Somerset Collaborative Forest Landscape Restoration Project

United States Forest Service

Green Mountain National Forest

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Project Map

The Green Mountain National Forest Somerset Collaborative Forest Landscape Restoration Project (Somerset Project) boundary was expanded by the collaborative since the Tier 1 submission to encompass three subwatersheds in Vermont - the North Branch, Headwaters, and East Branch of the Deerfield River. Mitigating forest health risks and maintaining ecological function are important drivers for proposed restoration work. The composition and structure of forests throughout the Northeast have changed dramatically since European settlement and are very different from pre-settlement conditions as indicated by a high Vegetation Departure Index (LANDFIRE 2018). In many ways, current conditions represent novel ecosystems at risk of mortality from native and non-native insects and pathogens. Portions of the project area have high tree mortality from insects and pathogens based on the National Insect and Disease Risk and Hazard Map (FHAAST 2018) and the National Forest Pest Conditions Database (FHAAST 2018). Low diversity also makes these ecosystems vulnerable to future stressors such as a changing climate and invasive species. The three project subwatersheds are rated high nationally for Forest Importance to Surface Drinking Water (USFS 2019) due to close upstream proximity to large urban populations. Proposed restoration work is designed to increase overall diversity and resilience of these forest systems and watersheds while addressing specific forest health concerns and water quantity and quality. The following table includes the land ownership acreage by jurisdiction within the expanded project boundary.

Land Owner / Manager	Total Acres	Estimated Treatment Acres
Green Mountain NF	54,408	13,894
State of Vermont	287	
Town	1,369	
Land Trust	10,225	
Private	34,820	8
TOTAL	**97,109**	**13,902**

Landscape Boundaries

Prior to acquisition by the United States Forest Service, historic land use practices included large-scale clearing for farming and agriculture, industrial logging, and charcoal production. There is a resulting need to improve and restore ecological conditions to withstand stressors from climate change and to develop a healthy, resilient forest to meet future management objectives. The project boundary was also expanded by the collaborative to more closely match the Vermont Department of Environmental Conservation Tactical Basin Plan for the Deerfield River (2019). The plan provides an assessment of the watershed condition and identifies strategies to protect high-quality waters and restore impaired water resources across ownership boundaries using approaches outlined in the Vermont Surface Water Management Strategy (2018).

The proposed Somerset Project is in an area experiencing overall economic decline. In addition to the positive benefits of improved forest and watershed health and resiliency, this project would provide much needed economic stimulus to local communities within the vicinity of the proposal area. This project will increase the Forest Service's ability to more fully realize economic value by proactively addressing the issues of low value and underutilized material on a landscape in need of active forest management and restoration.

The Somerset Project provides ample shared stewardship and restoration opportunities. The project area includes state, town, Vermont Land Trust, and private land ownership. Project treatments are also part of broader management objectives consistent with the Eastern Brook Trout Joint Venture, composed of state and federal agencies and conservation groups, and the Vermont Conservation Design (2019), a vision to sustain the state's ecologically functional landscape based on the best available scientific information, developed by the Vermont Agency of Natural Resources (ANR) in collaboration with the Vermont Land Trust and other organizations (VT DFW, 2018). State cooperators have provided substantial input into project development. Together, these landscape-scale restoration plans provide a road map for an all-lands approach to watershed health. Many of our collaborators are organizations and individuals responsible for the management of their respective lands within the proposed area. This intersection of jurisdictions makes it a priority landscape ripe with opportunities for shared ecosystem restoration with local stakeholders —opportunities described in greater detail throughout the proposal. The project area map (Attachment A) clearly displays the interspersion of ownerships and resulting opportunities to work collaboratively across land ownership jurisdictions.

Economic, Social, and Ecological Context

The Somerset Project is located in southern Vermont, a predominately rural, heavily forested area facing significant economic and demographic challenges. This region is characterized by a shrinking and aging population and limited job opportunities and investment. The area lags behind the US and the State in measures of economic trend, prosperity, and structure. Recognizing these declining conditions, the State of Vermont Legislature created the Southern Vermont Economic Development Zone. The Somerset Project is located near the center of this zone, which encompasses dozens of towns and villages, and approximately 80,000 residents (CEDS, 2019).

Since 2010, new jobs have been added at a lower rate in this zone than the national average, and future growth in jobs and income is projected to occur at a slower rate than surrounding areas. Compared with the rest of Vermont and the surrounding states, the zone has the lowest average earnings per job and the lowest median household income. The population is shrinking and aging at a rate faster than the rest of the region, and the mean age of residents is higher than the state and national averages (CEDS, 2019). These demographic trends are likely to restrain economic growth, making it more difficult to attract and retain businesses.

Several recent events in the area also contribute to slow economic growth. In 2014, Louisiana-based Entergy closed the Vermont Yankee nuclear power plant in Brattleboro, citing declining profitability in the face of low natural gas prices nationwide. Vermont Yankee was the largest employer in Windham County, with 630 permanent employees and numerous contractors. The Hermitage Club Resort, another major employer in the Deerfield Valley, closed in 2018.

The forest products industry (logging, trucking, and manufacturing), and forest-based recreation are significant economic drivers for Vermont, and make a substantial contribution to the state's economy. Vermont's forest products industry generates an annual economic output of $1.5 billion and supports 10,000 jobs in forestry, logging, processing, specialty woodworking, construction, and wood heating. In addition, Vermont's forest recreation economy generates another $1.9 billion in economic output and supports 10,000 additional jobs. Timber harvests contribute value to all of the forest industry sectors in Vermont. Approximately 6,636 workers (full-time equivalents) are employed in the forest products, and their efforts generate over $861 million in annual sales. The forest sector represents approximately 8% of the state's manufacturing value based on Gross State Product (Vermont's version of Gross Domestic Product (NEFA, 2013).

The forest-based recreation industry remains strong, but Vermont's forest products sector has been in decline since reaching peaks in the 1990s and early 2000s. Between 1970 and 2017, the number of permanent sawmills dropped from approximately 130 to fewer than 50. (Frederick, 2019) Among the more significant challenges faced by the forest products industry are weak markets for low-grade wood and a diminishing and aging logging workforce. Forests on the Green Mountain National Forest and elsewhere in southern Vermont supply high-quality saw logs, however most of the wood presently in forests in the project area is considered low-grade and is typically used for papermaking or heat generation. There are markets for low-grade wood,

but these markets are not currently strong. This is the result of a sharp recent decline in the region's pulp industry, among other factors. Although there are still markets for high quality sawtimber, these will not singularly sustain Vermont's forest products industry. The logging labor shortage and an aging workforce are becoming a barrier to meeting forest management objectives in the region. Without healthy markets for low grade wood and a productive logging industry, southern Vermont is likely to see continued decline of its forest products industry and infrastructure, along with the local jobs it sustains and the forest management services it provides. Investment in the forest restoration economy is needed to support the industry, which can help to prevent further economic decline in the area.

Like the rest of the region, the project area is characterized by highly modified forests significantly departed from historic conditions and with relatively homogenous age, structure, and composition. Most of the forest is characterized by maple-beech-birch and northern hardwood types, with an even-aged, closed canopy structure. Young forest and forest types associated with disturbance, such as aspen/birch, have become uncommon on the landscape. Biologically mature forest with complex structure is also underrepresented on the landscape, and there is a substantial imbalance in the existing proportion of northern hardwood and native softwood habitat types compared to the historic range of natural variation.

Specifically, there is a need to increase oak habitat where conditions could support its growth. Oak requires frequent disturbance (such as fire) to establish seedlings and out-compete other tree regeneration. Silvicultural treatments can replicate the disturbance process to promote oak regeneration and subsequent growth into the forest canopy. Increasing the occurrence of northern red oak in areas where it has a high chance of survival under current climate conditions would increase resilience of the project area to future climate conditions.

The existing lack of structural and compositional diversity represents substantial forest health risks in the face of current and future stressors, including both exotic and native insects and diseases such as the emerald ash borer, sugar maple decline, hemlock wooly adelgid, and beech bark disease. Forest pest species are much more concentrated in the northeastern United States than in other parts of the country, and hardwood forests like those in the project area are at a particularly high risk of invasion. Risk is elevated for a variety of reasons, including proximity to industrial ports and a high density of wooded areas interspersed with residential areas. Northeastern forests are also similar to those in Europe and Asia where many pests originate—approximately 65% of the known insect and pathogen invaders in the United States colonize primarily broad-leaf (hardwood) species (Liebhold, et al, 2013). Forest health risk is compounded by climate change as forests are under increasing stress from changing temperatures and precipitation regimes. Low-diversity systems are expected to be more vulnerable to climate change, and there is evidence that increases in temperature, longer growing seasons, and more frequent disturbances will lead to negative impacts on forest health and increases in many non-native pests throughout the region (Tetra Tech, 2013).

A high proportion of trees have declining vigor or damage from insects, disease, or weather in this area. Many stands have a high proportion of trees affected by beech bark disease in both the overstory and understory, indicating chronic infection. Without intervention, many stands will

remain dominated by diseased beech, and many other stands are on similar trajectories. Known infestations of at least seven non-native invasive plant species are at risk of spreading without treatment, including purple loosestrife, Japanese knotweed, honeysuckle, wild parsnip, knapweed, garlic mustard, and wild chervil. These species are known to out-compete native species, impair mycorrhizal fungi important to native forests, reduce plant diversity, soil fertility, and streambank stability, degrade wildlife habitat, and increase bare ground, surface runoff, and stream sedimentation.

Habitat for key wildlife species lacks diversity. Many species would benefit from the increase in early successional forest, including deer, moose, bear, and neotropical migratory passerines. Openings in the forest canopy would create foraging habitat and breeding sites for wild turkeys and ruffed grouse as well as increase foraging habitat for many species of bats, including the federally threatened northern long-eared bat.

Three subwatersheds make up the project area: East Branch Deerfield River, North Branch Deerfield River, and Headwaters Deerfield River. They are all highly rated for forest importance to surface drinking water (USFS 2019). Approximately 156,000 residents in 22 communities in the Deerfield watershed are served by 9 public surface water supplies downstream of the project area (EPA SDWIS, 2017). Additionally, the Deerfield River is an Eligible Scenic River.

Overall watershed conditions are rated fair or good, however all three watersheds are rated poor for water quality due to high mercury levels. Eight miles of surface waters in the project area are listed as impaired on the 303(d) list, for high mercury levels in all fish or high levels of coliform bacteria. The East Branch Deerfield River watershed is rated poor for water quantity due to dams and instream ponds for water storage. The Cold Brook municipal water source in the East Branch has a 1,082 acre watershed, nearly all on Forest Service land, with watershed improvement projects planned. All three watersheds are rated poor for aquatic habitat for lacking large instream woody debris. The East Branch is rated poor for aquatic habitat due to the impact of the Somerset Reservoir creating a thermal barrier, and the Headwaters is rated fair due to the number of human-constructed barriers to aquatic habitat connectivity. The North Branch is highly fragmented, with high road densities, especially off Forest Service system lands.

A changing climate is expected to increase disturbance risks to overall watershed function. Anticipated increases in the intensity and amount of precipitation in the Northeastern United States and in the frequency of catastrophic storm events would increase the risk of habitat loss and degradation, flooding, and damage to infrastructure (Tetra Tech, 2013). Changes in evapotranspiration and soil respiration could significantly alter water and nutrient cycling, as well as surface water temperatures. Legacy woods roads impair the water cycle, causing soil erosion and sedimentation, and diverting water down roads rather than allowing soils to absorb, clean, and slowly release water into streams, helping maintain higher river levels during low-flow periods.

There is a need to improve recreation and transportation networks in the project area. At the same time, a shortage of resources to maintain existing trails and roads to desired standards results in human health and safety risks, as well as damage to soil, water, and fisheries resources. There are over 110 miles of recreation trails and 39 miles of existing system roads under Forest

Service jurisdiction in the project area. Costly floods, including tropical Storm Irene in 2011, caused over $6 million in road and bridge damage on the Green Mountain National Forest over the past ten years.

The project area, like many northern hardwood-dominated forests within the Northeastern United States, is at low risk for wildfires. The landscape is characterized by low intensity fires recurring every 200 years and stand replacement fires every 1,000 years (LANDFIRE 2010, 2016). However, local governments recognize wildfire as a risk to life, infrastructure, economy, and the environment, and have identified this threat in both State and local Hazard Mitigation Plans (Vermont Emergency Management 2018). Regional Planning Commissions, Vermont Rural Fire Protection Task Force, and other partners are assisting local communities in developing Community Wildfire Protection Plans (CWPPs). Projected increases in temperature and drought frequency resulting from climate change are likely to increase fire risk over time, especially given the accumulation of fuels due to tree mortality in overstocked stands. The Wildland Urban Interface (WUI), the most prolific and vulnerable to wildfire impacts, is significant in the project area, at almost 32% (Radeloff et al. 2018). Nearly 4,806 structures, mostly primary residences, are rated vulnerable to wildfire impacts. Supporting infrastructure High-Value Resources and Assets (HVRAs), including 240 miles of roads connecting these communities, presents additional vulnerability. Several communities in the project area are deemed at high risk from wildfire (Federal Register, 2001).

Landscape Strategy and Proposed Treatments

Desired Conditions and Strategy

The Somerset Project focuses on improving and maintaining overall landscape health, supporting the economy of rural communities, and building public engagement and awareness in forested land management. This strategy is based on more than three years of landscape assessment, planning, and local community, state, and federal collaboration in the project area to develop landscape-scale restoration priorities aligned with national and regional agency priorities: improving the condition of forest and grasslands; enhancing recreation opportunities; improving access and sustaining infrastructure; and promoting shared stewardship by increasing partnerships and volunteerism. Key project priorities include:

- Improve ecological resilience to climate, insect, and disease stressors and other disturbances by increasing diversity of forest structure and species composition
- Maintain and restore wildlife habitat
- Reduce fire risk in the wildland urban interface and ecological threats from uncharacteristic fire by increasing land and fuel management activities
- Treat high-priority native and non-native invasive pests
- Restore watershed hydrology, reduce sedimentation, increase water and nutrient retention, and reduce flood hazard.
- Provide a sustainable supply of forest products to local industries and economies
- Build public engagement and awareness in forested land management

Local public meetings about the project will improve public appreciation and understanding of the region's working landscape. These engagements will increase public understanding of the benefits of prescribed fire, such as reducing hazardous fuel loads and risks to infrastructure, which will help build the social license for using fire in forest habitats. Last, such public engagement will increase public awareness of the ecological benefits of active forest management in addition to the social and economic benefits associated with supporting the forest products industry.

Watershed treatments are expected to improve the watershed condition for aquatic habitat indicators by increasing the amount of instream large woody debris to desired levels and improving aquatic habitat connectivity. Scientific application tools used to implement treatments include, as examples, Stream Simulation Design (USDA, 2008) and the Beaver Restoration Assessment Tool (Macfarlane et. al., 2014). Watershed treatments will also increase water storage on the landscape and improve surface and ground water quantity and quality. Non-native invasive plant treatments will reduce the risk of these plants spreading.

Upland foraging habitat for the federally threatened northern long eared bat would be improved by creating new and maintaining existing forest openings, and wetland foraging habitat would be protected via limitations on tree cutting in and around wetlands as required by the Forest Plan (USDA 2006). Plans for implementing forestry treatments and other actions which require cutting trees have protections for avoiding direct take of MYSE individuals (and individuals of

other tree-roosting bat species) as required under the Endangered Species Act and the 4(d) Rule and through time of year restrictions.

Trail decommissioning and stabilization, trail surface improvements, and campground water quality/riparian improvements will reduce erosion and sedimentation and improve soil-water relations. These projects will contribute to the long-term stability of the infrastructure and mitigate associated floods risks. Additionally, funding will be committed to decommissioning all temporary roads constructed to carry out the strategy.

Vegetation treatments will move the project area toward specific composition and age class objectives from a completed habitat management unit analysis. This analysis considered current conditions, Forest Plan objectives, ecological conditions, and long-term tendencies of ecosystems (historical range of variation). Treatments will increase overall structural and compositional diversity, while maintaining and enhancing rare or uncommon habitats and contributing to old growth structure and composition.

Studies have consistently shown that high-diversity forest systems are more resilient to disturbance and stressors than low diversity systems, such as those currently characterizing the project area. Planned silvicultural treatments are designed to increase overall diversity and resilience while also addressing specific forest health concerns such as beech bark disease and emerald ash borer. For example, the prevalence of diseased beech can be mitigated by increasing the amount of light to the forest floor, which gives an advantage to regeneration of other species such as birches, black cherry, and red maple. Treatments that favor regeneration of white ash can buy time for biological controls since seedling and sapling sized white ash are more resilient to emerald ash borer.

Approximately 2,851 acres of even-aged regeneration treatments, including clearcut with reserve, patch cuts, and shelterwood harvests, will increase early successional habitat (young forest less than 10 years old) and move the landscape towards a desired diversity of age classes. This will also enhance underrepresented habitat and features of value to certain plant and animal species, such as aspen/birch forest, upland openings, and pollinator habitat.

Approximately 5,707 acres of uneven-aged treatments (group and single-tree selection harvests) will increase structural complexity in maturing forests to more closely approximate old growth stands on these sites. These treatments will also increase diversity by creating a variety of light conditions favoring regeneration of a variety of species, including shade tolerant species typical of old growth forest, while also retaining large trees that contribute to old growth structure and watershed health. Approximately 770 acres of intermediate treatments, such as thinning and improvement cutting, increase structural complexity by promoting understory re-initiation, and increasing growth rates in residual trees. Both uneven-aged and intermediate treatments will also increase species diversity by retaining less common species in the overstory and creating a range of habitat conditions. This includes maintaining and enhancing underrepresented forest types and associated plant communities on the landscape such as softwood (spruce-fir), mixed wood, and red oak.

Site preparation is planned for all even-aged and uneven-aged regeneration treatments (8,558 acres) following harvest. This will create conditions for the regeneration of healthy, diverse and resilient forests, while reducing hazardous fuels. Approximately 221 acres of site preparation is planned to release planted oak seedlings. Prescribed fire is an option for site preparation after regeneration cuts and could also be used as a release treatment for oak.

In 2015, the Vermont Department of Fish and Wildlife and partners including Vermont Land Trust, the Division, The Nature Conservancy, and the Northwoods Stewardship Center developed the Vermont Conservation Design, a "practical approach to protecting and enhancing ecological function at a landscape scale," identifying many features of statewide and regional significance in the project area. Three of Vermont's largest and most important forest blocks are partly within the project area. These areas provide highly important interior forest habitat and landscape connectivity along the spine of Green Mountains. Several Land Type Associations in the project area are considered rare, including the Precambrian Plateau and Upper Mountain Slopes/Mountaintops. The project is especially important for the high elevation streams and ponds present, as well as the Deerfield River and its tributaries. Wetlands, especially softwood swamps and Poor Fens, are abundant in the project area. The project area lies within a high priority forest block in this design, which identifies a need to increase the amount of both young and old forest in the state as highest priorities for maintaining an ecologically functional landscape based on pre-European settlement conditions and the needs of native species. Proposed management in the project area would move the landscape toward the Vermont Conservation Design targets of 3-5% of the forested area in young forest and 15% in old forest (VT DFW, 2018).

The objectives of the Somerset Project and planned activities are also consistent with the long-term goals and strategies detailed in the State of Vermont Forest Action Plan. An important component of these goals is maintaining healthy and productive forests on private lands through the Use Value Appraisal program. More than one third of the project area is privately owned, and private landowners are critical to meeting project objectives. More than half of Vermont's privately-owned forest land is enrolled in the Use Value Appraisal program, creating an opportunity to work with the Vermont Department of Forest Parks and Recreation (FPR) to reach landowners. The National Resource Conservation Service (NRCS) also offers conservation support to landowners through the Environmental Quality Incentives Program (EQIP). Collaboration is ongoing and planned with the Windham Regional Commission, Bennington County Conservation District, FPR, and NRCS to increase outreach to landowners in support of project objectives through these programs.

Collaborating with the Vermont Department of Environmental Conservation (DEC) and other collaborative members, the project boundary was expanded to coincide with the 2019 Vermont DEC Tactical Basin Plan for the Deerfield River, identifying priority watershed improvement projects across ownership boundaries. Prioritizing and treating aquatic habitat connectivity issues on a watershed scale maximizes benefits to targeted aquatic organisms.

The Somerset Project strategy is consistent with internationally recognized climate change adaptation and mitigation practices. The project interdisciplinary team worked with the US

Forest Service Northern Research Station Northern Institute of Applied Climate Science, using their Adaptation Workbook (Swanston et al. 2018) to identify climate change considerations related to the project. The Adaptation Workbook provides a structured process for integrating climate change considerations into management planning and activities. The process identified management actions to reduce potential risks and ensure the sustainability of ecosystems and resources. Throughout project implementation, Forest Service staff and other collaborators will continue to incorporate the best available science and application tools in ecological restoration strategies.

Wildfire Risk Reduction

A combination of mechanical and prescribed fire treatments will curtail uncharacteristic fire intensity and spread, and potentially halt fire progression entirely. Although it is hard to predict the future course of wildfire and its impacts to High Value Resources and Assets (HVRAs) in the project area, project activities will consider wildfire risk reduction as an objective to limiting potential damage to them.

Project activities will help Forest, State, and local management work together to improve suppression success, by improving HVRA defenses and strengthening preseason planning in response zones. This project will also provide training opportunities for partners and strengthen partner response capacity, better integrating multijurisdictional/multiparty suppression action by formalizing suppression agreements and operating plans. Mechanisms necessary to leverage capabilities to reduce suppression costs will be established, including collaborative suppression agreements with partners.

Four wildland fire use management units are designated within the project area: approximately 4,300 acres in Glastenbury Wilderness, 3,000 acres in a Remote Backcountry management area, 420 acres around Grout Pond, and Somerset Fen, a 25-acre ecological special area (USDA 2016) Since natural ignitions are rare in Vermont, there is a low probability of managing wildfires for natural resource benefits. However, the project will provide a learning platform to pursue future adaptive management strategies with wildfires managed for natural resource benefits.

The Somerset Project will utilize broadcast burning for multiple objectives (Attachment B), including to restore wildlife habitat, enhance site preparation for reforestation, and reduce hazardous fuels. Other proposed mechanical fuel treatments, including even- and uneven-generation harvests, including those of small diameter trees, site preparation, and thinning will manipulate the arrangement of and break up fuel continuity. Together, these treatments will help reduce the risk of uncharacteristic wildfires and maintain low-severity fire regimes. They will also reduce implementation costs for ecological restoration treatments over time, since mechanical treatments will pave the way for less costly prescribed burning treatments.

Collaboration with project partners will increase prescribed fire planning and implementation opportunities and reduce implementation costs of implementing ecological restoration treatments over time. Collaboration with partners, and communities through the Somerset collaborative will continue and grow to implement planned prescribed fire activities and identify additional activities to mitigate local barriers to prescribed fire. Additionally, the opportunity for partnerships with local landowners utilizing Wyden Agreements to implement cross-boundary prescribed fires will be a focus, further promoting landscape-level efficiencies. The project will advance social license with the public on the use of prescribed fire as a landscape management tool through an active education campaign with surrounding communities and interested parties.

To increase capacity to implement the larger scale and pace of prescribed fire treatments, funds are requested to increase the workforce, purchase limited ignitions and operation equipment, and support additional force account costs. Temporary staff capacity may be increased using direct hiring authority, critical fire hire, or other hiring authorities as needed. Capacity will also be increased through networking with nearby forests and other federal agencies and collaborating

with partners and other agencies through memoranda of understanding and agreements for assistance with planning and implementation. For example, using contracts and agreements for off-forest fire modules.

Both State and local Hazard Mitigation Plans address climate change impacts as a concern (Vermont Emergency Management 2018). The Somerset Project is aligned with these plans, which focus on understanding the relationship between climate change and the frequency and extent of natural hazards, and how changing environmental factors including flooding, drought, insects and disease, and invasive plant infestations will alter wildfire's role in the State. Climate change is expected to increase forest health risks and increased tree mortality is already occurring as a result of non-native insects, disease and drought. Project activities to restore ecosystem health and reduce wildfire risk will strengthen forest resiliency to climate change stressors.

Benefits to Local Communities

The Green Mountain National Forest is an integral part of the economic life of local communities as a destination for outdoor recreation, scenic backdrop for commercial and recreational activities, and employment opportunities in forest management and wood products industries. Through collaboration with the State of Vermont, regional organizations, and towns, the Somerset Project will help to sustain the character of Vermont's rural working landscape and foster vibrant local communities and economies.

The project will provide approximately nine million board feet of sawtimber and over 36,000 cords of wood products to the forest products industry. The harvesting and processing of this volume will stimulate the local economy through operation expenditures in the area over the project implementation period, as well as additional employment and labor income supported or sustained. Other project activities will support additional job creation for heavy equipment operators, engineers, archaeologists, and trail builders. These jobs are an important part of the effort to reverse declines in employment and investment in southern Vermont and to address the economic and demographic challenges faced there. Finally, these increases in local employment will boost the viability of local commercial enterprises, including stores, service industries, and restaurants.

The significant wood supply associated with this project has the potential to stimulate growth and investment in the logging and wood products industries. The Forest is proposing to use CFLR funds to implement "goods for services" type Stewardship contracts. The addition of funds to these contracts will greatly increase the amount of restoration work that is completed and help make timber sales more marketable and viable. By combining funded restoration service work with timber removal, these contracts will encourage business growth and investment in new equipment and training.

Given the value of the forested landscape to the economy of the region, it is important to ensure that this landscape is resilient, and its ecological function is maintained. Proposed restoration work is intended to meet this need and to support the local communities and regional economy by maintaining and improving forest road and trail infrastructure, protecting against damaging floods, reducing flood hazards to downstream communities, and mitigating wildfire hazards.

There will be many opportunities associated with the project to inform and engage the public through local public meetings, partnerships, and volunteer opportunities. This includes engaging youth through Vermont Youth Conservation Corps in forestry, trail and legacy road decommissioning, and erosion control work; improving appreciation and understanding about the region's working landscape; building social license for using prescribed fire in forest habitats to reduce fuel loads and risks to community infrastructure; and increasing public awareness of the ecological benefits of active forest management in addition to the social and economic benefits associated with supporting the forest products industry.

This project will also serve as a catalyst to create a coalition of partners, strengthening wildfire mitigation efforts identified in the State and local Hazard Mitigation plans (Vermont Emergency Management 2018), and act as a focus area for developing preparedness, mitigation, and

response connectivity between fire departments, State, and Federal resources. The project will support local Community Wildfire Protection Plans by reducing hazardous fuel loads and improving ecosystem resilience to fire growth and intensity, and promote collaboration, multiparty treatment prioritization, and the opportunity to work across boundaries to limit wildfire threats.

The following metrics were selected as the most relevant to demonstrate the community benefits of the Somerset Project.

Enhance community sustainability:

- Maintain or increase number of workers employed by the project area each month, season, or year
- Maintain or increase the number and/or type of training opportunities for youth
- Maintain or increase the number and/or size of contracts offered each year to do restoration work
- Maintain or increase the percentage of contracts awarded that go to local contractors
- Maintain or increase number of youth, minority group representatives, or people from low-income communities hired to work on the project and the type of work they are conducting

Improve or maintain quality of life:

- Maintain or increase tourism employment and income related to recreation visits
- Maintain or increase availability and/or access to medicinal, food, heating, or building materials
- Maintain or increase fuels reduction acres in relation to areas considered to be at highest risk from wildfire

Improve capacity for collaboration:

- Maintain or increase extent to which different perspectives are represented
- Maintain or increase the quality and timeliness of communication among all project partners
- Maintain or increase the partner contributions (in kind time and funding) committed to shared project goals

Utilization of Forest Restoration Byproducts

Despite its recent decline, the forest products industry still plays an important part of the economy in southern Vermont, with the Green Mountain National Forest playing an integral role. There are still several dozen logging and trucking companies in the region serving the forest products industry. Primary products include solid wood products from sawmills. Secondary manufacturers use these products to make finished goods such as furniture, molding and flooring. There are no longer any wood pulp mills in Vermont, but there are markets for pulpwood at nearby mills in New York. Many homeowners in the area heat their homes with firewood or wood pellets, and several schools and institutional facilities heat with wood chips. There are also a few small commercial and public facilities using woody biomass to create heat and/or electricity.

The project location allows for good access to these markets. However, treatments include the removal of a proportionately high component of low-value timber, which has a narrow profit margin for purchasers (Attachment C). Many of the treatments also have high contractual costs, and limited logging industry capacity is a compounding factor. As a result, some project timber sales will likely have marginal economic viability and marketability and will not generate the revenue required to accomplish proposed restoration work. CFLRP funding would allow more needed restoration work to be accomplished and provide the additional funding necessary to use Stewardship Authority to improve the marketability of timber and reduce risk for purchasers. The considerable proposed wood supply is expected to stimulate growth and investment in the logging and wood products industry.

The State of Vermont has prioritized economic development in southern Vermont and is working to create a Comprehensive Economic Development Strategy (CEDS). This is a collaborative effort with many local and regional entities working together with a goal to improve economic conditions. The Windham Regional Commission is interested in collaborating with the Forest Service on the Somerset Project to support the Windham Wood Heat Initiative. This initiative is intended to "yield community benefits, business success, and high-performance buildings based on a sustainable local forest industry." The program aims to help at least 20 municipal, school, and public service institution buildings convert to heating with local, sustainable wood and includes public education, training for local building professionals, and fuel supply procurement. Wood from the Somerset Project is part of the potential sustainable supply to support this initiative.

Another positive development is the announcement of the proposed Long Falls paperboard manufacturing plant conversion from compressed natural gas to low grade wood biomass for combined heat and power generation. The plant, located in Brattleboro, VT, would utilize up to 130,000 tons of wood biomass per year to supply its thermal and electric energy needs. The plant is about 35 miles from the project area and would provide a viable market for low-grade wood harvested. The plant, in turn, would benefit from a sustainably harvested supply. The Green Mountain National Forest has provided a letter of support for a USFS Wood Innovations Grant proposal to fund a key technical design provision which dramatically boosts overall output efficiency of the project.

Collaboration

The Green Mountain National Forest has built its land management approach on a community-based collaborative model and has successfully implemented landscape-scale Integrated Resource Projects (IRPs) over the past ten years. The IRPs on the Forest are significant in size, scope, and scale. The project area encompasses 97,109 acres and includes lands in nine different rural communities in Bennington and Windham counties in southern Vermont. To accommodate the intersection of nine municipalities and two counties, the Forest developed a model to engage the diverse perspectives across these communities to ensure successful active land management.

The model of success the Forest developed is community-based collaboration with strong emphasis on developing relationships, working together, and building community. For each IRP, communities are proactively engaged and encouraged to contribute and assist the Forest Service in developing the proposed activities. To foster public engagement, an interactive online Somerset Project Story Map was created for the Somerset IRP, providing an opportunity for detailed online review of proposed actions and an additional avenue to submit comments and discuss the project. To further develop the Somerset Project, the forest reached out to its community-based collaborative group for their engagement and support developing the CFLRP proposal with the forest. The overwhelming response from the project collaborators was a resounding "yes." They would value the opportunity to work with the Green Mountain National Forest in developing a CFLRP proposal and eager to help and fully engaged.

The Somerset collaborative group met in November 2019 and formed four working groups to further develop and refine the Somerset CFLRP proposal: monitoring, water resources, vegetation management (habitat, timber, forest products), and local economies and communities. The collaborative group is non-exclusive—all who want to are encouraged to participate, and transparent. The working groups met separately to develop further input into the Somerset CFLRP proposal and frequently reported back to the collaborative. The collaborative will make decisions by consensus whenever possible, and by an alternate agreed-upon method when not possible. The group will reconvene in 2020 to choose leaders, agree on a contingency decision process, and set meeting schedules. Throughout project implementation, the group will assist with implementation monitoring, tracking and reporting, and make adaptive management recommendations to the District Ranger when needed.

The multiparty monitoring section and Attachments D and E all highlight the diverse group of collaborators and perspectives actively engaged with the forest during proposal development. These collaborators are committed to landscape-scale ecological restoration as part of the Somerset collaborative group through implementation and monitoring. The breadth of organizations and proposed work demonstrate a clear vision developed by the collaborative group. The enthusiasm and willingness to engage with the forest in the development of the CFLRP proposal demonstrates their ownership and vested interest in the outcomes. Given the years of trust gained through relationship building, demonstrated success over the past decade, and enthusiasm of the Somerset collaborative group, the collaborative group members and Forest staff have an extremely high likelihood of getting work done while further strengthening relationships and trust when implementing the shared restoration activities of this proposal.

Multi-Party Monitoring

A robust group of collaborators with varied backgrounds and interests formed on November 14. The monitoring group currently includes 45 individuals, representing 19 groups or institutions, who are all committed to understanding and measuring project impacts and results and using that information to improve future results as indicated in the letter of commitment. Membership is open, and invitations were extended to the entire Somerset collaborative in addition to any others suggested by the collaborative group.

The Forest is committed to using approximately ten percent of project funds for monitoring. This is in line with identified monitoring needs and projected matching funds available. The monitoring group has agreed to develop a comprehensive list of monitoring issues and questions in spring 2020. Over the course of the Somerset Project implementation and monitoring period, the group agreed to assess how well project activities are meeting desired outcomes, to increase understanding among diverse interests, and to identify and generate recommendations on adapting management activities to improve results. A list of 35 proposed monitoring questions was generated by partners in collaboration with Forest staff, and there will be an opportunity for collaborative members to expand this list before the spring meeting. The initial monitoring ideas include a wealth of potential matching funds from non-governmental agencies, state and county governmental agencies, and colleges and universities. Finalization of these is dependent on the specifics of the final monitoring plan developed by the collaborative.

The group has a high level of trust, supported by years of professional relationships in many cases, and an open and collaborative process for building a monitoring plan. The group agreed to use the process described in "The Monitoring Process Used in Collaborative Forest Landscape Restoration Projects in the Pacific Northwest Region" (DeMeo 2015) for designing a monitoring plan, with some modifications. The group agreed on modifications to the selection criteria, and decision-making, which will be by consensus whenever possible, and by an alternative pre-determined method (to be determined at the spring meeting) if consensus cannot be reached.

The monitoring group will meet in spring 2020 to review all proposed monitoring questions, to apply the agreed-upon criteria to prioritize and choose monitoring questions for the monitoring plan, and assign investigators and leads for data interpretation and synthesis. The group will meet twice annually to report-out on progress and make any necessary course adjustments, including modifying, adding, or deleting monitoring questions. Monitoring reports will be submitted by partners annually and compiled and distributed annually by the Forest. The District Ranger will be involved in each annual meeting, and will receive a copy of the annual report including adaptive management recommendations.

The collaborative plans to monitor progress toward all major project goals, including improving landscape resilience to climate and pest stressors and disturbances. At the spring meeting, the group will prioritize questions related to areas of uncertainty or risk from the treatments.

Readiness to Implement Strategy

The Somerset Project is designed to meet Forest Plan objectives and support the Forest's strategic and programmatic direction to address local risks and challenges, and the broader Administration goals to generate jobs and economic benefits for rural communities. It supports the Chief's national priorities, which align closely with the Department of Agriculture's Strategic Priorities of improving the condition of forests and grasslands and enhancing recreation opportunities, improving access, and sustaining infrastructure. State cooperators have provided substantial input into project development, and the project may be implemented in part using the existing Good Neighbor Agreement between the Green Mountain National Forest and the Vermont Agency of Natural Resources.

The Forest-Wide Non-Native Invasive Plant Control Project Decision Notice is complete for invasive plant treatment on all 54,408 acres of National Forest Service lands in the project area. The Somerset IRP Decision Notice approving the 10,585 acres of core timber harvest and other restoration treatments is on track to be completed in the spring of 2020. Additional proposed activities have recently been developed by the collaborative outside of the Somerset Integrated Resource Project. These are mostly similar treatments within or near the analysis area, to accomplish identified restoration objectives. Further environmental analysis will be completed for these as needed, likely in Categorical Exclusions and Supplemental Information Reports to the Somerset EA.

Key personnel needed for the implementation of proposed projects are in place, and Forest staff has the required experience and expertise. Projects will be completed using partnerships, cost share agreements, acquisition contracts, and timber sale contracts. The Forest also expects to continue and expand use of the Stewardship and Wyden Authority. Planned restoration work will be implemented in part using Integrated Resource Timber Contracts and Stewardship Agreements. The Forest has extensive experience with these types of contracts and approximately half of all timber sales on the Green Mountain National Forest have been implemented using Stewardship Contracts over the last ten years. Given the extensive restoration needs of the Somerset Project, the Forest also plans to use CFLR funds to support Integrated Resource Service Contracts. This approach will make the sale of timber more economically viable, encourage private investment, and allow more restoration work to be accomplished. Existing agreements with the State of Vermont, under the Good Neighbor Authority, will also be used to increase capacity to implement this project.

Unit Capacity and Project Funding

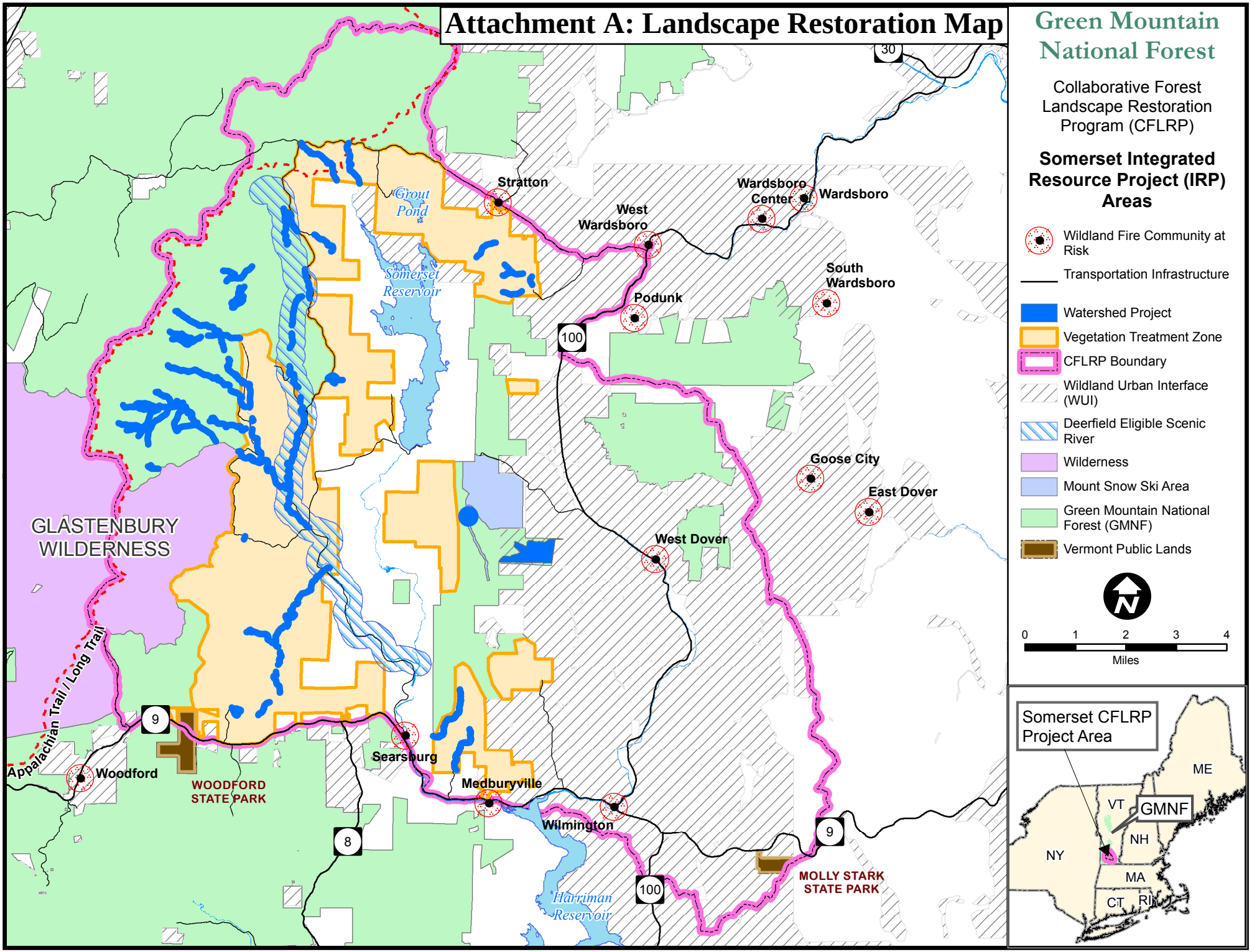
Between the current unit capacity and CFLR resources requested, the Somerset collaborative will have the resources necessary to implement the strategy. A Somerset CFLR Program manager will be hired to manage partnerships and agreements, track implementation, facilitate collaborative meetings, and complete reporting. The District Ranger, Ecosystem Services Staff Officer, Fire Management Officer, and Forestry, Fisheries, and Recreation Program Managers will make up the core team responsible for strategy implementation. Similar smaller-scale and less complex projects have been successfully implemented annually by Forest staff over the last 10 years. To respond to the increased scale and pace of work, additional temporary support staff will be hired or contracted, and approximately six temporary seasonal employee positions will be filled per year. The use of extensive partnerships and agreements will also be increased.

The estimated average annual CFLRP funding necessary to implement the Somerset Project is $581,245. The estimated average annual federal funding necessary to implement the Somerset Project is $762,490. The amount of new non-federal investment for carrying out the proposals that would be leveraged is approximately $400,000. At the landscape scale with collaborative participation, we anticipate costs for core treatments, including watershed restoration treatments and prescribed burning, to decrease over time as efficiencies increase and the implementation scales up. For example, subsequent treatments will be implemented more quickly once agreements are in place, and partner staff become more experienced at project implementation. No major equipment would be needed for proposal implementation.

In case CFLRP is not reauthorized in 2023, contracts, agreements, and temporary and seasonal staff will be increased as part of the CFLR strategy, rather than permanent staff. The Somerset CFLR Program manager will be hired as a term position, from 2020-2024, and the position will only be filled again if funding is reauthorized. Fuel treatments creating permanent wildlife openings will be prioritized for treatment from 2020-2024, allowing the Forest to transition to using prescribed fire in combination with mowing to maintain the units moving forward. Similarly, effort will be made to accomplish as many other project activities as feasible before 2024 in case funding is not reauthorized.

The estimated multi-party monitoring budget is approximately ten percent of the other project implementation costs and is based on collaborative monitoring proposals from a robust group of partners with whom we have long-established records of cooperation and success. This level of funding will be needed to assess whether key project aspects were implemented according to plan and had the planned effects.

Key sources of non-forest service contributions include State of Vermont funds for watershed improvement projects, and the time and expertise of State Agency of Natural Resources staff, college and university monitoring partners, and other partner organizations, including The Nature Conservancy, Trout Unlimited, National Wild Turkey Federation, and recreation partners. A full list is provided in Attachment D, Collaboration.


Attachment A: Landscape Restoration Map
Green Mountain National Forest
Collaborative Forest Landscape Restoration Program (CFLRP)
Somerset Integrated Resource Project (IRP) Areas
Wildland Fire Community at Risk
Transportation Infrastructure
Watershed Project
Vegetation Treatment Zone
CFLRP Boundary
Wildland Urban Interface (WUI)
Deerfield Eligible Scenic River
Wilderness
Mount Snow Ski Area
Green Mountain National Forest (GMNF)
Vermont Public Lands
N
0 1 2 3 4
Miles
Somerset CFLRP Project Area
ME
VT
GMNF
NH
NY
MA
CT
RI
Stratton
Grout Pond
Somerset Reservoir
West Wardsboro
Wardsboro Center
Wardsboro
South Wardsboro
Podunk
100
30
GLASTENBURY WILDERNESS
Appalachian Trail / Long Trail
9
Woodford
WOODFORD STATE PARK
Searsburg
Medburyville
Wilmington
8
Harriman Reservoir
100
West Dover
Goose City
East Dover
9
MOLLY STARK STATE PARK

Attachment B: Planned Treatments

Core Restoration Treatment Types	***Addit-ional info***	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Years 5-10**	***Total***	**Key treatment objectives**	**% on NFS lands**	**Other land-ownership**
Hazardous Fuels Reduction (acres)		100	340	360	566	1715	*3101*	Reduce hazardous fuels	100	
Mechanical Thinning (acres)		0	200	300	396	1000	*1896*	Mixwood and softwood treatment	100	
Prescribed Fire (acres)		0	90	110	120	348	*668*	Maintain grass/forb/shrub habitats to benefit wildlife and reduce fuels.	95	State or private
Other (acres)		20	50	50	50	118	*288*	Upland opening & Apple Tree Maintenance to provide soft mass for wildlife.	90	State or private
Wildfire Risk Mitigation - Acres							*2184*	Total of treatment acres		
Wildfire Risk Mitigation Outcomes - WUI acres	Spatial Data Layer						*249*	Wildland-urban interface defined as: areas with housing and low-density vegetation within 1.5 miles of a large, contiguous block of wildland vegetation and hazardous fuel vegetation treatment	100	
Invasive Species Management (acres)		5	7	7	7	24	*60*	Control invasines with priority for areas where equipment access is needed for restoration and timber harvest.	90	State or private
Native Pest Management (acres)		0	0	0	0	221	*221*	Control Beech-bark diseased Beech trees to restore oak habitat.	100	
Temporary Road Decommissioning (miles)		0	0	0	5	26.8	*31.8*	Decompact soils and disconnect drainage from stream networks.	100	
Road Decommissioning (miles)				1	1	,53	*2.53*	Stabilize soils, promote revegetation and restore subsurface flow by disconnecting drainage from stream network.	100	

Attachment B: Planned Treatments

Core Restoration Treatment Types	***Addit-ional info***	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Years 5-10**	***Total***	**Key treatment objectives**	**% on NFS lands**	**Other land-ownership**
Road Maintenance and Improvement (miles)		20	20	20	20	170	*250*	Maintain and improve drainage to protect soil and water resources	80	State or private
Road Reconstruction (miles)		0	0	0.5	0	0	*0.5*	Improve road surface and drainage to protect soil and water resources	100	
Trail Reconstruction (miles)		85	85	85	85	510	*850*	Maintain and improve drainage and reroute as needed to protect soil and water resources		
Wildlife Habitat Restoration (acres)		0	90	110	120	348	*668*	Maintain wildlife openings as grass/forb/ shrub or young forests	100	
Crossing Improvements (no.)						2	*2*	Replace undersized culvert with Stream Simulation Design strucuture for AOP and Flood resilience		State or private
In-Stream Fisheries Improvement (miles)		2	5	5	5	5	*22*	Restore aquatic habitat complexity and structure by adding large woody material		
Riparian Area Improvements (acres)					2		*2*	Riparian planting to improve stream temperatures	0	Private
Soil and Watershed resources enhanced or maintained (acres)		8	8	7			*23*	Stabilize soils and improve watershed hydrology on non-system roads and trails	100	
Stand Improvement (acres)		0	35	35	35	208	*413*	Thin stands to improve health and vigor	100	
Reforestation and revegetation (acres)					430	2580	*3,010*	Harvested stands will be Site Prepared for natural and articucial regeneration	100	
Timber Harvest (acres)**	100% ground-based			960	960	7859	*8942*	Even- and uneven-aged treatments to accomlish Forest Plan age class distribution and species composition objetives.	98	Private

Attachment C: Utilization of Forest Restoration Byproducts

Fiscal Year	Estimate of acres awarded annually that will generate restoration byproducts*	Total projected annual harvested volume (ccf) from NFS lands*	Expected percentage commercially utilized** from NFS lands
2020	0	0	0
2021	0	0	0
2022	600	3500	100
2023	600	3500	100
2024	800	4000	100
2025	800	4000	100
2026	800	4000	100
2027	1000	4500	100
2028	1000	4500	100
2029	1000	4500	100
TOTALS:	6600	32500	800

Estimated % of TOTAL acres accomplished on NFS lands:	98%
Estimated % of TOTAL acres accomplished on other landownerships within the CFLRP boundary:	2%

*Acres treated includes all acres treated within the CFLRP boundary. Projected annual harvested volume is only for NFS lands.
**Commercially utilized refers to the volume you expect to sell across all product classes (sawtimber, biomass, firewood, etc.)

Attachment D: Collaborative Membership

Collaborative Member/Partner Name	Organizational Affiliation (if applicable)	Involved in proposal development?	Primary Issue Category	Second Issue Category	Third Issue Category	If "other," briefly describe
Coghill-Wemple, Beverley	University of Vermont	Yes	College/University	Research	Environmental	
D'Amato, Tony	University of Vermont	Yes	College/University	Research	Environmental	
Keeton, Bill	University of Vermont	No	College/University	Research	Environmental	
Mathews, Nancy	University of Vermont	Yes	College/University	Research	Environmental	
O'Neil-Dunne, Jarlath	University of Vermont	No	College/University	Research	Environmental	
Crumley, Katy	Bennington County Conservation District	Yes	County	Watershed	Wildlife	
Henderson, Jim	Bennington Regional Planning Commission	Yes	County	Community Development	Environmental	
Pancake, Heidi	Catamount Section Adopter	Yes	Recreation (non-motorized)	Tourism		
Williams, Matt	Catamount Trail Association	Yes	Recreation (non-motorized)	Tourism	Community Development	
Hapeman, Paul	Central Connecticut State University	Yes	College/University	Wildlife	Research	
Deen, David	Connecticut River Valley Trout Unlimited	Yes	Watershed	Environmental	Tourism	
Flemming, Sarah	Ducks Unlimited	Yes	Wildlife	Environmental	Tourism	
Beattie, Bill	Dutch Hill Alliance of Skiers and Hikers (DHASH)	Yes	Recreation (non-motorized)	Tourism	Community Development	
Leff, Michael	Ecological Connections-Environmental Consultant	Yes	Environmental	Watershed	Wildlife	
Smith, Chris	Fish and Wildlife Service	Yes	Federal	Wildlife	Watershed	
Duncan, Jim	Forest Ecosystem Monitoring Cooperative, University of Vermont	Yes	Environmental	Watershed	Wildlife	
Pontius, Jen	Forest Ecosytem Monitoring Cooperative, University of Vermont, Northern Research Station	Yes	College/University	Research	Environmental	
Guenther, Bill	Former Windham County Forester	Yes	County	Environmental	Forest Products	

Collaborative Member/Partner Name	Organizational Affiliation (if applicable)	Involved in proposal development?	Primary Issue Category	Second Issue Category	Third Issue Category	If "other," briefly describe
Kibbe, Brandon	Great River Hydro	Yes	Utility	Watershed		
Copeland, Mary Ellen	Green Mountain Conservancy	Yes	Environmental	Watershed	Wildlife	
Burchsted, Denise	Keene State College	Yes	College/University	Watershed	Wildlife	
Kalich, Karrie	Keene State College	Yes	College/University	Watershed	Wildlife	
Milliken, Andrew	Lake Chamlain US Fish and Wildlife	No	Federal	Wildlife	Watershed	
Moulton, Dave	Mount Snow, LTD	No	Recreation (non-motorized)	Tourism		
DiBona, Matt	National Wild Turkey Federation	Yes	Wildlife	Forest Products		
Bugeja, Paul	Native Fish Coalition – VT	Yes	Watershed	Wildlife	Tourism	
Hayes, Tim	Native Fish Coalition – VT	Yes	Watershed	Wildlife	Tourism	
Owen, Chris	Native Fish Coalition – VT	Yes	Watershed	Wildlife	Tourism	
Alexander, Toby	Natural Resource Conservation Service	No	Federal	Environmental	Watershed	
Doran, Elizabeth	Post Doctoral Associate, Vermont EPSCoR Basin Resilience to Extreme Events	Yes	College/University	Research	Watershed	
Weik, Andy	Ruffed Grouse Society	Yes	Wildlife	Forest Products		
Brouillette, Mike	State of Vermont - Agency of Digital Services	Yes	State			
Jaquith, Shayne	The Nature Conservancy	Yes	Environmental	Watershed	Wildlife	
Shallow, Jim	The Nature Conservancy	Yes	Environmental	Watershed	Wildlife	
McLean, Andy	Town of Dover	Yes	Other	Community Development	Forest Products	Town Government
Curley, Keith	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Destasio, Joel	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Lawson, Colin	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Rodgers, Erin	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Wein, David	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Widness, Jack	Trout Unlimited	Yes	Watershed	Wildlife	Tourism	
Carpenter, Constance	USDA Forest Service, State and Private Forestry	No	Federal	Forest Products	Watershed	

Collaborative Member/Partner Name	Organizational Affiliation (if applicable)	Involved in proposal development?	Primary Issue Category	Second Issue Category	Third Issue Category	If "other," briefly describe
Honkonen, Karl W -FS	USDA Forest Service, State and Private Forestry	Yes	Federal	Watershed	Forest Products	
Knipe, Martel	USFS - GMFL NF	Yes	Federal	Fire Management	Environmental	
Schaffler, Brian	USFS - Region 9	Yes	Federal	Fire Management	Fire Ecology	
Janowiak, Maria	USFS- National Institute of Applied Climate Science	Yes	Federal	Other		Forest Management with respect to climate change
Burbank, Diane	USFS-GMFL NF	Yes	Federal	Environmental		
Francomb, David A	USFS-GMFL NF	Yes	Federal	Environmental		
Gifford, Suzanne	USFS-GMFL NF	Yes	Federal	Environmental		
Lauderdale, Emily	USFS-GMFL NF	Yes	Federal	Recreation (non-motorized)	Recreation (motorized)	
McKinley, Daniel	USFS-GMFL NF	Yes	Federal	Environmental		
Nareff, Gretchen	USFS-GMFL NF	Yes	Federal	Wildlife		
Quintana, Angelica	USFS-GMFL NF	Yes	Federal	Environmental	Watershed	
Sinclair, John A	USFS-GMFL NF	Yes	Federal			
Strand, Jay	USFS-GMFL NF	Yes	Federal			
Stratton, Stacy	USFS-GMFL NF	Yes	Federal	Forest Products		
Tilley, Jeffrey B	USFS-GMFL NF	Yes	Federal	Forest Products		
Wixsom, Scott	USFS-GMFL NF	Yes	Federal	Wildlife		
Elizabeth (Beth) Larry	USFS-Northern Research Station	Yes	Federal	Research		
King, David	USFS-Northern Research Station	Yes	Federal	College/University	Wildlife	
Nislow, Keith	USFS-Northern Research Station	Yes	Federal	Research	Watershed	
Walters, Ashley	USFS-Northern Research Station	Yes	Federal			
Schaberg, Paul	USFS-Northern Research Station, University of Vermont	No	Federal	College/University	Forest Products	
Hahka, Victoria	USFS-Regional Authorities Coordinator	Yes	Federal	Environmental		
Ng, Kawa	USFS-Regional Economist	Yes	Federal	Environmental	Community Development	
Nowacki, Greg	USFS-Regional Ecologist	Yes	Federal	Fire Ecology	Wildlife	
COL Johnson, John	Vermont Army National Guard	No	Watershed			

Collaborative Member/Partner Name	Organizational Affiliation (if applicable)	Involved in proposal development?	Primary Issue Category	Second Issue Category	Third Issue Category	If "other," briefly describe
Alexander, Gretchen	Vermont Department of Environmental Conservation (DEC) - Watershed Management Division	Yes	State	Watershed	Wildlife	
Caduto, Marie	Vermont DEC - Watershed Management Division	Yes	State	Watershed	Wildlife	
Chalmers, Rebecca	Vermont DEC - Watershed Management Division	Yes	State	Watershed	Wildlife	
Evans, Rob	Vermont DEC - Watershed Management Division	No	State	Watershed	Wildlife	
Kellogg, Jim	Vermont DEC - Watershed Management Division	Yes	State	Watershed	Wildlife	
Pembrook, Heather	Vermont DEC - Watershed Management Division	Yes	State	Watershed	Wildlife	
Austin, John	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Bennett, Alyssa	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Bernier, Chris	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Boedecker, Emily	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Brown, Tyler	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Buckley, Courtney	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Comeau, Jaclyn	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Gieder, Katy	VT Fish & Wildlife Department	Yes	State	Watershed	Wildlife	
Porter, Louis	VT Fish & Wildlife Department	No	State	Wildlife		
Royar, Kim	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Sorenson, Eric	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Will, Lael	VT Fish & Wildlife Department	Yes	State	Wildlife	Watershed	
Thompson, RJ	Vermont Huts Association	Yes	Recreation (non-motorized)	Tourism		
Fidel, Jamey	VT Natural Resources Council	No	Environmental	Forest Products		
Dare, Troy	Vermont Rural Fire Protection Task Force	Yes	Fire Management	Community Development		
Wanner, Kathleen	Vermont Woodlands Association	No	Environmental	Forest Products		
Pfeifer, Patrick	VT Youth Conservation Corps	Yes	Youth	Recreation (non-motorized)	Community Development	

Collaborative Member/Partner Name	Organizational Affiliation (if applicable)	Involved in proposal development?	Primary Issue Category	Second Issue Category	Third Issue Category	If "other," briefly describe
Crumley, Ethan	Vermont Agency of Natural Resources (ANR) Dept. of Forest, Parks, and Recreation	Yes	State	Forest Products	Wildlife	
Fitzko, Danielle	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Community Development	
Frederick, Paul	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Community Development	
Lones, John	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Community Development	
Mckeen, Nate	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Community Development	
Schneski, Sam	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Community Development	
Snyder, Michael	VT ANR Forest, Parks, and Rec.	No	State	Forest Products	Community Development	
Thompson, Keith	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Wildlife	
Thornton, Lisa	VT ANR Forest, Parks, and Rec.	Yes	State	Forest Products	Wildlife	
Bennett, John	Windham Regional Commission	Yes	County	Community Development	Environmental	
Campany, Chris	Windham Regional Commission	No	County	Community Development	Environmental	
Ghia, Margo	Windham Regional Commission	Yes	County	Environmental	Community Development	
Major, Marion	Windham Regional Commission	Yes	County	Community Development	Forest Products	
Nugent, Jeff	Windham Regional Commission	No	County	Community Development	Environmental	
Rabinowitz, Marli	Windham Regional Woodlands Association	Yes	Environmental	Forest Products		
Fallon, Rachel	Wood, Wildlife and Warblers	No	Wildlife			

Somerset Collaborative Forest Landscape Restoration Project
Letter of Commitment

We, the undersigned, are committed to landscape scale forest restoration in the Somerset Project area. Our collaborative formed in response to the opportunity to bring resources to the Somerset Integrated Resource Project (IRP) though the Collaborative Forest Landscape Restoration Program (CFLRP). Collectively, we bring a deep and broad set of skills in designing, implementing, and monitoring forest, wildlife, water, and soil restoration practices. Many of the collaborators have been engaged in project development or review prior to developing the CFLRP proposal. Project goals include work to: improve wildlife and fisheries habitat; increase watershed resilience in the face of extreme precipitation events; increase forest composition and age diversity; increase resilience of forests to current and future stressors; contribute to the economic vitality of the region; develop strategies to market low value wood; provide for sustainable outdoor recreation; use prescribed fire to reduce hazardous fuels and risk of wildfire; and monitor the effectiveness of our restoration actions.

The nearly 100,000-acre project area provides an outstanding opportunity for adaptive management of tools and practices designed to address climate change across mixed public and private land ownership. We have initiated four Working Groups: Water Resources, Monitoring, Vegetation Management, and Economic Development. Each group will collaborate to implement forest restoration activities and monitoring, and to advise the Line Officer of needs to adapt or add restoration actions on Green Mountain National Forest land beyond those approved in the Somerset IRP Environmental Assessment.

In addition to leveraging CFLR funds with USFS appropriated funds and Stewardship Contracting Authority tools (timber contracts, service contracts, agreements, and retained receipts), collaborators from colleges/universities, non-governmental organizations and conservation groups, and the Vermont Agency of Natural Resources will bring a combination of funding and in-kind match to project design, implementation, and monitoring. Collaborators will work together to outreach to private landowners to create an all lands approach across the mix of private and national forest lands in the project area.

Nothing in this Letter of Commitment shall bind any participant to the expenditure of funds. Any awarding or contracting for the expenditure of funds shall be pursuant to separate written agreements. Nothing in this Letter of Commitment shall affect or interfere with the fulfillment of the obligations or exercise of authority by any participant, or the taking of actions by any participant to individually further the goals of this project.

Organization	Working Group Role(s)			
	Water	Vegetation	Economic	Monitoring
Bennington County Conservation District *Katy Crumley, Executive Director*	x	x		x
Bennington Regional Planning Commission *Jim Henderson, Environmental Program Manager*	x	x	x	x
Central Connecticut State University *Paul Hapeman, Associate Professor*		x		x
Connecticut River Trout Unlimited Chapter *David Deen, Chapter President*	x			x
Ducks Unlimited *Sarah Fleming, Director of Conservation Programs, Northeast Region*	x	x		
Dutch Hill Alliance of Skiers and Hikers *Bill Beattie, President*			x	
Forest Ecosystem Monitoring Cooperative *Jennifer Pontius, Principal Investigator*				x
Gund Institute for Environment, University of Vermont *Elizabeth Doran, Post Doctoral Fellow*	x			x
Keene State College *Karrie Kalich***,** *Dean, School of Sciences, Sustainability, and Health*	x			x
National Wild Turkey Federation *Matt DiBona, District Biologist*		x		
Native Fish Coalition – Vermont Chapter *Chris Owen, Secretary*	x			
Mount Snow, LTD *Dave Moulton, Director of Mountain Operations*			x	
Ruffed Grouse Society *Andy Weik, Regional Wildlife Biologist*		x		x
The Nature Conservancy *Jim Shallow, Director of Critical Conservation Initiatives*	x			x
Trout Unlimited National *Keith Curley, Vice President of Eastern Conservation*	x			x
University of Vermont *Nancy Mathews, Dean, Rubenstein School of Environment and Natural Resources*	x	x		x
USFS Northern Research Station *Elizabeth Larry, Assistant Station Director for Research*	x	x	x	x
USFS State and Private Forestry, Northern Area *Constance Carpenter, Field Representative*	x	x		
Vermont Agency of Natural Resources Department of Environmental Conservation *Emily Boedecker, Commissioner*	x			x

Vermont Agency of Natural Resources **Department of Forests, Parks, and Recreation** *Michael Snyder, Commissioner*		x	x	x
Vermont Agency of Natural Resources **Department of Fish and Wildlife** *Louis Porter, Commissioner*	x	x		x
Town of Dover *Andy McLean, Town Clerk*			x	
Catamount Trails Association *Matt Williams, Executive Director*			x	
Vermont Army National Guard *COL Jon Johnson, Director of Aviation and Safety*	x			
Vermont Association of Snow Travelers *Matt Tetreault, Trails Administrator*			x	
Vermont Natural Resources Council *Jamey Fidel, Forest and Wildlife Program Director*		x		
Vermont Youth Conservation Corps *Patrick Pfeifer, Conservation Program Director*	x	x	x	x
Vermont Huts Association *RJ Thompson, Executive Director*			x	
United States Fish and Wildlife Service *Andrew Milliken, Complex Manager* *Lake Champlain USFW Office*	x	x		x

Attachment F: Funding Plan

Fiscal Year 1*	**Funding Requested**
Partner fund contributions on NFS lands	$3,200
Partner in-kind contributions on NFS lands	$34,750
Goods for Services or GNA Revenue to be applied within CFLRP landscape	$0
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	$310,050
Total non-CFLRP funding for NFS lands	**$348,000**
CFLRP Funding Request	$348,000
Total CFLRP funding for NFS lands	**$348,000**
Partner fund contributions on non-NFS lands	$0
Partner in-kind contributions on non-NFS lands	$0
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	$0
Total non-CFLRP funding for non-NFS lands	**$0**

Fiscal Year 2	**Funding Requested**
Partner fund contributions on NFS lands	$8,000
Partner in-kind contributions on NFS lands	$218,450
Goods for Services or GNA Revenue to be applied within CFLRP landscape	$0
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	$419,000
Total non-CFLRP funding for NFS lands	**$645,450**
CFLRP Funding Request	$645,450
Total CFLRP funding for NFS lands	**$645,450**
Partner fund contributions on non-NFS lands	$100,500
Partner in-kind contributions on non-NFS lands	$2,000
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	$1,000
Total non-CFLRP funding for non-NFS lands	**$103,500**

Fiscal Year 3	**Funding Requested**
Partner fund contributions on NFS lands	$8,000
Partner in-kind contributions on NFS lands	$149,000
Goods for Services or GNA Revenue to be applied within CFLRP landscape	$0
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	$463,000
Total non-CFLRP funding for NFS lands	**$620,000**
CFLRP Funding Request	$620,000
Total CFLRP funding for NFS lands	**$620,000**
Partner fund contributions on non-NFS lands	$100,500
Partner in-kind contributions on non-NFS lands	$4,000
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	$1,000
Total non-CFLRP funding for non-NFS lands	**$105,500**

Attachment F: Funding Plan

Fiscal Year 4	**Funding Requested**
Partner fund contributions on NFS lands	$37,000
Partner in-kind contributions on NFS lands	$177,750
Goods for Services or GNA Revenue to be applied within CFLRP landscape	$100,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	$460,000
Total non-CFLRP funding for NFS lands	**$774,750**
CFLRP Funding Request	$774,750
Total CFLRP funding for NFS lands	**$774,750**
Partner fund contributions on non-NFS lands	$100,500
Partner in-kind contributions on non-NFS lands	$12,000
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	$1,000
Total non-CFLRP funding for non-NFS lands	**$113,500**

Fiscal Years 5-10	**Funding Requested**
Partner fund contributions on NFS lands	$25,000
Partner in-kind contributions on NFS lands	$244,250
Goods for Services or GNA Revenue to be applied within CFLRP landscape	$600,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	$2,555,000
Total non-CFLRP funding for NFS lands	**$3,424,250**
CFLRP Funding Request	$3,424,250
Total CFLRP funding for NFS lands	**$3,424,250**
Partner fund contributions on non-NFS lands	$602,500
Partner in-kind contributions on non-NFS lands	$12,000
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	$6,000
Total non-CFLRP funding for non-NFS lands	**$620,500**

The Somerset Integrated Resource Project (IRP) Decision Notice approving the 10,585 acres of core timber harvest and other restoration treatments is on track to be completed in the spring of 2020. Additional proposed activities developed by the collaborative outside of the Somerset IRP will require further environmental analysis, likely in Categorical Exclusions and Supplemental Information Reports to the Somerset EA. This is expected to cost approximately $50,000 over the project period.

ATTACHMENT G – Forest Leadership Letter of Commitment

I am pleased to submit the Somerset Collaborative Forest Landscape Restoration Proposal for the Green Mountain National Forest. Our proposal meets all program eligibility requirements set forth in the request for proposals. The CLFR Program presents a significant opportunity to demonstrate collaborative landscape restoration and rural economic development in the northeast. Although the ecological stressors on our landscape are different than in the western United States, the relationship of healthy watersheds and working forests to our rural culture and economy is just as strong.

A CFLRP grant will be a catalyst for us and our many partners to apply watershed restoration, forest health improvements, and economic development across a mixed public-private landscape. Funding will help us employ creative solutions to the challenges of using low quality timber in an area with limited forest products infrastructure and markets. In addition to the economic benefits from forest products and restoration work, the Somerset Project will integrate Vermont's recreation economy by creating and enhancing sustainable recreation opportunities that support small rural communities – exemplifying multiple use.

The strength and success of our implementation will be in the partnerships and collaboration we've established over many years. The Somerset project will involve an informal collaborative consisting of partners we have worked with for decades and new ones engaging specifically for the opportunities the CFLRP offers. We fully expect the collaborative to continue to grow in size and expand in influence. In the short time we've been developing our proposal, sustainable recreation has been added as an economic asset and a low quality/small diameter wood market has been identified at the nearby Long Falls mill in Brattleboro, VT.

Our desire for landscape scale impacts necessitates working across boundaries with our partners who are engaging with adjacent private landowners and communities. While the majority of our project area is national forest system lands, the vast majority of the northeast forests are in private ownership. Our greatest impact will be in demonstrating restoration on national forest lands and transferring technology and practices to private lands. In December 2019, the Vermont Department of Environmental Conservation released the Draft Deerfield River Tactical Basin Plan for public review. The plan identifies watershed-wide issues and opportunities that can be implemented in concurrence with CFLRP funded projects on national forest lands. The timing could not be better for demonstrating an all-lands approach.

Thank you for giving careful consideration to this opportunity to demonstrate how a working forest landscape in the northeast can further benefit the small rural communities whose history and culture are tied to the land.

JOHN SINCLAIR

Digitally signed by JOHN SINCLAIR
Date: 2020.01.09 16:08:37 -05'00'

JOHN A. SINCLAIR
Forest Supervisor
Green Mountain & Finger Lakes National Forests

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