1984-1987  
Grants-in-Aid, 2001-2004, Chair 2004-2011  
Checklist, 2002-present  
Legislation and Regulations, 1977  
Program Committee, 1994-1998, hosted Annual Meeting in 1995  
Publications Committee 2011- present

North American Symposium on Bat Research  
Board of Directors, 2001-2003  
Program Committee, 2001-2003, hosted Annual Meeting 2002

#### State of Vermont:

Fragile Area Advisory Committee, 1981-1983  
Endangered Species Committee  
Mammal Advisory Group, 1982-1989; Chair 1989-present  
Reptile and Amphibian Advisory Group, 1981-present

Comprehensive Wildlife Conservation Strategy Mammal Team,  
2004

**Host of Annual Meetings:**

North American Symposium of Bat Research (32 Annual Meeting),  
November 6-10, 2002  
New York/New England Bat Working Group, November 6, 2002  
American Society of Mammalogist, (74th Annual Meeting) June 1995

**Reviewer:**

Manuscripts Reviewed for:

ACTA Theriologica  
American Midland Naturalists  
American Naturalist  
Animal Conservation  
Belgian Journal of Zoology  
BioTechniques  
Biotropica  
BMC Evolutionary Biology  
Caribbean Journal of Science  
Cladistics  
Conservation Biology  
Coral Reefs  
Ecology  
Evolution  
International Journal of Animal Biology  
Journal of Biogeography  
Journal of Heredity  
Journal of Mammalogy  
Journal of Mammalian Evolution  
Journal of Wildlife Management  
Journal of Wildlife Management and Wildlife Monographs  
Journal of Zoological Systematics and Evolutionary Research  
Journal of Zoology  
Mammalian Species Accounts (American Society of Mammalogists)  
Molecular Biology and Evolution  
Molecular Phylogenetics and Evolution  
Naturwissenschaften  
Northeastern Naturalist  
Pakistan Journal of Zoology  
PLOS ONE  
Proceedings of Biological Society of Washington  
Revista de Biología Marina y Oceanografía  
Science  
Southwestern Naturalist  
Systematic Biology  
Transactions American Fisheries Society  
Wildlife Society Bulletin

## Zoological Journal of the Linnean Society

Guest Editor, Northeastern Naturalist, 2002-2003, 2005-2006  
Associate Editor for Mammalian Species (American Society of Mammalogists), 2011-2013  
Editorial Board, Associate Editor, American Society of Mammalogists, 2014-present

Grant Proposals Reviewed for:  
American Philosophical Society  
Auburn University  
Binational Agricultural Research and Development Fund  
Center for Field Research  
National Geographic Society  
National Institute of Health  
National Science Foundation  
OTKA (Hungarian Science Foundation)

### **Academic Committees:**

#### **Departmental:**

Academic Committee, 1988-1992  
Advisory Council, 1978-1979; 1981-1984; 1986-1987; 1990-1991;  
1995-1996; 1997-1998; 2002-2003; 2009-present  
Animal Room Committee, 1977-1978; Chairman 1979-1987; 1988-1994  
Curriculum Review Committee, 1976-1978  
Field Station Committee, 1978-1980  
Graduate Committee, 1975-1978  
Graduate Recruitment Committee, 1979-1980; 1986-1990  
Search Committees, many  
Seminar Committee, 1986-1987  
Committee on Undergraduate Majors in Basic Life Sciences,  
Co-Chair, 1989  
Senate Representative, 2000-2002; elected representative 2002-2009

#### **College:**

Zoology Chairman Search Committee, 1977-1978  
Zoology Chairman Review Committee, 1979-1980; 1989  
Psychology Chairman Review Committee, Chairperson, 1984  
Nomination Committee, 1982-1985  
GTF Retention Committee, 1995  
George Aiken Conference Planning Committee for 1996-1998  
Howard Professorship, 1997

#### **University:**

DNA Analysis Facility Users Oversight Committee, 1998-2010  
University Animal Care Committee, 1979-1980; 1981-1985

Institutional Animal Care and Use Committee, 1986-1987, 1988-1990;  
Vice Chair 1990-1992; 1993-1995  
Biological Sciences Study Section, University Committee on Research  
and Scholarship, 1979-1980; 1981-1983  
University Committee on Research and Scholarship, 1985-1987  
Undergraduate Research Advisory Committee, 2012-present  
Task Force on Animal Care and Use, 1987  
Senate Faculty Affairs Committee, 1996; 2000-2002  
Senate Professional Standards Committee, 2002-2005

**Other Service:**

**Public Presentations:**

Bat Biology:  
Fairbanks Museum, St. Johnsbury, July 13, 2001  
Kill Kare State Park, July 21, 2001  
Lake Champlain Science Center, October 3, 2001  
Aiken Lecture: Environmental Sciences and Public Policy: Bringing  
Interest Together, Co-leader of workshop on Biodiversity, April 7, 1998.  
ECHO, Turtles and Environmental Conditions for their Survival, December,  
2005  
SMT Career Day Speaker (DNA Forensics), Vt-EPSCoR, May 21, 1998  
Sigma Xi lecture of DNA Fingerprinting, Trinity College, Burlington  
Vermont, 1994

**Other:**

Vermont Public Television, Rural RFD, Bat Biology  
National Public Radio, Guest on "All Things Considered", Northward  
Movements of Opossums  
Interviews:  
USA Today in August 2002, Origin of Dogs  
Science News: December 2000, Afrotheria; September 2003,  
Ratzilla  
Burlington Freepress, Several topics concerning local mammals  
Vermont Quarterly (University of Vermont publication), Northward  
Movement of Opossums and Origin of Dogs

**Consulting:**

**Paid:**

**DNA Forensics:**

Expert witness for the State of Vermont - 1993, 1994, 1995, 1996, 1997, 2013, 2014  
Expert witness for the State of New York - 1993, 1994, 1996  
Expert witness for the State of New Hampshire - 1993, 1995  
Expert witness for the State of Connecticut - 1995  
Expert witness for the State of Massachusetts - 1993  
Expert witness for the State of New Jersey - 1994  
Conducted Audit of Vermont State Crime Lab - 1996

International Program, U.S. Fish and Wildlife - Visited lab in Pakistan and prepared report (site visit for contract work)

Wildlife Biology:

Expert witness for Kingdom Commons Group, Public Service Board 2005  
U.S. Forest Service Panel: Endangered and Threatened Mammal  
Species Viability, Northeastern Region - May 21-23, 2002; Finger Lakes –  
August 14, 2003

Expert witness for Ridge Protectors, Public Service Board 2006-2007

Northeastern Wildlife Genetics, Inc.

Position: Owner and Director

Indiana bat surveys in the Champlain Valley of Vermont – 3 surveys 2006

Wildlife Consultant for the Glebe Mountain Group conducting wildlife  
surveys on Glebe Mountain in relation to proposed wind farm, 2007

Genetic analysis of spruce grouse populations, Vermont Fish and Wildlife  
Department 2008-present

Wildlife Consultant for town of Wilmington and Save Vermont Ridgelines on the  
impacted of the proposed Deerfield Wind Farm on wildlife, 2008-2009

Expert witness Town of Wilmington and Save Vermont Ridgelines, Public Service  
Board 2008-2009

Genetic analysis of Vermont white-tailed deer populations, Vermont Fish and  
Wildlife Department 2009-present

Expert witness of State Vermont (ANR), Public Service Board 2010

Expert witness Town of Newark, Public Service Board, 2013

Wildlife DNA forensic case work for Vermont Fish and Wildlife Department 2012-  
present

**Gratis:**

Bear Mountain Natural History Center

Position: Director of Research

Grants:

Vermont Monitoring Cooperative, \$5000, June 1, 2002.

Dr. Jan Decher, Research Associate

Co-PI on Contract for Small Mammal Survey, Colby Hill Ecological  
Project - 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007,

NorthWoods Stewardship Center (Vermont Leadership Center)

Board of Directors – 2005 - 2011

Workshop on Small Mammals - 2001, 2002, 2003, 2004, 2005

Workshop on Bats, 2000

Audubon "Take PART program" August 2005, August 2006, July 2007,  
July 2008

Seminars:

August 2008, Update of White-nosed Syndrome

May 2008, White-nosed Syndrome

April 2007, Impacts of Noise on Wildlife

2005, East Mountain Mammal Surveys

August 17, 2002, Vermont Black Bears

August 3, 2001, Wolves of the Northeast  
November 3, 2001, Bats of Vermont  
August 24, 2000, Bats of Vermont  
Grant: Vermont Fish and Wildlife Department, State Wildlife Grant,  
Mammals of Vermont: A distributional and habitat association  
reference - Phase I, 2007-2009, \$40,000, CoPIs J. Decher, F.  
Gerhardt, D. Hirth, P. Smith, S. Trombulak, and C. A. Woods.  
\$20,000.00 year 1 (2008) funded, \$20,000 year 2 (2010) funded.

Advisory Panel, Dalquest Research Site – 2008-2009 (panel for preliminary  
work funded by NSF)

### **Graduate Students:**

Charles F. Aquadro, M.S., 1978	Professor, Cornell University
Robert T. Beaumont, M.S., 1979	Field Biologist, BLM
Michael A. Romano, M.S., 1979	Professor, Western Illinois State
Thomas P. Dowhan, M.S., 1981	Ophthalmic Surgeon
Debra J. Boles, M.S., 1984	Research Prof., ATTC
Paul D. Rennert, M.S., 1986	Research Assoc., Mass. General
Darrin Werbitsky, M.S., 1987	Investment Banker
Donald B. Hoagland, Ph.D., 1988	Professor, Westfield State
John M. Sullivan, M. S., 1990	Professor, Univ. Idaho
Steve M. Rich, M.S., 1993	Associate Prof., Univ. Mass, Amherst
Pedro E. Nunez, M.S., 1994	DVM, Puerto Rico
Jeff A. Markert, M.S., 1996	Postdoc, Univ. Cincinnati
Ryan W. Norris, M.S., 2001; Ph.D.2008	Assistant Prof., Ohio St. Univ. (Lima)
Paul Hapeman, Ph.D., 2006	Assistant Prof., Central Conn. St. Univ.
Laura Farrell, Ph.D., 2012	Instructor, Sterling College
Lucas Bernachi, Ph.D	Visiting Prof., Saint Joseph's College
Chris Gray, M.S.	present
Nelish Pradhan, Ph.D.	present

### **Visiting Scientist:**

Dr. Michael Romano, Western Illinois University - Fall 2004  
Dr. Rafael Borroto Paez, University of Havana, Cuba - Fall 2001  
Dr. Marc W. Allard, Visiting Associate Professor on Sabbatical from  
George Washington University - Fall 2000  
Catherine Langtimm, Wildlife Biologist, - U.S. Geological Survey  
visited lab to learn techniques - 1997  
Charles Maisonneuve, Biologist, Ministere de l'Environnement et  
de la Faune, Gouvernement du Quebec - 1997.  
Jacques Jutras, Direction de la Fauna et des Habitats, Ministere  
de l'Environnement et de la Faune, Gouvernement du Quebec -  
visited lab to learn techniques - 1997  
Dr. Eric Buel, Director Vermont State Crime Lab - Current topics in  
population genetics STR, Spring 1997

Mohammad Rafique, Pakistan Museum of Natural History,  
Islamabad, Pakistan - learned DNA sequencing, summer 1996  
Waseem Khan, Government College, Islamabad, Pakistan -  
learned some molecular techniques, summer 1996  
Dr. Thomas Husband, Sabbatical from the University of Rhode Island, fall  
1995

### **Research Associates:**

Dr. Charles A. Woods, Adjunct Professor and Research Associate

### **Publications:**

- Submitted May-Collado, L. J., C. W. Kilpatrick, and I. Agnarsson. Mammals from 'down under': a multi-gene species-level phylogeny of marsupial mammals (Mammalia, Marsupialia). Submitted to *Molecular Phylogenetics and Evolution*.
- Submitted Perlut, N. G., C. R. Freeman-Gallant, A. M. Strong, T. M. Donovan, and **C. W. Kilpatrick**. Habitat management and variable patterns of sexual selection in Savannah Sparrows *Passerculus sandwichensis*. Submitted to *Ibis*.
- Submitted Hapeman, P., E. Latch, O. E. Rhodes, B. Swanson, and **C. W. Kilpatrick**. A genetics synthesis of fishers (*Pekania pennanti*) reintroduction with an emphasis on their eastern range. Submitted *Wildlife Research*.
- Submitted Li, S., S. Lu, **C. W. Kilpatrick**, P. M. McGuire, J. Yang, and F. Yu. Phylogeny and biogeography of *Eoglaucomys* and *Hylopetes* (Rodentia: Sciuridae), inferred from molecular and morphometric analyses. Submitted to *Zoologica Scripta*.
82. De la Rúa, N. M., M. Menes, D. Bustamante, M. C. Monroy, **C. W. Kilpatrick**, D. Rizzo, L. Stevens, S. Klotz, J. Schmidt, and P. Dorn. Towards a Phylogenetic Approach to the Composition of Species Complexes in the North and Central American Triatoma, Vectors of Chagas Disease. Accepted in *Infection, Genetics and Evolution*.
81. Kohli, B. A., K. A. Speer, **C. W. Kilpatrick**, N. Batsaikhan, D. Damdinbaza, and J. A. Cook. 2014. Non-punctuated evolution in north Asia: Multilocus systematics of a recent tribe of Holarctic rodents (Arvicolinae: Myodini). *Molecular Phylogenetics and Evolution*, 76:18-29.
80. Hapeman, P., E. Latch, O. E. Rhodes, and **C. W. Kilpatrick**. When recent and evolutionary histories meet: deciphering temporal events from contemporary patterns of mtDNA from fishers (*Martes pennanti*) in

Northeast North America. Accepted Journal of Zoological Systematics and Evolutionary Research.

79. Bradley, R. D., N. Ordóñez-Garza, C. G. Sotero-Caio, H. M. Huynh, **C. W. Kilpatrick**, L. I. Iñiguez-Dávalos, and D. J. Schmidly. 2014. Morphometric, karyotypic, and molecular evidence for a new species of *Peromyscus* (Cricetidae: Neotominae) from Nayarit, México. *Journal of Mammalogy*, 95:176-186.
78. Shahabi S., M. Aliabadian, J. Darvish, and **C. W. Kilpatrick**. 2013. Molecular phylogeny of brush-tailed mice of the Genus *Calomyscus* (Rodentia: Calomyscidae) inferred from mitochondrial DNA sequences (*Cox1*gene). *Mammalia*, DOI 10.1515.
77. Yu, F., S. Li, **W. C. Kilpatrick**, P. M. McGuire, K. He, and W. Wei. 2012. Biogeographical study of plateau pikas *Ochotona curzoniae* (Lagomorpha, Ochotonidae). *Zoological Sciences*, 29:518-526.
76. Liu, Q, P. Chen, K. He, **C. W. Kilpatrick**, S-Y. Liu, F. Yu, and X. Jiang. 2012. Phylogeographic study of *Apodemus ilex* (Rodentia: Muridae) in southwestern China. *PLoS ONE*, 7(2):e31453.
75. Borroto-Páez, R., C. A. Mancina, C. A. Woods, and **C. W. Kilpatrick**. 2012. Updated checklist of endemic terrestrial mammals of the West Indies. Pp. 389-415, *in* *Terrestrial Mammals of the West Indies Contributions* (R. Borroto-Paez, C. A. Woods, and F. E Sergil, eds.). Florida Museum of Natural History and Wacahooto Press, Gainesville, 482 pp.
74. **Kilpatrick, C. W.**, R. Borroto-Páez, and C. A. Woods. 2012. Phylogenetic relationships of recent capromyid rodents: A review and analyses of karyological, biochemical and molecular data. Pp. 51-69, *in* *Terrestrial Mammals of the West Indies Contributions* (R. Borroto-Paez, C. A. Woods, and F. E Sergil, eds.). Florida Museum of Natural History and Wacahooto Press, Gainesville, 482 pp.
73. Hapeman, P., E. Latch, J. Fike, O. E. Rhodes, and **C. W. Kilpatrick**. 2011. Landscape genetics of fishers (*Martes pennanti*) in the northeast: Dispersal barriers and historical influences. *Journal of Heredity*, 102:251-259.
72. Ardren, W. R., P. W. DeHaan, S. T. Smith, E. B. Taylor, R. Leary, C. Kozfkay, L. Godfrey, M. Diggs, W. Fredenberg, J. Chan, **C. W. Kilpatrick**, M. P. Small, and Denise K. Hawkins. 2011. Genetic structure, evolutionary history, and conservation units of Bull Trout in the Coterminous United States. *Transactions of the American Fisheries Society*, 140:506-525.



71. Feroze, A., S. A. Malik, and **W. C. Kilpatrick**. 2010. Phylogenetic relationships of medically important vipers of Pakistan inferred from cytochrome B sequences. *Journal of Animal and Plant Science*, 20:147-157.
70. Norris, R. W., and **C. W. Kilpatrick**. 2008. A high elevation record of the star-nosed mole (*Condylura cristata*) in northeastern Vermont. *Canadian Field-Naturalist*, 121:206-207.
69. Norris, R. W., C. A. Woods, and **C. W. Kilpatrick**. 2008. Taxonomic status of *Calomyscus hotsoni* (Rodentia: Muridae: Calomyscinae): Based on morphological and molecular data. *Journal of Mammalogy*, 89:306-315.
68. Perlut, N. G., C. R. Freeman-Gallant, A. M. Strong, T. M. Donovan, **C. W. Kilpatrick**, and N. J. Zalik. 2008. Agricultural management affects evolutionary processes in a migratory songbird. *Molecular Ecology*, 17:1248-1255.
67. Bradley, R. D., N. D. Durish, D. S. Rogers, J. R. Miller, M. D. Engstrom, and **C. W. Kilpatrick**. 2007. Toward a molecular phylogeny for *Peromyscus*: Evidence from mitochondrial cytochrome-*b* sequences. *Journal of Mammalogy*, 88:1146-1159.
66. McPartland, J. M., R. W. Norris, and **C. W. Kilpatrick**. 2007. Tempo and mode in endocannabinoid system evolution. *Journal of Molecular Evolution*, 65:267-276.
65. Janecka, J. E., T. L. Blankenship, D. H. Hirth, **C. W. Kilpatrick**, M. E. Tewes, and L. I. Grassman, Jr. 2007. Evidence for male-biased dispersal in bobcats using relatedness analysis. *Wildlife Biology* 13:38-47.
64. McPartland, J. M., R. W. Norris, and **C. W. Kilpatrick**. 2007. Coevolution between cannabinoid receptors and endocannabinoid ligands. *Gene*, 397:126-135.
63. Huchon, D., P. Chevret, U. Jordan, **C. W. Kilpatrick**, V. Ranwez, P. D. Jenkins, J. Brosius, and J. Schmitz. 2007. Multiple molecular evidence for a living mammalian fossil. *Proceedings of the National Academy of Science*, 104:7495-7499.
62. McPartland, J. M., M. Glass, I. Matias, R. W. Norris, and **C. W. Kilpatrick**. 2007. A shifted repertoire of endocannabinoid genes in the zebrafish (*Danio rerio*). *Molecular Genetics and Genomics*, 277:555-570.
61. Janecka, J. E., T. L. Blankenship, D. H. Hirth, M. E. Tewes, **C. W. Kilpatrick**, and L. I. Grassman, Jr. 2006. Kinship and social structure of bobcats (*Lynx rufus*) from microsatellite and radio-telemetry data. *Journal of Zoology*,

269:494-501.

60. Reeder, S. A., D. S. Carroll, C. W. Edwards, **C. W. Kilpatrick**, and R. D. Bradley. 2006. Neotomine-Peromyscine rodent systematics based on combined analyses of nuclear and mitochondrial DNA sequences. *Molecular Phylogenetics and Evolution*, 40:251-258.
59. Yu, F., F. Yu, J. Pang, **C. W. Kilpatrick**, P. M. McGuire, Y. Wang, S. Lu, and C. A. Woods. 2006. Phylogeny and biogeography of the *Peturista philippensis* complex (Rodentia: Sciuridae), inter- and intraspecific relationships inferred from molecular and morphometric analysis. *Molecular Phylogenetics and Evolution*. 38:755-766.
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#### Reports:

- 2012 Decher, J., C. R. Gray, and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 8 submitted to the Colby Hill Ecological Project, Lincoln and Bristol, Vermont, 20 pp.
- 2011 Kilpatrick, C. W., and I. C. Chellman. Genetic Studies of the Mudpuppy

(*Necturus maculosus*) in Lake Champlain and the Connecticut River submitted to the Vermont Fish and Wildlife Department, 47 pp.

- 2011 Kilpatrick, C. W. and J. Benoit. Small Mammal Report submitted to the Vermont Fish and Wildlife Department, 92 pp.
- 2011 Kilpatrick, C. W. Genetic Studies of Lake Champlain Spiny Softshell Turtle (*Apalone spinifera*) submitted to the Vermont Fish and Wildlife Department, 45 pp.
- 2011 Decher, J., C. R. Gray, C. W. Kilpatrick and N. Pradhan. Small Mammals of the Guthrie-Bancroft Farm - Year 7 submitted to the Colby Hill Ecological Project, Lincoln and Bristol, Vermont, 22 pp.
- 2007 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 6 Colby Hill Ecological Project, Lincoln and Bristol, Vermont.
- 2006 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 5 Colby Hill Ecological Project, Lincoln and Bristol, Vermont.
- 2005 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 4 Colby Hill Ecological Project, Lincoln and Bristol, Vermont
- 2005 Kilpatrick, C. W. East Mountain Mammal Surveys August 2004 – December 2004, Kingdom Commons Group, East Burke, Vermont
- 2002 Kilpatrick, C. W. Small Mammal Survey of the Vermont Ecosystem Management Project Plots, Stevensville Brook Research Area, Mount Mansfield State Forest
- 2002 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 3 Colby Hill Ecological Project, Lincoln and Bristol, Vermont
- 2001 Kilpatrick, C. W. Small mammal survey of the Nulhegan Basin Division of the Silvio O. Conte NFWR and the State of Vermont's West Mountain Wildlife Management Area, Essex County, Vermont
- 2001 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-Bancroft Farm - Year 2 Colby Hill Ecological Project, Lincoln and Bristol, Vermont
- 2000 Decher, J., and C. W. Kilpatrick. Small Mammals of the Guthrie-



Bancroft Farm - Colby Hill Ecological Project, Lincoln and Bristol,  
Vermont

- 1999 Decher, J., C. W. Kilpatrick, and K. L. Bahian. Small mammal zoogeography and diversity in West African forest remnants. Report National Geographic Society Committee for Research and Exploration
- 1992 Kilpatrick, C. W. Status of the long-tailed shrew (*Sorex dispar*) in Vermont. Report to Vermont Fish and Wildlife, Natural Heritage Program

**Presentations:**

- 2014 American Society of Mammalogists, Oklahoma City, Oklahoma, June 2014
- 2014 Northeastern Natural History Conference, Springfield, Ma, April 2014
- 2009 American Society of Mammalogists, Fairbanks, Alaska, June 2009
- 2008 American Society of Mammalogists, South Dakota State University, Poster, June 2008
- 2007 Seminar at Kunming Institute of Zoology, Kunming, China, November 2007
- 2007 Seminar at University of Yangzhou, Yangzhou, China, November 2007
- 2007 Keynote address, Annual Workshop: The Current Science of Wildlife Genetics, New England Chapter of the Wildlife Society, Hadley Massachusetts, October 2007
- 2007 American Society of Mammalogists, University of New Mexico, Poster, June 2007
- 2007 Genetics Workshop, Vermont Department of Fish and Wildlife, April 2007
- 2006 American Society of Mammalogists, University of Massachusetts, Amherst, oral presentation, June 2006
- 2006 Northeast Fish and Wildlife Conference, Burlington, VT. Oral presentation, April 2006
- 2006 Vermont Bear Biologist Team, January 2006, Barre, VT
- 2005 American Society of Mammalogists, Southwestern Missouri State University, oral presentation

- 2003 Northeastern Bat Working Group, Rosendale, NY, December 2003
- 2003 Wildlife Society Conference, Burlington, VT, oral presentation and poster, September 2003
- 2003 Vermont Genetics Network, Burlington, VT, August 2003
- 2003 American Society of Mammalogist, Texas Tech University, Lubbock, TX, oral presentation and poster, June 2003
- 2003 Midwestern State University, Wichita Falls, TX, June 2003
- 2001 American Society of Mammalogist, University of Montana, oral presentation and poster, June 2001
- 2001 New York/New England Bat Working Group, Rutland, Vermont, January 2001
- 2001 American Museum of Natural History, New York, January 2001
- 2001 Vermont Bear Biologist Team, May 2001
- 2000 American Society of Mammalogist, University of New Hampshire, presentation and poster, June 2000
- 2000 New England Bat Working Group, Rutland, Vermont, March 2000
- 1999 Annual Meeting of the American Society of Mammalogists, Seattle, Washington, June 1999 - poster presentation
- 1998 Annual Meeting of the American Society of Mammalogists, Virginia Tech, Blacksburg, VA, June 1998
- 1998 Invited Symposium Speaker, Landscape Structure, Population Genetics, and Gene Flow, Euro-American Mammal Congress, Universidad de Santiago de Compostela, Spain, in July 1998
- 1998 Invited Speaker, Regional Meeting of the American Association of Laboratory Animal Science, University of Vermont, November 1998
- 1997 Organizer of Symposium on the Molecular Systematics of Peromyscine-Neotomine Rodents for International Theriological Congress, ITC VII, Acapulco, Mexico, September 1997
- 1996 American Society of Mammalogist Meeting, University of North Dakota, Grand Forks, June 1996,

- 1996 Joint Meeting of the Society of Systematic Biology and Society for the Study of Evolution, St. Louis, Missouri, June 1996,
- 1996 Department of Zoology, University of New Hampshire April, 1996
- 1995 Joint Meeting of the Society of Systematic Biology, Society for the Study of Evolution, American Naturalist, and Numerical Taxonomy Group, McGill University, Montreal, June 1995
- 1995 International Symposium on the Biodiversity of Pakistan, Pakistan National Science Foundation, Islamabad, Pakistan, November 1995, (Organization Committee and presentation)
- 1994 American Society of Mammalogist Meeting, Smithsonian Institution, Washington DC, June 1980,
- 1994 Harvard University, Systematics Group, Cambridge, MA, April 1994
- 1993 Sixth International Theriological Congress, University of New South Wales, Kensington, Sydney, Australia, July 1993
- 1993 American Society of Mammalogist Meeting, Huxley College of Environmental Studies, Western Washington University, June 1993
- 1992 Annual North American Symposium on Bat Research, Universite de Sherbrooke, Sherbrooke, Canada, October 1992
- 1990 Joint Meeting American Society of Mammalogists and Argentine Society of Mammalogists, Buenos Aires, Argentina, June 1990
- 1990 Western Illinois University, Department of Biology, Macomb, Illinois, April, 1990
- 1987 St. Lawrence University, Biology Department, Canton, New York, October, 1987
- 1987 Symposium on the Biogeography of the West Indies, University of Florida, Gainesville, Florida, September, 1987
- 1987 American Society of Mammalogist Meeting, University of New Mexico, Albuquerque, New Mexico, June 1987
- 1987 International Symposium on Latin American Mammalogy, Cancun, Mexico, June 1985
- 1986 State University of New York at Binghamton, Biology Department, Binghamton, New York, March 1986

- 1985 Society for the Study of Evolution, Chicago, June, 1985
- 1985 American Society of Mammalogist Meeting, University of Maine at Orono, June 1985
- 1984 American Society of Mammalogist Meeting, Humbolt State University, Arcata, California, June 1984
- 1984 Hofstra University, Department of Biology, Hofstra, New York, March, 1984
- 1983 State University of New York at Oswego, Department of Biology, Oswego, New York, November 1983
- 1983 Colby College, Department of Biology, New York, September 1983
- 1983 State University of New York at Potsdam, Department of Biology, Potsdam, New York, April 1983
- 1983 Utica College of Syracuse University, Department of Biology, Utica, New York, March 1983
- 1982 American Society of Mammalogist Meeting, Brigham Young University, Snowbird, Utah, June 1982
- 1981 University of Massachusetts, Department of Biology, October 1981
- 1981 American Society of Mammalogist Meeting, Miami University, Oxford, Ohio, June 1981
- 1980 American Society of Mammalogist Meeting, University of Rhode Island, Kingston, June 1980
- 1979 Joint Meeting of the Society for the Study of Amphibians and Reptiles, Herpetologists' League, and American Society of Ichthyologists and Herpetologists, University of Tennessee, Knoxville, Tennessee, June 1979
- 1978 Society for the Study of Evolution, University of Georgia, Athens, Georgia, June 1978
- 1978 American Society of Mammalogist Meeting, University of Georgia, Athens, Georgia, June 1978 (Invited Symposium Speaker)
- 1978 Joint Meeting of the Society for the Study of Amphibians and Reptiles, Herpetologists' League, and American Society of Ichthyologists and Herpetologists, Arizona State University, Phoenix, Arizona, June 1978

- 1977 American Society of Mammalogist Meeting, Michigan State University,  
East Lansing, Michigan, June 1977
- 1976 Boston University, Department of Biology, October 1976
- 1976 American Institute of Biological Sciences, Tulane University, New  
Orleans, Louisiana, August 1976
- 1976 American Society of Mammalogist Meeting, Texas Tech University,  
Lubbock, Texas, June 1976
- 1975 American Society of Mammalogist Meeting, University of Montana,  
Missoula, Montana, June 1975
- 1974 American Society of Mammalogist Meeting, State University of New  
York at Binghamton, June 1974
- 1973 American Society of Mammalogist Meeting, Asilomar Conference  
Grounds, Pacific Grove, California, June 1973
- 1973 Southwestern Association of Naturalists Meeting, Kansas State  
Teachers College, Emporia, Kansas, June 1973

**Field Experience:**

Pakistan, 7 field trips  
 China, 2 field trips  
 Nicaragua, 3 field trips  
 El Salvador  
 Hispaniola, 6 field trips  
 Jamaica, 2 field trips  
 Bolivia  
 Hawaii, 2 field trips  
 Southwestern US  
 Northeastern US

India, 3 field trips  
 Ghana, West Africa  
 Costa Rica  
 Mexico, 12 field trips  
 Cuba, 3 field trips  
 St. Croix, 6 field trips  
 Argentina  
 Alaska, 2 field trips  
 Canada, most provinces  
 Florida

# Exhibit B

**Proposal for Evaluating the Proposed Changes to the High Elevation  
Mitigation Settlement Agreement (Wind Farm Facility on Mt. Kelsey,  
Northern Coos County)**

**C. William Kilpatrick, Ph.D.  
Howard Professor of Zoology  
and Natural History  
Department of Biology  
University of Vermont**

This evaluation will address the potential impact of the proposed amendment to the "High-Elevation Mitigation Settlement Agreement" on wildlife and wildlife habitat on Mt. Kelsey. The evaluation will focus on wildlife identified as being of concern including but not limited to American marten, Bicknell's thrush, rusty blackbird, and American three-toed woodpecker. The benefits of the proposed amendment resulting in the planting of up to some 5,600 seedling of balsam fir and red spruce along some of the roadways and on areas of the turbine pads on Mt. Kelsey while now leaving road widths at 16 feet or greater will be compared to the benefits of the original agreement in which roadways were to be replanted with some 5,600 fir and spruce and maintained at widths of 12 feet but with no replanting on turbine pads.

Although the impact of roads on wildlife habitat is far from being completely understood, it is well established that roads can serve as both travel corridors that allow some species easier access to habitat and barriers that cause fragmentation of habitats of other species. The degree of fragmentation is a factor of road features such as traffic levels, edge effects and gaps (open spaces that must be traversed) and these factors have been shown to impact various species differently. Though traffic level is not a factor to be considered, the differences in the amount of edge habitat and the sizes of gaps are the primary features that will be evaluated between the two agreements.

My proposed evaluation would include but would not be restricted to the following.

1. Examination of the site plan for the sighting of wind turbines on Mt. Kelsey, including location of turbine pads and access roads in relationship to contiguous high elevation spruce-fir forest.
2. Review of the testimony offered in regards to wildlife and wildlife habitat by biologists of the New Hampshire Department of Fish and Game (Staats & Kelley), Stantec Consulting (Gravel & Pelletier) and Drs. Publicover and Evans.
3. Review of the original High-Elevation Mitigation Settlement Agreement (Pet. Ex. 48).
4. Review of pre and post construction surveys and studies including but not restricted to the following.
  - a. Breeding Bird Survey, Spring 2007 (Pet. Ex. 1.3, Appdx. 23).
  - b. Breeding Bird Survey, Spring 2008 (Pet. Ex. 1.3, Appdx. 24).

- c. Pet. Ex. 1.1 (Site design avoiding sensitive habitats and minimizing disturbance to species of special concern).
  - d. 2007 winter track survey (Pet. Ex. 1.3, Appdx. 25).
  - e. Alexej P. K. Siren 2013), Population ecology of American marten in New Hampshire: Impact of wind development in high elevation habitat. Unpub. M.S. thesis, University of New Hampshire.
  - f. Other studies on the impacts of the development on the use of the area by American marten, Bicknell's thrush, and other wildlife species of concern.
  - g. Post-construction bird monitoring studies.
5. Review of the proposed Amendment to the High-Elevation Mitigation Settlement Agreement.
  6. Review of the New Hampshire Comprehensive Wildlife Conservation Plan with special attention to those species of highest conservation concern.
  7. Review of the literature concerning habitat requirements and biology of species of concern including but not limited to American marten, Bicknell's thrush, rusty blackbird, and American three-toed woodpecker.
  8. Review of the literature to determine if studies have shown differences in gap widths of 12 feet compared with gap widths of 16 feet or greater on restricting the movements of any species but with special attention to the species of special concern.
  9. Comparison of the landscape features including amount of edge (habitat at various distances from a road or turbine pad) and sizes of gaps of various widths (12 feet, 16 feet, and wider) under the conditions of the original High-Elevation Mitigation Settlement Agreement (Pet. Ex. 48) and the proposed Amended High-Elevation Mitigation Settlement Agreement.

**Proposed Fee Schedule:**

Reviewing of literature, testimony, and other documents	\$150/hr
Writing report or providing written testimony	\$200/hr
Testifying and waiting to testify	\$200/hr
Travel to provide testimony	\$ 35/hr plus travel expenses