



New Hampshire Fish and Game Department

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Glenn Normandeau
Executive Director

September 12, 2014

Her Excellency, Governor Margaret Wood Hassan
And the Honorable Council
State House
Concord, New Hampshire 03301

Sole Source

REQUESTED ACTION

Authorize the New Hampshire Fish and Game Department (NHFG) to enter into a Sole Source Contract with Alexej Siren (Vendor code #261491) for the purpose of monitoring snowshoe hare for a total of \$21,646.00 effective upon Governor and Council approval through June 30, 2017. Funding is 75% Federal, 25% Conservation License Plate funds.

Funding is available in account, Conservation License Plate as follows, contingent upon the availability and continued appropriations for State Fiscal Years 2015, 2016 and 2017, with the authority to adjust encumbrances in each of the State fiscal years through the Budget Office if needed and justified:

03-75-75-751520-2139 WILDLIFE PROGRAM – Conservation License Plate

		<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
20-07500-21390000-304-500841	Research and Management	\$8768.00	\$6439.00*	\$6439.00*
			*Contingent on budget approval	

EXPLANATION

This is a sole source contract with Alexej Siren. The purpose of the contract is to collect population data on snowshoe hares as a measure of high quality Canada lynx habitat. Canada lynx (*Lynx Canadensis*) have a historical presence and were detected recently in the White Mountain National Forest. The majority of detections were at high elevation in the Forest, likely due to the presence and abundance of their preferred prey – snowshoe hare. However little is known about snowshoe hare (*Lepus americanus*) populations in this forest type and if the Forest in its entirety can support a sufficient density of hares to support lynx.

In addition to surveys, the contractor will complete GIS analysis on the status of high and low elevation spruce fir forest types as described in the NH State Wildlife Action Plan. These analyses will serve as a tool to assist in the implementation of actions identified in the plan. The resulting information will also inform the revision of the NH State Wildlife Action Plan set to be completed in September 2015.

Her Excellency, Governor Margaret Wood Hassan
and the Honorable Council

September 12, 2014

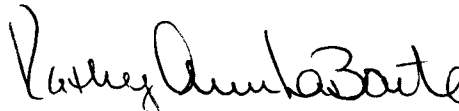
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This contract is being offered sole-source to Alexej Siren because of his knowledge of the project area and previous coordination with both New Hampshire Fish and Game and the White Mountain National Forest monitoring Canada lynx at high elevation. Alexej has been involved with tracking and monitoring snowshoe hare and lynx in Maine, New Hampshire and Vermont since 2003. He has coordinated citizen science field work for tracking the species and performed surveys for the species in each state. Most recently his surveys were part of a collaborative effort between New Hampshire Fish and Game, the White Mountain National Forest and Appalachian Mountain Club.

Respectfully submitted,



Glenn Normandeau
Executive Director



Kathy Ann LaBonte
Chief, Business Division

Subject: Snowshoe Hare Research in The White Mountain National Forest FORM NUMBER P-37 (version 1/09)

AGREEMENT

The State of New Hampshire and the Contractor hereby mutually agree as follows:

GENERAL PROVISIONS

1. IDENTIFICATION.

1.1 State Agency Name <u>NH Fish and Game Department</u>		1.2 State Agency Address <u>11 Hazen Drive, Concord, NH 03301</u>	
1.3 Contractor Name <u>Alexej Siren</u>		1.4 Contractor Address <u>4081 County Road Z, Dodgeville, WI 53533</u>	
1.5 Contractor Phone Number <u>(207)-752-6534</u>	1.6 Account Number <u>2139-304-0841</u>	1.7 Completion Date <u>6/30/2017</u>	1.8 Price Limitation <u>\$21,646.00</u>
1.9 Contracting Officer for State Agency <u>Glenn Normandeau, Executive Director</u>		1.10 State Agency Telephone Number <u>603-271-2741</u>	
1.11 Contractor Signature <u>Alexej Siren</u>		1.12 Name and Title of Contractor Signatory <u>Alexej Siren (wildlife biologist)</u>	
1.13 Acknowledgement: State of <u>NH</u> , County of <u>Merrimack</u> On <u>9/3/2014</u> , before the undersigned officer, personally appeared the person identified in block 1.12, or satisfactorily proven to be the person whose name is signed in block 1.11, and acknowledged that s/he executed this document in the capacity indicated in block 1.12.			
1.13.1 Signature of Notary Public or Justice of the Peace [Seal] <u>Tanya L. Haskell</u>			
1.13.2 Name and Title of Notary or Justice of the Peace <u>TANYA L. HASKELL, Notary Public</u> <u>My Commission Expires October 6, 2015</u>			
1.14 State Agency Signature <u>[Signature]</u>		1.15 Name and Title of State Agency Signatory <u>Glenn Normandeau, Executive Director</u>	
1.16 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By: _____ Director, On: _____			
1.17 Approval by the Attorney General (Form, Substance and Execution) By: <u>[Signature]</u> On: <u>9-22-2014</u>			
1.18 Approval by the Governor and Executive Council By: _____ On: _____			

A.S.
8/27/14

2. EMPLOYMENT OF CONTRACTOR/SERVICES TO BE PERFORMED. The State of New Hampshire, acting through the agency identified in block 1.1 (“State”), engages contractor identified in block 1.3 (“Contractor”) to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT A which is incorporated herein by reference (“Services”).

3. EFFECTIVE DATE/COMPLETION OF SERVICES.
3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, this Agreement, and all obligations of the parties hereunder, shall not become effective until the date the Governor and Executive Council approve this Agreement (“Effective Date”).
3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed. Contractor must complete all Services by the Completion Date specified in block 1.7.

4. CONDITIONAL NATURE OF AGREEMENT. Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds, and in no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to terminate this Agreement immediately upon giving the Contractor notice of such termination. The State shall not be required to transfer funds from any other account to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.
5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT B which is incorporated herein by reference.
5.2 The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance hereof, and shall be the only and the complete compensation to the Contractor for the Services. The State shall have no liability to the Contractor other than the contract price.
5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8.

6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/ EQUAL EMPLOYMENT OPPORTUNITY.
6.1 In connection with the performance of the Services, the Contractor shall comply with all statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal opportunity laws. In addition, the Contractor shall comply with all applicable copyright laws.
6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.
6.3 If this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all the provisions of Executive Order No. 11246 (“Equal Employment Opportunity”), as supplemented by the regulations of the United States Department of Labor (41 C.F.R. Part 60), and with any rules, regulations and guidelines as the State of New Hampshire or the United States issue to implement these regulations. The Contractor further agrees to permit the State or United States access to any of the Contractor’s books, records and accounts for the purpose of ascertaining compliance with all rules, regulations and orders, and the covenants, terms and conditions of this Agreement.

7. PERSONNEL.
7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.
7.2 Unless otherwise authorized in writing, during the term of this Agreement, and for a period of six (6) months after the Completion Date in block 1.7, the Contractor shall not hire, and shall not permit any subcontractor or other person, firm or corporation with whom it is engaged in a combined effort to perform the Services to hire, any person who is a State employee or official, who is materially involved in the procurement, administration or performance of this Agreement. This provision shall survive termination of this Agreement.
7.3 The Contracting Officer specified in block 1.9, or his or her successor, shall be the State’s representative. In the event of any dispute concerning the interpretation of this Agreement, the Contracting Officer’s decision shall be final for the State.

Contractor Initials A.S.
Date 8/27/14

8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder (“Event of Default”):

- 8.1.1 failure to perform the Services satisfactorily or on schedule;
 - 8.1.2 failure to submit any report required hereunder; and/or
 - 8.1.3 failure to perform any other covenant, term or condition of this Agreement.
- 8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:
- 8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely remedied, terminate this Agreement, effective two (2) days after giving the Contractor notice of termination;
 - 8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;
 - 8.2.3 set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or
 - 8.2.4 treat the Agreement as breached and pursue any of its remedies at law or in equity, or both.

9. DATA/ACCESS/CONFIDENTIALITY/PRESERVATION.

- 9.1 As used in this Agreement, the word “data” shall mean all information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.
- 9.2 All data and any property which has been received from the State or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.
- 9.3 Confidentiality of data shall be governed by N.H. RSA chapter 91-A or other existing law. Disclosure of data requires prior written approval of the State.

10. TERMINATION. In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall deliver to the Contracting Officer, not later than fifteen (15) days after the date of termination, a report (“Termination Report”) describing in detail all Services performed, and the contract price earned, to and including the date of termination. The form, subject matter, content, and number of copies of the Termination

Report shall be identical to those of any Final Report described in the attached EXHIBIT A.

11. CONTRACTOR’S RELATION TO THE STATE. In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers’ compensation or other emoluments provided by the State to its employees.

12. ASSIGNMENT/DELEGATION/SUBCONTRACTS. The Contractor shall not assign, or otherwise transfer any interest in this Agreement without the prior written consent of the N.H. Department of Administrative Services. None of the Services shall be subcontracted by the Contractor without the prior written consent of the State.

13. INDEMNIFICATION. The Contractor shall defend, indemnify and hold harmless the State, its officers and employees, from and against any and all losses suffered by the State, its officers and employees, and any and all claims, liabilities or penalties asserted against the State, its officers and employees, by or on behalf of any person, on account of, based or resulting from, arising out of (or which may be claimed to arise out of) the acts or omissions of the Contractor. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

14. INSURANCE.

- 14.1 The Contractor shall, at its sole expense, obtain and maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:
 - 14.1.1 comprehensive general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$250,000 per claim and \$2,000,000 per occurrence; and
 - 14.1.2 fire and extended coverage insurance covering all property subject to subparagraph 9.2 herein, in an amount not less than 80% of the whole replacement value of the property.
- 14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.
- 14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or his or her successor, a certificate(s) of insurance for all insurance required under this Agreement. Contractor shall also furnish to the Contracting Officer identified in block 1.9, or his or her successor, certificate(s) of insurance for all renewal(s) of insurance required under this Agreement no later than fifteen (15) days prior to the expiration date of each of the insurance policies. The certificate(s) of insurance and any renewals thereof shall be

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attached and are incorporated herein by reference. Each certificate(s) of insurance shall contain a clause requiring the insurer to endeavor to provide the Contracting Officer identified in block 1.9, or his or her successor, no less than ten (10) days prior written notice of cancellation or modification of the policy.

15. WORKERS' COMPENSATION.

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. Contractor shall furnish the Contracting Officer identified in block 1.9, or his or her successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

16. WAIVER OF BREACH. No failure by the State to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event of Default, or any subsequent Event of Default. No express failure to enforce any Event of Default shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other Event of Default on the part of the Contractor.

17. NOTICE. Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

18. AMENDMENT. This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire.

19. CONSTRUCTION OF AGREEMENT AND TERMS.

This Agreement shall be construed in accordance with the laws of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns. The wording used in this Agreement is the wording chosen by the parties to express their mutual

intent, and no rule of construction shall be applied against or in favor of any party.

20. THIRD PARTIES. The parties hereto do not intend to benefit any third parties and this Agreement shall not be construed to confer any such benefit.

21. HEADINGS. The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

22. SPECIAL PROVISIONS. Additional provisions set forth in the attached EXHIBIT C are incorporated herein by reference.

23. SEVERABILITY. In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

24. ENTIRE AGREEMENT. This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire Agreement and understanding between the parties, and supersedes all prior Agreements and understandings relating hereto.

EXHIBIT A

SCOPE OF SERVICES

Objective: To collect population data on snowshoe hares.

Task a.

Establish snowshoe hare fecal pellet survey sites in 2 landscapes (8 x 8 km) in the White Mountain National Forest that contain a high proportion of optimal snowshoe hare and lynx habitat as determined by predictive GIS models. In each landscape, sites will be established in 6 stand types that are purported to support a high density of hares (Krummholz, High-elevation balsam fir, and Lowland spruce-fir) and in those common to the WMNF (Northern-hardwood spruce-fir and Northern hardwood forest). There will be 6 replicates of each stand type within each landscape for a total of 12 replicates overall. Sites will be located in pure stands with similar site conditions and spaced >400m to meet assumption of independence. Each site will be >8ha and contain 30 plots that are spaced 50 m apart with a 50 m buffer from the stand boundary to reduce edge effects. The sampling schematic of survey sites will be generated using GIS, and the associated files will be provided to the U.S. Forest Service once established. Site establishment will occur in mid-September to mid-October of 2014 and existing pellets will be cleared at each site in preparation for spring 2015 surveys (mid-May to mid-June). It is expected that the effort to establish sites and clear pellets in both landscapes will take 2 trained technicians 24 days (8 hrs/day) to complete, as a rate of 1.5 sites/day.

2. Clear and count pellets at each survey site from mid-September to mid-October for three consecutive years (2015 – 2017) to estimate the mean pellet density for each stand and landscape during summer months. This effort is also required to prepare for pellet plot surveys that will occur in mid-May to mid-June and be conducted by citizen science cooperators; spring surveys are designed to estimate winter pellet densities. Surveys will be conducted by 2 trained technicians and follow previously established protocols for pellet count surveys. It is expected that fall pellet count surveys will take 2 trained technicians 12 days (10/day) to complete at a rate of 3 sites/days.

Submit annual progress reports.

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Date 8/27/14

Task b.

Evaluate current status of low and high elevation spruce fir forests in New Hampshire by completing the following assessments:

1. Evaluate the amount of spruce fir that has been converted to mixed or hardwood stands
 - i. Aerial photo analysis of “converted” acres
 - ii. Important forest soils group analysis (soils that should grow softwood vs. soils that are currently softwood)
2. Identify older aged spruce fir stands
 - i. Distribution between high and low elevation
 - ii. Ownership distribution
3. Identify and younger aged softwood stands
 - i. Distribution between high and low elevation
 - ii. Ownership distribution
4. Evaluate how past harvest practices have influenced success of softwood regeneration
 - i. Identify places to go back to and evaluate effectiveness of provided technical assistance
5. Evaluate how state, federal, private and NGO ownerships contribute to overall spruce and fir habitat within the region
 - i. GIS analysis of distribution of softwood acres on each type of ownership
6. Identify ownerships of “significant blocks” of spruce fir (>2000 acres/<2000 acres)
(Need to define what significant is)

Task c.

Coordinate surveys from mid-May to mid-June by citizen science cooperators. Spring surveys are designed to estimate winter pellet densities. A minimum of eight days of volunteer time (64 hours) will be provided annually. Documentation of all cooperators hours will be provided along with invoice.

Contractor Initials A.S.
Date 8/27/14

EXHIBIT B

METHOD OF PAYMENT

NONGAME AND ENDANGERED WILDLIFE PROGRAM FUNDRAISING

- a) NHFG agrees to reimburse the Contractor up to \$21,646.00 of approved project expenses.
- b) Bills and reports shall be submitted to NHFG according to the following schedule:

October 15, 2014	Fall pellet surveys commenced, equipment purchased. Invoice amount: \$3,768.00.
December 1, 2014/2015/2016	Fall pellet surveys completed. Invoice amount: \$3000.00 /yr.
January 15, 2015	Mapping of habitat status and condition completed. Invoice amount: \$1500.00.
July 1, 2015/2016/2017	Coordinated volunteer pellet surveys, annual reporting supplied to NHFG. Invoice amount: \$500.00/yr.
October 15, 2015/2016	Fall pellet surveys commenced. Invoice amount: \$2,939.00/yr.

- c) The Contractor agrees to maintain financial documents necessary to comply with State and Federal regulations.

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Date 8/27/14

EXHIBIT C

SPECIAL PROVISIONS

NONGAME AND ENDANGERED WILDLIFE PROGRAM FUNDRAISING

1.) All provisions for insurance in this contract are waived. The services being requested do not expose the state of New Hampshire to any liability or risk of monetary loss.

Contractor Initials A.S.
Date 8/27/14

Alexej P. K. Sirén - Curriculum Vitae

4081 County Road Z
Dodgeville, WI 53533
alexejksiren@gmail.com
(207) 752-6534

EDUCATION

University of New Hampshire, Durham, NH, M.S. Student (January 2011 - June 2013)

Major: Natural Resources - Wildlife & Conservation Biology, GPA 3.70

- Thesis: *Population Ecology of American Marten in New Hampshire: Impact of Wind Farm Development in High Elevation Habitat*
- Advisor: Dr. Peter J. Pekins

Vermont College (Union University), Montpelier, VT, B.A. (January 2006 - December 2009)

Major: Environmental Studies

RESEARCH & TEACHING

RESEARCH EXPERIENCE

November 2013 - Present: **Canada Lynx Biologist** - *New Hampshire Fish and Game Department, Concord, NH*. Designed and implemented a pilot study comparing the effectiveness and cost of a snow track and camera trap method for detecting Canada lynx and competing carnivores in New Hampshire and Vermont incorporating an occupancy modeling framework.

October 2010 - June 2013: **Graduate Research Assistant** - *University of New Hampshire, Durham, NH*. Designed and implemented a 2 year telemetry study documenting demography, spatial ecology, resource selection and impacts of wind farm development on American marten in New Hampshire and developed a photographic mark-recapture technique to estimate density and statewide population.

WORK EXPERIENCE

July 2014 - Present: **Contract Biologist** - *Natural Resource Conservation Service & University of New Hampshire, Durham, NH*. Identify critical areas to improve habitat for snowshoe hare and SGCN species in northern New Hampshire using GIS, and develop forest management prescriptions with NRCS staff and contracted foresters.

May 2014 - August 2014: **Contract Biologist (moose)** - *Maine Department of Inland Fisheries and Wildlife, Bangor, ME*. Assisted with neonatal monitoring, capture & handling, radio-collaring, and necropsy investigations for moose telemetry study in northern Maine to investigate survival and reproduction.

- November 2013 – June 2014: **Canada Lynx Biologist** – *New Hampshire Fish and Game Department, Concord, NH*. Coordinated and led high and low elevation snow track and camera surveys with NHFG, USFS, USFWS, VFWD, and AMC staff, trained citizen science participants and agency personnel, organized regional lynx meetings with state and federal natural resource agencies, managed survey databases and wrote final reports.
- October 2010 – January 2013: **Graduate Research Assistant** - *University of New Hampshire, Durham, NH*. Coordinated and led trapping (*box*), capture, and immobilization (chemical), telemetry (ground and remote), mortality and necropsy investigations, predator, snowpack, and camera-trap surveys, data entry, management, analysis and report writing, personnel training, public relations, and logistical support for American marten research project in northern New Hampshire.
- August 2009 – October 2010: **Contract Biologist – Field Crew Leader (Canada lynx)** - *Maine Department of Inland Fisheries & Wildlife (MDIFW), Bangor, ME*. Coordinated and led trapping (*foothold and box*), capture, immobilization (chemical and physical), telemetry (ground and aerial), mortality and necropsy investigations, prey and predator abundance surveys, recruitment monitoring, and assisted with maternal den visits. Performed regular data entry, management, analysis, report writing, personnel training, public relations, and logistical support for lynx telemetry study in northern Maine.
- February 2003 – March 2010: **Co-Coordinator – Expedition Leader (Canada lynx)** - *White Pine Programs, Cape Neddick, ME*. Co-developed a citizen science-based monitoring program in 2003 to assist MDIFW conduct annual snow track surveys for Canada lynx in Maine.
- August 2008 – October 2008: **Contract Biologist (Canada lynx)** - *MDIFW, Bangor, ME*. Assisted with trapping (*foothold and box*), capture, immobilization (chemical and physical), telemetry, prey abundance surveys (snowshoe hare pellet surveys), data entry and management, and logistical support.
- May 2008 – July 2008: **Contract Biologist (black bear)** - *MDIFW, Bangor, ME*. Assisted with trapping (*leghold snare*), capture, immobilization (chemical and physical), telemetry, data entry and management, and logistical support for black bear telemetry study in Maine.
- October 2006 – December 2006: **Contract Biologist (Chronic Wasting Disease)** - *MDIFW, Bangor, ME*. Collected white-tail deer tissue samples for statewide CWD monitoring program.
- May 2006 – July 2006: **Intern (black bear)** - *MDIFW, Bangor, ME*. Assisted with trapping (*leghold snare*), capture, immobilization (chemical and physical), telemetry, data entry and management, and logistical support for black bear telemetry study in Maine.

TEACHING EXPERIENCE

August 2012 – December 2012: **Teaching Assistant (Dendrology)** - *University of New Hampshire, Durham, NH*. Taught a weekly 4 hour dendrology lab for Field Dendrology (NR425). Assisted with lecture, prepared labs, and graded quizzes.

July 2000 – June 2005: **Naturalist Educator** - *White Pine Programs, Cape Neddick, ME*. Taught youth and adult naturalist programs including wildlife tracking, botany, ornithology, field ecology, and wilderness survival. Developed and implemented curriculum, and conducted outreach with public and private organizations.

July 2004: **Teaching Assistant** - *University of New Hampshire, Durham, NH*. Taught animal track and sign for the Environmental Education Summer Institute (ENED890) graduate course.

August 2001 & August 2002: **Naturalist Educator** - *Beaver Brook Association, Hollis, NH*. Developed and taught youth summer naturalist and wilderness survival programs.

DATA MANAGEMENT & ANALYSIS

Management: Proficient with data management software (Microsoft Excel and Access), statistical software (R, JMP Pro 10), GIS and telemetry software (ArcGIS, GME, BIOTAS, LOAS), population modeling (RAMAS), and density estimation software (secur, SPACECAP).

Analysis: Experienced with mixed effects modeling in R (lme4 and related packages), CART modeling, occupancy modeling, principle components analysis, and frequentist and traditional statistics.

VOLUNTEER WORK

July 2008 & July 2009: **Goose Banding** - *MDIFW, Bangor, ME*. Assisted with capture and banding of Canada geese.

September 2007: **Bioblitz** - *Jamaica Bay Wildlife Refuge, Queens, NY*. Animal track and sign specialist for annual bioblitz.

May 2006: **Bioblitz** - *Cape Cod Museum of Natural History, Brewster, MA*. Animal track and sign specialist for annual bioblitz.

September 2003: **Bioblitz** - *Seacoast Science Center, Rye, NH*. Animal track and sign specialist for annual bioblitz.

August 2003: **Expedition Assistant** - *Idaho Wolf Tracking Expedition: Wilderness Awareness School, Duvall, WA*. Animal track and sign specialist for a wolf tracking expedition.

PUBLICATIONS

- Sirén, A. P. K., P. J., Pekins, M. J. Ducey, J. R. Kilborn. Spatial ecology and resource selection of a high elevation American marten population in northern New Hampshire. In review, *Canadian Journal of Zoology*.
- Sirén, A. P. K., P. J., Pekins, D. S. Maynard, J. R. Kilborn. Impact of wind farm development on use of high-elevation habitat by American marten. In prep.
- Sirén, A. P. K., D. Linden, P. J., Pekins. Improving density estimates through integration of telemetry and camera trapping in a spatial capture-recapture model of American marten. In prep.
- Sirén, A. P. K., P. J., Pekins, M. J. Ducey, J. Kilborn. Potential influence of wind farms on mobility and presence of carnivores at high elevation. In prep.
- Sirén, A. P. K., P. J. Pekins, M. J. Ducey, J. R. Kilborn. 2013. Population ecology of American marten in New Hampshire: Impact of wind farm development in high elevation habitat. *Martes Working Group* 20: 20-27.
- Sirén, A. P. K., P. J. Pekins. 2012. Impact of wind farm development on American marten in high elevation spruce-fir habitat in New Hampshire. *Martes Working Group*, 19: 28-34.
- Sirén, A. P. K., P. J. Pekins. 2011. Population Ecology of American Marten: Impact of wind farm development on American marten in high elevation spruce-fir habitat in New Hampshire. *Martes Working Group*, 18: 28-32.

PROFESSIONAL EXPERIENCE

PRESENTATIONS (G = graduate; U = undergraduate)

- Sirén, A. P. K.^G, P. J. Pekins, P. L. Abdu, P. G. Jensen, J. R. Kilborn. 2013. Density estimation of an American marten population: A comparison of photo and live-trapping using spatial capture-recapture. 20th Annual Wildlife Society Conference, Milwaukee, WI. (oral)
- Sirén, A. P. K.^G, P. J. Pekins, J. Kilborn, D. Maynard. 2013. Impact of wind farm development on use of high elevation spruce-fir habitat by American marten. Graduate Student Conference, Durham, NH. (oral)
- Sirén, A. P. K.^G, P. J. Pekins, J. Kilborn. 2013. Potential Influence of Wind Farms on Mobility and presence of carnivores at high elevation. 69th Annual Northeast Fish and Wildlife Conference, Saratoga, NY. (oral)
- Sirén, A. P. K.^G, P. J. Pekins, J. Kilborn, D. Maynard. 2013. Impact of wind farm development on use of high elevation spruce-fir habitat by American marten. Wild Musteloid Conference, Oxford, England. (oral)

Sirén, A. P. K.[©] 2011. Applicability of snow-tracking surveys for marten and lynx research.
4th Annual Northeast Wildlife Trackers Conference, Leominster, MA. (oral)

MEETINGS ATTENDED

- 2013 - 20th Annual Wildlife Society Conference, Milwaukee, WI
 - 69th Annual Northeast Fish and Wildlife Conference, Saratoga, NY
 - Wild Musteloid Conference, Oxford, England
- 2012 - TWS Northeast Section, Annual Membership Meeting, Hadley, MA
- 2011 - 4th Annual Northeast Wildlife Trackers Conference, Leominster, MA
 - TWS Maine Chapter, Wind Energy and Wildlife Forum, Orono, ME

HONORS AND AWARDS

- 2012 - New England Outdoor Writers Association Candidate
- 2010 - Mary Elizabeth Salmon Scholarship Recipient

PROFESSIONAL MEMBERSHIPS & COMMITTEES

- The Wildlife Society:** National, Northeast Section and Maine Chapter (2011 - present)
- Martes Working Group** (2011 - present)
- Northeast Lynx Coordination Committee** (2011 - present)

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