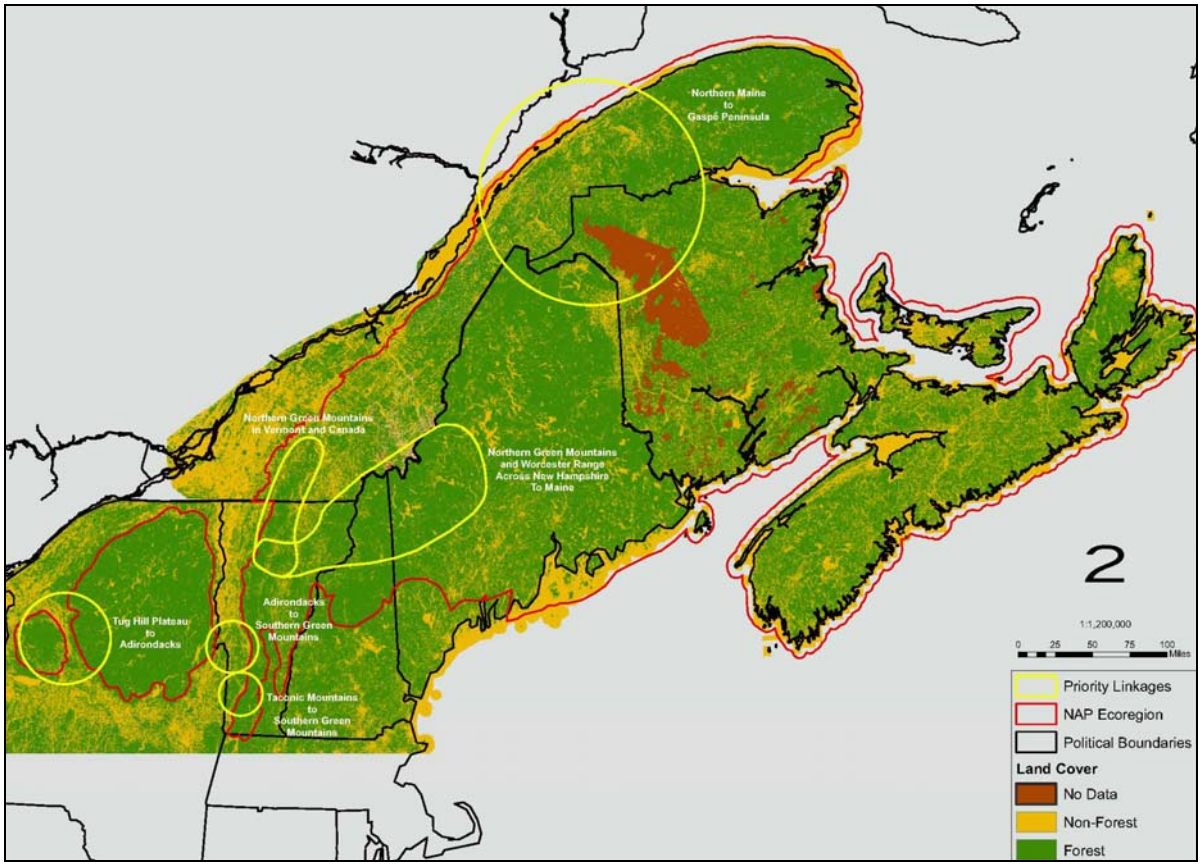
Staying Connected in the Northern Appalachians:
Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages

A proposal to the Competitive State Wildlife Grants Program

Applicant & Grant Administrator: New Hampshire Fish & Game Department
Sub-grantee, & Primary Contractor: The Nature Conservancy-New Hampshire Chapter



The big vision of an entire ecoregion with functioning habitat linkages. And detailed workplans to implement top priority actions from the Maine, New Hampshire, New York and Vermont Wildlife Action Plans via cooperative regional partnerships to benefit at least 41 wide-ranging and forest-dwelling SGCN.

Table of contents

Ranking Criteria Summary Sheet: A Reviewer's Guide to Staying Connected in the Northern Appalachians

Applicant: New Hampshire Fish & Game Department

Organizational Capacity Criteria (26 points total)

Criterion	Explanation	Page # Section
1. Grant proposal includes coordination and cooperation between two or more partners including the State and identifies the actions that are priorities in the State's CWCP (0-3 pts)	23 partners total: Four state fish & wildlife agencies (ME, NH, NY & VT) and 19 partners	Page 1 main document
2. Grant proposal describes how the applicant will coordinate all aspects of work, including use of common procedures, data sharing, monitoring, and reporting with other partners including other State fish and wildlife agencies (0-3 points).	Project 11: Overarching Project Management Project 10 Provides Monitoring, Evaluation information sharing. Project 8: Compiles and shares tech assistance BMPs, provides support services to tech assistance providers	Projects 8, 10 and 11
3. Grant proposal identifies dedicated staff or contractors currently in place to implement work (0-3 points).	The "Project Leader" and "Budget Narrative" sub-sections included in each project descriptions identify all project personnel	Project descriptions 1-11
4. Grant proposal identifies existing processes or protocols that will be used to implement actions and monitor outcomes (0-3 points).	The "Approach" sub-sections in project descriptions identify and explain processes and protocols	Project descriptions 1-11
5. Grant proposal describes how Federal compliance requirements can be addressed in a reasonable time and provide an estimated timeline (0-3 points).	The activities proposed in this grant include conservation planning, technical assistance and support for land conservation. No ground disturbing work will occur. We believe there will be no adverse affect on historic, cultural or environmental resources See the "Federal Compliance" sub-sections in each project description	Sect 7 ESA list Appendix D Compliance statements in project descriptions 1-11
6. Non-Federal Match: 6a: Overall: total match amount	Total grant request $1,708,068 (100%) SWG: $989,429 (57%) Non-Fed Match: $718,639 (42%) Additional funds leveraged $1,901,500 (111% of grant request) **$2.6 leveraged for every SWG dollar**. Details in project budgets 1-11	Snapshot; p1 Project Budget Summary Spreadsheet p11
6b. Source:	Cash provided by ME Dept Fish & Wildlife (project 6) for salaries. Waived costs and cost-sharing from contractors and other third parties. (ME Fish & Wildlife will submit an AFA if this grant is approved) Details provided in each project budget.	Budgets tables & Budget Narrative sections of Projects 1-11
6c. Type At least 51% of the total non-Federal match comes in one of the following forms: (i) Cash provided by a State agency or other non-Federal entity (4 pts); (ii) Waived costs from contractors or other third parties (3 pts).	Total Non-Federal Match: $718,639 -Cash: $4,300 (0.60%) -Waived costs & cost sharing: $714,339 (99.40%)	Budgets tables & Budget Narrative sections of Projects 1-11

Technical Ranking Criteria: Need, Objectives, Expected Results & Benefits, Approach (68 pts)

Need (22 points total)

Criterion	Explanation	Page # Section
1. Grant proposal implements actions identified in CWCPs by multiple States: a. 1 State (0 points); b. 2-4 States (3 points); or c. 5 or more States (5 points).	We will implement common actions identified by the four states. Appendix C contains relevant excerpts from the 4 states action plans with page # from each Plan	Appendix C, p14, main document
2. Grant proposal implements priority conservation actions, which are documented in the State(s) CWCP(s) or are documented as an emerging issue(s) in the grant proposal (0-2 points).	Five priority conservation actions common to each states' Action Plan to be implemented via the of this grant: 1-Conservation science 2- Land protection 3- Technical assistance for local land use planning 4- Technical assistance to increase the permeability of key roads 5-Technical assistance to local organizations Action Plan excerpts in Appendix C	Actions: Appendix C, p14 Grant objectives p6 main document Each project implements one or more of these objectives
3. Grant proposal clearly describes conservation needs that directly link to objectives and conservation actions described in each participating State's CWCP (reference page number is needed) or is documented as an emerging issue in the grant proposal to address a critical need or unanticipated event, e.g., a wildlife health/disease issue (0-3 points)	The problems/needs common to each states' Action Plan that will be addressed by the objectives and actions in this grant are 1- Development leading to habitat loss & fragmentation 2- Loss of connectivity between large blocks 3-Transportation systems and infrastructure 4-Need to map potential wildlife corridors and buffers 5- Need to coordinate the diverse array of stakeholder groups	List of needs conservation needs and problems from states' Action Plans in Appendix C, p14 main document
4. Grant proposal is a substantial effort to improve the status of SGCN (0-5 points total). a. 1 SGCN (0 points); b. 2-5 SGCN (1 point); c. 6-10 SGCN (3 points); or d. more than 10 SGCN (5 pts).	At least 41 forest-dwelling and wide-ranging SGCN common to at least three of the four states will benefit substantially from the work described in this grant	SGCN list Appendix A, page 12, main document
5. Grant proposal is a substantial effort to improve the habitat status of a SGCN (0-7 points total). a. less than 10% of the species range (0 pts); b. more than 10%, but less than 25% of the species range (3 pts); c. more than 25% but less than 50% of the species range (5 pts); or d. more than 50% of the species range (7 pts).	Nine of the SGCN benefitting from this grant are Species of Regional Conservation Concern in the Northeastern U.S. as identified by NEAFWA's Northeast Endangered Species & Wildlife Diversity Technical Committee This will be a substantial effort to improve the habitat status of many species in more than 10% of their range, but probably less than 25%.	Appendix A, page 12, main document (species w/ "*")

Objectives (10 points total)

Criterion	Explanation	Page # Section
1. Describe distinct, obtainable, and quantifiable or verifiable outputs to be accomplished for habitats used by SGCN (0-5 points).	Grant objectives target (1) enhancing and applying conservation science; (2) protecting key lands, (3) providing technical assistance to regional and local land use planners, (4) state transportation agencies, and (5) conservation organizations; Each project-level objective identifies discreet, obtainable objects such as: (1) specific analyses, research, models, reports to advance conservation; (2) target acreages for facilitated land protection (total 18,250 acres); (3) specific communities to be provided tech assistance (56 total); (4) areas and/or roads for transportation tech assistance; and, (5) organizations to receive technical assistance.	See objective and approach sections in projects 1-11.
2. Describe distinct, obtainable, and quantifiable or verifiable outcomes to be accomplished for SGCN (for example, but not limited to, the grant proposal identifies the percentage increase in a population of one or more species of greatest conservation need on project sites; the long-term sustainability of one or more SGCN on project sites) (0-5 points).	-18,250 acres will be protected -56 communities will use the land use planning tools provided through one-on-one support and tech assistance workshops. -At least four multi-town coalitions will be formed to address habitat connectivity. -Road-related wildlife mortalities will decrease as a result of work with state transportation agencies -An ecoregion-wide international coalition will be firmly established, with a strong track record of success.	Short- and long-term benefits list p8, main document. Project-specific short-term benefits listed in the benefits section for projects 1-11.

Expected Results and Benefits (10 Points Total)

Criterion	Explanation	Page # Section
1-Grant proposal describes the short-term benefits for SGCN or their habitats to be achieved within a ten-year period and it makes clear connections between the proposed conservation actions and expected benefits for species and their habitats (0-5 points).	General short-term benefits listed in the benefits section of main document. Project-specific short-term benefits are in each project description	p7, main document Projects 1-11
2- Grant proposal describes the long-term benefits for SGCN or their habitats to be achieved beyond ten years and makes clear connections between the proposed conservation actions and expected benefits for species and their habitats (0-5 points).	Long-term benefits listed in the Long-term benefits section of main document.	p8, main document.

Approach (26 points total)

Criterion	Explanation	Page # Section
1-Grant proposal describes the specific types of conservation projects/actions that each State will conduct to address these projects/actions and provides adequate detail to understand how each State will implement them (0-5 points). a. Methods/procedures used in conservation action; b. Who will implement the practices; c. Credentials and training of key project personnel; d. Any local, State, or Federal permits needed to undertake the work; and, e. Schedule of work.	Each of the 11 project descriptions includes the following information in discreet subsections: a-detailed approach b/c-project leaders and titles d-State or federal permits will not be needed for work in any of the projects in this grant e-Implementation timeline	See subsections in each project description (project 1-11)
2..Projects/actions are accomplished, in part, on private lands. Points are awarded on the percentage of the total acres affected (0-5 points). a. 1 point: up to 10 %; b. 2 points: > 10% and up to 20% c. 3 points: > 20% and up to 30% d. 4 points: > 30% and up to 40% e. 5 > 40% of the total acreage affected.	We estimate that more than 45% of the total acreage affected by grant activities will be on private lands.	Map 1, page 2 main document
3. Projects/actions involve other State agencies, Tribes, private landowners, nongovernmental organizations, or Federal agencies other than the Service and/or lands owned or managed by these entities (0-4 points). a. 1 point for simple involvement by partner; b. 2 points for partner engaged and substantively committed; or c. 4 points for complex and dedicated role of partner in completing proposed actions.	Implementation of this grant involves **complex and dedicated** participation by at least 16 partners including four state fish & wildlife agencies (ME, NH, NY & VT). In addition, **substantive involvement** will occur with at least 56 municipalities, through their planning commissions and/or conservation commissions,.	Project descriptions 1-11 see subsections on partners and project leaders
4. Grant proposal includes activities that use the same methodologies and share data between States and other partners (0-3 points)	Shared methodologies across linkage areas include landscape analyses such as FunConn and Least Cost Path geospatial modeling, & Critical Paths for wildlife tracking protocols. Monitoring Evaluation Group (Project 10) will provide communication between each project and habitat linkage area to ensure that methodologies are applied consistently across the grant. Model easement language for habitat connectivity will be developed for use grant-wide via Project 7. Common land use planning guidelines and tools for habitat connectivity for use grant-wide will be designed via project 8. The technical assistance support system in project 8 facilitates communication among technical assistance providers in the grant to Common transportation guidelines for habitat connectivity for use grant-wide will be designed via project 9	Projects 1-6 Project 10 Project 7 Project 8 Project 8 Project 9

Criterion	Explanation	Page # Section
	Where different approaches to habitat connectivity conservation are implemented between project areas, we will have an opportunity to test & compare their efficacy.	
5. The grant proposal describes a monitoring plan that each participating State or partner will use to ensure SGCN need and/or habitats are adequately monitored and evaluated to determine the effectiveness of conservation actions and provide for adaptive management for future efforts. The monitoring plan may include identifying appropriate monitoring protocols and establishing baselines, developing monitoring standards, timeframes for conducting monitoring activities, and expectations for monitoring (0-5 points).	Change promulgated by landscape level conservation actions will be monitored through three interrelated processes. 1) The Northeast Regional Monitoring and Performance Reporting Framework 2) Regular revisions to states' Wildlife Action Plans 3) TNC's annually updated database of conservation and public lands across the Northern Appalachian Ecoregion Project 10 is specifically designed to ensure that data developed throughout the grant is consistent and rolls up efficiently to facilitate monitoring	Overview Page 8-9, main document Project 10 Monitoring, Evaluating and Sharing
6. The grant proposal describes how performance reports will clearly document monitoring results and how they will be used for adaptive management for future improved efforts (0-4 points).	TNC's annually updated database of conservation and public lands across the Northern Appalachian Ecoregion. Through Project 10 (Monitoring, Evaluating and Sharing) we will compile and share data, lessons learned to inform adaptive management.	Overview Page 8-9, main document Project 10, Monitoring, Evaluating and Sharing

Total Score Possible = 94 points Total Score = ____

Staying Connected in the Northern Appalachians:
Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages

A proposal to the Competitive State Wildlife Grants Program

Applicant: New Hampshire Fish & Game Department

Grant Goal & Objectives: Our goal is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need across the Northern Appalachian Ecoregion in order to mitigate the impacts of habitat fragmentation and climate change. This will be achieved by deploying a suite of related strategies within and across key connectivity linkage areas throughout the ecoregion. Grant objectives will enhance and apply conservation science; protect key lands, provide technical assistance to state transportation agencies, regional and local land use planners, and conservation organizations; and develop technical assistance tools and materials.

Grant Period: 05/01/2009 to 4/30/2012

Estimated Federal & Non-Federal Costs (budget detail pg 11, and by project)

Total grant amount	**$1,712,110**	
Competitive SWG funds requested	**$992,592**	58% of total grant amount
Non-federal matching funds	**$719,519**	42% of total grant amount
Additional funds leveraged	**$1,901,500**	111% of total grant amount
Grant total plus leveraged funds	**$3,631,810**	$2.6 leveraged for every SWG dollar

Funding sources: Cash provided by State agencies and other non-Federal entities, and waived costs from contractors and other third parties.

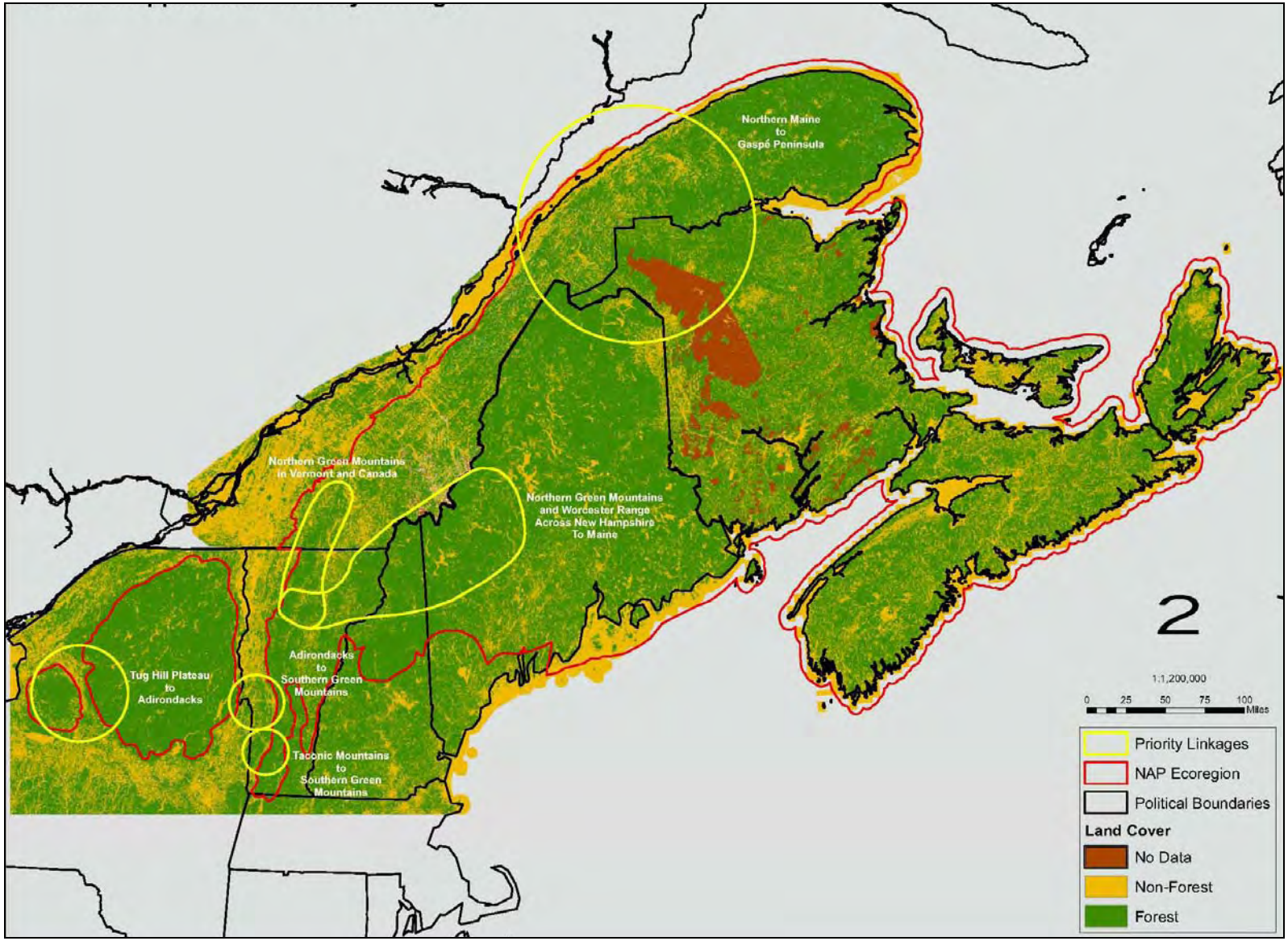
Active Partners (23): New Hampshire Fish & Game Department, Maine Dept of Inland Fish & Wildlife, NY Dept of Environmental Conservation, VT Fish & Wildlife Dept, Maine Audubon, Maine Dept of Transportation, NH Audubon, NH Department of Transportation, NY Dept of Transportation, The Conservation Fund, The Nature Conservancy (ME, NH, NY & VT chapters), The Northern Forest Alliance, Trust for Public Land, Tug Hill commission, Tug Hill Tomorrow, Two Countries-One Forest, VT Agency of Transportation, VT Land Trust, Wildlands Project, Wildlife Conservation Society

State(s) benefitting from the work: Maine, New Hampshire, New York and Vermont

SGCN and key habitats addressed: The work performed under this grant will benefit at least 41 Species of Greatest Conservation Need (appendix A) and at least 10 habitat types (appendix B).

Abstract: "Staying Connected" presents the BIG vision of an entire ecoregion with functioning habitat links, and a detailed workplan to achieve our ambitious goals via cooperative regional partnerships building on existing work. We will implement top priority actions from the Maine, New Hampshire, New York and Vermont Wildlife Action Plans (appendix C) to restore, maintain and enhance the six most important habitat linkages in the Northern Appalachian Ecoregion to benefit at least 41 wide-ranging and forest-dwelling SGCN. Benefits to SGCN will accrue through protecting the ability of species to move regionally in response to changing climate and by protecting and/or restoring the opportunity for regional genetic interchange. We will integrate conservation planning at the eco-regional, state and local scales with land protection (at least 18,250 acres) and technical assistance activities targeted to the places where most land use decisions in the Northeast are made—municipalities (at least 56). The work of our partnership of eight state agencies in four states and 13 non-profit organizations will be complimented by similar conservation activities in the neighboring four Canadian provinces. International coordination will be provided by Two Countries, One Forest.

Map 1: The six high priority wildlife linkages in the Northern Appalachian Ecoregion



Location

The six high priority wildlife linkages show on map 1 were identified though analyses by state fish and wildlife agencies and partner organizations including The Nature Conservancy, Wildlife Conservation Society, the Wildlands Project, and Two Countries One Forest.

- Tug Hill Plateau to the Adirondack Mountains (NY)
- Adirondacks Mountains to the Southern Green Mountains (NY-VT)
- Taconic Mountains to Southern Green Mountains (NY-VT)
- Worcester Range, VT across Northern New Hampshire to Maine (VT-ME)
- Northern Green Mountains in Vermont and Canada
  (funded work would occur only in the US)
- Maine's Northwoods from the NH border on to Quebec's Gaspe Peninsula
  (funded work would occur only in the US)

Purpose & Need

Introduction: The Northern Appalachian ecoregion is unique, and uniquely challenged: we know of nowhere else in the world where such an intact temperate mixed and deciduous forest is located so close to so many people. The ecoregion spans two countries, four states, four provinces and 80-million acres; it contains rare alpine vegetation, at-risk species, old-growth forests, very large unfragmented forest blocks, and 5.4 million people. While extraordinarily intact compared to other forests of its type across the globe, preliminary studies reveal that this ecoregion risks being separated into a series of ecological islands — isolating populations of Species of Greatest Conservation Need (SGCN) and limiting their ability to adapt to a changing climate. Protection of key habitat linkages across the landscape is a critical need.

Fortunately, recent efforts by states, provinces and organizations in the Northern Appalachian Ecoregion—both individually and in partnership—have prepared us to take action both locally and region-wide to address the primary problems impacting Species of Greatest Conservation Need and their habitats.

With this grant proposal to the Competitive State Wildlife Grants program, we seek implementation funding for coordinated conservation efforts across the states of Maine, New Hampshire, Vermont and New York (map 1). Complementary conservation efforts by partner agencies and organizations in the provinces of Nova Scotia, Newfoundland, Labrador and Quebec, makes this a truly international effort and increases our likelihood of success.

Problem: The Wildlife Action Plans of Maine, New Hampshire, Vermont and New York identify 41 wide-range and forest-dwelling Species of Greatest Conservation Need (appendix A) including Canada lynx, American marten, wolf, black bear, and bobcat. The primary threats to the viability of populations of these species, as identified in each state's Wildlife Action Plan, are land-use related: habitat loss (through fragmentation, degradation and conversion) and the impacts of transportation systems (appendix C).

In addition, climate models focused on the Northeast universally predict (1) Increases in the likelihood and severity of heavy rainfall events, (2) Increases in winter precipitation on the order of 20-30%, and (3) A combination of higher temperatures, increased evaporation, expanded growing season, and other factors that will cause summer and fall to become drier, with extended periods of

low stream flow (Hayhoe et al 2006, Hayhoe et.al. 2008, UCS 2006). Ultimately, plant and animal distribution patterns will respond to these changes, and many species will need to move in order to find suitable habitat.

Maintaining and enhancing populations of wide-ranging species has traditionally focused on the conservation of large landscapes containing core wildlife habitat through land designations that include wildlife management areas, state and national forests, national wildlife refuges, and privately owned nature reserves. Such landscapes also support the natural processes and functions vital to long-term sustainability of populations of both wide-ranging and less vagile species.

But the synergistic effects of habitat conversion, fragmentation, transportation systems, and climate change exacerbate their impact on wide-ranging and other SGCN by isolating populations, stressing individuals and straining the carrying capacity of individual habitat blocks to sustain wide-ranging and other SGCN over time. This is all evidenced in the Northern Appalachian Ecoregion where the rate and scale of development over the past decades has been increasing.

At the same time, the sciences of wildlife management and landscape ecology have developed to identify the need to link habitat blocks in order to help these species:

- Meet their seasonal or annual resource needs;
- Exchange genes among otherwise isolated populations, and within meta-populations that may cover millions of acres;
- Facilitate dispersal of progeny to new territories;
- Re-establish populations after local extirpations; and;
- Respond to changes in habitat due to climate change, natural disturbances and human-produced obstructions such as highways and commercial and residential development.

Linkage habitat, or wildlife corridors, are the vital habitats providing connectivity across one or more temporal scales (e.g., seasonal, annual, generational) among areas used by animals and plants. These linkages exist and must be conserved within unfragmented landscapes, and need to be conserved or restored to join naturally or artificially fragmented habitats.

The Wildlife Action Plans of Maine, New Hampshire, Vermont and New York contain numerous recommendations related to the conservation of such linkage habitat for wide-ranging and forest-dwelling SGCN (appendix C). New Hampshire begins by identifying the need to "Map potential wildlife corridors and buffers" (p5.8), Maine calls for "Protecting/managing high-value uplands through cooperation with NGOs, local land trusts, municipalities, government agencies, private landowners and other partners" (pg 5:227) and New York recommends "Developing land protection strategies for large blocks of unfragmented forests" (p80). And Vermont identifies the need for "regional connectivity to maintain and/or re-establish wide-ranging SGCN populations through… linkages to New York, New Hampshire, and Canada" (p4:43).

The nature of land ownership and political jurisdictions in the Northeast, however, poses an elemental impediment to landscape-level planning and the implementation of actions to conserve large, well-connected landscapes. Because the majority of lands in the region are privately owned, the resulting landscape patterns are driven from the bottom-up. That is, individual decisions made by local land owners and town planners collectively determine habitat quality at the landscape level.

As a result, the primary threats to many SGCN today are not directly controllable by natural resources managers. Furthermore, because the Northern Appalachians Ecoregion spans four states and two countries, important transportation infrastructure decisions are made at state and local levels, often with little knowledge or analysis of the multi-jurisdictional, landscape-level environmental implications of their actions.

Need: To effectively conserve and enhance SGCN populations, their habitats and landscapes, natural resources managers must therefore provide local decision makers with data, tools, technical guidance and other resources needed to help them make decisions appropriate both locally and regionally.

We request financial support from the Competitive State Wildlife Grants program to facilitate the implementation of actions to conserve, maintain and enhance the six top priority habitat linkages in the Northern Appalachian Ecoregion (map #1). Such support would help ensure landscape scale connectivity across the ecoregion from the western edge of the Tug Hill Plateau in New York through Vermont, New Hampshire and Maine and on to Quebec's Gaspe Peninsula.

Significant work has been completed, or will be completed shortly, within the ecoregion that will allow project partners to take conservation action almost immediately upon grant approval. This includes:

- Ecological importance and threat, trend and growth analyses for the entire Northern Appalachian Ecoregion by the Wildlife Conservation Society, Two Countries-One Forest, The Wildlands Project. The Nature Conservancy and Nature Conservancy Canada.
- New Hampshire: The New Hampshire Wildlife Action Plan and other regional conservation planning initiatives (such as The Nature Conservancy's ecoregional assessments) have identified the most intact and biologically significant habitat blocks. Additionally, NH Fish and Game and NH Audubon are completing a statewide effort to develop a GIS-based connectivity modeling tool that will be applied in this project.
- In NY, results from ongoing research on the effects to wildlife from backcountry residential development will help ensure that long term land-use planning and incremental decisions about private land development incorporate consideration of wildlife habitat impacts and favor the use of planning tools for habitat protection and connectivity.
- The Vermont Fish & Wildlife Department has identified and prioritized for conservation the state's remaining large habitat blocks and linkage habitat. Working with the Vermont Agency of Transportation and National Wildlife Federation, they have developed both coarse-scale models and fine-scale field-based analyses of wildlife road crossings to help state agencies and others target their efforts on connectivity maintenance and improvement.

Grant Objectives

The goal of this grant is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need across the Northern Appalachian Ecoregion in order to mitigate the impacts of habitat fragmentation and climate change. To achieve our goal we have developed nine strategic objectives; five will be applied locally within each habitat linkage area, and four cut across the region:

Within-Linkage objectives:

1. **Conservation science:** Develop scientific information and analyses at a variety of scales on the ecological features, wildlife movement zones, community conservation values and wildlife road crossing locations within each linkage area necessary to inform and support land protection, land-use and transportation planning, barrier mitigation, and technical assistance to local groups (e.g., planning and conservation commissions, land trusts) .

2. **Land protection**: Through the provision of technical assistance and financial assistance for land protection administrative costs, help land trusts protect at least 18,250 acres of important habitat connectivity "stepping stones," at key road crossing segments, and other high priority areas determined by the ecological assessments and connectivity analyses performed in objective one by the end of the grant period.

3. **Provide technical assistance for local land use planning**: Fifty-six towns within the habitat linkage areas will use land use planning tools, such as incorporating language identifying the importance of habitat protection and connectivity values into conservation sections of town plans, land use planning and zoning ordinances, the development of conservation overlay districts, transfer of development rights programs, house distance zones by the end of the grant period.

4. **Increase the permeability of key roads**: State transportation agencies will incorporate recommended connectivity retention and improvements as part of planned road maintenance/upgrade work planned for 2009-2014 along priority habitat linkage segments identified in objective one.

5. **Provide technical assistance to local organizations**: Improve skills of the local wildlife and community interest groups and stakeholders so they can more effectively support implementation of a broad range of conservation activities related to wildlife and habitat connectivity.

Cross-Cutting Objectives: these four objectives will benefit all of the targeted linkage areas.

6. **Develop model easement standards** to ensure habitat connectivity for use by land trusts and public agencies.

7. **Develop technical assistance materials, tools and support systems** to enhance the effectiveness of technical assistance providers and land use planners.

8. **Develop road ecology guidelines & models** to help transportation agencies address habitat connectivity issues.

9. **Host a landscape connectivity conference in 2011** to share the lessons learned from this grant project and to plan for the ongoing conservation and management of wildlife linkage habitats.

Approach

Detailed approaches for implementing the within-linkage objectives for each of the six priority linkage areas and the five the cross-cutting objectives are provided in the following project plans:

Project 1: Tug Hill Plateau to the Adirondack Mountains

Project 2: Adirondacks Mountains to the Southern Green Mountains

Project 3: Taconic Mountains to Southern Green Mountains

Project 4: Northern Green Mountains in Vermont and Canada

Project 5: Worcester Range, VT across Northern New Hampshire to Maine
5a: Worcester Range to the Northeast Kingdom (VT)
5b: Northeast Kingdom to the Connecticut Lakes, Lake Umbagog, and Mahooosuc Mountains Range of Northern New Hampshire (and on to Maine) because of the differences in the work needed across the length of this linkage area, it has been divided into two segments to facilitate better implementation.

Project 6: Maine's Northwoods from the NH border on to Quebec's Gaspe Peninsula

Project 7: Development of model easement standards

Project 8: Land use planning tools, materials, and a technical assistance support system

Project 9: Transportation Planning and Barrier Mitigation Models

Project 10: Monitoring, Evaluating and Sharing Connectivity Strategies

Project 11: Overarching Project Management

Expected Results & Benefits

Short-term (w/in 10 years)

- At least 18,250 acres protected to augment the existing, conserved land base in the linkages.
- Identification of additional high priority lands critical to securing habitat linkage across the Northern Appalachian ecoregion.
- Functioning multi-town coalitions comprised of individuals, government agencies, and non-profit organizations, drawn from a broad range of interests and stakeholders, in at least four of the five multi-town areas.
- Detailed multi-state plans to protect, maintain and enhance habitat connectivity for the NY-VT-NH-ME linkage habitats
- Local planning commissions and selectboards will have the knowledge, skills, support and motivation to augment their town plans, zoning and planning policies to protect and restore vital wildlife habitat and linkages within their towns, and to work with local landowners and neighboring towns to do the same.
- Support for the implementation of multiple strategies for protecting habitat connectivity through establishment of town forests, land acquisition, conservation easements, best practices on timber and agricultural lands, and best practices for development in towns and municipalities.
- Engendering trans-border connectivity conservation work within the Northern Appalachians by creating and sharing information, data and relevant planning tools across the US- Canadian border.

Long-term benefits (greater than 10 years)

- Increases in viability of SGCN in terms of species richness and population through the increase in size of habitat blocks and in the number of potential home range sites. Linkage habitat itself can support actively reproducing populations of some side-ranging SGCN.
- Increased species persistence through improved movement of otherwise isolated populations, and greater opportunities to re-establish populations after local extirpations.
- Improved genetic exchange throughout the ecoregion leading to greater genetic variability and increased species resilience to environmental change.
- Improved chances for successful dispersel of offspring across the landscape.
- Diminished risk of extinction of local and meta-populations from catastrophic events and/or long-term environmental change.
- Better functioning ecosystems by facilitating predator presence in habitat fragments to prevent irruptions of prey populations and the negative impacts those irruptions can trigger.
- Decreases in the wildlife mortalities, vehicular damage and injuries to humans through improved wildlife road crossings and new road design and placement.
- Reduced potential for the spread of invasive exotic species.
- Wildlife populations that provide a wide range of opportunities for recreational enjoyment will be enhanced through habitat protection actions.
- Through education, direct outreach and local and regional press coverage of the newly protected properties and connectivity efforts of the partners, increased regional and international recognition of the importance of these linkages will be achieved, which will garner further support for conservation and engender additional future conservation opportunities.

Monitoring

Monitoring of project outcomes will occur through three interrelated processes.

1) The Northeast Regional Monitoring and Performance Reporting Framework (Framework), a project of the Northeast Association of Fish & Wildlife Agencies, has identified eight landscape-level monitoring targets and associated indicators for the 13 state region which includes ME, NH, NY and VT. http://rcngrants.org/regional_monitoring.shtml
2) Regular revisions to states' Wildlife Action Plans will provide consistent and ongoing opportunities for each of the partnering states to assess the status of SGCN and their habitats.
3) The Nature Conservancy has developed and maintains an annually updated, integrated database of conservation and public lands across the Northern Appalachian Ecoregion (and beyond). This database incorporates protected lands data from all four states as well as Canada, and will help to track progress in protecting priority linkages over time.

Monitoring of project activities: We have also developed two processes specifically for monitoring and coordinating the grant and project-level activities associated with this grant.

4) Project 10 includes a Monitoring and Evaluation Group (MEG). It will establish a monitoring framework from the onset of grant implementation to ensure that our desired impacts are focused and efficient, that they can be readily measured, and that they can be reported in fashion that is understandable to our partners and a broader public alike. It will supply data to support the Framework noted in monitoring process 1 above.

5) Project 11 describes how we will: a) coordinate financial management of the grant; b) ensure that all deliverables are submitted on time and all grant requirements are met; and, c) coordinate ongoing communications.

Project administration

New Hampshire Fish & Game Department will submit the grant to USFWS Federal Aid and serve as grant administrator. The Nature Conservancy (through its New Hampshire Chapter) will serve as a sub-grantee, and will serve as the primary contractor, and will provide oversight and project management for the projects and activities outlined herein. The Nature Conservancy will subcontract with the other partners listed in the projects that accompany this proposal. All contractors will be required to submit quarterly financial reports and yearly interim reports

The Nature Conservancy (TNC) has extensive experience managing and administering federal grants. It has developed a strong system of protocols and practices and an experienced and professional grant management staff to ensure grant funds are used properly and that all reporting is sufficient and timely. This is evidenced by the following TNC documents:

- Figure 1: TNC's Public Agency Grants Policy.
- Appendix E: TNC's Guidance on Grants Roles and Responsibilities
- Appendix F: a very user-friendly Grantee Welcome Package.

figure 1 TNC's Public Agency Grants Policy

FINANCE
Public Agency Grants and Contracts

POLICY:
It is the Conservancy's policy to comply with all relevant and applicable statutes, regulations, and guidelines needed to transact business with public agencies.

PURPOSE:
For legal, ethical, and political reasons, it is crucial that the Conservancy comply with the appropriate government and public agency regulations such as OMB Circular A-122, United States Comptroller General Auditing Standards, OMB Circular A-133, OMB Circular A-110, and Drug Free Workplace regulations (or the equivalent in the countries in which the Conservancy works) when conducting business with public agencies.

ORIGIN:
Approved by the Board of Directors on March 15, 1996.

REFERENCES, RESOURCES, and EXPLANATORY NOTES:
See standard operating procedure: ***Negotiation and Administration of Government Grants, Cooperative Agreements, Contracts and Other Agreements***
http://home.tnc/psop/of/procedures/art8042.html

See ***OMB Circular A-133*** **http://www.whitehouse.gov/omb/circulars/a133/a133.html**

Refer to the Worldwide Office Finance Function's ***Grants Service Network***

http://home.tnc/grants/index.html in consultation with the Worldwide Office Legal Function.

Refer to Grants Service Network grants specialists and Conservancy attorneys for additional information

Federal NEPA, ESA Section 7 and Historic Preservation Act 106 Compliance

The activities proposed in this grant include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the projects in this grant are designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Project Leaders (see Appendix G for project leader credentials/biographies)

Doug Blodgett, Wildlife Biologist, Vermont Fish & Wildlife Department, 802-786-3861, doug.blodgett@state.vt.us

Steve Fuller, Conservation Science Director, New Hampshire Fish & Game Department, 603-361-4336, SFuller@wildlife.state.nh.us

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department, 802-476-0126, jens.hilke@state.vt.us

Joe Racette, NY Division of Fish, Wildlife, and Marine Resources, (518) 897-1293, jaracett@gw.dec.state.ny.us

Dirk Bryant, Director of Conservation Programs, Nature Conservancy – Adirondack Chapter, 518-576-2082, dbryant@tnc.org

Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org

Chris Maron, Champlain Valley Program Director, The Nature Conservancy-Adirondack Chapter and the Adirondack Land Trust, 518-576-2082, cmaron@tnc.org

Conrad Reining, Wildlands Project, (802) 785-2838, conrad@wildlandsproject.org

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Barbara Vickery, Director of Conservation Programs, The Nature Conservancy in Maine.

Steve Walker, Maine Department of Inland Fisheries and Wildlife, Beginning with Habitat Program Coordinator, 207-287-5254, Steve.Walker@maine.gov

Mark Zankel, Deputy State Director, The Nature Conservancy-NH, (603) 224-5853 x19, mzankel@tnc.org

References

Hayhoe, K., C.P. Wake, B. Anderson, X.-Z. Liang, E. Maurer, J. Zhu, J. Bradbury, A. DeGaetano, A. Hertel, and D. Wuebbles. 2008. Regional climate change projections for the Northeast U.S. Mitigation and Adaptation Strategies for Global Change. In press.

Hayhoe, K., C.P. Wake, B. Anderson, J. Bradbury, A. DeGaetano, A. Hertel, X.-Z. Liang, E. Maurer, D. Wuebbles, and J. Zhu. 2006. Quantifying the regional impacts of global climate change: Evaluating AOGCM simulations of past and future trends in temperature, precipitation, and atmospheric circulation in the northeast US. Bulletin of the American Meteorological Society. In review.

Union of Concerned Scientists. October 2006. Climate Change in the U.S. Northeast: A report of the Northeast Climate Impacts Assessment. www.climatechoices.org/assets/documents/climatechoices/NECIA_climate_report_final.pdf

Budgets for Project 1-11 in Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages

Project #	Project	Total Grant Amount	SWG Competitive Funds	Non-federal Match	SWG % of total grant amount	Non-federal match % of grant amount	Additional funds leveraged (but not eligible as match)	Grant Amount and Leveraged Funds
1	Tug Hill-Adirondacks	$774,309	$293,909	$480,400	37.96%	62.04%	$1,750,000	$2,524,309
2	Adirondacks-Greens	$257,345	$180,453	$76,892	70.12%	29.88%	$3,000	$260,345
3	Taconics-Greens	$67,313	$46,433	$20,880	68.98%	31.02%	$25,500	$92,813
4	N Greens (VT)	$235,870	$182,985	$52,885	77.58%	22.42%	$60,000	$295,870
5a	Worcester-NEK (VT)	$102,566	$74,886	$27,680	73.01%	26.99%	$81,200	$183,766
5b	NEK-NH (NH)	$79,744	$65,489	$14,254	82.12%	17.88%	$0	$79,744
6	Maine-Northwoods	$62,397	$47,174	$15,223	75.60%	24.40%	$0	$62,397
7	CC Model easement standards	$4,020	$4,020	$0	100.00%	0.00%	$0	$4,020
8	CC Land use planning	$44,898	$33,594	$11,304	74.82%	25.18%	$0	$44,898
9	CC Transportation	$11,636	$11,636	$0	100.00%	0.00%	$0	$11,636
10	CC Monitoring, Evaluation, Sharing	$45,568	$25,568	$20,000	56.11%	43.89%	$0	$45,568
11	Project Management	$26,444	$26,444	$0	100.00%	0.00%	$0	$26,444
	totals	**$1,712,110**	**$992,592**	**$719,519**	**57.97%**	**42.03%**	**$1,919,700**	**$3,631,810**

See projects 1-11 for detailed budgets.

$2.6 leveraged for every SWG dollar

Appendix A. SGCN in the Project Areas of at Least Three of the Four Partnering States

(* Denotes Wildlife Species of Regional Conservation Concern in the Northeastern US identified by Northeast Endangered Species and Wildlife Diversity Technical Committee— 1999).

Scientific name	Common Name	ME	NH	VT	NY	US	Total
Birds (20)							
Accipiter cooperii	Cooper's Hawk		X	X	X		3
Accipiter gentilis	Northern Goshawk		X	X	X		3
Anas rubripes	American Black Duck	X	X	X	X		4
Asio otus	Long-eared Owl*	X		X	X		3
Bonasa umbellus	Ruffed Grouse		X	X	X		3
Buteo lineatus	Red-shouldered Hawk		X	X	X		3
Caprimulgus vociferus	Whip-poor-will*	X	X	X	X		4
Catharus bicknelli	Bicknell's Thrush	X	X	X	X		4
Catharus fuscescens	Veery	X	X	X			3
Chordeiles minor	Common Nighthawk	X	X	X	X		4
Coccyzus erythropthalmus	Black-billed Cuckoo	X		X	X		3
Contopus cooperi	Olive-sided Flycatcher	X		X	X		3
Dendroica caerulescens	Black-throated Blue Warbler	X		X	X		3
Dendroica castanea	Bay-breasted Warbler	X	X	X	X		4
Euphagus carolinus	Rusty Blackbird	X	X	X	X		4
Falcipennis canadensis	Spruce Grouse		X	X	X		3
Hylocichla mustelina	Wood Thrush	X	X	X	X		4
Picoides dorsalis	American Three-toed Woodpecker	X	X		X		3
Scolopax minor	American Woodcock	X	X	X	X		4
Wilsonia canadensis	Canada Warbler*	X	X	X	X		4
Mammals (12)							
Canis lupus	Gray Wolf	X	X	X	X	E	4
Lasionycteris noctivagans	Silver-haired Bat		X	X	X		3
Lasiurus borealis	Eastern Red Bat*		X	X	X		3
Lasiurus cinereus	Hoary Bat*		X	X	X		3
Lontra canadensis	Northern River Otter			X	X		2
Lynx canadensis	Lynx*	X	X	X	X	T	4
Lynx rufus	Bobcat		X	X			2
Martes americana	American (Pine) Marten		X	X	X		3
Myotis leibii	Eastern Small-footed Bat	X	X	X	X		4
Myotis sodalis	Indiana Bat		X	X	X	E	3
Synaptomys borealis	Northern Bog Lemming	X		X			3
Ursus americanus	Black Bear		X	X			2
Amphibians (3)							
Ambystoma jeffersonianum	Jefferson Salamander*		X	X	X		3
Ambystoma laterale	Blue-spotted Salamander*	X	X	X	X		4
Bufo (woodhousii) fowleri	Fowler's Toad		X	X	X		3
Reptiles (3)							
Clemmys guttata	Spotted Turtle*	X	X	X	X		4
Crotalus horridus	Timber Rattlesnake	X	X	X	X		4
Glyptemys/Clemmys insculpta	Wood Turtle	X	X	X	X		4
Arthropods (3)							
Cicindela marginipennis	Cobblestone Tiger Beetle		X	T/X	X		3
Cicindela puritana	Puritan Tiger Beetle		X	T/X	X	T	3
Lithophane lepida lepida	Noctuid Moth sp.	X	X		X		3

Appendix B. Action Plans habitats that will be addressed in this grant

Habitat Type	State
Matrix Forming Forests (NH), Landscape Forests (VT)	NH/VT
Deciduous and Mixed Forest (ME), Northern Hardwood-Conifer (NH), Pine-Northern Hardwood (NY), Northern Hardwood Forests (VT)	All
Coniferous Forest (ME), Lowland Spruce-Fir (NH) and High Elevation Spruce-Fir (NH), Spruce- Northern Hardwood (NY), Spruce-Fir Northern hardwood (VT)	All
Shrub / Early Successional and Regenerating Forest (ME) Successional northern hardwoods (NY), Successional Stage Forests (VT)	ME, NY
Appalachian oak-pine (NY). Oak-Pine-Northern Hardwoods (VT)	NY/VT
Mountaintop Forest (including krummholz)	ME
Floodplain forests	NY, VT
Forested Wetlands	ME, VT
Vernal Pools	NY, VT
Emergent marsh	NY

Appendix C: Threats and priority actions for the conservation of forest-dwelling and wide-ranging SGCN from the ME, NH, NY and VT Wildlife Action Plans

info type	state	Action Plan excerpts	page
Threat ID	ME	**Loss of connectivity between large blocks;** habitat loss and fragmentation associated with development and building of permanent roads; and climate changes as top threats to SWAP Key Habitat types represented in both linkage areas	5:244, 5:245
Threat ID	NH	**Development and transportation infrastructure as two of the top four risks to wildlife and habitats**	4:05
Threat ID	NY	**Anthropogenic changes including development** (residential and commercial, roads, power lines), dredging, and wetland draining, and natural changes such as succession reduce not only habitat quantity, but the quality of habitat as well by disrupting the function of remaining habitat patches.	185 and 340
Threat ID	VT	**Habitat loss (through fragmentation and conversion), transportation systems and climate change are three of the top five most significant problems** impacting Vermont's Species of Greatest Conservation Need and their habitats	2:9-11
Action	NY	**Identify and map large blocks of unfragmented habitat cover types.** This includes roadless forest tracts, grasslands, shrub lands, riparian areas and free-flowing streams. Wherever possible, these mapping efforts should extend across watershed and state boundaries, and both public and private lands, especially in the case of forested and aquatic habitats.	76
Action	VT	**Identifies the need for regional connectivity to maintain and/or re-establish wide-ranging SGCN populations,** specifically recommending regional connectivity through linkages to New York, New Hampshire, and Canada and statewide connectivity within Vermont	4:43, 4:45
Action	NH	***Map potential wildlife corridors and buffers*.** Strategy 200: Conservation Planning, Objective 205 calls for mapping landscape connectivity using spatially explicit models.	5.8
Action	NH	***Promote a transportation working group.*** Strategy 600: Interagency Regulation and Policy, Objective 603 call for a transportation-wildlife working group to identify opportunities to maintain or improve the ecological integrity of landscapes impaired by existing or planned roads.	5.18
Action	NH	**Protect riparian/shoreland habitat and other wildlife corridors**. Strategy 700: Land Protection, Objective 701 calls for promoting the projection of wildlife corridors including riparian areas and shoreland.	5.20
Action	VT	"**Identify and prioritize for conservation the existing contiguous forest blocks and associated linkages"** is a primary conservation strategy for landscape-scale forests) and matrix forest formations (Northern Hardwood Forest, Spruce-Fir N. Hardwood Forest, and Oak-Pine N. Hardwood Forest	4:41-48, 4:49-54, 4:55-60, 4:61-66

info type	state	Action Plan excerpts	page
Action	ME	**Protect/manage high-value uplands through cooperation with NGOs, local land trusts, municipalities, government agencies, private landowners and other partners** to conserve/manage habitats for priority mammals using fee acquisition, cooperative agreements, purchase of development rights, tax incentives, cost sharing programs (WHIP, LIP) and improved comprehensive planning. (Acition 3)	5:227
Action	ME	**Protect/manage high-value upland; Create and restore habitat in focus areas** through manipulation, augmentation, connecting smaller forest blocks to create large patches, etc (Acition 5)	5:228
Action	ME	**Adapt Beginning with Habitat for Use in Towns in Northern and Eastern Maine:** Desired Outcomes include maintaining and increasing the number of large blocks of forest and minimizing the impact of roads.	6:31
Action	NY	**Develop land protection strategies for large blocks of unfragmented forests** by working with private land owners and public land managers, transportation planners, and local government to reduce planned fragmentation.	80
Action	NY	**Work with the US and state departments of transportation to incorporate SGCN-friendly components into road maintenance and renovation work.**	83
Action	NY	**Make information available to public and private land managers** regarding the benefits and need for reducing fragmentation of mature forests.	83
Action	NY	**Share information on lands that provide critical habitat for SGCN with county and town planning boards** to assist them in steering development and growth away from critical areas.	185
Action	NY	**Conservation partners should direct funding for SGCN to the eastern and southern portion of the Lake Champlain Basin** where development pressures pose a relatively greater threat to species of concern and their habitats. This includes the Champlain Valley south through the northern extent of the Hudson Valley and the northern Taconic Highlands.	211
Action	NY	**Coordinate the diverse array of stakeholder groups** that will need to be involved in land-use planning for SGCN, particularly groups that may not have been traditionally involved in a large scale conservation planning process	363
Action	VT	**Identify, prioritize and maintain existing contiguous forest blocks and associated linkages** that allow for upward and northward movement in response to climate change. (Conserving VT's Birds)	4:14
Action	VT	**Maintain and restore habitat connectivity and minimize fragmentation of forest blocks.** Identify and prioritize wildlife road crossing locations. Work with the Agency of Transportation and adjacent landowners to reduce wildlife mortality and increase the potential for movement from one side of the road to the other. (Conserving VT's Mammals)	4:28, 4:52, 4:57, 4:64
Action	VT	**Work with landowners, towns, and communities to protect critical habitats** and maintain connectivity, **Acquisition of land and conservation easements-**High priority action for landscape level forest conservation **Provide technical assistance to landowners, towns, regional planning commissions and transportation agencies**-Priority for landscape level forest conservation	4:28, 4:52, 4:57, 4:64
Action	VT	**Increase cooperation/coordination between adjacent states and provinces to** support and encourage trans-jurisdictional actions to address issues such as global climate change, acid rain and connectivity**.**	4:45, 4:58, 4:64
Habitat Usage	NH	**More than 30 Species of Greatest Conservation Need** (SGCN) utilize Northern Hardwood-Conifer, Lowland Spruce-Fir, and High Elevation Spruce-Fir matrix-forming forests	3:11-13
Habitat Usage	VT	**At least 23 SGCN prefer large expanses of interior forest habitat** and most wildlife species rely on connectivity between habitats	4:41-66
Habitat Usage	ME	**Lists 49 Species of Greatest Conservation Need** (SGCN) that utilize Deciduous and Mixed , Coniferous, and Mountaintop matrix-forming forests identified in project linkage areas	3:107-123

Appendix D. Endangered Species Act Section 7 Compliance: Federally Endangered, Threatened and/or Candidate species that potentially exist and/or are known to exist in one of more of the following states: Maine, New Hampshire, New York or Vermont.

Common name	Scientific name	State
Bald Eagle	Haliaeetus leucocephalus	ME/NH/NY/VT
eskimo curlew	Numenius borealis	NY
least tern	Sterna antillarum	NY
Manx Shearwater	Puffinus puffinus	NY
Peregrine falcon	Falco peregrinus*	ME/NY/VT
Plover, piping	Charadrius melodus	ME/NH/NY
Roseate Tern	Sterna dougallii	ME/NH/NY
Atlantic salmon	Salmo salar	ME
Shortnose Sturgeon	Acipenser brevirostrum	ME/NH/NY
American burying beetle	Nicrophorus americanus	ME
Karner blue Butterfly	Lycaedis Melissa samuelis	ME/NH/NY
Dwarf wedgemussel	Alasmidonta heterodon	NH/NY/VT
northeastern beach tiger beetle	Cicindela dorsalis dorsalis	NY
Puritan tiger beetle	Cicindela puritana	NY/VT
Canada lynx	Lynx canadensis	ME/NH/NY/VT
Eastern mountain lion	Felis concolor couguar	ME/NH/NY/VT
Indiana bat	Myotis sodalis	NY/VT
New England Cottontail	Sylvilagus transitionalis	ME/NH/NY/VT
Wolf	*Canis* sp?	ME/NY/VT
bog turtle	Clemmys muhlenbergii	NY
Furbish's lousewort	Pedicularis furbishiae	ME
Hart's-tongue fern	Asplenium scolopendrium var. americanum	NY
Houghton's goldenrod	Solidago houghtonii	NY
Jessup’s milk-vetch	Astragalus robbinsii var. jesupi	NH
Leedy's roseroot	Sedum integrifolium ssp. leedyi	NY
Northeastern barbed bristle bulrush	Scirpus ancistrochaetus	NH/VT
Northern wild monk's-hood	Aconitum noveboracense	NY
Sandplain gerardia	Agalinis acuta	NY
Seabeach amaranth	Amaranthus pumilus	NY
Small whorled pogonia	Isotria medeoloides	ME/NH/VT

TNC GRANTS – GUIDANCE ON ROLES AND RESPONSIBILITIES

	RESPONSIBILITY	POSITION ACCOUNTABLE
	OVERARCHING OBLIGATIONS	
1	All staff involved in the negotiation and administration of agreements must successfully complete basic TNC grants training. Basic TNC grants training will be provided and updated on a regular basis and at a reasonable cost. Technical training will be provided as time permits development.	Supervisors to ensure attendance. Manager of Grants Services
2	Establish and maintain constructive working relationship with funding agency; ensure that Grants Specialist knows the name of the administrative/finance contact. The nature of relationships will vary across agencies and teams.	Project Manager And operating unit
3	Ensure that timely and knowledgeable review is always available for all pre-proposals, proposals, agreements, subcontracts, subawards, and private grant agreements. Forward reviewed materials as early as possible. Coverage during absences is required.	Grants Specialists and Attorneys
	PRE-AGREEMENT STAGE	
4	Assure that any proposed award meets the minimum government award size requirements. In unusual circumstances where this may significantly impair specific conservation efforts of the Operating Unit, the Project Manager must get written approval (including an explanation) from the individual with both authority and responsibility for overall finances of the Operating Unit (an Operating Unit Director, for example). This written approval will be maintained by the Grants Specialist in the master agreement file.	Project Manager
5	Ensure that the full costs to complete a project are calculated and shown in all budgets for internal review and approval - whether or not the costs can be recovered or counted toward a matching requirement. Preparation of a budget is required for every agreement.	Project Manager
6	All U.S. Federal Agencies should reimburse indirect costs at the current negotiated rate. Unless prohibited by statute, if any indirect cost recovery is "waived" on any agreement, the project manager must get written approval (including an explanation) from individual with both authority and responsibility for overall finances of the operating unit (an Operating Unit Director, for example). Any written approval will be maintained in the master agreement file.	Project Manager
7	Secure a review of all pre-proposals, including the full cost budget, by a Grants Specialist.	Project Manager
8	Ensure that all final proposals, including the full cost budget, are reviewed by the Grants Specialist or the Attorney prior to submission. All final proposals relating to land acquisitions must be reviewed by both the Grants Specialist and the Attorney. Notify the reviewer(s) of the deadline for submission and forward for review as early as possible. Coordinating review procedures will be the responsibility of the operating units and teams working together. Additional reviews may be incorporated at the discretion of the operating unit.	Project Manager
	FINALIZING THE AGREEMENT	
9	Ensure that Grants Specialists and attorneys (as required by the non-real estate SOP and relevant delegations of authority) review draft agreements, subcontracts, subawards, private grant agreements and amendments/extensions as early in the process as possible, and always before they are signed. Legal review is not required for no-cost extensions.	Project Manager
10	If the agreement is a "purchase order" from the government which does not require TNC signature it must be reviewed by the Grants Specialist and Attorney before work is begun.	Project Manager
11	For all proposal, agreement, subcontract, subaward, private grant agreement and amendment/extension reviews, primary responsibilities for content review are as outlined below: **Legal** – ensure agreement doesn't violate laws or TNC policies or SOPs; identify and communicate to Project Manager potential risks/exposure/liability. **Financial** – ensure budget appears adequate to complete scope, rates used are current, and that cost categories are appropriate. **Program** – ensure that the scope of services is reasonable, accurately stated in the agreement, and can be performed within the times and budget specified.	 Attorney Grants Specialist Project Manager
12	Identify who has the authority to approve and execute each agreement, subcontract, subaward, and private grant agreement.	Attorney

	AGREEMENT ADMINISTRATION	
13	Grants Information Form must be completed for each agreement, amendment/extension; information presented must match final agreement. Submit basic subaward and private grant agreement information to Internal Audit; information presented must match final award.	Grants Specialist
14	Review final agreement and identify, using a consistent format, the following: recording matching costs and allowable costs; potential bidding & procurement issues.	Grants Specialist
15	Ensure that only allowable costs are billed to each agreement: Review TNC internal financial reports for accuracy; ensure the G/L data is correct. Ensure that Project Manager gets necessary information in a timely manner.	Project Mgr. Grants Specialist or designee Grants Specialist
16	Ensure that matching requirements are met. Ensure that matching expenses are properly documented.	Project Manager Grants Specialist
17	Prepare billings & external financial reports in accordance with format and timing requirements of agreement. Approve billings and external financial reports prior to submission.	Grants Specialist Project Manager
18	Ensure payments are received; when payments not received, begin collections procedures within three months of invoice date (unless other terms are specified in agreement).	Grants Specialist
19	Ensure deliverables are completed. Maintain tracking system and provide reminders for deliverable due dates.	Project Manager Grants Specialist
20	For all subcontracts, subawards, and private grant agreements, ensure that TNC SOPs for "purchasing" and "non-real estate contracts" are followed. For all subawards and private grant agreements, ensure that TNC SOP for "grants by TNC to grantees" is followed.	Project Manager
21	Ensure written no-cost extensions are completed for deliverables; includes extensions for subcontracts, subawards, and private grant agreements.	Project Manager to note when needed; Grants Specialist and Project Manager will work together to complete documentation
22	Maintain "auditable" master agreement files; ensure that WO and Project Manager get copy of final signed agreement and extensions/amendments.	Grants Specialist
23	Maintain government property inventory/tracking.	Grants Specialist
24	Ensure that subrecipient monitoring activities are completed/performed. (Internal Audit to train all staff who perform subrecipient monitoring.)	Internal Audit and Grants Specialist to work together to ensure assessment/ monitoring activities are completed
25	Maintain "auditable" master subaward and private grant agreement files; ensure that Internal Audit and Project Manager get copy of final signed subaward/private grant agreement and extensions/amendments.	Grants Specialist
26	Complete closeout procedures for financial tasks in a timely manner.	Grants Specialist

Oct 30, 2008

The following guidance is intended as general information for distribution to TNC grantees. It is not intended to be formal legal advice or to take the place of relevant U.S. federal or local laws or regulations. If greater detail is required, please contact your TNC administrative point of contact.

GRANTEE WELCOME PACK

About The Nature Conservancy

TNC is a leading conservation organization working around the world to protect ecologically important lands and waters for nature and people. Founded in 1951, TNC has protected more than 117 million acres of land and 5,000 miles of rivers worldwide — and operates more than 100 marine conservation projects globally. TNC works in all 50 states in the U.S. and more than 30 countries — protecting habitats from grasslands to coral reefs worldwide.

How we work

TNC addresses threats to conservation involving climate change, fire, freshwater, forests, invasive species, and marine ecosystems. By using a science-based approach, we pursue non-confrontational, pragmatic solutions to conservation challenges. We are able to expand our outreach by partnering with indigenous communities, businesses, governments, multilateral institutions, and other non-profits.

You're going to work with TNC funds, now what?

Review your agreement: Read the agreement and speak with your TNC administrative point of contact if you would like clarifications.

- **If you received a <u>Subaward</u> of U.S. Federal funds, U.S. Federal funds passed through another organization or private funds being used as match to U.S. Federal funds:** A subaward is an agreement that (1) includes funds that come from or contribute to an agreement between TNC and another party, and (2) incorporates U.S. Federal government regulations and requirements. As a recipient of U.S. government funds, TNC is required to pass on certain regulations and requirements and monitor that grantees comply. Please read your agreement for a comprehensive list of attachments or documents incorporated by reference. They can include, but are not limited to:
    1. OMB Circular A-110 (2 CFR part 215) (this is applicable to U.S. NGOs only);
    2. OMB Circular A-122 (2 CFR part 230) on allowable costs;
    3. Agency regulations (for example: USAID Mandatory Standard Provisions for U.S. NGOs or non-U.S. NGOs); and/or
    4. Any additional regulations from U.S. federal agencies.

Other important details to know:

- **Due Diligence:** As part of the award determination process, you will be required to send TNC copies of institutional documents. The number and type of documents will vary depending on the type and amount of the agreement and pass-through donor requirements.

- **TNC Conflict of Interest Form:** Any organization signing an agreement with TNC must first sign the Conflict of Interest Disclosure form. This form certifies that there is currently no conflict of interest between TNC and the grantee. If a conflict exists, it must be disclosed to TNC. If the possibility or appearance of a conflict arises during the life of the agreement, TNC should be informed immediately so the situation can be evaluated.

- **TNC Grantee (Subrecipient) Monitoring:** TNC is required to monitor organizations to which it grants funds. You may be asked to fill out a Subrecipient Monitoring Questionnaire which is part of TNC's due diligence process. This document helps TNC determine the level of financial reporting and other activities (site visit, review of annual audits, etc.) that TNC is required to perform as part of the monitoring process. If a visit from the TNC Subrecipient Monitoring team is required, you will be informed by the TNC administrative contact when the visit will be scheduled. If applicable, go over any previous TNC monitoring reports to confirm any findings have since been resolved. If findings are still outstanding, additional reporting may be incorporated in the subaward or grant until resolution is achieved.

- **Legal Clauses:** A number of legal clauses are included in all agreements. They may include, but are not limited to:

    - **Record retention requirements**: The grantee should keep records (financial records, supporting documents, statistical records, and all other records) related to the agreement for a period of three years after the submission of the last financial report / invoice, or as specified by contract or local law, whichever is greater. See agreement for further details.
    - **Fly America**: U.S. Federally funded agreements require that all air travel and shipments outside the United States be made on U.S. flag air carriers. See agreement for further details.
    - **Buy America**: Some U.S. Federally funded agreements specify the country of origin of any goods and services purchased with agreement funds. See agreement for further details.
    - **Debarment Certification**: Some funders restrict certain parties from participating in projects funded under the agreement. If your agreement includes a Debarment Certification, you can find a current list of excluded parties at http://www.epls.gov/.

- **Budget:** Carefully review the budget indicated in your agreement. Funds can only be spent on budgeted line items. Also, be aware of any line item flexibility restrictions. If you encounter any issues with the budget line item distribution, please notify your contact person.

- **Reporting:** Technical, financial, and other reporting requirements are specified in your agreement. Templates for these reports are provided. Please confirm that the recommended due dates allow enough time for your organization to complete your reporting on time and address any concerns to the administrative point of contact before the agreement is signed. We may be able to accommodate different delivery dates. If, for any reason, you anticipate a delay on a required report, please let us know as soon as possible before the date the required report is due.

- **Segregation of funds:** Most agreements will require you to segregate project funds from other funds. You may be required to open a separate interest bearing bank account. Please review the agreement or verify with TNC if the segregation requirement applies.

- **Financial reports and disbursements process:** TNC staff review your financial reports and attempt to complete reviews within two weeks of receipt. The TNC administrative point of contact may contact you with questions or requests for additional documentation to complete the review of allowable costs. If you need assistance in completing these reports, please let your contact person know.

We look forward to working with you on this project. Please contact _____ (your TNC administrative point of contact) for any questions or concerns regarding this grant.

Attachments:

- Guidance regarding (choose from the options below):
  - Cost categories
  - Purchasing
  - Match expenses
  - Indirect vs. direct expenses
  - Reporting requirements
  - Severance provisions
  - Interest income earned
  - Indirect cost recovery
  - Conflict of interest
  - Time reporting
  - Exchange rate gain or loss
  - Closeout considerations

Appendix G: Project Leader Biographies/Credentials

Doug Blodgett, has been employed as a wildlife biologist with the Vermont Fish and Wildlife Department for 27 years. Throughout his career, he has worked extensively on game and non-game management programs as well as public land management programs. Doug has been the Vermont Wild Turkey Project Team Leader since 1990 and has also assisted on the black bear, deer, moose, furbearer and peregrine falcon research projects since 1984. Prior to this, Doug was employed by the US Forest Service for six years on both the east and west coasts.

Dirk Bryant is the Nature Conservancy's Director of Conservation Programs for the New York State Adirondack Chapter. During his five years with TNC Dirk has worked on several major land protection projects, securing over 280,000 acres through forest preserve additions and conservation easements. Previous to this, he served as Co-Director of the World Resources Institute's (WRI's) Forest Program. During his 12-year tenure at WRI, Dirk founded Global Forest Watch, a network of non-governmental organizations, universities and other partners who map and monitor forest development and condition across most of the major forested regions of the world. He also led the first map-based assessment of remaining intact forests and historic loss of forest cover (The Last Frontier Forests: Ecosystems and Economies on the Edge, 1997) and of potential threats to the world's coral reefs (Reefs at Risk: A Map-based Indicator of Threats to the World's Coral Reefs, 1998). Dirk has a Masters degree in Environmental Management from Duke University, and served as a Peace Corps fisheries volunteer (Senegal, 1984-6).

Alice Chamberlin began work as Executive Director of Two Countries, One Forest in September of 2008. Prior to accepting the position, Chamberlin worked for Governor John Lynch as Special Assistant for natural resources, energy and transportation policy from 2005-2007. She served as U.S. Commissioner to the International Joint Commission, United States and Canada from 1994 – 2001. Chamberlin has also worked as an Environmental Policy Assistant to the late Governor Hugh Gallen, as Executive Director of the Environmental Law Council at Franklin Pierce Law Center, and as an adjunct, part-time faculty member of the School of Environmental Studies at Antioch Graduate School. Chamberlin received her B.A. from the State University of New York at Purchase and her J.D. from Franklin Pierce Law Center. She is a member of the New Hampshire Bar Association.

George Gay, Executive Director, Northern Forest Alliance. George has a BS in Forestry and Wildlife Management from Virginia Tech and a law degree from Vermont Law School. As an Assistant Attorney General in Maryland, he represented the state's Wildlife Service, Natural Heritage Program, and Freshwater Fisheries Administration and chaired the Southeast Association of Fish and Wildlife Agencies Legal Committee. He has served as Executive Director of the NFA since May 2003. George is Conservation Director of the Vermont Trappers Association and coordinates the Vermont Wildlife Partnership.

Jens Hilke, works for the Vermont Fish & Wildlife Department as a Conservation Planning Biologist. He helps towns, regional planning commissions and non-governmental organizations with their conservation planning efforts. This includes help with GIS natural resource mapping, advice on prioritizing significant natural features and help with implementing town conservation goals. Jens did his undergraduate work at Connecticut College in Environmental Sociology and then got a Masters in Botany from the University of Vermont as a Field Naturalist. Jens has taught high school science in Vermont, New Hampshire, and New Jersey and for a study-away program in Thailand,

Southeast Asia. Jens worked as a backcountry park ranger in Canyonlands N.P. in Utah and as a handyman at rainforest research center in Belize. He's an avid traveler, backpacker and kayaker.

Phil Huffman, As Director of Conservation Programs, Mr. Huffman leads the Vermont Chapter's 15-member conservation team that works on land protection, stewardship, and partnership initiatives, and has a primary role in cross-boundary collaborations focused on the northern Appalachians, Lake Champlain, the Connecticut River watershed, and other large landscapes. Prior to joining TNC a year ago, he worked for ten years as an independent consultant focusing on place-based conservation initiatives that integrate natural and cultural heritage, recreation, and other important community values. He also worked for 8 years as a resource planner with the U.S. National Park Service, developing new models for community-based river conservation in the Northeast under the National Wild and Scenic Rivers Act. He holds a B.A. in Environmental Studies from Middlebury College, and joint Master's degrees in Environmental Studies and Public and Private Management from Yale University.

Paul Marangelo, Conservation Ecologist, The Nature Conservancy-VT, West Haven Office. Paul started working for the Vermont Chapter of The Nature Conservancy in April 2004, and among other responsibilities, has overseen wide-ranging mammal connectivity conservation work between the Green Mountains and Adirondacks. His work includes overseeing contract landscape modeling work, model interpretation, landscape modeling application to conservation planning, and partnership coordination. His work for TNC also involves management of terrestrial and aquatic invasive species, stream restoration, conservation planning, and providing aquatic ecology expertise to Vermont TNC. Paul previously worked for the Michigan Chapter of TNC for three years as an Aquatic Ecologist, and worked for two years of for a consulting company in St. Louis, MO as a Malacologist. He has also held short term positions with TNC's Eastern New York Chapter as a Wetland Restoration Specialist and as an Aquatic Biologist for the Vermont Department of Environmental Conservation. Areas of specialty and interest include terrestrial landscape connectivity, the biology and conservation of freshwater mussels, aquatic invasive species, and fluvial ecology and geomorphology. Paul holds a MS (1997) in Resource Ecology and Management from the University of Michigan's School of Natural Resources and Environment, and a BA (1986) from Rutgers College.

Joe Racette, Biologist 1 (Ecology), NYS Department of Environmental Conservation. Joe is a Biologist with the NYSDEC in Ray Brook, where he has worked in the Water Quality and Fish and Wildlife Divisions for 16 years. Joe has worked on Bond Act and State Wildlife Grant administration, water quality and wildlife research and monitoring, and technical assistance to municipalities

Conrad Reining, is the Eastern Program Director of the Wildlands Project, where he is responsible for coordinating conservation planning, outreach and fundraising. Since joining the Wildlands Project in 2001, a major focus of his work has been the development of a trans-border proposal for a network of linked conservation areas in the Northern Appalachians of southeastern Canada and northeastern US. He is also participating in a Two Countries, One Forest initiative to develop a comprehensive conservation strategy for the Northern Appalachians, and is collaborating in efforts to advance conservation in high priority linkage areas of the region. Conrad holds a Masters degree from Yale School of Forestry and Environmental Sciences and a BA degree from UC Berkeley.

Zoe Smith, Coordinator, Wildlife Conservation Society Adirondack Program - Before joining WCS in 2000, Zoë worked with the Student Conservation Association's Americorp Program where she facilitated service projects with local schools and community organizations throughout the Adirondack region. She also spent many years instructing outdoor recreation leadership to college students, adults, and young children with the Adirondack Mountain Club and the Wilderness

Education Association. Zoe was previously WCS' community liaison, working directly with communities to promote conservation in the Park, with a focus on WCS' Black Bear Education, Awareness, and Research Program. She currently serves as the coordinator of WCS' Adirondack program.

Steve Walker has worked for the Maine Department of Inland Fisheries and Wildlife since 2006. Prior to that he served as the Natural Resources Planner for the Town of Brunswick and was principally involved in the crafting of the Rural Brunswick Smart Growth Plan and Brunswick Parks Recreation and Open Space Plan. Mr. Walker also has many years of experience as a private land use consultant specializing in municipal resource planning efforts and environmental permitting. Mr. Walker has a B.A. in Environmental Studies from Brown University and a B.S. in Wildlife from University of Maine.

Barbara Vickery, Director of Conservation Programs, The Nature Conservancy in Maine
Barbara Vickery has worked for The Nature Conservancy in Maine since 1983 where she has served in various positions including Director of Science and Stewardship, Director of Conservation Planning and since 1998 as Director of Conservation Programs**.** She is responsible for oversight of Science and Stewardship Program, Regional, Ecoregional and Conservation Area Planning, Freshwater and Marine Conservation Programs and serves as the liaison with Beginning with Habitat and Maine Natural Areas Programs. She supervises 4 staff directly and 6 indirectly. Ms. Vickery has a B.A from Harvard College and a B.S. in Biology from Bates College (Phi Beta Kappa).

Mark Zankel, Deputy State Director for the New Hampshire Chapter of The Nature Conservancy. Mark has worked for The Nature Conservancy for fourteen years, and has extensive experience in conservation planning, land protection, conservation easements, natural areas stewardship, government grants, and partnerships. Zankel is responsible for directing the Chapter's conservation strategies and programs, which are engaged in multiple endeavors related to conserving large-scale forest ecosystems, understanding and restoring freshwater aquatic systems, and protecting and restoring the Great Bay estuary. Zankel serves on several boards and committees including the University of Michigan's School of Natural Resources and Environment Visiting Committee, the NH Forest Advisory Board, the NH Aquatic Resources Mitigation Steering Committee, the NH Landowner Incentive Program Steering Committee, and the NH Estuary Project Management Committee. He is the Board Chair of Five Rivers Conservation Trust, a regional land trust operating in central New Hampshire. Zankel received a Master's of Science degree in Forest Ecology from the University of Michigan (1994), and an undergraduate degree from Dartmouth College (1989).

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

November 6, 2008

Steve Jose
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

RE: Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages

Dear Mr. Jose:

On behalf of the Maine Department of Transportation (MaineDOT) I wish to express my support for the State of Maine's involvement in the four state initiative to increase wildlife habitat connectivity: "*Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages.* As Director of MaineDOT's Environmental Office I serve on the Steering Committee of Maine's Beginning with Habitat Program. In this capacity I have helped to lead Maine's efforts in increasing awareness of habitat connectivity issues especially as related to transportation planning, road design, and routine maintenance procedures.

Our Department has recently partnered with Beginning with Habitat to secure Federal Highway Administration monies and Maine Outdoor Heritage Fund support to conduct habitat connectivity modeling work throughout Maine's organized towns. Connectivity models developed to date will serve as the basis for work to be conducted in the northern Maine connectivity focus areas selected for the purposes of this grant proposal. Additionally, MDOT has recently completed our *2008 Waterway and Wildlife Crossing Policy and Design Guide* intended to improve habitat permeability of state transportation projects and to inform municipal public works departments. This grant opportunity will help to build awareness of this document and will result in on-the-ground applications in northern Maine.

We look forward to this grant opportunity as a way to geographically broaden MaineDOT's on-going efforts to work with the Maine Department of Inland Fisheries and Wildlife in implementing State Wildlife Action Plan goals. Please do not hesitate to contact me should you have any questions regarding MaineDOT's collaborative role in this project.

Sincerely,

Judy C. Gates.

Judy C. Gates, Director
MaineDOT Environmental Office

MAINE AUDUBON

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November 6, 2008

Steve Jose
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

RE: Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages

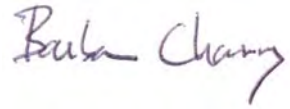
Dear Mr. Jose:

On behalf of the Maine Audubon I wish to express my support for the State of Maine's involvement in the four state initiative to increase wildlife habitat connectivity: "*Staying Connected in the Northern Appalachians"*. Over the past several years I have worked as Maine Audubon's technical liaison to the Beginning with Habitat Steering Committee working principally on statewide habitat connectivity and wildlife and transportation issues.

Most recently, my efforts have included the completion of Beginning with Habitat's transportation planning outreach document: *Conserving Wildlife On and Around Maine's Roads* and partnering with the Maine Nature Conservancy to develop GIS modeling approaches map priority habitat linkages in Maine's organized towns. These models will serve as the basis for work to be conducted in the northern Maine connectivity focus areas selected for the purposes of this grant proposal. Additionally, this opportunity will enable us to model priority connectivity areas in the less fragmented forested landscape of northern Maine providing even greater depth to our statewide analysis.

Maine Audubon works to conserve Maine's wildlife and wildlife habitat by engaging people of all ages in education, conservation and action. This grant opportunity will provide us and other Beginning with Habitat partners with a broader audience in northern and western Maine through which we can better advance State Wildlife Action Plan goals of conserving habitat connections while advancing our mission of *Connecting People with Nature*.

Sincerely,



Barbara Charry
Biologist/GIS Manager

AUDUBON SOCIETY OF NEW HAMPSHIRE

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AMOSKEAG FISHWAYS LEARNING CENTER
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FAX 603-644-4386
Managed by ASNH in partnership with PSNH, the N.H. Fish and Game Department, and the U.S. Fish and Wildlife Service.

LOON PRESERVATION COMMITTEE
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NEWFOUND AUDUBON CENTER
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FAX 603-226-0902

12 November 2008

Steve Jose
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

Dear Mr. Jose:

On behalf of New Hampshire Audubon, I am writing to express strong support for the competitive State Wildlife Grant Proposal entitled: **Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages**. NH Audubon intends to be an active participant in the project.

The proposed project will provide high resolution, spatially explicit mapping of important wildlife connectivity and linkage areas ranging from Vermont's Northeast Kingdom to New Hampshire's northern forest, and will launch implementation activities ranging from land protection to technical trainings. NH Audubon scientists will participate in several aspects of the project including modeling, strategy development, and providing technical assistance to the NH Department of Transportation.

We are excited about this project because it builds upon the recent development of a connectivity modeling tool by NH Audubon and NH Fish and Game. Additionally, the project will complement a related, federally funded effort led by NH Audubon to facilitate improved coordination between transportation and conservation planning. We feel that the northern forest region is a very appropriate area to implement landscape connectivity strategies given the existence of large-scale conservation areas, the presence and needs of many wide-ranging species, and the risks posed by climate change.

We hope that this proposal will be favorably viewed by the review committee, and thank you for your consideration.

Sincerely,

Richard A. Minard, Jr.
President

November 12, 2008

Steve Jose
Grants Management Specialist
USF&W
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

Dear Mr. Jose,

I am writing to support the grant proposal "Staying Connected in The Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages".

I am a member of a newly formed regional conservation organization in the Northern Green Mountains to Canada Corridor. We are working as a group of seven towns on the western slopes of the Northern Green Mountains. We are a grassroots group engaging in the region as a whole as well as specifically within the individual towns that make up our seven town group. The Enosburgh Conservation Commission has hosted meeting s to form this more regional group with help from the partners in this grant proposal. We are also collaborating with our Canada neighbors to the north. The potential achievements of this proposal will make this regional effort a success with concrete results.

We will help implement the grant by providing the science team with relevant local data to help develop analysis for conservation priorities in our region. We will also disseminate this material as it is developed and engage the communities through an educational effort. Our volunteer citizens will also collect data for key road crossings and important linkages. We will organize workshops with local planning, conservation, and citizen groups to provide the venue for the grantors to offer technical assistance for planning efforts. In short we will be the local connector for the work proposed.

The comprehensive grant proposal can accomplish much to protect the integrity of the eco-region that spans the Northern Forest. There are great number of partners that are interested and enthusiasm at the local level. Thanks you for your consideration,

Sincerely,

Nancy Patch

Nancy Patch

Chair Enosburgh Conservation Commission

Member Northern Greens Steering Committee (Seven Town)

Member Vermont Land Trust Board of Trustees

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

November 11, 2008

Dear Steve,

In 1994 the Bennington County Regional Commission published the Regional Forest Land Evaluation and Site Assessment (FLESA) For The Taconic Mountains, Bennington County, Vermont. Utilizing cutting edge GIS technology, we developed one of the nations first regional FLESA models intended for towns to evaluate the suitability of parcels for timber production, recreation, and wildlife habitat. Several towns in the region have used the FLESA model to identify natural resource areas worthy of protecting through their town planning efforts.

In the years following publication of the Taconic FLESA, the BCRC has been involved in numerous efforts to protect the integrity of wildlife travel corridors connecting the Taconic Range to the Southern Green Mountains. We have partnered with the Vermont Department of Fish and Wildlife and the Vermont Land Trust to identify key parcels and landowners willing to protect their lands within these wildlife travel corridors. While several important parcels have been conserved, the integrity of these wildlife corridors continues to be threatened by land subdivisions, transportation networks and incompatible land uses.

The BCRC strongly supports the regional connectivity grant "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." We would like to become a partner to help implement the grant by offering $1000.00 of our staff time per year over the five year grant period ($5,000.00 total). Specifically, we can help achieve several of the identified objectives of the grant including: conservation science support, land protection, local land use planning and technical assistance to local organizations.

We are hopeful for a successful grant application and look forward to participating in the preservation of viable wildlife travel corridors.

Sincerely,

James K. Henderson
Senior GIS Planner

Vermont Land Trust

CONSERVING LAND FOR THE FUTURE OF VERMONT

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Southeast Vermont
and Mountain Valley
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Brattleboro, VT 05301
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Southwest Vermont
and Mettowee Valley
10 Furnace Grove Road
Bennington, VT 05201
(802) 442-4915

November 12, 2008

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

RE: **Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages**

Dear Mr. Jose:

This is a letter in support of the above referenced grant application from the Vt. Fish Wildlife Department and The Nature Conservancy. The Vermont Land Trust is the largest land trust in Vermont and has protected almost 400,000 acres of land in Vermont, largely through the use of conservation easements on the working landscape of farms and timberlands. Each project goes through a site assessment process to determine the ecological values supported by the protection of the parcel. Knowing the parcels which provide the most important linkages across the region would be important information to incorporate into easement language so that future uses do not break that habitat function.

The Vermont Land Trust is active in four corridor areas of the grant proposal: the Adirondacks to the Southern Greens, the Taconic Mountains to the Southern Greens, Worchester Range to NH, and the northern Green Mountains in Vermont. All of our work helps maintain landscape connectivity because at the heart of each easement is a removal of development potential and maintenance of the working landscape in a condition that can usually provide either habitat or travel corridors for most animals. We will continue our project prospecting work in these four corridors but with an increased awareness of how the protected parcels fit together to create larger scale connectivity. While some of these projects may benefit from contributions from this grant, for the most part they will support this application by providing match. During the life of this grant we propose to provide $40,000 of match through the associated costs of land protection work in these corridors, costs such as staff costs, stewardship endowments, and project prospecting.

Sincerely,

John H. Roe
VP for Land Conservation

THE
TRUST
for
PUBLIC
LAND

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Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VT 22203

November 14, 2008

Dear Mr. Jose,

On behalf of The Trust for Public Land (TPL), it is my pleasure to express my enthusiastic support of the SWG proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." We consider it a great opportunity for the state agencies and non-profit conservation organizations of Vermont, New Hampshire, Maine and New York to work together to better identify and protect landscape connectivity in this region.

For over twenty years, the Trust for Public Land has worked in these four states responding to the conservation priorities of communities and of local, state, and federal agencies, protecting hundreds of thousands of acres in the Northern Appalachian region. Related to this grant proposal, The Trust for Public Land is working to conserve a geographically strategic 1322-acre property called Canada View on the border of Canada and Vermont in the heart of the Northern Green Mountain Linkage. This property was identified by 2Countries1Forest, a coalition of scientists and conservation groups in New England and Canada, as an essential "missing link" in the 13,000-acre bi-national wildlife linkage extending from Sutton, Quebec to Jay State Forest in Vermont. Protection of this property will link conservation lands in Quebec and Vermont, preserve cross-border habitat connectivity, and safeguard habitat for species of greatest conservation need, including Bicknell's thrush, Canada lynx, northern goshawk, and American marten.

TPL also has other ongoing and potential projects in the Northern Greens Linkage, as well as the other five linkages, which will benefit from the work of this coalition. We expect that the scientific analyses and technical assistance to communities that this grant proposal covers will also provide new conservation opportunities in Vermont, Maine and New Hampshire that the Trust for Public Land and our other land trust partners will be ready and willing to undertake. We will help implement the grant by offering $20,000 as match of our staff time and travel spent prospecting new conservation projects in the Northern Greens Linkage over the next five years.

We will need to act quickly and decisively to protect these important linkages before development and parcelization limit our opportunities.

Sincerely,

Rodger D. Krussman

Rodger Krussman
State Director, Vermont and New Hampshire

State of New York
Department of Transportation
Albany, N.Y. 12232
www.nysdot.gov

Astrid C. Glynn
Commissioner

David A. Paterson
Governor

Steve Jose
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020, 4401 North Fairfax Drive
Arlington, VA 22203

November 13, 2008

Dear Mr. Jose:

New York State Department of Transportation (NYSDOT) is pleased to express our support for the State Wildlife Grant proposal entitled "Staying Connected in the Northern Appalachians: Mitigating Fragmentation and Climate Change Impacts," submitted by the New Hampshire Fish and Game Department.

As a multibillion dollar public works agency responsible for the design, construction, operation and maintenance of a 15,000 mile highway system, the New York State Department of Transportation welcomes this opportunity to support research activities that contribute to responsible environmental stewardship of the natural resources of New York State and to support collaborative efforts to address the daunting issue of climate change. Transportation concerns regarding climate change include mitigating the effects through energy efficiency measures and reducing greenhouse gases as well as identifying and addressing the implications of climate change on the waters and ecosystems of the state.

NYSDOT applauds the effort to integrate conservation planning at the eco-regional and state scales. The results of such efforts could be used by NYSDOT in the planning and management of statewide corridors as well as specific projects. By incorporating connectivity data and objectives into transportation planning, NYSDOT could address biological resource concerns proactively, particularly when undertaking planned routine maintenance.

This effort is consistent with the objectives of our Interagency Aquatic Connections Team (InterACT), formed by NYSDOT, NYSDEC, USACE, and others. NYSDOT is also a partner on a NY State Wildlife Grant (SWG) funded project "Incorporating aquatic Species of Greatest Conservation Need (SGCN) requirements and conservation objectives into state transportation planning," which shares a similar vision to increase the permeability of NYS roads for fish and wildlife species; NYSDOT is contributing $100,000 of federal funds for staff time, stream crossing inventory, materials and equipment, and outreach and training for local transportation authorities.

NYSDOT looks forward to receiving useful data that could be applied to our transportation and maintenance projects. If I can be of any further assistance, feel free to contact me at (518) 485-5479.

Sincerely,

Debra A. Nelson
NYSDOT, Environmental Science Bureau
Water/Ecology Section

NEW YORK STATE TUG HILL COMMISSION

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Dulles State Office Building
317 Washington Street
Watertown, New York 13601-3782

e-mail: tughill@tughill.org website: www.tughill.org

November 12, 2008

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

Dear Mr. Jose:

Please accept this letter of support for the New Hampshire Fish and Game Department's application to the State Wildlife Grant Program to help fund the "Staying Connected in the Northern Appalachians: Mitigating Fragmentation and Climate Change Impacts on Wildlife through Functional Habitat Linkages" initiative.

As an information and technical assistance agency for 41 towns and 21 villages in northern New York State, the Tug Hill Commission supports, and will lend assistance to, this project. Recent modeling work has shown linkage areas between the Adirondack Park and the 2,100-square-mile Tug Hill region for a variety of valuable wildlife species, including black bear, moose, and marten. The flexibility this linkage provides for these and many more wildlife populations, including many species of greatest concern, will be crucial during the years to come as we face land fragmentation, land conversion, and the potential threat of global climate change.

This project also complements a watershed planning effort in the Black River valley, one of three separate watershed planning efforts we have had a significant had in facilitating over the past year. The Black River watershed encompasses portions of 5 counties (Hamilton, Herkimer, Jefferson, Lewis, and Oneida). The Town of Greig is working closely with the 37 local municipalities and 5 county Soil & Water Conservation Districts within the watershed. The goal is to create a comprehensive document detailing water quality characteristics, land use, and water quality stresses and priorities in the watershed in a bottoms-up approach that builds local interest in the resource and helps communities embrace locally set standards and implement their visions. A completed plan will give communities decision-making information, build capacity in local government on water quality issues critical to their well-being, provide better understanding of the link between water quality and economics, and identify opportunities for local actions to help improve and manage water quality. Incorporating linkage information into

this process will be very helpful to our communities as they move ahead with their planning activities.

The Commission is contributing a significant amount staff time over the course of at least 8 weeks as well as travel costs to the local planning and outreach strategy in the Tug Hill to Adirondack linkage area. We are committed to helping disseminate tools, including maps and data layers, integrating priority connectivity regions. We will also help to develop educational materials about why connectivity is important and useful for our communities. The Commission staff will conduct outreach presentations at town and planning board meetings in the Tug Hill region, and co-host training sessions for local planners, town and county highway departments, and other stakeholders with the project partners.

We support this proposal because of the importance of improving and maintaining wildlife connectivity across the full expanse of northern New York. To be successful in maintaining areas for animal and plant migration, it is critical that local communities understand the importance of connectivity, have the proper tools at hand to protect connectivity corridors, and work to integrate this concept into their local decision-making.

Thank you very much for your time and consideration of the New Hampshire Fish and Game Department's request for funding. I urge you to fully fund the project. Please feel free to contact us at any time for further information, or if you have any questions regarding the Commission's involvement in this effort.

Sincerely,

John K. Bartow, Jr.
Executive Director

ADIRONDACK
PROGRAM

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

November 6, 2008

Dear Mr. Jose,

On behalf of the Wildlife Conservation Society's Adirondack Program, I am writing in support of the New Hampshire's application to the Multistate Conservation Grants Program. WCS fully supports the proposed project "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages."

WCS recognizes that there is a critical need to protect and maintain the identified key linkages in the region for habitat connectivity, especially as patterns of land use change dramatically and climate change casts changes on our landscape that we can't yet fully predict or understand. This project demonstrates the ability of multiple stakeholders to work across jurisdictional boundaries to perform landscape level conservation of SGCN in the northeastern United States.

As a partner on the proposal, WCS is committed to providing expertise for land use planning and technical assistance to communities within the project's linkage areas. Historically, WCS has studied the impacts to wildlife from low-density, large lot development with a specific goal of maintaining large intact forested blocks to protect wildlife habitat and wildlife movement. Recently we began translating our scientific results into language and tools for local and regional planning entities in the Adirondack Park. Our science team has also begun to compile existing land use tools from across the United States to provide a comprehensive menu of options for communities as they plan for development and other changes in land use. WCS is pleased to provide this expertise as a partner in the proposed project across the 4 state region.

Under the proposed project, WCS will commit staff time and travel funding for community collaboration in the Southern Vermont – Adirondack linkage. Specifically, WCS will meet with local stakeholders and Town Boards in the Adirondacks to introduce and discuss land use planning tools available that will both meet the needs of the community and plan for wildlife connectivity. Additionally, WCS will commit staff time and travel funding to work with partners in the other 3 states to compile and review existing land use planning tools and develop a Land Use Planning Guideline report for the

Northern Appalachian region. WCS will also assist with electronic and paper distribution of the report as well as presentations at community and regional meetings. WCS will perform any required tracking and reporting for the grant and will provide documentation for work completed under this program. We estimate that our in-kind match will be approximately $20,000.

Thank you for your consideration of the proposed project and your commitment to wildlife conservation across the Northern Forest region. We hope the collaboration and scope of work in the proposal demonstrates the commitment of the partners to achieve conservation of SGCN across the region.

Sincerely,

Zoë Smith
Director

WCS Adirondack Program
7 Brandy Brook Ave. #204
Saranac Lake, NY 12983

518-891-8872

November 12, 2008

WILDLANDS PROJECT

reconnect
restore
rewild

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

Re: SWG proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages."

Dear Mr. Jose:

The Wildlands Project supports the State Wildlife Grant proposal being submitted by the New Hampshire Fish and Game Department. The proposed approach to landscape connectivity is based on sound science, prioritized needs, and much cooperation. Funding for this proposal will go a long way toward building the region's capacity to address the complex conservation challenges faced today and in the future.

The Wildlands Project has been working in collaboration with groups throughout the Northern Appalachians to promote the conservation and restoration of landscape linkages such as those at the heart of this proposal. We have had a particular focus on the Northern Green Mountains Linkage and are committed to working with the Vermont Department of Fish and Wildlife, Vermont Division of Forests, Parks and Recreation, multiple towns, and a host of non-governmental organizations to achieve the goals described for this linkage. The Wildlands Project will assist with project management and will provide technical assistance on landscape-scale conservation planning and science. We will provide support for monitoring and evaluation and will collaborate with other organizations in the collection and dissemination of information related to land conservation, scientific analysis, land-use planning, and increasing the permeability of roads. The Wildlands Project will also provide $10,000 in match for this grant towards achieving stated goals in the Northern Green Mountains.

The Wildlands Project is privileged to participate in the multi-state proposal and looks forward to working with our partners in advancing landscape scale conservation for this most amazing region of the world. If you have any questions or would like additional information, please contact me at our Vermont Field Office at (802) 785-2838 or by e-mail at Conrad@wildlandsproject.org.

Sincerely,

Conrad Reining
Eastern Program Director
Wildlands Project
PO Box 225
East Thetford, VT 05043

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Titusville, FL 32783
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Two | Deux
Countries | Pays
One | *Une*
Forest | *Forêt*

Steve Jose
Grants Management Specialist
U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VA 22203

November 11, 2008

Re: SWG proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages."

Dear Mr. Jose:

On behalf of *Two Countries One Forest*, I am writing to express my enthusiastic support for the SWG proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." The approach envisioned in the proposal is a valuable and potent way to build the region's capacity to address the complex conservation challenges bearing on our region's future.

Two Countries, One Forest (2C1Forest) is an international organization dedicated to using landscape conservation to protect and maintain the Northern Appalachian/Acadian ecoregion, which includes eighty million acres of forests spanning the eastern edge of North America. The ecoregion spans two countries, five states and four provinces. 2C1Forest's collaboration of conservation organizations, researchers, and foundations is working to protect this precious ecoregion's long-term health and to promote vibrant, sustainable communities.

Two Countries, One Forest has long recognized that clusters of high value conservation land are typically not large enough to ensure the long-term viability of wide-ranging species. The protection of core areas must be supported by conservation buffer zones as well as by linkages or connections between them.

The far reaching goal of our multi-state proposal is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need (SGCN) across the Northern Appalachian ecoregion in order to mitigate the impacts of habitat fragmentation and climate change. Within the proposal is a multitude of conservation opportunity that honours the region's history of local stewardship and land-use planning. Conserving and restoring critical habitat for species of greatest conservation need is our first priority. In addition, focusing our efforts on

providing coordinated strategies and cross-cutting planning tools will enable communities to effectively conserve the functionality of the landscape for ecological as well as human needs.

Two Countries, One Forest looks forward to supporting the multistate initiative through our role as regional convenor. The proposal offers a unique opportunity to capitalize on material and information generated by the grant partners to support trans jurisdictional actions that will address issues such as climate change, habitat fragmentation and loss of ecosystem connectivity. Conservation work facilitated by the grant will enhance opportunities across the border and increase cooperation between adjacent states and provinces.

Our support includes $20,000.00 match for Project 11, " State Wild Life Action Plans: Connecting Success: Monitoring, Evaluating and Sharing Connectivity Strategies in the Northern Appalachians" In short, we will assemble a representative team of SWG partners to form a monitoring and evaluation group (MEG) that will seek to ensure that our desired impacts are focused and efficient, that they can be readily measured, and that they can be reported in a fashion that is understandable to our partners and the broader public alike.

In the fall of 2011, Two Countries, One Forest will convene a partnership workshop to evaluate progress in achieving respective conservation targets and assess the effectiveness of strategies designed to achieve connectivity in the priority linkage areas identified in the grant proposal. This will ensure that the process and products resulting from this grant continue to benefit wildlife and habitat connectivity efforts beyond the completion of the grant.

Two Countries, One Forest is privileged to participate in the multi-state proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." We look forward to working with our partners in advancing landscape scale conservation for this most amazing region of the world.

Sincerely,

Alice Chamberlin

Alice Chamberlin
Executive Director

www.2c1forest.org
P.O. Box 421 Warner, NH 03278 USA
(office) 603-456-3239 (cell) 603-491-8405 (fax) 902-422-3205

THE
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www.tpl.org

Steve Jose
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U.S. Fish and Wildlife Service
Wildlife and Sport Fish Restoration Program
Mailstop WSFR-4020
4401 North Fairfax Drive
Arlington, VT 22203

November 14, 2008

Dear Mr. Jose,

On behalf of The Trust for Public Land (TPL), it is my pleasure to express my enthusiastic support of the SWG proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." We consider it a great opportunity for the state agencies and non-profit conservation organizations of Vermont, New Hampshire, Maine and New York to work together to better identify and protect landscape connectivity in this region.

For over twenty years, the Trust for Public Land has worked in these four states responding to the conservation priorities of communities and of local, state, and federal agencies, protecting hundreds of thousands of acres in the Northern Appalachian region. Related to this grant proposal, The Trust for Public Land is working to conserve a geographically strategic 1322-acre property called Canada View on the border of Canada and Vermont in the heart of the Northern Green Mountain Linkage. This property was identified by 2Countries1Forest, a coalition of scientists and conservation groups in New England and Canada, as an essential "missing link" in the 13,000-acre bi-national wildlife linkage extending from Sutton, Quebec to Jay State Forest in Vermont. Protection of this property will link conservation lands in Quebec and Vermont, preserve cross-border habitat connectivity, and safeguard habitat for species of greatest conservation need, including Bicknell's thrush, Canada lynx, northern goshawk, and American marten.

TPL also has other ongoing and potential projects in the Northern Greens Linkage, as well as the other five linkages, which will benefit from the work of this coalition. We expect that the scientific analyses and technical assistance to communities that this grant proposal covers will also provide new conservation opportunities in Vermont, Maine and New Hampshire that the Trust for Public Land and our other land trust partners will be ready and willing to undertake. We will help implement the grant by offering $20,000 as match of our staff time and travel spent prospecting new conservation projects in the Northern Greens Linkage over the next five years.

We will need to act quickly and decisively to protect these important linkages before development and parcelization limit our opportunities.

Sincerely,

Rodger D. Krussman

Rodger Krussman
State Director, Vermont and New Hampshire

Project 1: Securing and restoring habitat connectivity between the Adirondacks and Tug Hill

State(s): New York

Project Period 05/01/2009 to 4/30/2012

Estimated Federal and Non-Federal Costs:

Total grant amount	**$774,309**
Competitive SWG funds requested	$293,909
Non-federal matching funds	$480,400
Additional funds leveraged	$1,750,000
Grant total plus leveraged funds	$2,524,309

Project Partners:

The Nature Conservancy
Tug Hill Tomorrow Land Trust
The Tug Hill Commission
New York State Department of Conservation
New York State Department of Transportation
Wildlife Conservation Society

Location

The project will focus on the connectivity corridors identified through spatial modeling within the 750,000 acre Black River Valley. See map 1.1.

Purpose & Need

The Nature Conservancy (TNC), Tug Hill Tomorrow (THT) and Wildlife Conservation Society (WCS) recently completed a two-year effort to identify priority geographies for connectivity work (using spatial connectivity modeling techniques) and a strategy for securing/enhancing connectivity focused on land protection, land use planning and barrier mitigation. This planning effort involved a steering committee representing State resource management and transportation agencies, the Tug Hill Commission, and other local experts.

SWG funding is requested for implementation of the connectivity strategy mentioned above. Work would include: securing key habitat 'stepping stones' through acquisition of conservation easements and purchase of select tracts by TNC and THT; work by The Tug Hill Commission and THT to help towns incorporate connectivity objectives in local land use planning and zoning; and: assisting state and local highway departments incorporate connectivity objectives in transportation planning (TNC in partnership with the New York Department of Transportation). SWG funds would also be used to support and enhance capacity of local partners, in particular THT, which is best placed to move this strategy forward, given their on-the-ground presence and relationships with communities, land owners and other stakeholders.

Objectives

1. **Land protection**: Secure 3,500-5,000 acres of key habitat 'stepping stones' in the Black River Valley
2. **Local land use planning**: Four priority towns integrate goal of maintaining connectivity within local land use planning and zoning
3. **Barrier mitigation**: New York Department of Transportation and town highway departments incorporate connectivity objectives as part of planned road maintenance/upgrade work along key road segments

Approach

1. **Land protection**
   - Work with NYS to assure connectivity is a priority within Region 6. It is currently a criteria in the draft Open Space Plan, we need to do work with DEC to make sure it's an implementation focus. This might include developing connectivity-specific criteria for evaluating land protection projects.
   - Develop a list of priority tracts for land protection, in consultation with DEC and THT.
   - TNC will facilitate the purchase of ~1,500 acres of fee and easement lands on the Black River. We are already working with the 2 key landowners, and DEC intends to purchase fee/easement when the transaction is complete.
   - THT and TNC Prospecting: build relationships with key landowners, with the objective of orchestrating State co-ops (mostly easement purchases, but also strategic fee acquisitions). Goal of optioning several of these properties (~2,000+ acres) with NYS take-out over subsequent years.

   Partners: Tug Hill Tomorrow (THT), The Nature Conservancy, NYS Department of Environmental Conservation

2. **Local land use planning**
   - Develop and package spatial datasets that integrate priority connectivity areas, land cover, land use and other relevant information which can guide local decision-making (i.e. CD ROMs, portfolio of hard-copy thematic maps).
   - Develop and disseminate educational materials on why connectivity is important and guidelines on how to address connectivity objectives in local land use decision-making.
   - Conduct town outreach at planning and regular town board meetings and other venues, host training sessions for local planners.

   Partners: Tug Hill Tomorrow, Tug Hill Commission, Wildlife Conservation Society

3. **Increasing permeability of key roads (barriers)**
   - Integrate connectivity modeling results with DOT 5-year maintenance plan data to identify priority road segments to focus field assessment work.
   - Along priority road segments, collect field data on species locations (i.e. winter tracking and collection of road kill data). Explore opportunities to enlist volunteer monitors for this work.
   - Develop barrier mitigation plans for key road segments.
   - Implementation: work with DOT on low-cost barrier mitigation alternatives that can be incorporated through planned routine maintenance

- Provide technical assistance to town/county highway departments on priority roads, and maintenance options for enhancing connectivity.

Partners: New York Department of Transportation (NYDOT), Tug Hill Commission, The Nature Conservancy

Benefits, Deliverables & Expected Results:

Maintaining connections between the large forested blocks in the Northern Appalachian forests is critical for many wildlife species. In the Black River Valley we have identified priority connectivity linkages through modeling seven wide-ranging species, including the SGCN marten, cougar, lynx, and otter. This proposal will help us apply our previous modeling results to on-the-ground strategies. Through land acquisition, we will create stepping stones of protected lands between the largely secured western Adirondacks and Tug Hill regions. For the many places we are unable to protect through land acquisition strategies we will work with towns to make connectivity a priority in land use planning and zoning. Tangible spatial tools will be created along with education materials to provide guidance on incorporating connectivity into local decision making. Extensive outreach by the partners who live and work with these communities will be used disseminate the tools and information and provide training, if necessary. Finally, recognizing that roads provide one of the biggest threats to species movement (Forman et al. 2003), this project will incorporate connectivity into transportation planning. Based on our modeling results, we will work with DOT to further focus the priority connectivity areas to specific road segments that act as barriers to movement. We will collect field data to verify the priority road segments. Outreach to local highway departments will be a key component to ensure long-lasting results.

The final products will include:

- Barrier mitigation plans for priority road segments
- Spatial planning tools, including maps of priority linkage areas and road segments, for dissemination to local land-use planners and other stakeholders
- Education materials on why connectivity is important and guidelines on how to address connectivity objectives in local land use decision-making
- Protected land parcels in critical linkage areas
- Outreach with at least ten private landowners in priority connectivity linkages for implementation of land protection strategy
- Empirical data on the presence of focal species
- Priority linkages and barriers data incorporated into transportation planning
- Final report

Long-term benefits (greater than 10 years) see page X for a list of expected long-term benefits and results

NEPA/ESA Section 7 /Historic Preservation Act Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe this project will have no adverse affect on historic, cultural or environmental resources. Because the scope of work in this project is designed to benefit rare and declining wildlife, we believe that project activities will have no adverse affect on the federally listed, proposed and candidate species found in the New York (Appendix D).

Implementation Time Line

Timeframe	Task
May '09 – June '09	Assemble steering committee
June '09 – May '11	Facilitate purchase of ~1500 acres
June '09 – Nov '11	Initiate land protection strategy with at least ten private landowners
June '09 – June '11	Field validation work on priority road segments
Sept '09 – Feb '10	Develop spatial tools and package for local land use planning
Sept '09 – Feb '10	Develop education materials
Feb '10 – May '10	Conduct outreach and training sessions for local planners and town boards
June '11 – Sept '11	Integrate connectivity and barrier mitigation strategies into transportation planning
June '11 – Sept '11	Develop barrier mitigation plans for priority road segments
Sept '11 – Nov '11	Conduct outreach and training sessions to town and county highway department
Nov '11 – Dec '11	Produce final report

Budget

Expense Category	SWG request	Non- Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel	$95,000	$20,000	$115,000	$90,000	$205,000
Fringe	$38,950		$38,950		$38,950
Contractual			$0		$0
Tug Hill Tomorrow Land Trust	$30,000		$30,000		$30,000
Wildlife Conservation Society	$1,000	$2,000	$3,000		$3,000
Land Protection (i.e. appraisal)	$23,000		$23,000		$23,000
Field technicians for data collection	$20,000		$20,000		$20,000
Travel	$8,000	$4,000	$12,000		$12,000
Equipment			$0		$0
Supplies meetings/ workshops, data acquisition and field materials)	$15,000		$15,000	$10,000	$25,000
Construction			$0		$0
Other (title insurance, miscellaneous)	$8,000	$454,400	$462,400	$1,650,000	$2,112,400
Total direct costs	**$238,950**	**$480,400**	**$719,350**	**$1,750,000**	**$2,469,350**
Indirect (non-contract costs, 23%)	$55,628		$55,628		$55,628
Total Budget	**$293,909**	**$480,400**	**$774,309**	**$1,750,000**	**$2,524,309**
match rate check	*37.96%*	*62.04%*			

Budget Narrative:

1. Personnel: TNC Adirondacks (ANC) Director of Conservation Programs will serve as the project manager for the Adirondack to Tug Hill linkage. He will work closely with each team on achieving all three objectives, as well as with the other linkage coordinators to share information and lessons learned. ANC Director of Protection will work extensively on all land protection strategies including land acquisition, prospecting for new willing landowners, and working with NYS DEC to make connectivity a priority for implementation. ANC Conservation Scientist will manage the increasing roads permeability objective including integrating connectivity and priority barriers into transportation planning, leading the field data collection team, and barrier mitigation plans. She will also assist in meeting the land protection and local land use planning objectives. ANC GIS Manager will lead all spatial components of each objective including mapping for protection strategies, developing and packaging spatial land use planning tools and maps, and prioritizing roads and building databases for field collection. ANC Conservation Information Specialist will assist with prospecting for new landowners in the priority connectivity linkages. ANC Director of Communications will assist with the development of education materials and outreach.

   TNC and the Tug Hill Commission will also provide in-kind match for local land use planning strategies estimated at $20,000. DOT has also allocated $90,000 to advance barrier mitigation strategies in the Adirondack to Tug Hill linkage as well as the Adirondack to Green linkage.

2. Fringe: TNC's federally approved fringe benefit rate of 41% for regular employees and 12% for short-term employees.

3. Contractual: Tug Hill Tomorrow Land Trust (THT) will be contracted to develop a list of priority tracts for land protection, in consultation with DEC and TNC. THT will also build relationships with key landowners, with the objective of orchestrating State co-ops (mostly easement purchases, but also strategic fee acquisitions).

   The Wildlife Conservation Society (WCS) will be contracted to lead two or three community/advisory committee meetings and two or three Town Board meetings in the Black River Valley. WCS will also provide in-kind match for this activity estimated at $2,000.

   Land protection administration components such as the timber inventory, appraisal, title search, Environmental Hazard Assessment, and consulting forester will be contracted at an estimated cost of $23,000.

   Two Field technicians will be contracted to collect species location data along priority road segments for two field seasons. A total cost of $20,000 is estimated based on $12/hour, 35 hours/week, 12 weeks/year.

4. Travel: Travel costs estimated for roundtrip travel to project area from TNC headquarters in Keene Valley (15 trips/ 265 miles roundtrip) and travel from THT headquarters in Watertown (15 trips/ 100 miles roundtrip), reimbursable at IRS rate of $0.585/mile. Field contractors will be reimbursed for mileage, and TNC and THC are also providing in-kind match for travel related to the land use planning and outreach objective.

5. Supplies: TNC will purchase materials for meetings and workshops, tools for data collection including GPS units and software, data, and will pay for the printing and packaging of tools. DOT has also allocated $10,000 to purchase tools for barrier mitigation strategies.

6. Other: SWG requested funding would be used to pay for title insurance for the acquisition of priority land parcels. TNC will cover other project costs including property taxes, transfer taxes, loan interest, etc. totaling $454,400 in match assuming 3 to 5 year hold before NYS acquires fee and easement lands. NYS would also contribute an estimated $1,650,000 for the purchase of a conservation easement.

Responsible Personnel (see Appendix G for project leader credentials/biographies)

Dirk Bryant, Director of Conservation Programs, Nature Conservancy – Adirondack Chapter, 518-576-2082, dbryant@tnc.org

Michelle Brown, Conservation Scientist, Adirondack Chapter of The Nature Conservancy & the Adirondack Land Trust, 518 576 2082 x122, michelle_brown@tnc.org

Joe Racette, Division of Fish, Wildlife, and Marine Resources NYSDEC, (518) 897-1293, jaracett@gw.dec.state.ny.us

Zoe Smith, Director, Director, Wildlife Conservation Society Adirondack Program, 518-891-8872, zsmith@wcs.orgzsmith@wcs.org

Literature Cited

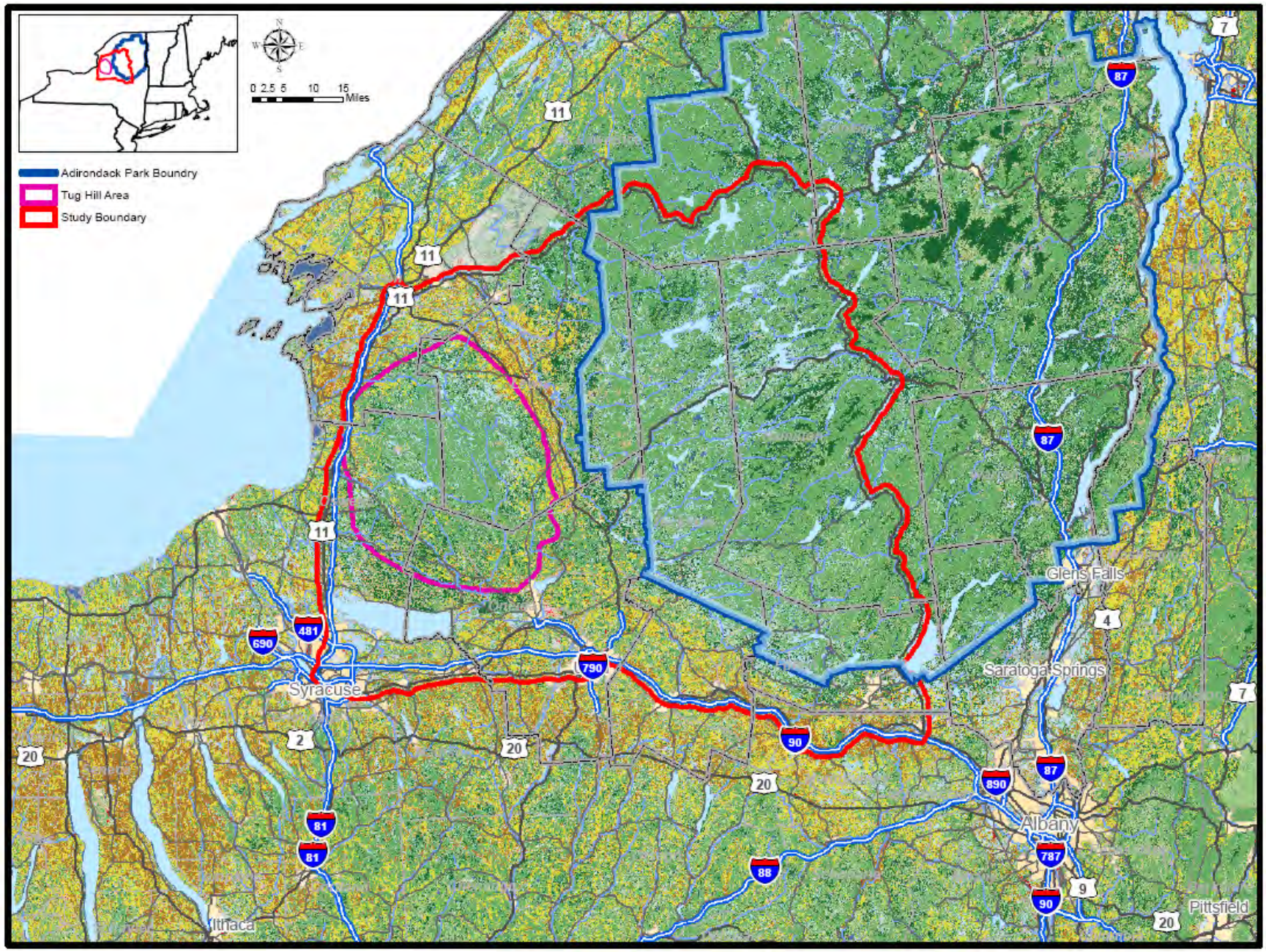
Carroll, C. 2005. Carnivore restoration in the northeastern U.S. and southeastern Canada: a regional-scale analysis of habitat and population viability for wolf, lynx, and marten (report 2: lynx and marten viability analysis). Special paper 6. Wildlands Project, Richmond, Vermont. Available from www.klamathconservation.org (accessed May 2006).

Comprehensive Wildlife Conservation Strategy for New York (CWCS). 2005. http://www.dec.ny.gov/animals/30483.html. New York State Department of Conservation. Albany, NY.

Forman, R.T.T., D. Sperling, J.A. Bissonette, A.P. Clevenger, C.D. Cutshall, V.H. Dale, L. Fahrig, R. France, C.R. Goldman, K. Heanue, J.A. Jones, F.J. Swanson, T. Turrentine, and T.C. Winter. 2003. Road ecology: science and solution. Island Press: Washington, DC.

Northeastern Lake Ontario – St. Lawrence River Five Year Wildlife Action Plan. 2008. New York State Department of Conservation. Albany, NY.

Reed, D.H., J.J. O'Grady, B.W. Brook, J.D. Ballou, R. Franklam. 2003. Estimates of minimum viable population sizes for vertebrate and factors influencing those estimates. Biological Conservation 113: 23-34.



Map 1.1 Tug Hill Plateau to Adirondacks

Project 2: Protecting habitat connectivity between the Green Mountains and Adirondacks in the Southern Lake Champlain Valley

States: Vermont, New York

Estimated Federal and Non-Federal Costs

Total grant amount	**$257,345**
Competitive SWG funds requested	$180,453
Non-federal matching funds	$76,892
Additional funds leveraged	$3,000
Grant total plus leveraged funds	$260,345

Project Partners

The Nature Conservancy – Vermont Chapter
The Nature Conservancy – Adirondack Chapter
VT Fish and Wildlife Department
The Conservation Fund
NY Department of Environmental Conservation
Wildlife Conservation Society

Abstract

This project will build on an existing partnership that is focused on protecting inter-regional habitat connectivity between the Green Mountains in Vermont and Adirondacks Mountains in New York. Protecting habitat connectivity will help to ensure the continued persistence of wide-ranging mammals and migratory species across this region, including apex predators such as black bear, bobcat, fisher, and possibly wolf. Our work will 1) identify specific locations on key road segments that are being used by wildlife for crossing roads and advance implementation of strategies to mitigate the barrier effects of roads in these locations; 2) facilitate local conservation planning for protecting connectivity in key road crossing areas; 3) identify and pursue land protection opportunities in the vicinity of key road crossing segments and inter-regional high-probability movement zones; 4) complete a landscape modeling analysis to verify and augment results from existing TNC and VTF&W connectivity modeling assessments.

Purpose & Need

The Green Mountains and Adirondacks are two of the largest "core habitat" areas in the Northern Appalachians. To advance conservation of the regionally and internationally significant habitat linkage between these areas, two modeling efforts have been completed to help identify locations of greatest conservation need. The Nature Conservancy has completed a GIS-based landscape model to identify high-probability movement corridors for wide-ranging mammalian carnivores between the Green Mountains and Adirondacks (Long 2007). Also, the Vermont Department of Fish and Wildlife has also completed a modeling project to rank the relative value of wildlife road crossings (Austin et al 2006). These projects provided the basis for developing hypotheses about the location of critical "pinch-points" for protecting habitat permeability for the movement of wide-ranging mammals between the Green Mountains and Adirondacks. The Nature Conservancy organized a working group of partners in early 2008 to advance the protection of habitat permeability across this linkage area, with a focus on priority "pinch-point" road crossing locations identified in existing

models. The working group consists of representatives from non-profits, state resource management and transportation agencies, and a county planning commission.

SWG funding will enable this collaborative effort to move forward with several priority actions: 1) identify specific locations on key road segments that are being used by wildlife for crossing roads; 2) facilitate local conservation planning for protecting connectivity and develop/begin implementation on strategies to mitigate the barrier effects of roads in these locations; 3) identify land protection opportunities in the vicinity of key road crossing segments and inter-regional high-probability movement zones. 4) complete an alternative landscape modeling analysis to provide additional capability to verify/augment modeling results.

Location

This project is focused on conserving and enhancing habitat connectivity for wide-ranging terrestrial wildlife across the Southern Lake Champlain Valley between the Green Mountains in Vermont and the Adirondack Mountains in New York (Map 2.1). The Champlain Valley landscape is generally comprised of agricultural lands that pose a daunting impediment for the movement of wide-ranging terrestrial species between the Green Mountains of Adirondacks. However, in southern part of the valley in Rutland County VT and Washington County, NY, forested habitat is more abundant, with a number of protected habitat "nodes" that a recently completed GIS modeling exercise (Long, 2007) suggested is capable of facilitating the regional movement of carnivores across the valley:

- The Nature Conservancy has protected 16,000 acres of land across the Southern Lake Champlain Valley in the Bald Mountain, Lake George, and Bomoseen forest matrix blocks, and land near a critical road crossing across US Route 7 (High Pond Preserve and Sugar Hollow Preserve).

- The State of Vermont has protected an additional 7,800 acres in the Pond Woods, Whipple Hollow, Blueberry Hill, Hubbardton Battlefield, The Narrows, and Pomaineville Wildlife Management Areas (the last which consists of land directly abutting a critical segment of highly-developed US Rt. 7), as well as Bomoseen State Park and West Rutland State Forest.

- The Adirondack Chapter of The Nature Conservancy has recently protected 1,083 acres of habitat in a key "stepping stone" for connectivity across the Southern Lake Champlain Valley on the NY side near Ft. Ann, New York.

Project Objectives

1) **Characterize wildlife movements across key road segments**. A number of key road segments along high-volume north-south roads have been identified by exiting models as connectivity fragmenting features in high-probability movement zones in the habitat linkage area. This objective reflects the need to identify specific animal crossing locations in these key segments and develop/begin implementation of strategies to mitigate the barrier effects.

2) **Identify and pursue land protection opportunities.** Land protection will be an important tool to maintain connectivity in the lands proximate to key road crossing segments within inter-regional high-probability movement zones.

3) **Catalyze the incorporation of connectivity objectives by State transportation agencies** (Vermont Department of Transportation and perhaps NY Department of Transportation,

depending on outputs of additional modeling effort). There is opportunity to advocate for state transportation agencies to incorporate connectivity values into any planned road maintenance/upgrade work along 3 key road segments.

4) **Provide technical assistance to local communities to improve local conservation planning for connectivity**. Improve the knowledge and skills of local wildlife and community interest groups and stakeholders so they can more effectively plan and advocate for strategies that promote habitat connectivity, especially in locations in the vicinity of key road segments.

Approach

1. **Characterize wildlife movements across key road segments**.
   a. We will conduct a complementary landscape modeling exercise using more sophisticated modeling techniques (FUNCONN) in order to strengthen our hypotheses regarding identification of important wildlife movement zones and road crossings via a comparative analysis with existing modeling results. Existing work modeling landscape connectivity between the Green Mountains and Adirondacks has identified an inter-regional high probability movement zone (Long 2007) and high-volume road segments (Austin et al 2006) impairing east-west permeability across the Southern Lake Champlain Valley for wide-ranging mammals. However, given the limitations inherent in landscape modeling approaches for assessing habitat connectivity and associated caveats on interpreting results, it is important to strengthen the analytical rigor of our existing modeling assessments with a complementary modeling assessment.

   b. The location of critical road crossing corridors identified by existing modeling results will be field-validated by conducting a Critical Paths for Wildlife tracking assessment for key road segments on US Rt. 7, VT Rt. 30, and VT Rt. 22a. This analysis will characterize wildlife movement patterns across key road segments, providing location-specific data on wildlife road crossing areas. This information in turn will provide the ability to propose targeted and cost-effective road barrier mitigation strategies, and will identify important land parcels in road-corridors that are currently being used by wildlife for road crossing. The results of this assessment will be used to guide land use planning and targeting of strategies to enhance permeability across major north-south roadways.

   c. Combine results of Critical Paths tracking assessment and landscape modeling for habitat connectivity to provide a basis for identifying both landscape scale most-probable movement corridors and key wildlife road crossing locations.

2. **Identify and pursue land protection opportunities.**
   a. Identify land protection opportunities in high-probability movement zones and work with willing landowners on land conservation. The highest priority areas will be in the Rt. 7 corridor in the towns of Brandon and Pittsford in Rutland County, VT. Specifically, we will focus on identifying opportunities to add to the Pomaineville Wildilfe Management Area, and approach large land-owners with key land-holdings.. In NY, we will build relationships with key landowners, with the objective of protecting key tracts through partnerships with NYS DEC to acquire properties and conservation easements.

3. **Catalyze the incorporation of connectivity objectives by State transportation agencies**
   a. Use spatially explicit road crossing data from Critical Paths tracking assessment to identify locations to focus SAFETEA-LU Road Corridor Enhancement Funds. These funds will be sought to support the implementation of strategies to mitigate the road-barrier effects of US Rt. 7.

   b. Participate in planning activities for road maintenance and road upgrade work for key road segments.

4. **Provide technical assistance to local communities to improve local conservation planning for connectivity**
   a. Use results from combined Critical Paths tracking assessment and landscape modeling efforts to inform technical assistance to local communities. Technical assistance, featuring a community values visioning/mapping/engagement exercise, will highlight connectivity protection needs within a larger set of locally-generated conservation values and objectives. Anticipated targeted communities for technical assistance efforts will be along major North-South roadways and will include Pittsford and Brandon, VT (VT Rt. 7, and Ft Ann, NY (NY Rt. 4), with the possible additions of Hubbardton/Sudbury (VT Rt. 30) and Benson VT (VT Rt. 22a).

Benefits, Deliverables & Expected Results

- List of priority tracts for acquisition, along with details on immediate opportunities for land protection and how protection activities will move forward. We anticipate completing the initial stages of execution on at least 1,000 – 5,000 acres of protected land in areas important for supporting habitat connectivity.

- Identification of specific locations on road corridors that are being used by wildlife for road crossings. Incorporation of specific crossing locations as focal sites for protecting connectivity in State transportation agency road corridor plans and town plans.

- Implementation of technical assistance project in at least 3 towns, including evidence demonstrating how connectivity values have been articulated and adopted into town or local conservation plans. Local planning commissions and selectboards will have the knowledge, skills, support and motivation to augment their town plans, zoning ordinances and planning policies to protect and restore vital wildlife habitat and linkages within their towns and to work with neighboring towns to do the same.

- Continuation of linkage steering committee workgroup (state agencies, NGOs, regional planning commission) to provide essential ongoing partner coordination.

- Comparative analysis of modeling outputs, using newly created FUNCONN connectivity model for 3-4 species and comparing to existing modeling results (from two other modeling efforts) on critical road crossing segments and other high-probability movement areas for wide-ranging mammals.

Implementation Timeline

March '09 –June '09	Complete final component of spatial connectivity FUNCONN modeling assessment.
May '09 –September'12	Implement community technical assistance process and conservation planning
May '09 – July '12	Conduct and complete identification of land protection opportunities and appraisals
Dec '09 – March '10	Complete Critical Paths for Wildlife roadway assessment
March '10 –April '10	Overlay results of Critical Paths assessment and connectivity modeling to identify comprehensive suite of high-probability movement areas and priority road crossing locations across the Southern Lake Champlain Valley
April'10 – January '11	Integrate refined spatial information into land protection efforts and community technical assistance process to inform efforts to develop locally generated statements of conservation objectives for town plans and values

NEPA/ESA Section 7/ Historic Preservation Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources from this project. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Project Leaders (see Appendix G for project leader credentials/biographies)

Paul Marangelo, Conservation Ecologist, The Nature Conservancy-VT (802) 265-8645 Ext. 22, pmarangelo@tnc.org

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department, 802-476-0126, jens.hilke@state.vt.us

Joe Racette, NY Division of Fish, Wildlife, and Marine Resources, (518) 897-1293, jaracett@gw.dec.state.ny.us

Chris Maron, Champlain Valley Program Director, The Nature Conservancy-Adirondack Chapter and the Adirondack Land Trust, 518-576-2082, cmaron@tnc.org

Zoe Smith, Director, Director, Wildlife Conservation Society Adirondack Program, 518-891-8872, zsmith@wcs.orgzsmith@wcs.org

References

Austin, John, Kevin Viani, and Forrest Hammond, 2006. A GIS-Based, Landscape-level Identification of Potentially Significant Wildlife Linkage Habitats Associated with State of Vermont Roadways. Vermont Department of Fish and Wildlife; Vermont Agency of Transportation, Barre, VT. 24 p.

Long, Robert. 2007. Predicting Occurrence and Assessing Connectivity for Wide-Ranging Carnivores in the Greater Southern Lake Champlain Region of Vermont and New York Report submitted to The Nature Conservancy. 23 p.

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged	Grant Amount and Leveraged Funds
Personnel	$47,872	$19,858	$67,730	$0	$67,730
Fringe (41%)	$19,628	$8,142	$27,769		$27,769
Contractual				.	$0
Vermont Land Trust	$15,000	$10,000	$25,000		$25,000
Wildlife Conservation Society	$7,600	$3,280	$10,880		$10,880
TNC	$1,777	$592	$2,369		$2,369
GIS contractor		$7,000	$7,000		$7,000
Tech assistance contractor	$40,500	$13,500	$54,000		$54,000
Vermont Fish and Wildlife		`		$3,000	$3,000
Tracking Ecologist contractor	$5,000		$5,000		$5,000
Supplies					$0
Travel	$9,000		$9,000		$9,000
Other					$0
Subtotal Direct Costs	**$146,376**	**$62,372**	**$208,748**	**$3,000**	**$211,748**
Indirect* 23.28%	$34,076	$14,520	$48,597		$48,597
Total Costs	**$180,453**	**$76,892**	**$257,345**	**$3,000**	**$260,345**
match rate check	*70.12%*	*29.88%*			

Budget Narrative

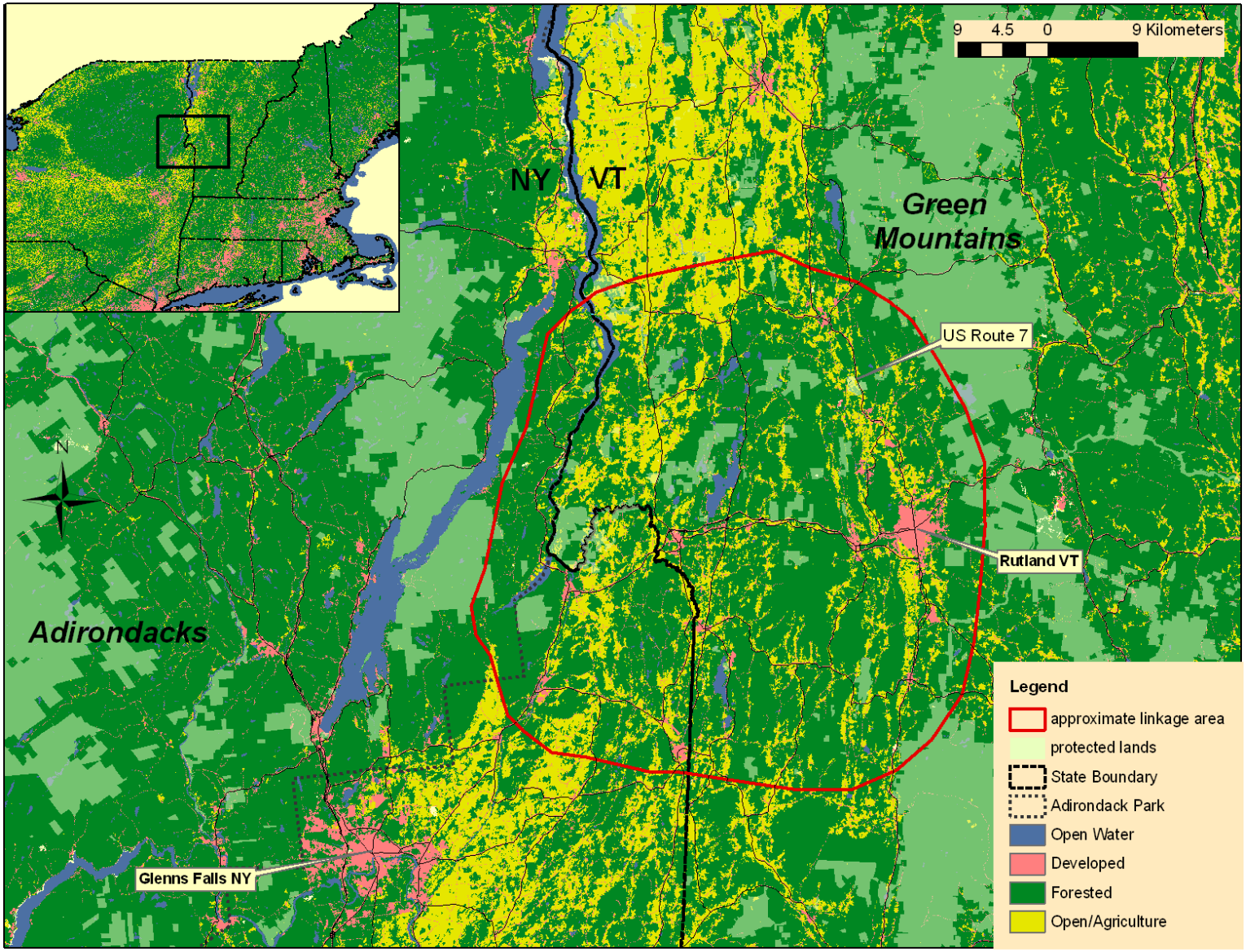
Personnel: TNC-Vermont Chapter's Conservation Ecologist will serve as project manager, will coordinate communications, oversee GIS contractual work, provide literature review, lead work on interpreting and applying modeling results, manage contracts and provide assistance to community technical assistance contractors, as outlined in 1a, b, c, 3a, b, 4a. Adirondack Chapter and Land Trust's Champlain Valley Program Director will be involved with providing conservation assistance to private landowners and administer land appraisal costs in the NY side of the linkage area as outlined in 2a. Also, Vermont Chapter's Assistant Director of Land Protection will conduct these activities in Vermont, as outlined in 2a.

Fringe: TNC's federally approved fringe rate of 41% for regular and 12% for short-term employees.

Contractual: The Wildlife Conservation Society will lead community technical assistance efforts in New York as outlined in 4a. In Vermont, a local conservation leader will be contracted to provide community technical assistance, conservation planning and road corridor planning as outlined in 4a, 3a, b. Daniel Zeh will be contracted to conduct a FUNCONN modeling assessment of habitat core areas and connectivity as outlined in 1a. The Vermont Land Trust will be contracted to provide conservation assistance to private landowners and administer land appraisal costs as outlined in 2a. A wildlife ecologist skilled in tracking work will be contracted to conduct a Critical Paths field assessment as outlined in 1b. The Vermont Department of Fish and Wildlife will contribute to conservation planning and technical assistance as outlined in 3b and 4a.

Travel: Estimate 30+/- round trips from West Haven, VT, Montpelier, VT, and Keene Valley, NY to the project area, plus organizational meetings, reimbursable at IRS rate of $0.585/mile, plus other incidental travel costs such as parking, etc. A portion of these travel expenses will serve as match.

Indirect: TNC's federally approved indirect rate is currently 23.28%.



Map 2.1 Adirondack-Green Mountain Habitat Linkage Area

Project 3 Protecting & Enhancing the Southern Green Mountains to Taconic Mountains Habitat Linkage

State(s): Vermont

Project Period 05/01/2009 to 4/30/2012

Estimated Federal & Non-Federal Costs

Total grant amount	**$67,313**
Competitive SWG funds requested	$46,433
Non-federal matching funds	$20,880
Additional funds leveraged	$5,500
Grant total plus leveraged funds	**$72,813**

Project Partners

Vermont Fish & Wildlife Department
The Nature Conservancy-VT
Vermont Agency of Transportation
Vermont Land Trust
Wildlands Project
US Forest Service
Conservation Commissions in Arlington, Dorset, and Sunderland
Bennington Regional Planning Commission

Abstract

A priority action in Vermont's Wildlife Action Plan is the conservation of linkage habitats to improve regional connectivity in order to maintain and/or re-establish wide-ranging SGCN populations (4:43). We propose implementing a coordinated set of strategic actions to conserve and enhance the Southern Green Mountains to Taconic Mountains Habitat Linkage (map 3.1**)** one of the six key habitat linkages within the overall Northern Appalachian. The area also has been identified as significant in VFWD's soon-to-be-completed statewide assessment and ranking of large forested blocks and associated linkage habitats (SWG T-1-3, 2.25). Project objectives and activities focus on facilitating fee and easement acquisitions of key parcels by land conservation organizations providing technical assistance to local land use planning entities to improve local land use guidelines, policies and regulations for wildlife and habitat values.

Location

The Southern Green Mountains to Taconic Mountains Habitat Linkage is depicted in map X with work focused in the communities of Arlington, Dorset, and Sunderland.

Work Competed to Date

Significant work has been completed, or will be completed shortly, within this linkage area that will allow project partners to take conservation action almost immediately upon grant approval. As early as ten years ago, the Vermont Fish & Wildlife Department identified the key linkages in this area based on habitat analysis, documented wildlife movement patterns, road crossing and vehicle collision data.

Sunderland-Arlington and Dorset contain the two key linkages between the Taconic and Southern Green mountains. Key parcels within these linkages have been identified and several sizeable parcels have already been conserved in the Sunderland-Arlington corridor, along with at least one key parcel in Dorset area. The Vermont Fish & Wildlife Department recently secured a 160 acre conservation easement on the Arlington corridor. The Vermont Land Trust, US Forest Service (USFS) and The Conservation Fund (CF) are active partners, with USFS and CF recently completing a purchase in Dorset. The Vermont Land Trust has designated the area a special "Pilot Geography" and is committed to working with owners of key parcels.

Project-level Objectives

The overarching goal of this grant is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need across the Northern Appalachian Ecoregion in order to mitigate the impacts of habitat fragmentation and climate change. To achieve this goal, our objectives within the Southern Green Mountains to Taconic Mountains Habitat Linkage are as follows:

1. **Land protection**: Provide the technical assistance and financial support needed to help partner land trusts including the Vermont Land Trust, protect at least 750 acres around key road crossing segments and other areas of high priority, by the end of the grant period. Financial assistance will be in the form of funds for administrative costs related to land acquisition.
2. **Provide technical assistance for local land use planning**: Provide technical assistance to the communities of Arlington, Dorset, and Sunderland by the end of the grant period to foster the incorporation of connectivity values and protection in town land use policies and regulations.

Expected Benefits & Results

This project will result in the following short-term and long-term benefits:

Short-term (w/in 10 years)

- At least 750 acres will be protected through the acquisition of fee or easements to augment the existing, conserved land base in the linkage.
- Local planning commissions and selectboards will have the knowledge, skills, support and motivation to augment their town land use policies and regulations to protect and restore vital wildlife habitat and linkages within their towns and to work with neighboring towns to do the same.

Long-term (greater than 10 years): See page X for a list of expected long-term benefits and results.

Approach

1) Facilitate land protection

a. In conjunction with land conservation organizations, local landowners and other stakeholders, state agencies augment the previously identified portfolio of parcels for conservation with information about their connectivity values, habitat descriptions, land values, and other key information for presentation to potential public and private funders.

b. Facilitate land conservation transactions based on the interests of the funders, sellers and land conservation groups. Where needed provide financial support to pay for some administrative costs of land and easement acquisition.

2) Technical assistance for local land use planning

c. Provide the technical assistance and data interpretation support needed to help local decision makers understand the conservation science tools and information available to them.

d. Produce and disseminate technical assistance materials that help local decision makers integrate conservation science information into town plans and zoning policies to address habitat and connectivity conservation needs.

e. Facilitate cooperative efforts among the towns of Arlington, Sunderland and Dorset and the Bennington Regional Planning Commissions for landscape level conservation planning at a regional scale, with a goal of developing appropriate regulatory and/or non-regulatory mechanisms to maintain and enhance habitat connectivity.

f. Provide technical assistance to local organizations and individuals to help them maintain and enhance local and regional scale connectivity through opportunities such as forest plan revision process and scenic corridor assessment surveys.

g. Facilitate communication among municipal, regional, non-governmental and private parties to ensure prompt action and effective decision making leading to linkage habitat conservation on both public and private lands.

Implementation Timeline

Date range	Activity
April 2009-June 2009	Integrate habitat connectivity values and habitat linkage maps into existing information about priority conservation targets within the linkage area and share with land trusts and other conservation partners.
June 2009-October 2009	Assemble portfolio of parcels for conservation and present to potential funders
October 2009-June 2010	Support land trust communications with land owners as they assess landowner interest in land/easement acquisition and develop conservation agreements
July 2009-September 2010	Meet with the planning and conservation commissions to share information about connectivity values and tools for connectivity maintenance, protection and enhancement.
June 2009 – April 2012 (and beyond)	facilitate potential land conservation transactions

NEPA/Section 7 Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel					
Salary				$5,500	$5,500
Fringe					
Travel					
Equipment					
Supplies					
Contracts-*TNC*	$2,665	$880	$3,545		$3,545
Construction					
Other: Admin costs for land/easement acquisition	$35,000	$15,000	$50,000		$50,000
Other: GIS Support		$5,000	$5,000		$5,000
					$0
Total direct costs	**$37,665**	**$20,880**	**$58,545**	**$5,500**	**$64,045**
Indirect costs, 23.28%)	$8,768		$8,768		$8,768
Total Budget	**$46,433**	**$20,880**	**$67,313**	**$5,500**	**$72,813**
match rate check	*68.98%*	*31.02%*			

Budget Narrative

Personnel: Project leader: Doug Blodgett, Regional Biologist, Vermont Fish & Wildlife Department will coordinate technical assistance delivery to the communities of Arlington, Dorset, and Sunderland (Selectboards, planning and conservation commissions, local partner organizations, Bennington Regional Planning Commission). His services will not be charged to this grant.

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department will provide technical assistance in this project area. His services are paid through VT SWG T-1-1 job 1.01.

Contractual: TNC Director of Conservation Programs, Director of Science and Stewardship, and Conservation Ecologist will assist partners in strategy implementation and integrating conservation science data into project activities.

Other, Admin costs for land/easement acquisition: Administrative costs that may be paid with SWG Competitive Grant funds, and/or used as non-federal match, are costs associated with the acquisition of real property interests, but not the cost of the property interest itself. These costs may be incurred prior to the actual acquisition of the property and may include, but are not limited to

appraisals, boundary surveys, legal fees, title research and insurance, biological reconnaissance, environmental contaminant surveys, recording fees and taxes, easement baseline documentation, staff time associated with the acquisition, contributions to funds or endowments for easement monitoring and legal defense, and costs of developing and implementing property stewardship plans. The primary land trust partner in this linkage area is the Vermont Land Trust.

Land acquisition in the project area by the US Forest Service will benefit habitat connectivity. The activities of this federal partner (estimated value of $20,000) will not be counted toward non-federal match.

Bennington Regional Planning Commission Geographic Information Specialist will provide $1,000 a year for five years in project support services including mapping support and GIS-based linkage analyses, map printing and photocopying services. This total of $5,000 is provided by the RPC as non-federal match.

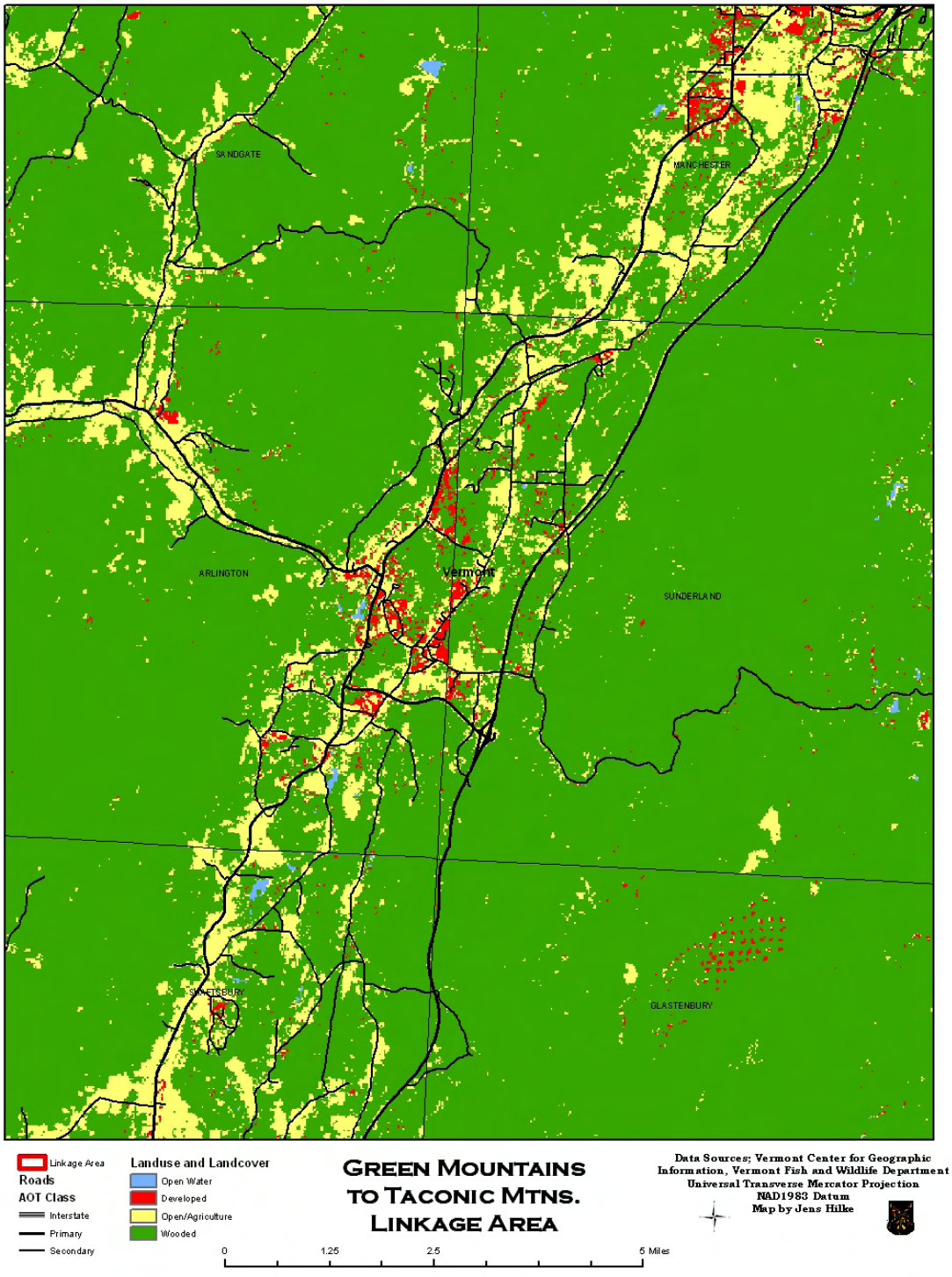
Indirect: Is based on The Nature Conservancy's federally approved indirect rate of 23.28%.

Project Leaders (see Appendix G for project leader credentials/biographies)

Doug Blodgett, Wildlife Biologist, Vermont Fish & Wildlife Department, 802-786-3861, doug.blodgett@state.vt.us

Joe Racette, NY Division of Fish, Wildlife, and Marine Resources, (518) 897-1293, jaracett@gw.dec.state.ny.us

Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org



Map 2.1 Adirondack-Green Mountain Habitat Linkage Area

Project 4: Protecting & Enhancing Habitat Linkages in the Northern Green Mountains—phase 1

State(s) Vermont

Project Period 03/01/2009 to 2/28/2012

Estimated Federal & Non-Federal Costs

Total grant amount	**$235,870**
Competitive SWG funds requested	$182,985
Non-federal matching funds	$52,885
Additional funds leveraged	$60,000
Grant total plus leveraged funds	$295,870

Project Partners

Vermont Fish & Wildlife Department
Missisquoi River Basin Association
Northern Forest Alliance
Northeast Vermont Development Association
Northwest Regional Planning Commission
The Conservation Fund
The Nature Conservancy-VT
Trust for Public Land
Two Countries, One Forest
Vermont Agency of Transportation
Vermont Land Trust
Wildlands Project
Conservation Commissions in the municipalities of Bakersfield, Belvidere, Eden Jay, Enosburg, Fletcher, Lowell, Montgomery, Richford, Troy, Waterville, and Westfield
*Appalachian Corridor Appalachien**
*Nature Conservancy of Canada**
*Wildlife Conservation Society of Canada**
* *Partners implementing linkage habitat conservation north of the Vermont border*

Abstract

A priority action in Vermont's Wildlife Action Plan is the conservation of linkage habitats to improve regional connectivity in order to maintain and/or re-establish wide-ranging SGCN populations (4:43). We propose implementing a coordinated set of strategic actions to conserve and enhance the Northern Green Mountain Habitat Linkage (map 4.1). This area connects with additional large areas of forested lands in Quebec, and together they form one of the six key habitat linkages within the overall Northern Appalachian ecoregion identified by a bi-national consortium of scientists under Two Countries, One Forest. The area also has been identified as significant in VFWD's soon-to-be-completed statewide assessment and ranking of large forested blocks and associated linkage habitats (SWG T-1-3, 2.25). Project objectives and activities focus on applying conservation science tools to identify and refine priorities for action, facilitating fee and easement acquisitions of key parcels by land conservation organizations providing technical assistance to local land use planning entities to improve local land use guidelines, policies and regulations for wildlife and habitat values, providing technical assistance to the State Transportation Agency to increase permeability of key roads for SGCN, and providing technical assistance to local wildlife and conservation organizations to help them incorporate habitat connectivity into ongoing community-based efforts.

Location: The Northern Green Mountain Habitat Linkage Area is depicted in map 4.1.

For the purposes of effective project implementation we have identified four focus areas within this linkage in Vermont. Focus Area 1 includes the communities of Bakersfield, Belvidere, Enosburg, Montgomery, Fletcher, Richford and Waterville. Focus Area 2 includes the communities of Eden, Jay, Lowell, Troy, and Westfield. Focus Area 3 includes the communities of Cambridge, Hyde Park and Johnson. Focus Area 4 includes the communities of Bolton, Duxbury, Huntington, Jericho, Richmond, and Underhill. During phase one of this project, we will concentrate on working with the local communities and other partners in focus areas 1 and 2.

Local conservation groups have long been aware of the importance and vulnerability of the Northern Green Mountains of Vermont and Québec. Recent studies by the Wildlands Project, The Nature Conservancy, Nature Conservancy of Canada, and Two Countries, One Forest have confirmed that this area, stretching from Mount Mansfield in Vermont to the Sutton Mountains and Mt Orford in Québec, is one of the most important, yet most at-risk landscapes for wildlife and habitat connectivity in the Northern Appalachian/Acadian ecoregion. Recognizing the value of a collaborative approach, groups from Vermont and Québec have begun meeting regularly to share spatial and scientific information and to develop strategies involving a broad array of partners – from the local, regional, and state/provincial levels – in the conservation of the Northern Greens.

Work Competed to Date

Significant work has been completed, or will be completed shortly, within this linkage area that will allow project partners to take conservation action quickly upon grant approval, including:

- Ecological importance and threat, trend and growth analyses for the entire Northern Appalachian Ecoregion developed by a collaboration of the Wildlife Conservation Society, Two Countries, One Forest, The Wildlands Project, The Nature Conservancy and Nature Conservancy Canada.
- The Vermont-wide Wildlife Linkage Habitat Model that identifies zones where wildlife are likely to cross roads in the state, developed by the Vermont Fish and Wildlife Department (VFWD) and the Vermont Agency of Transportation (VTrans). This coarse-scale model is helping both of these agencies and other partners focus their efforts on connectivity maintenance and improvement.
- Critical Paths for Wildlife, a fine-scale field-based analysis to identify and prioritize critical wildlife road crossings for conservation from the northern Green Mountains to the Northeastern Highlands of Vermont, developed by VFWD and the National Wildlife Federation. This project, funded by the Wildlife Conservation Society and VFWD (SWG T-1-7, job 3.15), builds on the Wildlife Linkage Habitat Model.
- Statewide identification of remaining large habitat blocks and linkage habitat by VFWD (T-1-3, job 2.25 to be completed 12/31/2008).

Project-level Objectives

The overarching goal of this grant is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need across the Northern Appalachian Ecoregion in order to

mitigate the impacts of habitat fragmentation and climate change. To achieve that goal, our objectives within the Northern Green Mountain Habitat Linkage are as follows:

1. **Conservation science:** Facilitate community values mapping processes within towns in Focus Areas One and Two to identify local needs, interests, and priorities. Integrate spatial information from these mapping efforts with information developed by the Critical Paths for Wildlife project and coarse-scale spatial analyses to support land protection, land-use and transportation planning, and technical assistance to local groups.
2. **Land protection**: Provide technical assistance and financial support to help partner land trusts including the Vermont Land Trust, Trust for Public Land, Northeast Wilderness Trust and The Nature Conservancy, protect at least 9,000 acres around key road crossing segments and other areas of high priority, by the end of the grant period. Priority parcels will be identified through the ecological assessments and connectivity analyses performed in Objective 1, along with pre-existing assessments of land data in this linkage. Grant funds will be used to help cover administrative costs related to land acquisition.
3. **Technical assistance for local land use planning**: Provide technical assistance to at least seven towns in Focus Areas One and four towns in Focus Area Two by the end of the grant period to foster the incorporation of connectivity values and protection in town plans and zoning ordinances.
4. **Increase the permeability of key roads for SGCN**: Provide technical assistance to the Vermont Agency of Transportation to enable it to incorporate connectivity improvements identified through the Critical Paths for Wildlife analyses as part of planned road maintenance/upgrade work scheduled between 2009-2014 along priority road segments.
5. **Technical assistance to local groups and partner organizations**: Improve technical skills and conservation knowledge of the Seven Town Steering Committee (in Focus Area 1), local conservation commissions, Missisquoi River Basin Association, Richford Wood Initiative, and other local wildlife and community interest groups so they can more effectively support implementation of a broad range of conservation activities related to wildlife and habitat connectivity.

Approach

1: Conservation Science

a. Complete and compile values mapping results in Focal Area 1.

b. Integrate values mapping results in Focal Area 1 with results from 1) ecoregional-scale ecological importance and threat analyses; 2) the Wildlife Linkage Habitat Model and 3) Critical Paths for Wildlife, to produce a composite map of importance and threat values.

c. Obtain parcel ownership data for towns in Focal Area 1 and overlay with composite importance and threat map.

d. Provide results of this mapping exercise to various stakeholders, including town planning bodies, landowners, land conservation organizations, state agencies, and regional planning commissions. Stakeholders will have been informed of, and involved in, all aspects of this mapping process from its initiation.

e. In Focal Area Two, carry out the same sequence of steps, starting in mid 2009.

2) Land protection

f. Starting with Focal Area 1, identify parcels that are of interest to a range of land conservation organizations. Because land uses vary considerably within a given focal area and because land conservation organizations have different specialties (ranging from working forest and agricultural lands to recreation, wilderness, and biodiversity protection) we anticipate that there will be a mix of land conservation groups involved based on the particular parcels identified.

g. In conjunction with land conservation organizations, local landowners and other stakeholders, state agencies, and other non-profit groups, assemble a portfolio of parcels for conservation with descriptions, land values, and other key information for presentation to potential public and private funders.

h. Facilitate land conservation transactions based on the interests of landowners, funders, local communities, and land conservation groups. Where needed provide financial support to pay for some administrative costs of land and easement acquisition.

3) Technical assistance for local land use planning & 5) Technical assistance to local groups and partner organizations

i. Provide the technical assistance and data interpretation support needed to help local decision makers understand the conservation science tools and information available to them.

j. Produce and disseminate technical assistance materials that help local decision makers integrate conservation science information into town plans and zoning policies to address habitat and connectivity conservation needs.

k. Facilitate cooperative efforts among towns and regional planning commissions in each focal area for habitat connectivity planning at a regional scale, with a goal of developing appropriate regulatory and/or non-regulatory mechanisms to maintain and enhance habitat connectivity.

l. Provide technical assistance to local organizations and individuals to help them maintain and enhance local and regional scale connectivity through opportunities such as state forest plan revision processes and scenic corridor assessment surveys.

m. Facilitate communication among municipal, regional, non-governmental and private parties to ensure prompt action and effective decision making leading to linkage habitat conservation on both public and private lands.

4) Increase the permeability of key roads

n. . Inform the Vermont Agency of Transportation (VTrans) of key crossing areas identified by the Critical Paths project

o. Through the joint VTrans-VFWD Wildlife Steering Committee help VTrans develop protocols that trigger project design reviews at priority wildlife crossings prior to any road maintenance or upgrades.

p. Provide support to VTRANS Operations division to help ensure that road maintenance and upgrade projects in key crossing areas improve permeability for wildlife.

Implementation Timeline

Date range	Activity
Jan 2009-August 2009	Complete the Critical Paths for Wildlife project
March 2009	Conclude community values mapping exercises in seven towns in focal area one
April 2009-June 2009	Integrate values mapping results in focal area one with results from other importance and threat analyses
April 2009-June 2009	Obtain parcel data from towns in focal area one and overlay with importance and threat maps
April 2009-June 2009	Identify key stakeholders in focal area two and initiate outreach
June 2009-September 2009	Initiate value mapping exercises in focal area two
July 2009-September 2009	Outreach to stakeholders, landowners in focal area one on results of mapping process
September-December 2009	Assemble portfolio of parcels in focal area one, package for and present to potential funders
September-December 2009	Conclude community values mapping exercises in focal area one
January 2010-June 2010	Facilitate potential land conservation transactions in focal area one
January 2010-April 2010	Integrate values mapping results in focal area two with results from other importance and threat analyses
June 2009-April 2012	Help lead the VTrans-VFWD Wildlife Steering Committee
June 2009-April 2012	Meet twice a year with VTRANS Operations division
January 2010-April 2010	Obtain parcel data from towns in focal area two and overlay with importance and threat maps
May 2010-August 2010	Outreach to stakeholders, landowners in focal area two on results of mapping process
September-December 2010	Assemble portfolio of parcels in focal area one, package for and present to potential funders

Expected Benefits & Results: This project will result in the following short- and long-term benefits:

Short-term (w/in 10 years)

- At least 9,000 acres will be protected through the acquisition of fee or easements to augment the existing, conserved land base in the linkage.
- Other high priority lands critical to securing the complete landscape linkage will be identified.
- Local planning commissions and selectboards will have the knowledge, skills, support and motivation to augment their town planning and zoning policies to protect and restore vital wildlife habitat and linkages within their towns and to work with neighboring towns to do the same.
- Functioning multi-town landscape conservation coalitions comprised of individuals, government agencies, and non-profit organizations drawn from a broad range of interests and stakeholders will be active in Focus Areas 1 and 2.
- Increased support for protecting and managing priority lands in Focus Areas 1 and 2, through establishment of town forests, land acquisition, conservation easements, best practices on timber and agricultural lands, and growth management in towns and municipalities.

Long-term (greater than 10 years) see page X for expected long-term benefits and results.

NEPA/ESA Section 7/ Historic Preservation Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel					
Salary					
Fringe					
Contractual	$8,750	$3,000	$11,750		$11,750
Technical Assistance Specialist #1	$40,500	$13,500	$54,000		$54,000
Technical Assistance Specialist #2	$40,500	$13,500	$54,000		$54,000
Critical Paths for Wildlife Contractor				$7,000	$7,000
TNC	$2,665	$880	$3,545		$3,545
Travel	$5,265	$1,755	$7,020		$7,020
Equipment			$0		$0
Supplies	$750	$250	$1,000		$1,000
Construction					$0
Other				$3,000	$3,000
Admin costs for land acquisition	$50,000	$20,000	$70,000		$70,000
Transportation barrier mitigation				$50,000	$50,000
Total direct costs	**$148,430**	**$52,885**	**$201,315**	**$60,000**	**$261,315**
Indirect (23.28%)	$34,555		$34,555		$34,555
Total Budget	**$182,985**	**$52,885**	**$235,870**	**$60,000**	**$295,870**
match rate check	77.58%	22.42%			

Budget Narrative

Personnel: Project Coordinator: Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department will coordinate technical assistance delivery for all four habitat linkages in the Vermont project area. His services are covered through VT SWG T-1-1 job 1.01 and are valued at $3,000 for this project.

Contractual: Project Leader: Conrad Reining, Wildlands Project. Project management and providing technical assistance for landscape-scale conservation planning and science in Focal Areas 1 and 2.

Technical Assistance Specialist-Focus Area 1 will provide technical assistance in Enosburg, Fletcher, Bakersfield, Richford, Montgomery, Belvidere, and Waterville Vermont to selectboards, planning and conservation commissions, local partner organizations, and the Northwest Regional Planning

Commission. The rate for this position is calculated as follows: $30/hr x 20 hrs/wk x 45wks/yr x 2yrs = $54,000. Of this, the contractor will provide ¼ ($13,500) as match through waived hours and/or funding from other eligible sources. Therefore, the contract total will be $40,500.

Technical Assistance Specialist-Focus Area 2 will provide technical assistance in Eden Jay, Lowell, Troy, and Westfield to selectboards, planning and conservation commissions, local partner organizations, and the Northeastern Vermont Development Association (the equivalent of a regional planning commission for this area). The rate for this contract is calculated as follows: $30/hr x 20 hrs/wk x 45wks/yr x 2yrs = $54,000. Of this, the contractor will provide ¼ ($13,500) as match through waived hours and/or funding from other eligible sources. Therefore, the contract total will be $40,500.

TNC Director of Conservation Programs, Director of Science and Stewardship, and Conservation Ecologist will assist partners in strategy implementation and integrating conservation science data into project activities.

Critical Paths for Wildlife Contractor will identify and prioritize important crossing areas through both GIS analysis and field-based research and analyses in the northern Green Mountains. These activities are funded through VFWD SWG T-1-7, job 3.15.

Travel: Travel to and within the project area by the project leader and technical assistance specialists reimbursable at IRS rate of $0.585/mile is estimated at $7,020. Estimate is based on 1,000 miles/year over 2 years for the project leader, and 2,500 miles/year over 2 years for each technical assistance specialist contractors. Twenty-five percent (25%) of these travel expenses will be provided as match.

Supplies: This item includes the cost of meeting supplies (flipcharts, markers, etc.) and any room fees for an estimated 6 local meetings per year each in Focus Areas 1 and 2 over 2 years, parcel data for towns in Focus Area 1, project-related office supplies for the project leader and technical assistance specialists over two years, and photocopies of relevant information for distribution at local meetings. Twenty-five percent (25%) of these estimated costs will be provided as match.

Other: Admin costs for land/easement acquisition: Administrative costs that may be paid with SWG Competitive Grant funds and/or used as non-federal match are costs associated with the acquisition of real property interests, but not the cost of the property interest itself. These costs may be incurred prior to the actual acquisition of the property and may include, but are not limited to appraisals, boundary surveys, legal fees, title research and insurance, biological reconnaissance, environmental contaminant surveys, recording fees and taxes, easement baseline documentation, staff time associated with the acquisition, contributions to funds or endowments for easement monitoring and legal defense, and costs of developing and implementing property stewardship plans.

Assessment of landowner interest in land/easement acquisition in the project area performed by Land Acquisition Specialists with land trusts, including the Trust for Public Land, Vermont Land Trust and Northeast Wilderness Trust, will provide an estimated $20,000 in non-federal match.

Barrier mitigation through improved signage and transportation planning by the Vermont Agency of Transportation will amount to $50,000. This work is funded through federal highway funds, so it is not eligible as match, but it will help achieve the grant goals and objectives.

Indirect: Is based on The Nature Conservancy's federally approved indirect rate of 23.28%.

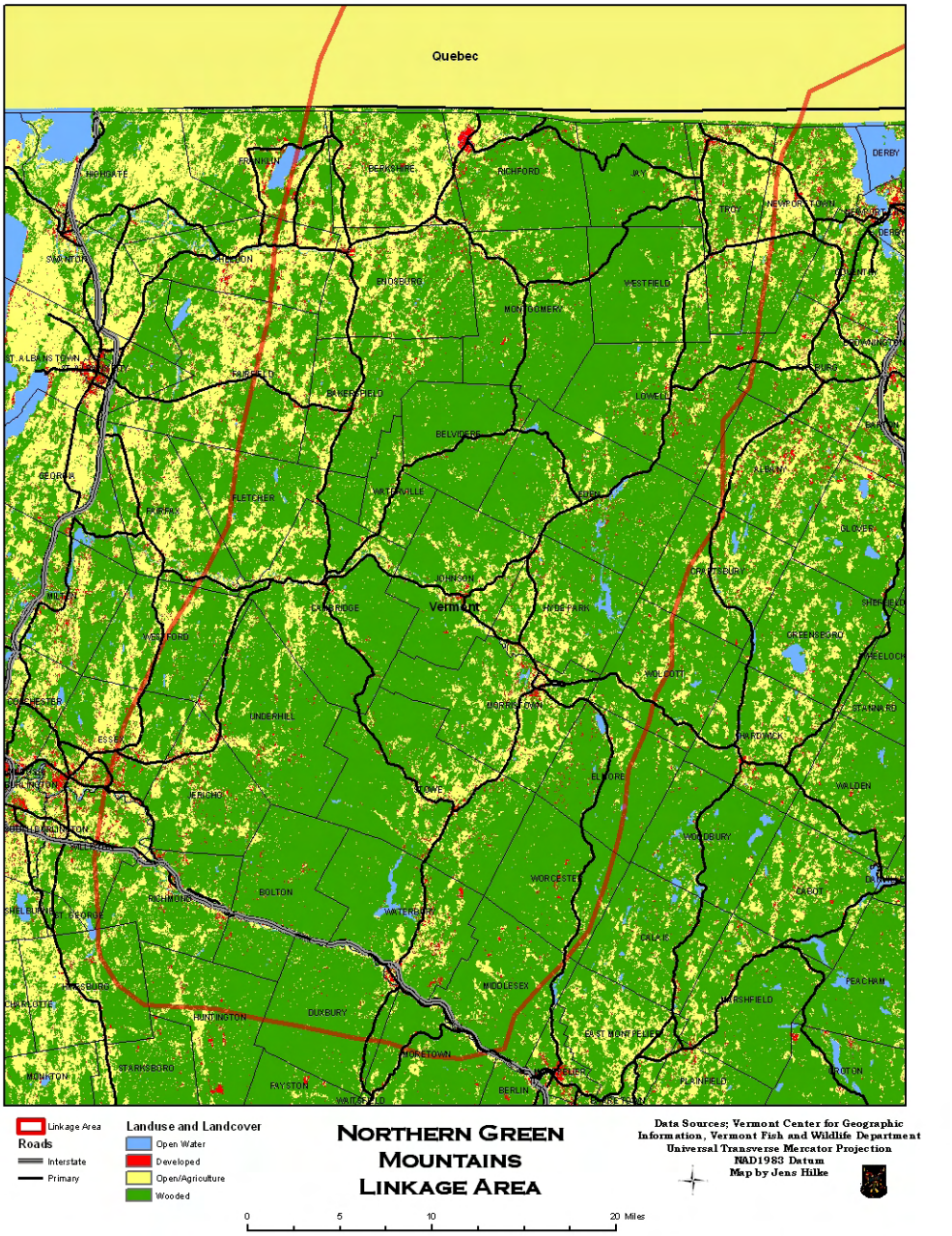
Project Leaders (see Appendix G for project leader credentials/biographies)

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department, 802-476-0126, jens.hilke@state.vt.us

Conrad Reining, Wildlands Project, (802) 785-2838, conrad@wildlandsproject.org

Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org

Kate Wanner, Land Acquisition Specialist, Trust for Public Land, (802) 223-1373 Kate.Wanner@tpl.org



Map 4.1 Northern Green Mountains Linkage Area

Project 5A Protecting & Enhancing the Worcester Range to Northeast Kingdom Habitat Linkage

State(s): Vermont

Project Period 05/01/2009 to 4/30/2012

Estimated Federal & Non-Federal Costs

Total grant amount	$102,566
Competitive SWG funds requested	$74,886
Non-federal matching funds	$27,680
Additional funds leveraged	$81,200
Grant total plus leveraged funds	$183,766

Project Partners

Vermont Fish & Wildlife Department
Northern Forest Alliance
The Nature Conservancy-VT
Northern Rivers Land Trust
Trust for Public Land
Northeast Kingdom Regional Planning Commission
Stowe Land Trust
Vermont Agency of Transportation
Vermont Land Trust
Wildlands Project
Conservation Commissions in the municipalities of Craftsbury, Elmore, Greensboro, Hardwick, Hyde Park, Middlesex, Morristown, Sheffield, Stowe, Walden, Waterbury, Wolcott, Worcester

Abstract

A priority action in Vermont's Wildlife Action Plan is the conservation of linkage habitats to improve regional connectivity in order to maintain and/or re-establish wide-ranging SGCN populations (4:43). We propose implementing a coordinated set of strategic actions to conserve and enhance the Worcester Range to Northeast Kingdom Habitat Linkage (map 5a.1**)**. This area links the Northern Green Mountains with wildlife habitat in northern New Hampshire, one of the six key habitat linkages within the overall Northern Appalachian ecoregion identified by a bi-national consortium of scientists under Two Countries, One Forest. The area also has been identified as significant in VFWD's soon-to-be-completed statewide assessment and ranking of large forested blocks and associated linkage habitats (SWG T-1-3, 2.25). Project objectives and activities focus on applying conservation science tools to identify and refine priorities for action, facilitating fee and easement acquisitions of key parcels by land conservation organizations providing technical assistance to local land use planning entities to improve local land use guidelines, policies and regulations for wildlife and habitat values, providing technical assistance to the State Transportation Agency to increase permeability of key roads for SGCN, and providing technical assistance to local wildlife and conservation organizations to help them incorporate habitat connectivity into ongoing community-based efforts.

Location

The Worcester Range to Northeast Kingdom Habitat Linkage is depicted in map 5a.1 and includes the communities of Craftsbury, Elmore, Greensboro, Hardwick, Hyde Park, Middlesex, Morristown, Sheffield, Stowe, Walden, Waterbury, Wolcott, and Worcester.

Work Competed to Date

The Vermont Fish & Wildlife Department, Friends of the Worcester Range and Northern Forest Alliance have been working together to re-energize community support for the Worcester Range, connect habitat from the Range with the Northeast Kingdom and integrate an understanding of the related conservation science of the area into local and regional planning efforts. A Vermont SWG grant (T-1-7, job 3.15) is delineating the linkage using landscape scale GIS modeling and field-based efforts to document wildlife road crossing areas using a protocol established by the Critical Paths to Wildlife project. Work to be completed by summer 2010.

Project-level Objectives

The overarching goal of this grant is to maintain, enhance and restore habitat connectivity for Species of Greatest Conservation Need across the Northern Appalachian Ecoregion in order to mitigate the impacts of habitat fragmentation and climate change. To achieve that goal, our objectives within the Northern Green Mountain Habitat Linkage are as follows:

1. **Conservation science:** Facilitate community values mapping processes within towns in Focus Areas One and Two to identify local needs, interests, and priorities. Integrate spatial information from these mapping efforts with information developed by the Critical Paths for Wildlife project and coarse-scale spatial analyses to support land protection, land-use and transportation planning, and technical assistance to local groups.
2. **Facilitate land protection**: Provide the technical assistance needed to help partner land trusts including the Vermont Land Trust, Trust for Public Lands, Northern Rivers Land Trust, Stowe Land Trust and The Nature Conservancy, protect habitat around key road crossing segments and other areas of high priority, by the end of the grant period. Priority parcels will be identified through the ecological assessments and connectivity analyses performed in Objective one and ongoing analyses.
3. **Technical assistance for local land use planning**: Provide technical assistance to communities in the project area to foster the incorporation of connectivity values and protection in town plans and zoning ordinances.
4. **Increase the permeability of key roads for SGCN**: Provide technical assistance to the Vermont Agency of Transportation to enable it to incorporate connectivity improvements identified through the Critical Paths for Wildlife analyses and conservation science data developed in objective one as part of planned road maintenance/upgrade work scheduled between 2009-2014 along priority road segments.
5. **Technical assistance to local groups and partner organizations**: Improve technical skills and conservation knowledge of the Friends of the Worcester Range and other local wildlife and community interest groups so they can more effectively support implementation of a broad range of conservation activities related to wildlife and habitat connectivity.

Expected Benefits & Results: This project will result in the following short- and long-term benefits:

Short-term (w/in 10 years)

- At least X,000 acres will be protected through the acquisition of fee or easements to augment the existing, conserved land base in the linkage.
- Other high priority lands critical to securing the complete landscape linkage will be identified.
- Local planning commissions and selectboards will have the knowledge, skills, support and motivation to augment their town planning and zoning policies to protect and restore vital wildlife habitat and linkages within their towns and to work with neighboring towns to do the same.
- Functioning multi-town landscape conservation coalitions comprised of individuals, government agencies, and non-profit organizations, drawn from a broad range of interests and stakeholders will be active in the project area.
- Increased support for protecting and managing priority lands in Focus Areas 1 and 2, through establishment of town forests, land acquisition, conservation easements, best practices on timber and agricultural lands, and growth management in towns and municipalities.

Long-term (greater than 10 years) see page X for a list of expected long-term benefits and results.

Approach

1: Conservation Science

a. Conduct community value mapping exercises in the communities within the project area and compile values mapping results.

b. Integrate values mapping results with results from 1) ecoregional-scale ecological importance and threat analyses; 2) VFWD's Wildlife Linkage Habitat Model and 3) the Critical Paths for Wildlife project, to produce a composite map of importance and threat values.

c. Obtain parcel ownership data for towns and overlay with composite importance and threat map.

d. Provide results of this mapping exercise to various stakeholders, including town planning bodies, landowners, land conservation organizations, state agencies, and regional planning commissions. Stakeholders will have been informed of, and involved in, all aspects of this mapping process from its initiation.

2) Facilitate land protection

e. Identify parcels that are of interest to a range of land conservation organizations. Because land uses vary considerably within this project area and because land conservation organizations have different specialties (ranging from working forest and agricultural lands to recreation to wilderness protection) we anticipate that there will be a mix of land conservation groups involved based on the particular parcels identified.

f. In conjunction with land conservation organizations, local landowners and other stakeholders, state agencies, and other non-profit groups, assemble a portfolio of parcels for conservation with descriptions, land values, and other key information for presentation to potential public and private funders.

g. Facilitate land conservation transactions based on the interests of landowners, funders, local communities, and land conservation groups. Where needed provide financial support to pay for some administrative costs of land and easement acquisition.

3) Technical assistance for local land use planning & 5) Technical assistance to local groups and partner organizations

h. Provide the technical assistance and data interpretation support needed to help local decision makers understand the conservation science tools and information available to them.

i. Produce and disseminate technical assistance materials that help local decision makers integrate conservation science information into town plans and zoning policies to address habitat and connectivity conservation needs.

j. Facilitate cooperative efforts among towns and regional planning commissions in each focal area for habitat connectivity planning at a regional scale, with a goal of developing appropriate regulatory and/or non-regulatory mechanisms to maintain and enhance habitat connectivity.

k. Provide technical assistance to local organizations and individuals to help them maintain and enhance local and regional scale connectivity through opportunities such as forest plan revision process and scenic corridor assessment surveys.

l. Facilitate communication among municipal, regional, non-governmental and private parties to ensure prompt action and effective decision making leading to linkage habitat conservation on both public and private lands.

4) Increase the permeability of key roads

m. Inform the Vermont Agency of Transportation (VTrans) of key crossing areas identified by the Critical Paths project

n. Through the joint VTrans-VFWD Wildlife Steering Committee help VTrans develop protocols that trigger project design reviews at priority wildlife crossings prior to any road maintenance or upgrades.

o. Provide support to VTRANS Operations division to help ensure that road maintenance and upgrade projects in key crossing areas improve permeability for wildlife.

Implementation Timeline (some activities are already underway)

Date range	Activity
June 2009-September 2009	Initiate community value mapping exercises
September 2009-November 2009	Integrate values mapping results with results from other importance and threat analyses
November 2009-January 2010	Obtain parcel data from towns and overlay with importance and threat maps
January 2010-June 2010	Outreach to stakeholders, landowners in focal area one on results of mapping process
June 2010-December 2010	Present portfolio of parcels to potential funders
September 2009-December 2010	Facilitate potential land conservation transactions
Jan 2009-August 2009	Complete the Critical Paths for Wildlife project
June 2009-April 2012	Help lead the VTrans-VFWD Wildlife Steering Committee
June 2009-April 2012	Meet twice a year with VTRANS Operations division

NEPA/Section 7 Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel				$4,000	$4,000
Salary					
Fringe					
Travel	$4,680		$4,680		$4,680
Equipment					
Supplies	$750	$250	$1,000		$1,000
Contractual					
Tech Assistance Specialist-East	$52,650	$17,550	$70,200		$70,200
Tech Assistance Specialist West				$70,200	$70,200
TNC	$2,665	$880	$3,545		$3,545
Critical Paths Contractor				$7,000	$7,000
Construction					
Admin costs for land/easement acquisition		$9,000	$9,000		$9,000
Total direct costs	**$60,745**	**$27,680**	**$88,425**	**$81,200**	**$169,625**
Indirect (non-contract costs, 23.28%)	$14,141		$14,141		$14,141
Total Budget	**$74,886**	**$27,680**	**$102,566**	**$81,200**	**$183,766**
match rate check	*73.01%*	*26.99%*			

Budget Narrative

Personnel: Project Coordinator: Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department will coordinate technical assistance delivery for all four habitat linkages in the Vermont project area. His services are paid through VT SWG T-1-1 job 1.01.

Contractual

Technical Assistance Specialist-West will provide technical assistance in Elmore, Middlesex, Morristown Stowe, Waterbury, Worcester to Selectboards, planning and conservation commissions, local partner organizations, and the Regional Planning Commission. The rate for this position is calculated as follows: $30/hr x 26 hrs/wk x 45wks/yr x 2yrs = $70,200. Of this, the contractor will provide ¼ ($17,550) as match through waived hours and/or funding from other eligible sources. Therefore, the contract total will be $52,650. Vermont SWG funds will be used to pay the contract.

Technical Assistance Specialist-East will provide technical assistance in Craftsbury, Greensboro, Hardwick, Hyde Park, Sheffield, Walden, and Wolcott to Selectboards, planning and conservation commissions, local partner organizations, and the Regional Planning Commission. The rate for this position is calculated as follows: $30/hr x 26 hrs/wk x 45wks/yr x 2yrs = $70,200. Of this, the contractor will provide ¼ ($17,550) as match through waived hours and/or funding from other eligible sources. Therefore, the contract total will be $52,650.

TNC Director of Conservation Programs, Director of Science and Stewardship, and Conservation Ecologist will assist partners in strategy implementation and integrating conservation science data into project activities.

Critical Paths for Wildlife Contractor will identify and prioritize important crossing areas through both GIS analysis and field-based research and analyses from the northern Green Mountains to the Northeast Kingdom. These activities are funded through VFWD SWG T-1-7, job 3.15.

Travel: Travel to and within the project area by technical assistance specialists reimbursable at IRS rate of $0.585/mile is estimated at $ 4,680. This estimate is based on 2,000 miles/year over 2 years for each of the technical assistance specialist contractors.

Supplies: This item includes the cost of meeting supplies (flipcharts, markers, etc.) and any room fees for an estimated 12 local meetings per year each over two years, parcel data for towns, project-related office supplies for the technical assistance specialists over two years, and photocopies of relevant information for distribution at local meetings. Twenty-five percent (25%) of these estimated costs will be provided as match.

Other: Administrative costs for land/easement acquisition: Administrative costs that may be paid with SWG Competitive Grant funds and/or used as non-federal match are costs associated with the acquisition of real property interests, but not the cost of the property interest itself. These costs may be incurred prior to the actual acquisition of the property and may include, but are not limited to appraisals, boundary surveys, legal fees, title research and insurance, biological reconnaissance, environmental contaminant surveys, recording fees and taxes, easement baseline documentation, staff time associated with the acquisition, contributions to funds or endowments for easement monitoring and legal defense, and costs of developing and implementing property stewardship plans.

Indirect: Is based on The Nature Conservancy's federally approved indirect rate of 23.28%.

Project Leaders (see Appendix G for project leader credentials/biographies)

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department, 802-476-0126, jens.hilke@state.vt.us

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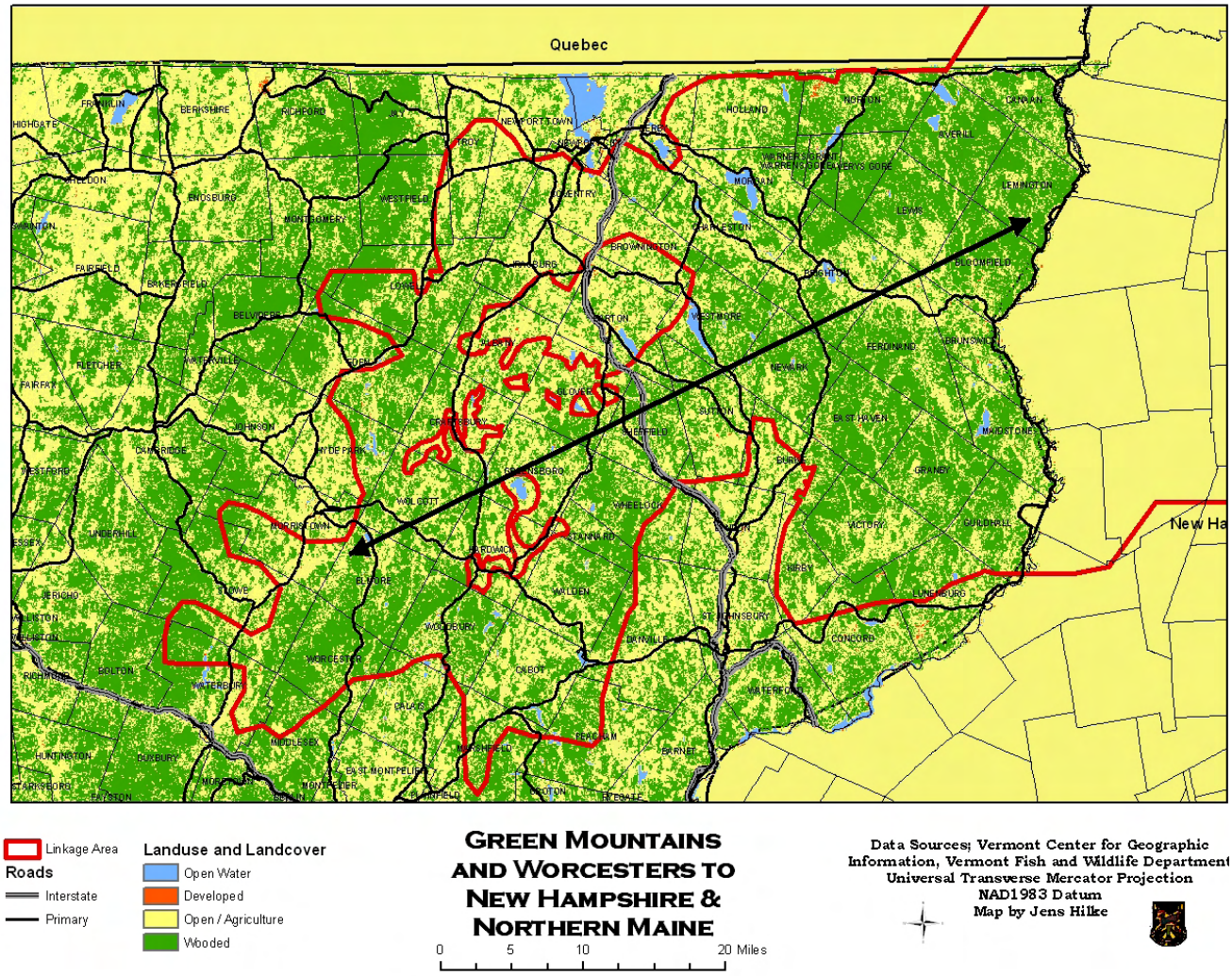
Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org

Mark Zankel, Deputy State Director, The Nature Conservancy-NH, (603) 224-5853 x19, mzankel@tnc.org



Map 5a.1 Worcester Range to North East Kingdom, VT to New Hampshire

Project 5b: Launching a Landscape Connectivity Initiative for the Northeast Kingdom (VT) – Northern NH Linkage

States: Vermont, New Hampshire

Estimated Federal and Non-Federal Costs

Total grant amount	**$79,743.57**
Competitive SWG funds requested	$65,489.69
Non-federal matching funds	**$**480,400

Project Partners

The Nature Conservancy – NH and VT Chapters
New Hampshire Fish and Game Department
VT Fish and Wildlife Department
New Hampshire Audubon
NH Dept of Transportation
VT Dept of Transportation

Abstract

The Nature Conservancy, other conservation organizations and public agencies have a long history of working in the Northern Forest region of Vermont and New Hampshire to protect 'core areas' (those critical to biodiversity and intended for high-level conservation) and to buffer them by maintaining the integrity of the surrounding landscape through large-scale working forest conservation easements. Even as we continue to conserve additional core areas and buffers, there is growing recognition of the need to identify, maintain and restore connectivity amongst existing conservation areas and intact forest landscapes. The need for landscape connectivity is explicitly reflected in VT and NH's State Wildlife Action Plans, as outlined above in Appendix C. For example, the VT Action Plan states that regional connectivity (i.e., linkages to NY, NH, and Canada) must be maintained through the re-establishment of forest and linkages in the more fragmented biophysical regions (4:43). Landscape connectivity will help to ensure the continued persistence of wide-ranging mammals and migratory species including top level predators and Species of Greatest Conservation Need (SGCN) such as Canada lynx, black bear, bobcat, and possibly wolf. Improved connectivity will also facilitate the migration of SGCN, including wide ranging species and those with smaller home ranges, in response to climate change. Our long-term goal is to ensure the continued persistence of wildlife SGCN by identifying and protecting the key habitat "stepping stones" needed to promote landscape connectivity, and by increasing the permeability of major barriers by influencing planning of new roads, establishing wildlife crossings and enhancing road management and maintenance practices.

Location

This project is focused on establishing functional connectivity for wildlife movement across the Northeast Kingdom of Vermont and the Northern Forest Region of New Hampshire (see attached Map 5b.1: *Northeast Kingdom (VT) – Northern NH Linkage*). Eastward lies the relatively unbroken forests of western Maine, while to the south lies the heart of the White Mountain National Forest.

The northern extent of the linkage area is defined approximately by the boundary with Canada, north of which the landscape is far more agricultural. To the west, a related effort will focus on connectivity linking the Northeast Kingdom to the highly intact forests of the Green Mountains.

Within the Northeast Kingdom – Northern NH linkage area, public agencies and conservation organizations have protected landscape-scale conservation nodes including:

- Nulhegan Basin: >132,000 acres of contiguous conservation land including the Nulhegan Basin Division of the Silvio O. Conte National Fish and Wildlife Refuge (26,000 acres), the West Mountain Wildlife Management Area (22,738 acres), and the Essex Timber Land Working Forest Easement (84,000 acres).
- Victory Bog & Basin: >27,000 acres of contiguous conservation lands including Victory State Forest (17,000 ac) and Victory Basin Wildlife Management Area (5,000 ac).
- Connecticut Lakes: ~175,000 acres of contiguous conservation lands including the Connecticut Lakes Natural Area (25,000 ac), the Connecticut Lakes Working Forest Easement (145,000 ac), and other state lands (5,000 ac).
- Bunnell-Nash Stream Forests: >60,000 acres of contiguous conservation land including the Nash Stream State Forest (40,000 ac), TNC's Vickie Bunnell Preserve (10,700 ac), Bunting Family Forest Legacy Easement (8,200 ac).
- Lake Umbagog: >26,000 acres of conservation land including the Lake Umbagog National Wildlife Refuge (20,900 ac) and the Errol Town Forest (5,300 ac).
- WMNF Kilkenny: ~93,000 acres of contiguous conservation land including the Kilkenny district of the White Mountain National Forest.

Each of the conservation nodes lies within a relatively unfragmented forested landscape, most of which are reflected as high priority wildlife habitats in the State Wildlife Action Plans (NHFG 2005, VTFW 2005) and are contained within priority matrix forest blocks identified in The Nature Conservancy's Northern Appalachians – Acadian Ecoregional Assessment (Anderson et al. 2006). A series of smaller protected areas also lie within the linkage and may be well situated to function as stepping stones within a landscape connectivity framework.

The Connecticut River valley lies between the Northeast Kingdom and Northern New Hampshire, and is the major east-west divide separating conservation areas in Vermont and New Hampshire. The river valley's relatively flat terrain and rich alluvial soils result in extensive agricultural land uses, scattered pockets of development, and north-south transportation corridors. Similarly, the Upper Ammonoosuc River and Mohawk River valleys in New Hampshire pose challenges to north-south connectivity between existing conservation nodes. The essence of the proposed project is to determine and begin conserving and restoring the best pathways for wildlife to move across these river valleys and any other notable gaps separating conservation areas. If our connectivity efforts succeed over time, we could conceivably end up with an inter-connected landscape exceeding one-half million acres of protected wildlife habitat within which species would be able to safely and effectively travel, disperse, and migrate.

Focal species will include wide ranging species such as black bear, American marten, Canada lynx, river otter and mink, and one or two moderately vagile species such as long-tailed weasel. All of these have been identified as Species of Greatest Conservation Concern in one or both of the New Hampshire and Vermont State Wildlife Action Plans (appendix A). While the modeling will

necessarily focus on a select group of species, we expect that a much broader suite of wildlife species will benefit from the identification and conservation of key landscape linkages through enhanced connectivity for dispersal, migration, and climate change adaptation.

Objectives

1. Develop spatial models to assess habitat suitability and landscape connectivity for a suite of five-six focal species across Vermont's Northeast Kingdom and the Connecticut River headwaters in northern New Hampshire. Focal species will include wide ranging SGCN such as black bear, American marten, Canada lynx, otter, mink, and moose and one or two moderately vagile species such as snowshoe hare or long-tailed weasel.
2. Identify and map priority linkage areas that provide the best opportunities for protecting or restoring landscape connectivity between existing protected areas for the greatest number of focal species. Identify (i) tracts ('stepping stones') which, if protected, would maintain connectivity across the landscape; (ii) tracts or areas which, if restored, would enhance connectivity for focal species; and: (iii) key linkages for focusing barrier mitigation work.
3. Develop a *Landscape Connectivity Action Framework* for the Northeast Kingdom (VT) –Northern New Hampshire Linkage Area consisting of land protection strategies focused on protecting key parcels within key connectivity areas, restoration strategies to enhance connectivity, and barrier mitigation strategies to help reduce the potential impacts of road upgrades and new road development.
4. Working with a coalition of partners, initiate connectivity strategy implementation. Complete initial model validation, engage communities through a wildlife tracking program that involves local volunteers, and provide technical assistance and training to state departments of transportation and private landowners.

Approach

1. Conservation Science and Planning

a) Convene Steering Committee to provide technical guidance, model review, and active involvement in strategy development. Steering Committee will include agency representatives (DOT, Fish & Game/Wildlife), academic researchers, and conservation groups (TNC, Audubon).

b) Develop spatial models to assess landscape connectivity for a suite of five-to-six focal species across Vermont's Northeast Kingdom and the Connecticut River headwaters in New Hampshire. The project will utilize, adapt and refine as needed detailed species modeling that has been recently completed by New Hampshire Audubon and New Hampshire Fish & Game Department.

- Describe and model suitable habitats for focal species. Focal species will include wide ranging SGCN species such as black bear, American marten, Canada lynx, otter, mink, and moose and one or two moderately vagile species such as such as snowshoe hare or long-tailed weasel. Suitable habitat models will be derived from literature reviews and expert input, using geospatial modeling software such as FunConn.
- Develop cost surfaces for focal species based on habitat suitability and resistance curves. These surfaces estimate the ease (or difficulty) with which a target species can utilize each particular land cover type, and are thus used to predict the "cost" to a species of

moving through the cover type. We will seek to factor in road traffic count data to further stratify the relative effects of different road stretches as barriers.

- Develop Least Cost Path models for focal species, linking large unfragmented forest blocks and/or existing large-scale conservation areas (>1,000 acres).

c) Based on model results and expert input, identify priority linkage areas that provide the best opportunities for protecting or restoring landscape connectivity between existing protected areas for the greatest number of focal species.

- Overlay Least Cost Pathways with developed land cover, roadkill data (where available), protected lands, and other datasets that help to prioritize linkages.
- Use "air-truthing" to evaluate model results and confirm that priority linkages are sensible based on current land use and land cover patterns. This will involve one or more low-elevation flights as well as detailed review of most-current aerial photography.
- Within the priority linkages, develop a tax parcel GIS data layer and identify key tracts ('stepping stones') which if protected would help to maintain wildlife connectivity across the landscape.
- Within the priority linkages, identify key sites for focusing barrier mitigation work. These are expected to focus on specific transportation infrastructure segments. Working with NH Department of Transportation, map the overlap between priority linkages and: a) new road corridors under consideration, and b) road segments identified for maintenance or upgrade actions.
- Within the priority linkages, identify tracts or areas which if restored would enhance connectivity for focal species.

d) In consultation with the Steering Committee and other key stakeholders, develop a ***Landscape Connectivity Action Framework*** for the Northeast Kingdom (VT) –Northern New Hampshire Linkage.

- Develop and document specific land protection strategies focused primarily on securing conservation easements within key connectivity areas. Apply Threat, Opportunity, and Feasibility screens by considering parcel size, ownership patterns, development trends, and overlap with other significant natural resources such as State Wildlife Action Plan priorities, Natural Heritage element occurrences, etc.
- Develop and document specific barrier mitigation strategies that will enable the state Departments of Transportation (DOTs), local communities, and other stakeholders to reduce the impacts on wildlife connectivity of existing roads, road upgrades, and new road development. Apply Threat and Opportunity screens by evaluating DOT's short and long-term road maintenance and building plans and identifying mitigation opportunities and future risks. Key linkages will be ground-truthed to develop a higher resolution understanding of the current condition of the existing relevant road segment.
- Develop and document restoration strategies to guide ecological restoration necessary to enhance connectivity for focal species.
- Incorporate priority linkages into SWAP maps.

e) Conduct initial field validation of priority linkage models through tracking. Hard data on animal movements are scarce. Creating such a data set will be invaluable for validating

suitable habitat models and known locations where focal species and other wildlife are attempting to move across roads and other barriers.

- Within priority linkage areas, deploy a community-based tracking program that engages wildlife specialists and volunteers (such as Keeping Track).
- Selectively employ professional trackers to further validate models.
- Compile tracking data, enter into a geospatial database, and overlay onto suitable habitat and priority linkage area models.

2. Facilitate Land Protection

a) Initiate landowner conservation assistance program for high resource value parcels in priority linkage areas.
   - Convene statewide and regional land trusts, share the *Landscape Connectivity Action Framework*, and identify appropriate land trust contacts for priority tracts.
   - Contact landowners for at least twelve priority tracts. Provide technical assistance to landowners by explaining land conservation and restoration options.

3. Increase the Permeability of Key Roads for SGCN

a) Conduct technical assistance trainings for state DOT planners and engineers.
   - Convene at least one training session for DOT planners and engineers. Share modeling results, transfer GIS data, and present land protection and barrier mitigation strategies in the *Landscape Connectivity Action Framework*.

Benefits, Deliverables & Expected Results:

Relatively little is known about how wildlife, including many, move across the landscape in the northeastern United States. The northern forest area of Vermont's Northeast Kingdom and Northern New Hampshire offers an excellent opportunity to link large-scale existing conservation areas in ways that enhance the prospects for persistence of Species of Greatest Conservation Need, even in the face of climate change (needs and actions identified in the Action Plans of all four Northern Forest states). Through advanced high resolution modeling, stakeholder-driven development of action frameworks, and field verification, we will identify and document priority linkages that offer the best connectivity prospects for the largest number of species. Implementation will begin with technical assistance for agencies and landowners aimed at protecting stepping stones and mitigating barriers.

The project will have the following specific Short-Term deliverables and results.

- Functional habitat models and movement cost surfaces for 5-6 SGCN focal species in the Northeast Kingdom – Northern New Hampshire Linkage Area.
- Spatially explicit Least Cost Path models for 5-6 SGCN focal species.
- Identification and mapping of suitable linkages for each species, and synthesized priority linkages for multiple focal species.
- Spatially explicit land protection action framework including specific parcels and strategies based on model results, threat, opportunity, and feasibility.
- Spatially explicit barrier mitigation action framework referencing specific road segments and strategies based on model results, threat, and opportunity.
- Spatially explicit restoration action framework necessary to enhance wildlife connectivity.

- Hard data on the presence and movement of focal species.
- Initiation of a land protection assistance program for at least a dozen private landowners in priority linkage areas.
- Improved connectivity data and conservation framework to inform Departments of Transportation and promote barrier mitigation.

Long-Term benefits will include resilient populations of SGCN, improved opportunities for species migration and climate change adaptation, and acceptable levels of genetic exchange across the forest of the Northern Appalachians. See page 8 for a list of expected long-term benefits and results.

Implementation Time Line

May '09 – June '09	Assemble steering committee
June '09 – Nov '09	Develop spatial models to assess landscape connectivity for focal species
Nov '09 - Feb '10	Identify priority linkage areas
Feb '10 – Jun '10	Develop landscape connectivity action framework
Sep '10 – Mar '11	Initial field validation through tracking program
Jan '11 – May '11	Technical assistance training for state DOTs
Mar '11 – Oct '11	Initiate landowner conservation assistance program
Nov '11 – Dec '11	Complete final project report

NEPA/ESA Section 7 /Historic Preservation Act Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe this project will have no adverse affect on historic, cultural or environmental resources. Because the scope of work in this project is designed to benefit rare and declining wildlife, we believe that project activities will have no adverse affect on the federally listed, proposed and candidate species found in Vermont and New Hampshire (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
NH Fish & Game Staff *(includes fringe a t17.3%)*	**$7,624.50**	**$0.00**	**$7,624.50**	**$0.00**	**$7,624.50**
Sub-Grant to TNC					
Personnel	$18,221.40	$6,073.80	$24,295.20	$0.00	$24,295.20
Fringe	$7,128.21	$2,376.07	$9,504.28	$0.00	$9,504.28
Contractual					$0.00
NH Audubon	$5,500.00	$0.00	$5,500.00	$0.00	$5,500.00
Tracking Program(s), Miscellaneous	$7,500.00	$1,000.00	$8,500.00	$0.00	$8,500.00
NH DOT Staff		$1,500.00	$1,500.00		$1,500.00
					$0.00
Supplies	$5,000.00	$0.00	$5,000.00	$0.00	$5,000.00
Travel	$2,688.00	$896.00	$3,584.00	$0.00	$3,584.00
Other	$900.00	$0.00	$900.00	$0.00	$900.00
					$0.00
Subtotal TNC Direct Costs	$46,937.61	$11,845.87	$58,783.48	$0.00	$58,783.48
TNC Indirect*	$10,927.08	$2,408.52	$13,335.59	$0.00	$13,335.59
Total TNC Costs	**$57,864.69**	**$14,254.39**	**$72,119.07**	**$0.00**	**$72,119.07**
Total Budget	**$65,489.19**	**$14,254.39**	**$79,743.57**	**$0.00**	**$79,743.57**
match rate check	*82.12%*	*17.88%*			

Budget Narrative

NH Fish and Game: Terrestrial ecologists and wildlife biologists will provide technical assistance in modeling suitable habitat and least cost pathways, identifying priority linkages, strategy development, and technical assistance for NH Department of Transportation as outlined in 1b, 1c, 1d, & 3a. Includes fringe at the approved rate of 17.3%.

Personnel: NH TNC's Deputy State Director will serve as project manager for the Northeast Kingdom – Northern NH linkage project. NH TNC's Director of Conservation Science and VT TNC's Director of Conservation Programs, Director of Science and Stewardship, and Conservation Ecologist will be involved in literature review, model development, data interpretation, and strategy development as outlined above in 1b, 1c, & 2a. NH TNC's GIS Manager will lead GIS modeling, map production, data input, and transmittal of results to partners as outlined in 1a, 1b, 1c, 1d, & 1e, with assistance from VT TNC's Conservation Information Manager to ensure bi-state data compatibility and integration. NH TNC's Northern NH Land Steward will be responsible for leading field validation and tracking efforts as outlined in 1e. NH & VT TNC's Land Protection

staff will be involved with providing conservation assistance to private landowners as outlined in 2a. One or more TNC seasonal ecologists will assist with field validation and ground truthing as outlined in 1c and 1e. A portion of these NH TNC staff hours shall serve as match.

Fringe: TNC's federally approved fringe benefit rate of 41% for regular employees and 12% for short-term employees.

Contractual: New Hampshire Audubon will be contracted to provide technical assistance in modeling suitable habitat and least cost pathways, identifying priority linkages, strategy development, and technical assistance for NH Department of Transportation as outlined in 1b, 1c, 1d, & 3a. NH Audubon is well qualified to provide this assistance – the organization has been deeply involved in statewide connectivity modeling, and is currently working on a project with NH DOT to better integrate conservation data into transportation planning.

We anticipate hiring Keeping Track to manage a volunteer-based tracking program that will help to validate suitable habitat and connectivity models as outlined in 1e. Keeping Track is a Vermont-based non-profit that teaches adults and children to observe, interpret, record and monitor evidence of wildlife habitat in their communities, and supports the use of monitoring data by citizens in local and regional conservation planning. Volunteer time on tracking and monitoring activities will be documented as match. We further intend to hire one or more professional trackers to augment field validation efforts.

Supplies: NH TNC will purchase computer hardware and software necessary to run complex habitat suitability and connectivity models (estimated at $3,500). Additional supplies include acquisition of digital tax parcel data for as many as 10 towns (approximately $1,500).

Travel: Estimate 15+/- round trips from Concord and North Conway NH, and from Montpelier VT, to the project area, reimbursable at IRS rate of $0.585/mile, plus other incidental travel costs such as parking, etc. A portion of these travel expenses will serve as match.

Other: Estimate printing and distributing approximately 30 copies of the connectivity action framework, as described above in 1d.

Project Leaders (see Appendix G for project leader credentials/biographies)

Mark Zankel, Deputy State Director, The Nature Conservancy-NH, (603) 224-5853 x19, mzankel@tnc.org

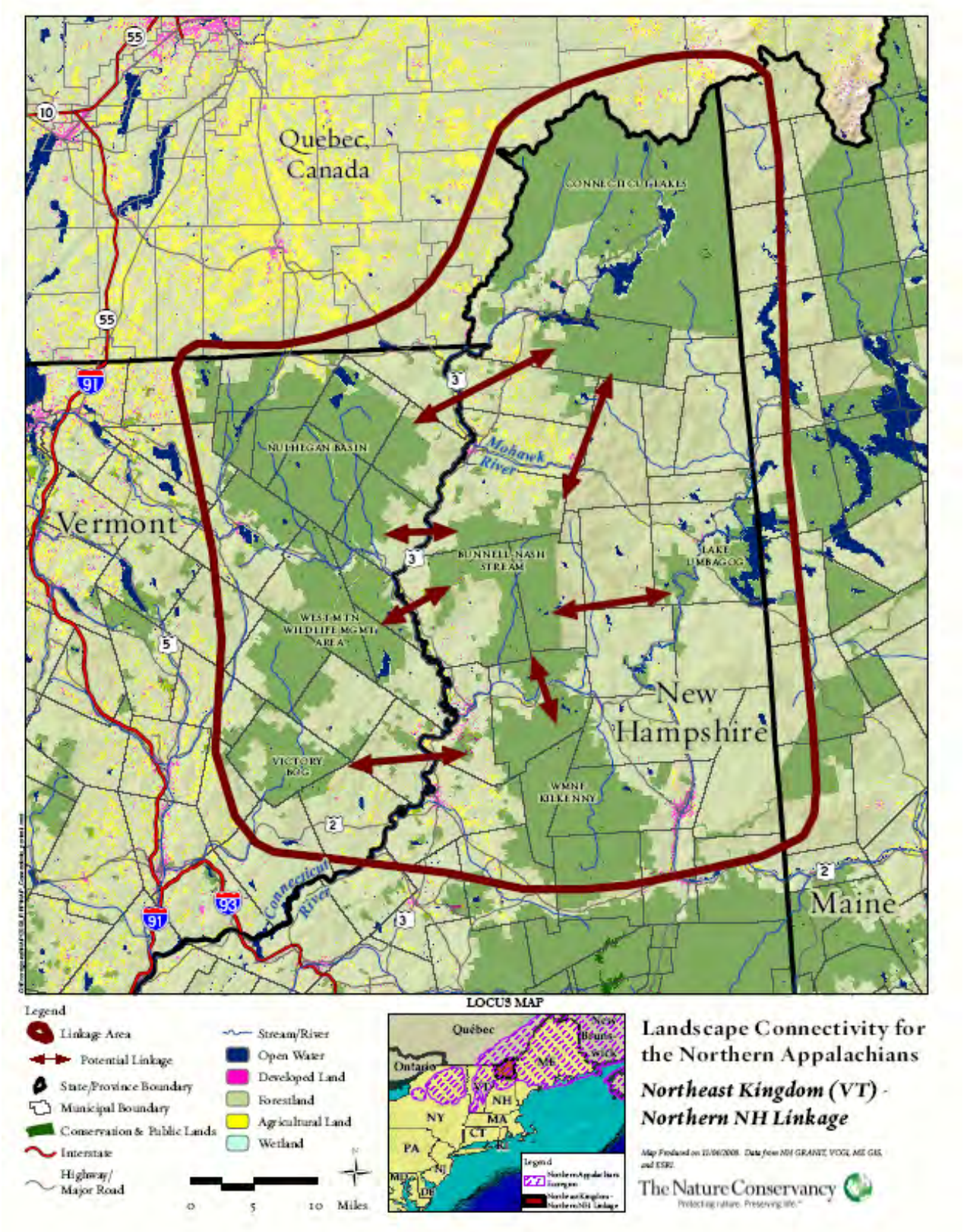
Steve Fuller, New Hampshire Fish & Game Department, 603-361-4336, SFuller@wildlife.state.nh.us

Jens Hilke, Conservation Planner/Biologist, Vermont Fish & Wildlife Department, 802-476-0126, jens.hilke@state.vt.us

Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org

Citations

Anderson, M.G., B. Vickery, M. Gorman, L. Gratton, M. Morrison, J. Maillet, A. Olivero, C. Ferree, D. Morse, G. Kehm, K. Rosalska, S. Khanna, and S. Bernstein. 2006. The Northern Appalachian Acadian Ecoregion: Conservation Assessment, Conservation Status, and Resources. The Nature Conservancy, Boston, MA.



Map 5b.1: Northeast Kingdom (VT) – Northern NH Habitat Linkage

Project 6 Maintaining Northwoods Connections –an initiative to conserve landscape permeability along northern Maine borders

State(s): Maine

Estimated Federal and Non-Federal Costs

Total grant amount:	$**62,397.20**
Competitive SWG funds requested:	$47,174.26
Non-federal matching funds:	$15,222.94

Project Partners

The Nature Conservancy – Maine Chapter
Maine Department of Inland Fisheries and Wildlife
Maine Audubon
Maine Department of Transportation

Abstract

It is well known that the northern half of Maine remains largely undeveloped and currently includes a significant portion of the remaining unfragmented wildlife habitat of the Northern Appalachian Ecoregion. However, rapid changes in landownership, increased parcelization, and growing interest in residential development are increasing the pace of fragmentation at its edges. The State of Maine and the Maine Chapter of the Nature Conservancy have a long history of successful partnership in conserving large tracts of northern Maine forestland through fee acquisition and working forest easements, as have their counterparts to the west in New Hampshire. In adjacent Canada there are significant lands permanently protected from the threat of development on the provincial "Crown lands" some of which are designated as ecological reserves, others which are actively leased for timber extraction. Our challenge now is to maintain habitat connectivity between protected core areas.

A proactive approach to conserving additional land in vital bottlenecks, working with local land use planners, and strategically allocating transportation investments for species passage will result in a future landscape that is able to best respond to species needs. The first step is identifying the key areas where these investments should be made and the appropriate partners with whom to work towards implementation in northern Maine and adjacent Canada. Efforts taken now to maintain habitat connectivity will benefit the entire suite of Species of Greatest Conservation Need (SGCN) identified in northern Maine. Initial connectivity planning work will focus on wide-ranging mammals. Results from work with these umbrella species will also benefit SGCN species with smaller home ranges.

Location

This project is focused on assessing current conditions and identifying key linkages in two areas (Map 1, page 2): 1) the northwestern corner of Maine roughly bounded by state routes 27 and 201, and 2) northern Maine along the St. John River valley from Caswell west to Escort Station across Canadian Highway 2 to the forests of the Gaspe. Both of these regions are experiencing increased development pressure. (1) serves as a key linkage between the core areas in northern New Hampshire and Vermont and the large undeveloped and unfragmented area of Maine through which

two major current transportation routes pass between Quebec and Maine and a third is in the planning stages. (2) is an essential linkage to the large forest tracts of Quebec's Gaspe identified as the likely ultimate source population and potential future refuge for the region's lynx population and a potential source/refuge for other species as well as the climate warms.

The proposed project will advance a range of threats, objectives and strategies outlined in the Maine Wildlife Action Plan (Appendix C) In addition the Beginning with Habitat Program, which is an integral implementation tool of the Maine WAP includes an objective to: *incorporate a better representation of natural connectivity on the landscape at multiple scales*. This objective calls for mapping landscape connectivity using spatially explicit models and incorporating them into BwH outreach materials for towns, agencies, and regional efforts.

Focal species will include wide ranging species such as American marten, fisher, Canada lynx (SGCN), and mink. Appendix A lists the Maine SGCN within each of the two project focus areas that will benefit from this grant.

Project Level Objectives

1. Develop or adapt spatial models to assess habitat suitability and landscape connectivity for a suite of five to six focal species native to mixed and coniferous forests of northern Maine. Focal species will include wide-ranging SGCN, such as Canada lynx, as well as more common species including fisher, American marten, and mink.
2. Identify and map priority linkage areas that provide the best opportunities for protecting landscape connectivity between existing protected areas and current large unfragmented forest areas for the greatest number of focal species. Identify (i) tracts ('stepping stones') which, if protected, would maintain connectivity across the landscape and (ii) key linkages for focusing barrier mitigation work on state highways.
3. Work with multiple state and non-governmental partners to develop land protection strategies focused on protecting key parcels within key connectivity areas.
4. Work with Maine Department of Transportation to develop barrier mitigation strategies to take advantage of planned maintenance and road upgrades to enhance permeability and help reduce the potential impacts of road upgrades and new road development.
5. Utilize the existing Beginning with Habitat partnership to guide local implementation of regional connectivity strategies within the organized towns of the two areas. Complete initial model validation, engage organized communities through Beginning with Habitat presentations specific to landscape connectivity, and provide technical assistance to landowners, town planners, and area land trusts.
6. Identify potential partnership opportunities in key linkage areas within adjacent Quebec and New Brunswick.

Approach

1. Conservation Science and Planning

a) Convene Beginning with Habitat Connectivity Committee to provide technical guidance, model review, and active involvement in strategy development. This Committee includes

agency representatives (MDOT, MDIF&W, Maine Natural Areas Program, and State Planning Office), and conservation groups (TNC, Audubon).

b) Within the 2 Key linkage areas, develop and apply spatial models to assess landscape connectivity for a suite of five-to-six northern Maine focal species. The project will utilize, adapt and refine as needed wildlife connectivity modeling currently in development for southern Maine communities and findings from the recently completed New Hampshire connectivity models and will coordinate closely with the comparable committee for Northeast Kingdom (VT) – Northern NH linkage.
   - Describe and model suitable habitats for focal species. Focal species will include wide ranging SGCN species such as Canada lynx, as well as more common species including American marten, fisher, mink, and bobcat. Suitable habitat models will be derived from literature reviews and expert input, using geospatial modeling software such as FunConn and/or Corridor Designer.
   - Develop cost surfaces for focal species based on habitat suitability and resistance curves. These surfaces estimate the ease (or difficulty) with which a target species can utilize each particular land cover type, and are thus used to predict the "cost" to a species of moving through the cover type. We will factor in road traffic count data to further stratify the relative effects of different road stretches as barriers
   - Develop Least Cost Path models for focal species, linking large unfragmented forest blocks and/or existing large-scale conservation areas (>1,000 acres).

c) Based on model results and regional and local expert input, identify priority linkage areas that provide the best opportunities for protecting or restoring landscape connectivity between existing protected areas and large unfragmented forest blocks for the greatest number of focal species.
   - Overlay Least Cost Pathways with developed land cover, MDOT wildlife collision data (where available), protected lands, and other datasets that help to prioritize linkages.
   - Within the priority linkages, develop a tax parcel GIS data layer for large ownerships and identify key tracts ('stepping stones') which if protected would help to maintain wildlife connectivity across the landscape.
   - Within the priority linkages, identify key linkages for focusing barrier mitigation work. These are expected to focus on specific transportation infrastructure segments. Working with ME Department of Transportation, map the overlap between priority linkages and: a) new road corridors under consideration, and b) road segments identified for maintenance or upgrade actions.
   - Do field validation of selected potential high wildlife crossing areas along 4 major highway routes through winter tracking and MDIFW and DOT wildlife collision data.

2. Develop Local Capacity to Initiate Connectivity Strategy Implementation.

a) In consultation with the Beginning with Habitat Steering Committee and other key stakeholders:
   - Develop and document specific land protection strategies focused primarily on securing conservation easements within key connectivity areas. Apply Threat, Opportunity, and Feasibility screens by considering parcel size, ownership patterns, development trends, and overlap with other significant natural resources such as State Wildlife Action Plan priorities, Maine Natural Areas Program element occurrences, etc. (This approach is

currently used to implement Maine's Land Owner Incentive Program in southern and coastal Maine.)

- Develop and document specific barrier mitigation opportunities that will enable the state Departments of Transportation (DOTs), local communities, and other stakeholders to reduce the impacts on wildlife connectivity of existing roads, road upgrades, and new road development. Key linkages will be ground-truthed to develop a higher resolution understanding of the current condition of the existing relevant road segment.
- Utilize Maine DOT's recently published *2008 Waterway and Wildlife Crossing Policy and Design Guide* to develop restoration strategies to guide ecological restoration necessary to enhance connectivity for focal species.
- Incorporate priority linkages into SWAP maps.

b) Conduct technical assistance trainings for local public works departments and Maine DOT regional maintenance garage staff.
   - Convene at least one training session for local and regional road crews in each connectivity focus area. Share modeling results, transfer GIS data, and present land protection and barrier mitigation strategies in the *Landscape Connectivity Action Framework*.

c) Conduct outreach to the organized towns within the two linkage areas.
d) Convene statewide and local land trusts, share the results of this work and seek additional input regarding feasibility and prioritization of land protection.
e) Identify and interview relevant provincial agency and non-government organizations in Quebec and New Brunswick to assess potential partnership opportunities and provide results.

Benefits, Deliverables & Expected Results:

Given the changes of land ownership patterns and expected development pressures in northern Maine, now is the best opportunity to guide the conservation of core habitat areas and landscape connectivity within both organized and unorganized (LURC) towns in the St. John River Valley and northwestern Maine. Identifying priority linkages within Maine that ultimately cross state borders to New Hampshire, New Brunswick, and Quebec are key in strategically coordinating with willing land owners and best informing future land conservation strategies and Department of Transportation project review. Beginning with Habitat has outlined an approach to habitat conservation in northern Maine *Landscape Planning for Northern and Eastern Maine*. This project will be one of the first regional scale applications of Beginning with Habitat in northern Maine and will serve to increase program awareness among local planners and land trust partners.

The project will have the following specific deliverables and results.

- Functional habitat models and movement cost surfaces for 5-6 focal species in northern Maine linkage areas.
- Spatially explicit Least Cost Path models for 5-6 focal species.
- Identification and mapping of suitable linkages for each species, and synthesized priority linkages for multiple focal species.
- Spatially explicit land protection action framework including specific parcels and strategies based on model results, threat, opportunity, and feasibility.
- Spatially explicit barrier mitigation action framework referencing specific road segments and strategies based on model results, threat, and opportunity.

- Improved connectivity data and conservation framework to inform public works departments and Maine DOT maintenance garages.

Implementation Time Line

May '09 – June '09	Convene Beginning with Habitat Connectivity Committee to develop more specific coordinated work plan among project partners
June '09 – Nov '09	Develop spatial models to assess landscape connectivity for focal species
Nov '09 - Feb '10	Identify priority linkage areas based on model
Feb '10 – Jun '10	Develop initial landscape connectivity action framework
June '10 – Oct. '10	Outreach and additional information gathering with Maine Dept. of Transportation, MDIFW field biologists, potential Canadian partners and relevant land trusts
Nov. '10 – Mar '11	Initial field validation of selected areas through tracking program Mar'11
April '11 – June11	Develop road specific barrier mitigation plans with MDOT Reconnect with Canadian and Maine implementation partners, land trusts Conduct town outreach
June '11 – Oct. '11	Technical assistance training for road maintenance crews
Nov '11 – Dec '11	Complete final project report

NEPA/ESA Section 7 /Historic Preservation Act Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
MDIF&W Staff	$7,000.00	$4,300.00	$11,300.00		$11,300.00
Sub-grant to TNC					
Personnel	$14,632.50	$4,877.50	$19,510.00		$19,510
Fringe	$5,999.32	$1,999.77	$7,999.09		$7,999
Contractual					
ME *Audubon*	$3,000.00		$3,000.00		$3,000
Tracking Program(s), Miscellaneous	$7,500.00	$1,000.00	$8,500.00		$8,500
Supplies					
Travel	$1,456.00	$483.00	$1,939.00		$1,939
Other (printing?)	$0	$500.00	$500.00		$500
Subtotal TNC Direct Costs	$32,587.82	$8,860.27	$41,448.09	$0.00	$41,448
TNC Indirect (23.28%)	$7,586.44	$2,062.67	$9,649.11		$9,649
Total TNC Costs	**$40,174.26**	**$10,922.94**	**$51,097.20**	**$0.00**	**$51,097**
Total Budget	$47,174.26	$15,222.94	**$62,397.20**		**$62,397**
match rate check	*75.60%*	*24.40%*			

Budget Narrative

ME Dept. of Inland Fisheries & Wildlife: Wildlife biologists and GIS analysts from the Resource Assessment Division will provide technical assistance in modeling suitable habitat and least cost pathways, and identifying priority linkages. Conservation planners from Beginning with Habitat will assist with conservation strategy development within priority linkages, and serve as liaison to the Connectivity Committee (1a) and Department of Transportation Environmental Office. MDIF&W Regional Staff will assist with winter tracking surveys and local outreach efforts. The Beginning with Habitat Program Coordinator will serve as the State's project leader and will coordinate outreach efforts to project area municipalities and local land trusts.

Personnel ME TNC: ME TNC's Director of Conservation Programs as the local project manager for TNC efforts in Maine. ME TNC's GIS Manager will be involved in literature review, model development, and data interpretation, and strategy development as outlined above in 1b, 1c, & 2a. ME TNC's Director of Protection will be developing and applying Threat, Opportunity, and Feasibility screens to identify priority opportunities and landownership and conducting outreach to potential Canadian partners. One or more TNC seasonal ecologists may assist with field validation and ground truthing as outlined in 1c and 2a. A portion of these ME TNC staff hours shall serve as match.

Fringe: TNC's federally approved fringe benefit rate of 41% for regular employees and 12% for short-term employees.

Contractual: Maine Audubon will be contracted by MDIF&W to provide technical assistance in modeling suitable habitat and least cost pathways, identifying priority linkages as part of connectivity work for southern Maine, and as outlined in 1b, 1c, 2a, & 2c specific to this proposal. Maine Audubon's GIS coordinator has been working with Beginning with Habitat on connectivity and transportation issues for several years.

ME TNC will coordinate efforts with NH TNC to contract with consulting wildlife trackers (1c) to help in verifying priority conservation and restoration locations resulting from modeling. TNC seasonal staff and MDIF&W regional biologists will assist in tracking efforts.

Supplies: No supplies have been requested.

Travel: Estimate 20+/- round trips from Brunswick and Augusta ME to the project areas, reimbursable at IRS rate of $0.585/mile, plus other incidental travel costs such as parking, etc. A portion of these travel expenses will serve as match.

Other: Estimate printing and distributing approximately 50 copies of the connectivity action framework, as described above in 2a.

Indirect: Based on TNC's federally approved indirect rate of 23.28%, but does not apply to ME Inland Fisheries and Wildlife staff costs

Project Leaders (see Appendix G for project leader credentials/biographies)

Steve Walker, Beginning with Habitat Program Coordinator, Maine Department of Inland Fisheries and Wildlife, 207-287-5254, Steve.Walker@maine.gov

Mr. Walker has worked for the Maine Department of Inland Fisheries and Wildlife since 2006. Prior to that he served as the Natural Resources Planner for the Town of Brunswick and was principally involved in the crafting of the Rural Brunswick Smart Growth Plan and Brunswick Parks Recreation and Open Space Plan. Mr. Walker also has many years of experience as a private land use consultant specializing in municipal resource planning efforts and environmental permitting. Mr. Walker has a B.A. in Environmental Studies from Brown University and a B.S. in Wildlife from University of Maine.

Barbara Vickery, Director of Conservation Programs, The Nature Conservancy in Maine

Barbara Vickery has worked for The Nature Conservancy in Maine since 1983 where she has served in various positions including Director of Science and Stewardship, Director of Conservation Planning and since 1998 as Director of Conservation Programs**.** She is responsible for oversight of Science and Stewardship Program, Regional, Ecoregional and Conservation Area Planning, Freshwater and Marine Conservation Programs and serves as the liaison with Beginning with Habitat and Maine Natural Areas Programs. She supervises 4 staff directly and 6 indirectly. Ms. Vickery has a B.A from Harvard College and a B.S. in Biology from Bates College (Phi Beta Kappa).

Dan Coker, GIS Analyst, The Nature Conservancy in Maine

Will Brune, Director of Protection, The Nature Conservancy in Maine

Project 7 Cross-Cutting Connectivity Strategies: Development of Model Easement Standards

State(s): Maine, New Hampshire, New York and Vermont

Project Period 05/01/2009 to 4/30/2012

Estimated Federal & Non-Federal Costs

Total grant amount	**$4,020.16**
Competitive SWG funds requested	$4,020.16
Non-federal matching funds	$0.00

Project Partners
The Nature Conservancy-NH & Adirondack Chapters, Trust for Public Land, Vermont Land Trust, New Hampshire Fish & Game Department

Abstract
In many areas, protecting lands through conservation easements will serve as an important tool for maintaining or re-establishing landscape connectivity. Connectivity issues can be reflected in easement recitals, purposes, use limitations, and management plan provisions, however conservation easement language is widely variable across states, organizations, and agencies. We will develop model easement standards and terms that specifically address connectivity across multiple spatial scales.

Location: This work on this project will occur in offices, primarily in New Hampshire and New York.

Project-level Objective
Develop and distribute model conservation easement standards and terms specific to habitat connectivity objectives at multiple scales to benefit Species of Greatest Conservation Need.

Approach
Using information developed through suitable habitat modeling, identify the key habitat cover and structure characteristics that allow for successful wildlife movement through habitat patches. "Cross-walk" desired habitat characteristics into sensible, enforceable conservation easement terms including recitals, purposes, use limitations, and management plan provisions. Each suggested easement provision will be annotated with a brief rationale for why the provision is important for connectivity. Draft model easement provisions will be circulated for review by wildlife and land protection experts. Final recommendations will incorporate expert feedback, and will be broadly distributed to local land trusts, public agencies, and other partners active in land protection work within key linkage areas.

Expected Benefits & Results: This project will result in the following short- and long-term benefits:

- Technical assistance document with annotated model easement standards and terms that would yield benefits for wildlife connectivity.
- Wildlife connectivity benefits will accrue as easements in key linkage areas adopt model easement provisions that specifically address habitat issues associated with connectivity.

Long-term (greater than 10 years) see page eight of the main document for expected long-term benefits and results.

Implementation Timeline

Date	Task
July '09 – December '09	Compile literature
January '10 – February '10	Draft model easement language
February '10 – April '10	Solicit expert review
May '10 – June '10	Produce final report

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel					$0.00
NH Deputy State Director/ TNC Land Protection Staff	$1,120.00		$1,120.00		$1,120.00
Adirondacks Dir Cons Programs	$980.00		$980.00		$980.00
Fringe	$861.00		$861.00		$861.00
Other					$0.00
	$300.00		$300.00		$300.00
Total Direct Costs	**$3,261.00**	**$0.00**	**$3,261.00**	**$0.00**	**$3,261.00**
Indirect (23.28%)	$759.16		$759.16		$759.16
Total Budget	**$4,020.16**	**$0.00**	**$4,020.16**	**$0.00**	**$4,020.16**
match rate check	*100.00%*	*0.00%*			

Budget Narrative

Personnel: NH TNC's Deputy State Director will serve as project manager. Adirondacks TNC Director of Conservation Programs will participate in literature review and drafting of model easement language.

Fringe: TNC's federally approved fringe benefit rate of 41% for regular employees and 12% for short-term employees.

NEPA/ Section 7/Historic Preservation Compliance

The activities proposed in this project provide conservation planning to support land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Project Leaders (see Appendix G for project leader credentials/biographies)

Mark Zankel, Deputy State Director, The Nature Conservancy-NH, (603) 224-5853 x19, mzankel@tnc.org

Dirk Bryant, Director of Conservation Programs, Nature Conservancy – Adirondack Chapter, 518-576-2082, dbryant@tnc.org

Project 8 Cross-Cutting Connectivity Strategies: Development of land use planning tools and materials, and a technical assistance support system to promote habitat connectivity

State(s): Maine, New Hampshire, New York and Vermont

Project Period 05/01/2009 to 4/30/2012

Estimated Federal & Non-Federal Costs

Total grant amount	**$44,898**
Competitive SWG funds requested	$33,594
Non-federal matching funds	$11,304

Project Partners

Wildlife Conservation Society, The Conservation Fund, The Northern Forest Alliance, Maine Department of Inland Fish & Wildlife, New Hampshire Fish & Game, New York Department of Environmental Conservation, Vermont Fish & Wildlife Department

Abstract

The Wildlife Action Plans of the four partnering states identify habitat loss and fragmentation of habitats as top threats to wildlife habitat (Appendix B) and their SGCN (Appendix A). Poorly planned commercial and residential development are the major drivers of loss and fragmentation and each Action Plan identifies similar strategies to address these problems, including the provision of technical assistance to land use planners and land owners (Appendix C). Habitat linkage projects 1-5a and 6 each include objectives targeted at the provision of technical assistance. To support and enhance these individual efforts we propose the following cross cutting activities:

1) Identify best practices and land use planning tools employed by the land use planning programs of state wildlife agencies and partners in the four partnering states and produce state by state and regional land use planning guidelines and lessons learned to facilitate the integration of habitat connectivity values into local, statewide and regional land use planning across the four states.

2) Develop and host a series of training opportunities to support and enhance the skills of technical assistance providers active under this grant.

Location

The work of compiling best practices and development of guidelines will occur in New York. Information supporting this work will come primarily from the four partner states, but will be supplemented with information from programs in other states and from environmental conservation and land use planning organizations. Most of the supporting information will be acquired via the internet and telephone conversations.

Technical assistance coordination will occur through telephone and webinar conferences among partners in the four states, and through two face-to-face meetings, to be held at locations in the region to be determine later. Technical assistance trainings will occur primarily "in the field" as part of workshops and meetings organized as components of projects one through six.

We propose a series of events across the region with key landowners and planning agencies to achieve three goals, (1) build support among diverse stakeholder groups for regional connectivity, (2) use the results of the regional land use guidelines/toolbox and other resources to describe assistance available for landowner land use decision making as well as municipal and regional land use planning, (3) provide opportunities for landowners and planning agencies to incorporate strategies for connectivity into their future land use plans.

Work Completed to Date

The four states and partners provide technical assistance to help land use planners and landowners maintain, enhance and protect habitat for SGCN. Three of the four have specific programs tield to their Wildlife Action Plans to conduct this work. These include:

- Maine's Beginning with Habitat, which provides a toolbox of land use planning tools and technical support needed to help towns develop and implement their own "conservation blueprint", or suite of local actions that will achieve their municipality's land conservation goals. Beginning with Habitat is a partnership of state agencies and non-profit organizations.

- Vermont Fish & Wildlife Department's Community Wildlife Program provides similar services to Vermont Communities. It has developed "Conserving Vermont's Natural Heritage; A Guide to Community-Based Planning for the Conservation of Vermont's Fish, Wildlife, and Biological Diversity". This book offers towns sample language for use in town plans to address natural heritage elements (including contiguous habitat and habitat connectivity) and suggests a wide variety of regulatory and non-regulatory tools for dealing with each element. The Community Wildlife Program partners with a number of state and non-profit organizations to deliver this technical assistance, including The Northern Forest Alliance, the Vermont Natural Resource Council, Vermont Audubon, and Vermont Coverts.

- New Hampshire Fish and Game's technical assistance program provides towns, other planning entities and landowners with maps, wildlife data and other resources to underway to guide land use planning that minimizes the impact to wildlife. NH Fish and Game partners with the University of New Hampshire Cooperative Extension office in the delivery of these services.

- In the Adirondack Park region of New York, The Wildlife Conservation Society is working with the Adirondack Park agency to review the existing statute in the Adirondack Park Agency (APA) Act and the associated guidance document to determine specific cases where wildlife-relevant information is lacking. WCS recently published a research paper outlining specific impacts to wildlife from backcountry, low-density development and makes recommendations for land owners and planners for more sustainable development. This research is being translated into a brochure for town and county level planners and will provide easy-to-follow recommendations for maintaining connectivity on private lands.

Project-level Objectives

To support and enhance technical assistance provided across this grant, we propose the following objectives:

1. Identify best practices and land use planning tools employed by the land use planning programs of state wildlife agencies and partners in the four partnering states and produce state by state and regional land use planning guidelines and lessons learned to facilitate the

integration of habitat connectivity values into local, statewide and regional land use planning across the four states to benefit Species of Greatest Conservation Need.

2. Develop/refine land use guidelines and tools for Adirondack, NY communities to assist in planning for wildlife connectivity.

3. Support the provision of technical assistance to local communities by enhancing the skills of technical assistance providers active under this grant.

Approach

1. Best Practices and Land Use Planning Tools

- Assess the land use planning tools and management practices utilized by each of the partner states and other sources of land use guidance that could benefit Species of Greatest Conservation Need and the development and protection of functional habitat linkages are several scales.

- Develop case studies and lessons learned exemplifying success and shortcoming of selected tools and practices to help potential users understand the advantages and disadvantages of each tool so they can select the tools and approaches that will best their local needs.

- Work with technical assistance providers to fine-tune and field test

- Present draft best management practices and land use planning tools report at the regional connectivity conference described in project 10.

- Finalize report and make the report accessible through the internet and via paper copies across the grant region.

2. Support the provision of technical assistance by enhancing providers skills

- Hold six technical assistance provider telephone conference calls (three per year) to allow providers to share lessons learned, troubleshoot problems and provide support for fellow technical assistance providers working on this grant.

- Work with technical assistance providers in each of the project areas of this grant to identify high priority issues and opportunities in the development of technical assistance materials and processes. For example: how to hold meetings and develop working groups that encourages everyone to participate and feel ownership in the process; how to write effective zoning language; how to facilitate community values mapping exercises.

- Identify appropriate trainers/facilitators for each type training desired, and work with the technical assistance providers in each project area to schedule training sessions. In most cases, the training will occur as will part of meetings or workshop with the technical assistance provider and the local organizations or entities receiving the technical assistance (e.g., the trainer will facilitate the community values mapping exercise with a local planning and conservation commission. The trainer and project leader in a linkage area will work together to ensure appropriate individuals are in attendance.

Implementation Timeline

Date	Task
Land use planning guidelines	
July '09 – October'09	Compile existing land use tools from states
November '10 – February '10	Review existing tools and guidelines
February '10 – June '10	Produce regional land use planning guidelines report
June '10 – September '10	Distribute land use planning guidelines report electronically and by mail across the region
Date to be determined (see project 10)	Presentation of land use planning report to Northern Forest communities at regional connectivity conference.
Technical assistance support	
July '09-Sept '09	Hold initial discussions with Technical assistance providers to identify priority training and support needs and select the trainings desired in each project area (via telephone conferences)
Sept '09-Dec '09	Work with the trainers to develop training agendas and materials
Jan '10-Dec '10	Schedule and hold training sessions
Feb '10-Dec '12	Hold nine technical assistance provider telephone conference calls (three per year for three years) to allow providers to share lessons learned, troubleshoot problems and provide support for tech assistance providers working on this grant.

Expected Benefits & Results: This project will result in the following short-term and long-term benefits:

Short-term (w/in 10 years)

- Increased number of private landowners making land use management decisions that positively impact habitat connectivity.
- Increased number of town plans (comprehensive plans) as well as regional plans that speak directly to habitat connectivity.
- Increase the number of communities and regions utilizing non-regulatory incentive programs to steer land use decision making away from developing habitat linkages.
- Increased number of communities adopting regulatory approaches (such as overlay districts, zoning and subdivision ordinances) that specifically protect habitat linkages lands.

Long-term (greater than 10 years) see page eight of the main document for expected long-term benefits and results.

Draft Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel					
Fringe Benefits					
Travel	$2,000	$554	$2,554		$2,554
Equipment					
Supplies (print report)	$3,000	$2,000	$5,000		$5,000
Contractual: best practices and tools, land use guidelines	$10,000	$5,000	$15,000		$15,000
Contractual: Tech Assist trainers	$11,250	$3,750	$15,000		$15,000
Construction					
Other: telephone and conference calls	$1,000	$0	$1,000	0	$1,000
Total direct costs	**$27,250**	**$11,304**	**$38,554**	**0**	**$38,554**
Indirect (23%)	$6,343.80		$6,344		$6,344
Total Budget	**$33,594**	**$11,304**	**$44,898**	**$0**	**$44,898**
match rate check	*74.82%*	*25.18%*			

Budget Narrative

Contractual

Zoe Smith, Wildlife Conservation Society (WCS) will identify best practices and land use planning tools: 4 weeks at 5 day/week, 8 hrs/day at $62.50/hr for a total of $10,000. Develop/refine land use guidelines and tools for Adirondack communities 10 days, 8 hrs/day at $62.50/hr for a total of $5,000. WCS will provide non-federal match at 25%.

Technical Assistance Trainers-Specific trainers will be selected for their special skills (e.g., meeting facilitation, conflict mediation, regulation writing) based on the training needs identified by technical assistance providers. We anticipate two training sessions in each of the six linkages for a total of 12 sessions. Each training session will require 16 hours of preparation by the trainer, plus eight hours for each training session (including travel to and from the training site). The average hourly rate for the trainer will be $50.00/hr with the trainer providing 25% of this as a cost share ($12.50/hr), so the total cost charged to SWG will be $37.50/hr. A selected Technical Assistance Trainers will also participate in six of the nine regional technical assistance conference calls. Each call will run for approximately two hours with the trainers paid for the two hours on the call (no prep) at the same rates.

Travel: Travel to meetings and training workshops by technical assistance trainers reimbursable at IRS rate of $0.585/mile is estimated at $ 4,680. This estimate is based on a total of 2,000 miles for meetings with land use planner across the grant region in the development of the land use guidelines and best management practices and 200 miles round trip for technical assistance trainers for each of 12 trainings (2400 miles).

Supplies: This item includes printing the land use planning guidelines (WCS will provide 50% match) and the cost of meeting supplies (flipcharts, markers, etc.) and any room fees for the 12 meetings/trainings and photocopies of relevant information for distribution at local meetings.

Indirect: Is based on The Nature Conservancy's federally approved indirect rate of 23.28%.

NEPA/Section 7/Historic Preservationc Compliance

The activities proposed in this project include conservation planning, technical assistance and support for land conservation. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Project Leaders (see Appendix G for project leader credentials/biographies)

Zoe Smith, Director, Director, Wildlife Conservation Society Adirondack Program, 518-891-8872, zsmith@wcs.orgzsmith@wcs.org

Joe Racette, Division of Fish, Wildlife, and Marine Resources NYSDEC, (518) 897-1293, jaracett@gw.dec.state.ny.us

Jens Hilke, Conservation Planning Biologist, Vermont Department of Fish and Wildlife, (802) 476 0126, jens.hilke@state.vt.us

Steve Walker, Maine Department of Inland Fisheries and Wildlife, Beginning with Habitat Program Coordinator, 207-287-5254, Steve.Walker@maine.gov

Project 9: Cross-Cutting Connectivity Strategies: Transportation Planning and Barrier Mitigation Models

States: Maine, New Hampshire, New York & Vermont

Project Period 05/01/2009 to 4/30/2012

Estimated Federal and Non-Federal Costs

Total grant amount:	$11,636
Competitive SWG funds requested:	$11,636
Non-federal matching funds:	$0

Project Partners

Adirondack Nature Conservancy, New York Department of Environmental Conservation

Abstract

Many states have completed or have planning underway to increase the permeability of roads to fish and wildlife species. Examples include the adoption of standards for culvert design in Massachusetts, and the use of signage in Maine to reduce road collisions with wildlife. Work is underway in several states (i.e. Maine and New York) to develop datasets for their state DOT's. We propose to compile best practices through literature and interviews to produce guidelines and lessons learned for integrating connectivity into transportation planning.

New York State is creating a GIS model to identify significant potential barriers to aquatic Species of Greatest Conservation Need. We propose to research other similar efforts, if they exist, and provide recommendations for the applicability across the Northern Forest. While it is conceptually enticing to want to apply barrier mitigation models across the entire Northern Appalachian Ecoregion, this effort will provide information as to the feasibility, usefulness, and cost of such an effort. Many agency and land conservation staff will be consulted for input and review.

Location: This project will benefit the four project states, most of the research will occur in NY.

Project-level Objectives

1 Produce guidelines and best practices for how to integrate connectivity into transportation planning and maintenance.

2 To assess the feasibility and usefulness of applying barrier mitigation models across the Northern Forest.

Expected Benefits, Results and deliverables:

Short-term (w/in 10 years)

- Final report of guidelines and best practices for how to integrate connectivity into transportation planning and maintenance.
- Technical document compiling existing barrier modeling efforts, and the feasibility and recommendations for applying barrier mitigation models.
- The above reports will serve as an up –to-date, one-stop shop for organizations in the northeast and beyond to better understand connectivity and transportation efforts to date.

Long-term (greater than 10 years) see page 8 in the main document for a list of expected long-term benefits and results.

Approach

- Compile existing literature and white papers on efforts combining transportation and connectivity objectives, barrier mitigation models, and other related projects.
- Conduct interviews to provide further information on existing and past transportation planning and barrier mitigation models.
- Produce final reports including a compilation of all literature, interviews, and resulting recommendations and conclusions.

Implementation Time Line

Date	Task
July '09 – December '09	Compile literature
January '10 – April '10	Complete interviews
April '10 – June '10	Produce final report

NEPA/ESA Section 7 /Historic Preservation Compliance

The activities proposed in this project are conservation planning and research in nature. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel	$6,000	$0	$6,000		$6,000
Fringe	$2,460	$0	$2,460		$2,460
Travel	$1,000	$0	$1,000		$1,000
Total Direct Costs	**$9,460**	$0	**$9,460**	**$0**	**$9,460**
Indirect	$2,176	$0	$2,176		$2,176
Total Budget	**$11,636**	**$0**	**$11,636**	**$0**	**$11,636**
match rate check	*100.00%*	*0.00%*			

Budget Narrative

Personnel: Project leader: Director of Conservation Programs, Adirondacks Chapter. Other personnel include Adirondack TNC Conservation Scientist.
Travel: Travel to and within the project area for interviews reimbursable at IRS rate of $0.585/mile is estimated at $ 1000. This estimate is based on 850 miles/year over 2 years.
Indirect: Is based on The Nature Conservancy's federally approved indirect rate of 23.28%.

Responsible Personnel (see Appendix G for project leader credentials/biographies)

Dirk Bryant, Director of Conservation Programs, Nature Conservancy – Adirondack Chapter, 518-576-2082, dbryant@tnc.org

Joe Racette, Division of Fish, Wildlife, and Marine Resources NYSDEC, (518) 897-1293, jaracett@gw.dec.state.ny.us

Michelle Brown, Conservation Scientist, Adirondack Chapter of The Nature Conservancy & the Adirondack Land Trust, 518 576 2082 x122, michelle_brown@tnc.org

Project 10: Crosscutting Strategy Connecting Success: Monitoring, Evaluating and Sharing Connectivity Strategies in the Northern Appalachians

States: Maine, New Hampshire, New York & Vermont

Estimated Federal and Non-Federal Costs

Total grant amount:	$45,568
Competitive SWG funds requested:	$25,568
Non-federal matching funds:	$20,000

Project Partners

New Hampshire Fish & Game, Maine Dept of Inland Fish & Wildlife, New York Dept of Environmental Conservation, Vermont Fish & Wildlife Dept, The Nature Conservancy (ME, NH, NY & VT chapters), Wildlands Project, Wildlife Conservation Society The Northern Forest Alliance and Two Countries, One Forest,

Abstract

Beginning in 2010, Two Countries, One Forest will assemble a representative team of SWG partners to form a monitoring and evaluation group (MEG). We will establish a monitoring framework from the onset of implementation to ensure that our desired impacts are focused and efficient, that they can be readily measured, and that they can be reported in fashion that is understandable to our partners and a broader public alike. The MEG will meet on a regular basis to compare implementation strategies and their strengths and weaknesses. These regular meetings will also facilitate the transfer of information, in both formal and informal forms, across linkages and into the cross-cutting activities.

In addition to providing data for the Northeast Regional Monitoring and Performance Reporting Framework, the MEG will prepare brief and accessible narratives that describe the status of implementation activities and the successes and challenges encountered. These monitoring and evaluation resources will provide critical background information for a proposed workshop to test the efficacy of implementation strategies through comparisons of implementation success, and lessons learned, across the grant.

In the fall of 2011, we will convene a partnership workshop to assist the successful implementation of the multi-state proposal "Staying Connected in the Northern Appalachians: Mitigating Fragmentation & Climate Change Impacts on Wildlife through Functional Habitat Linkages." This will ensure that the process and products resulting from this grant continue to benefit wildlife and habitat connectivity efforts beyond the completion of the grant.

Location: Workshop location to be determined.

The workshop will be held in fall of 2011. Convening partners during the grant period will allow for project evaluation, strategic assessment and improved delivery in the final stage of the grant.

Background

Two Countries, One Forest is a science-based organization that provides leadership through communication of a region-wide conservation vision and establishment of key priorities in the Northern Appalachian/Acadian region.

2C1Forest has recently convened two regional conferences. In November 2007, 140 people assembled to review the results of a scientific analyses that showed that the region is endanger of being fragmented into isolated ecological islands and discuss how connectivity and corridor conservation could address the threat. In October 2008, 2C1Forest convened a smaller workshop focused on "Climate Change Connectivity and Conservation". These conferences provide a foundation for a workshop on monitoring and evaluation of connectivity conservation work under the multi state grant.

We propose to convene SWG partners, conservation organizations, land trusts and community members in a region-wide workshop to evaluate progress in achieving respective conservation targets and assess the effectiveness of strategies designed to achieve connectivity in the priority linkage areas identified in the grant proposal.

Project-level Objectives

1. Gather and report monitoring data.
2. Evaluate the delivery and effectiveness of cross-cutting community planning tool kits.
3. Share information on the status of conservation planning in the identified linkage areas.
4. Synthesize and report lessons learned.
5. Present emerging information on planning for connectivity conservation and resiliency in the face of climate change.
6. Develop recommendations for ongoing local and regional conservation strategies.
7. Provide a forum for information on multi-state SWG implementation progress.

Approach

1: Objective 1 Convene the Monitoring and Evaluation Group (MEG)

a. Designate a coordinator of the MEG.

b. The MEG Coordinator will develop a monitoring and evaluation strategy with the assistance of the MEG to be used in the linkage areas.

c. The MEG coordinator will meet with the linkage leads to develop and provide a consistent framework for monitoring progress on the conservation goals in the linkage areas.

d. The MEG coordinator will convene the lead partners on an ongoing basis to share information, data and strategies in the implementation of the grant.

e. The MEG coordinator will collect, synthesize and distribute information on conservation strategies across the region during grant period.

f. Information and data collected by the MEG will be synthesized and distributed for use the regional workshop.

2 Objective 2 Workshop

a. Confirm Date and matching funds for workshop.
b. Develop agenda.
c. Confirm speakers and facilitators.
d. Prepare materials and media outreach.
e. Engage workshop coordinator.
f. Coordinate and host workshop.

Implementation Time Line

Date range	Activity
September 2010- September 2011	**MEG Activities**: Designate MEG coordinator Convene MEG on a monthly conference call. Collect and distribute information across the linkages Visit linkages to gather information **Conference Activities:** Confirm Date and matching funds
April -June 2011	**Conference Activities:** Consult leads in linkage areas on workshop agenda, speaker and formats; Develop Workshop agenda Invite and confirm workshop speakers, and facilitator Prepare media outreach
July- August 2011	**MEG Activities** Prepare materials for workshop **Conference Activities** Engage workshop coordinator Print materials workshop Invite participants
September-October 2011	Host 1 ½ day workshop for 100-120 participants in central location

Benefits, Deliverables & Expected Results:

The MEG will convene partners and communities to exchange information, evaluate progress and update conservation strategies across the region on a regular basis. The MEG will synthesize and prepare material for the proposed workshop.

The Workshop will provide a forum for a mid-term evaluation of conservation work conducted under the grant. The two and day and a half workshop will be structured to provide partners an opportunity to share their success and challenges in applying connectivity and climate change conservation in the region. The agenda will be developed by the MEG coordinator in response to the two year experience of practitioners working under the multistate SWG proposal.

The workshop will provide the opportunity for evaluating best land-use practices and community tool kits. It will assess progress in protection of focal species, on the ground conservation results and program delivery under the grant. Maximizing success for the remainder of the grant period will be an essential outcome of the workshop.

NEPA/Section 7 Compliance/Historic Preservation Compliance

The activities proposed in this project include conservation planning, monitoring and technical assistance. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel	$8,300	$7,150	$15,450	$0	$15,450
Fringe	$1,200	$400	$1,600		$1,600
Contractual					
MEG Coordinator	$5,000	$5,000	$10,000		$10,000
Website design and content	$1,140	$5,650	$6,790		$6,790
Printing of agenda, bios, etc.	$800		$800		$800
Facilitator	$1,200	$900	$2,100		$2,100
Supplies	$100		$100		$100
Travel	$1,400	$900	$2,300		$2,300
Facilities	$1,600		$1,600		$1,600
Other	$0	$0			
Subtotal Direct Costs	**$20,740**	**$20,000**	**$40,740**	**$0**	**$40,740**
Indirect costs 23.28%	$4,828		$4,828		$4,828
Total Budget	**$25,568**	**$20,000**	**$45,568**	**$0**	**$45,568**
match rate check	*56.11%*	*43.89%*			

Budget Narrative

Personnel: SWG request includes Executive Director Salary costs, a coordinator for the Monitoring and Evaluation Group (MEG) and a workshop coordinator. Nonfederal match is included salary for administrative support of the workshop.

Fringe: Fringe benefits include current insurance costs.

Contractual: Contractual services will be retained for conference services where volunteer or in-kind services are insufficient, including conference facilitator costs, and website input costs. A workshop facilitator included.

Supplies: meeting supplies.

Travel: Four trips to linkage areas are anticipated to coordinate and plan the workshop.

Project Leaders (see Appendix G for project leader credentials/biographies)

Alice Chamberlin, Executive Director, Two Countries, One Forest, 603-456-3239, alice.chamberlin@2c1forest.org

Conrad Reining, Wildlands Project, (802) 785-2838, conrad@wildlandsproject.org

Project 11: Overarching Project Management–Ensuring Timely and Effective Implementation, Coordination, and Shared Learning Across this Four-State Effort

States: Maine, New Hampshire, New York & Vermont

Estimated Federal and Non-Federal Costs

Total grant amount:	$26,444
Competitive SWG funds requested:	$26,444
Non-federal matching funds:	$0.00

Abstract

With the geographic scope, diversity of partners, and range of specific components involved in this four-state habitat connectivity initiative, effective overarching project management will be essential for success. To this end, a designated Project Manager will be assigned to (1) coordinate financial management of the grant, (2) ensure that all deliverables are submitted on time and all grant requirements are met, (3) coordinate ongoing communication among an ad hoc steering committee that has been formed of project partners from the four states, and (4) foster shared learning across the different linkage-specific projects and the cross-cutting strategies.

Location: Overarching project management applies to grant-related work in all four partner states.

Project-level Objectives

1. Ensure sound and efficient financial management of grant funds.
2. Ensure all grant requirements are met and deliverables are completed and submitted in a timely fashion.
3. Foster efficient, climate-friendly coordination and communication among project partners across the four states to optimize the implementation of grant components, the collective learning resulting from these efforts, and the opportunities for leveraging new support for future initiatives.

Approach

1. TNC will assign a Project Manager.
2. The Project Manager will work with project partners and grant administration staff from TNC, NH Fish & Game Department, and US Fish & Wildlife Service over the course of the grant period to coordinate financial management of grant funds and to ensure that all grant deliverables (progress reports, invoices, interim and final reports) are submitted on time for all linkage projects and cross-cutting strategies.
3. The Project Manager will coordinate regular and ongoing communications of the ad hoc overarching four-state steering committee, which includes the project leaders for each of the linkages and cross-cutting strategies and other key staff from the partner organizations. This will include convening regular (approximately bi-monthly) conference calls and/or "virtual" meetings (e.g., WebEx or video-conferencing services) for status reporting on the various projects and discussion of issues, opportunities, and lessons learned to inform each others' efforts. Holding these meetings "remotely" will enhance efficiency and cost-effectiveness, and will reduce the carbon footprint associated with grant implementation. The Project Manager and steering committee may also meet periodically (e.g., annually) in person if the benefits of such face-to-face interaction are determined to outweigh the costs in time, resources, and carbon output.

Benefits, Deliverables & Expected Results

- Financial management of grant funds meeting state and federal requirements
- Timely submission of interim and final financial and programmatic reports and other deliverables.
- Improved project coordination and communication across the four states to optimize the implementation of grant components
- Improved ability to leverage additional support for future initiatives

Implementation Time Line: Grant coordination will commence with the acceptance of the grant and will run through the submission of final program and financial reports and grant close-out.

NEPA/Section 7 /Historic Preservation Compliance

The activities proposed in this project are project management, reporting and facilitation of communications. No ground disturbing activities will occur. We believe there will be no adverse affect on historic, cultural or environmental resources. Because the scope of the work in this project is designed to benefit rare and declining wildlife, we believe that grant activities will have no adverse affect on the federally listed, proposed and candidate species found in the four states (Appendix D).

Budget

Expense Category	SWG Request	Non-Federal Match	Total Grant Amount	Additional funds leveraged (not match eligible)	Grant Amount and Leveraged Funds
Personnel	$13,440	$0	$13,440	$0	$13,440
Fringe	$5,510	$0	$5,510	$0	$5,510
Other (communications)	$2,500	$0	$2,500	$0	$2,500
Subtotal Direct Costs	**$21,450**	**$0**	**$21,450**	**$0**	**$21,450**
Indirect (23.28%)	$4,994	$0	$4,994	$0	$4,994
Total Budget	**$26,444**	$0	**$26,444**	$0	**$26,444**
match rate check	*100.00%*	*0.00%*			

Budget Narrative

Personnel: TNC will provide the overall Project Manager for the four-state effort to fulfill the responsibilities outlined above. Cost is based on 2 days/month (14 hrs/mo) over 24 months for TNC Deputy State Director/Director of Cons Programs level staff or contracted equivalent.

Fringe: TNC's federally approved fringe benefit rate of 41% for regular employees.

Other: Estimated costs for bi-monthly conference calls and virtual meetings for project teams from all four states.

TNC Indirect: based on TNC's federally approved indirect rate of 23.28%

Project Leader (see Appendix G for project leader credentials/biographies)

Phil Huffman; Director of Conservation Programs, The Nature Conservancy-VT, 802-229-4425 x109, phuffman@tnc.org