U.S. Natural Climate Solutions Accelerator Full Proposal Template – Step 2

Application Detail:

Project Name	**Family Forest Carbon Program: southern New England**
Applying 501(c)(3) Name	**The Nature Conservancy in Massachusetts**
Primary Point of Contact	**Laura Marx**
Project Manager	**Laura Marx**
Email	**lmarx@tnc.org**
Phone Number	**413-584-2596**
Executive Summary	
Please synthesize your proposal into an executive summary. (250)	Most southern New England forests are divided into small, family-owned parcels. The carbon stock on these forests is greatly influenced by the management choices of these families, and many studies have detailed the potential of improved forest management to increase carbon stocking[1] while generating wood products that can substitute for building and heating materials. Massachusetts and Vermont have launched several successful programs to assist private forest landowners in writing management plans and working with qualified private foresters. But two large gaps remain. First, outreach efforts focus on foresters, and not on loggers. This can lead to a well-written management and cutting plan being paired with high levels of collateral damage and/or practices that ignore or worsen invasive plant infestations. Second, funding for landowners is almost exclusively available for young forest creation. Forest landowners are often encouraged to create young forest in intact, healthy, middle-aged or old forests, reducing carbon stocking on the land and leaving a forest with a high sequestration rate but low carbon stock for decades. The Family Forest Carbon Program, piloted in the central Appalachians and California, is a way to address these gaps and give southern New England forest landowners an option for forest management that maintains and increases the carbon stocking on their land, along with numerous co-benefits. We propose bringing this program northward, in parallel with a Massachusetts state incentive program and Vermont outreach efforts, to give landowners better options for increasing and protecting their forest carbon.
Project Description	
Please provide an overview of your project and the 18-month work plan if successfully awarded.	This project builds heavily on the work of the Family Forest Carbon Program being piloted in the Central Appalachians. We will develop carbon forestry practices using best-available science, align those practices with several state

	policy opportunities and programs, and recruit and pay a pilot set of landowners and practitioners to apply those practices, collecting baseline measures to allow verification over time. A detailed work plan is below: Q4 2019: ● The Nature Conservancy (TNC) and team adapt Central Appalachians Family Forest Carbon Program practices into straw proposal for southern New England. ● US Forest Service (USFS) designs expert/practitioner carbon practices workshops. ● Franklin Land Trust (FLT) schedules 2 workshops and invites broad list of experts including loggers. ● FLT and Vermont Land Trust (VLT) begin recruiting landowners interested in carbon forestry. Q1 and Q2 2020: ● USFS facilitates first workshop where experts vet and refine carbon forestry practices. ● Team modifies carbon forestry practices ● FLT convenes, and USFS facilitates, second workshop to finalize practices. ● Team creates three different carbon forestry documents: ○ For policymakers ○ For foresters and loggers ○ For landowners ● FLT and VLT continue recruiting landowners willing to pilot carbon forestry practices. Q3 2020: ● FLT and VLT offer foresters and loggers working with pilot families additional training to write management plans/apply practices on pilot landowner forests. ● TNC and AFF set incentive payment levels based on Central Appalachians pilot program and NRCS cost-share rates. ● AFF or affiliate signs agreements with 5 families in MA and 5 families in VT to apply carbon forestry practices. Q4 2020 and Q1 2021:

	• Academic partners (funded through other sources) collect baseline carbon data from pilot parcels • Practices are applied, with timing varying by practice (e.g. winter vs summer logging, fall vs winter treatment of invasives) • AFF or affiliate pays landowners and potentially foresters and loggers. Policy deadlines relating to the MA 80x50 study and VT Forest Carbon Sequestration Working Group report will influence the above timeline. The team will work throughout the grant period to ensure compatibility between the Family Forest Carbon Program and MA's new carbon incentive program, as well as any emerging policies from MA or VT.
NCS Alignment	
How does this project align with the most impactful Natural Climate Solutions pathways?	This project directly improves forest management.
Where will the project have direct impact during the 18-month grant period? (100)	This project will impact privately owned forest land in the states of Massachusetts and Vermont during the grant period.
Where could the project/practices be applied across the broader landscape? (100)	The project will be applicable to all of southern New England private forests, including those in Connecticut, Rhode Island, southern New Hampshire, and eastern New York. There is interest in eventually bringing this program to Georgia and Wisconsin.
Why is this the right time to advance this project specifically? What are the major milestones during the 18-month grant period? (100)	Massachusetts is launching a new incentive program for landowners enrolled in the current use program (ch. 61) who grow additional carbon. This program requires specific carbon forestry practices, such as those developed with this grant. Vermont's Forest Carbon Sequestration Working Group is considering how to increase carbon on private lands that may later enroll in carbon markets. Legislation requires reports from both states by January 2020, and action under the MA Global Warming Solutions Act and Vermont Act 83 shortly thereafter. The NCS Accelerator is the only pending funding source with a start date early enough to meet these deadlines.
Roadmap to scalability, replicability, and/or leveragability	
Please provide a detailed roadmap for how the project could be scaled, replicated, or leveraged to a landscape scale. For example:	Scaling and leverage are key to this project. The opportunities created by current and imminent policy changes in southern New England are our reason for applying for Accelerator funding this year.

● If attracting additional investment to your project is part of your **scaling** plan, provide details of where you anticipate you will get the funding and how it will be utilized for growth. ● If **replication** by others is key to your project, how would you promote the pilot to ensure that other organizations, businesses, communities, and/or states can readily replicate your approach? ● If the project involves **leveraging** outcomes through changes in policies and/or best management practices, how will you engage corporate, governmental entities, and/or landowners to ensure success?	In Massachusetts, this program will be tightly aligned with the state's new chapter 61 incentive program (Forest Resilience Program). State agencies have committed $100,000 in state FY20 funding and Franklin Land Trust has applied for $600,000 in federal funding. The carbon forestry practices developed with this grant will form the base of this program. Because the state program and FFCP will use the same set of carbon forestry practices, we will quickly be able to **scale up to landowners across the state**. Future funding requests will **leverage this significant public funding investment** and make use of the new Climate Trust Fund which allows for private contributions to a state-managed ecosystem services payment fund. Massachusetts is also currently developing its carbon reduction/sequestration goals and plan for 2030 under the Global Warming Solutions Act. This will include specific recommendations for policies and programs such as the FFCP. In Vermont, there is a strong push to position landowners to take advantage of existing carbon market programs or alternatives more suited to small family-owned forests. In separate efforts with the US Climate Alliance, VT state agency staff are looking to prioritize and increase outreach to carbon-rich forests across the state. Vermont is far ahead of Massachusetts in its outreach and management programs such as the Use Value Appraisal program, given the strong working land ethic of landowners in the state. These programs don't yet offer a clear roadmap and option for landowners interested in carbon-friendly forestry. The 1.6 million acres enrolled in the Use Value Appraisal program create the opportunity for this grant's **carbon forestry practices to applied statewide**. Finally, we will carefully design our practices so that they are applicable in CT, southern NH, RI, and eastern NY. New York state is beginning to develop carbon forestry practices, and this program will inform that set of practices allowing for **expansion of this work into eastern NY**.
Please describe key assumptions about the climate mitigation benefits of your project during the 18-month grant period and assuming a 30-year landscape scale implementation timeframe.	A key assumption is that the pilot forests will grow for at least the 20-year contract period and the decade following that without a large scale carbon reversal due to natural disasters, intentional heavy cutting, and perhaps most importantly, forest conversion to development. Landowners will be strongly encouraged during the contract period to consider permanent protection of their forests,

	and/or document their conservation intent in estate planning documents. In customizing this program to southern New England, we assume that using skilled, appropriately compensated loggers will maximize the carbon benefits of our forestry practices. MA state Service Foresters have noted that management plans that look similar, from a carbon standpoint, on paper may vary widely on the ground in collateral damage to non-target trees and to regeneration. An assumption specific to this region is that carbon markets will continue to be challenging for owners of small, average carbon stocking, forest parcels to access. This program will incentivize practices to increase carbon stocking on these forests to help landowners access public and/or private funding opportunities. Finally, we assume that scientific literature evidence for carbon benefits of practices such as invasives removal and extended rotation, sometimes studied in other regions of the US, will hold true here. This is one reason for the careful convening of academic and practitioner experts to vet our list of practices, and the reliance on directionality of carbon impact and "no-regrets" forestry strategies.
Organization and Team	
Describe the organization's and team's relevant background and track record for developing and executing similar projects.	**The Nature Conservancy:** Laura Marx (project manager, MA) and Jim Shallow (VT) are chapter leads on natural climate solutions. Jim serves on VT's Forest Carbon Sequestration Working Group and Laura is involved in the launch of the MA carbon incentive program (Forest Resilience Program, or FRP). **American Forest Foundation**: The Family Forest Carbon Program is a partnership between AFF and TNC. Our goal is to expand the program from its Central Appalachians pilot to states where sustainable public funding sources can increase impact. **Franklin Land Trust:** FLT is a MA regional land trust that runs MA Foresters for the Birds. They applied for a pending $600,000 federal grant to launch the FRP. **Vermont Land Trust:** VLT has conserved about 10% of VT land through deep connections with landowners and

	foresters. VLT works closely with MA partners on the Greens to Hudsons wildlife corridor. **Massachusetts EEA:** Bob O'Connor is state forest policy lead, and will use the carbon forestry practices vetted through this grant in the FRP. **US Forest Service:** Todd Ontl and Maria Janowiak compiled a "carbon menu" of carbon-friendly forestry practices across the US. They work across 20 states to apply the carbon menu, adaptation workbook, and other tools.
External Factors	
What are the critical external factors/risks to successful completion of the project (e.g. policy, politics, investment, execution)? What strategies do you plan to deploy to address these factors/risks?	Given the landowner demographics and policy landscape in MA and VT, risks to this project are low. The biggest risk is going from creating the practices list and payment schedule to implementing the program on the ground within 18 months. To address this risk, Franklin Land Trust and Vermont Land Trust will use their existing "Foresters for the Birds" and outreach networks to begin lining up willing landowners and foresters in the first six months. We have a head start thanks to the 2018 Accelerator-funded work of the Central Appalachians pilot. We will modify their list of carbon forestry practices for this region, and do the same with their landowner contract and other materials. There is strong alignment with MA's state program, New England Forestry Foundation's "exemplary" forestry, and other efforts happening at the same time, enabling us to move much faster than if this program were being developed in isolation.
Role for an Accelerator	
What are your project deliverables and associated success criteria?	Deliverables: ● List of carbon forestry practices for southern New England, drawn from the Central Apps FFCP pilot, USFS carbon menu, and New England Forestry Foundation "exemplary" forestry practices, and vetted by academics and practitioners ○ Success: Document can be used by practitioners to write management and cutting plans. Buy-in across stakeholder groups results in practices' incorporation in the MA incentive program (Forest Resilience Program) and inclusion in VT's Forest Carbon Sequestration working group report

	● Signed agreement with 10 pilot forest landowners (5 in MA and 5 in VT, more if private funding allows)
	  ○ Success: Landowners distributed across economic classes; more landowner interest than funding available.
	● Management plan and cutting plan that include carbon forestry practices, and successful application of practices to all pilot forests.
	  ○ Success: Carbon forestry practices completed in fall 2020 or winter 2021 (timing varies by practice), and practice payments made.

Describe the project budget, sources of funding and how you would use Accelerator grant funding to complete the deliverables.	Our NCS Accelerator Grant request of $107,000 will allow us to compile, vet, and package carbon forestry practices to be used by the Family Forest Carbon Program and related efforts in MA and VT ($9,400). We will recruit pilot landowners in both states and train practitioners to apply carbon forestry practices on these pilot forests ($16,000). We'll apply these practices under signed long-term commitments from 10 pilot landowners, and pay both landowners and practitioners ($60,000). The grant funding that stays with AFF is payment for work related to contracting with and managing payments to landowners ($10,000), and the funding that stays with TNC is for grant administration and program management ($11,500). Significant additional funding for this project comes from: ● MA Department of Conservation and Recreation has $100,000 in this year's budget to launch a state incentive program for chapter 61-enrolled landowners. ● Most of the project team collaborated on a $600,000 NRCS Conservation Innovation Grant application (pending, submitted in July). ● TNC's Massachusetts chapter solicited a gift from a major donor in the amount of $100,000 (pending, submitted in August). ● US Forest Service staff are asking only for coverage of their travel costs, and are covering their time with other sources. They have also committed to doing an extensive write-up of the carbon practices and

	expert workshops to help export this work to other states. Note that our budget only lists *confirmed* funding sources as match. The NRCS grant and private ask, if received, would bring considerable additional resources to the project.
References / Resources	
List/provide links to key references/resources that support your proposal and/or that you have used to evaluate the impact of your project.	Key references (footnote 1): ● Duveneck and Thompson. 2019. Social and biophysical determinants of future forest conditions in New England: Effects of a modern land-use regime. *Global Environmental Change.* 55, 115-129. (See also newenglandlandscapes.org data and mapping tool.) ● Fargione et al. 2018. Natural Climate Solutions for the United States. *Science Advances.* 4(11), eaat1869. Carbon practices resources: ● Ontl, T.A., Swanston, C.W., Janowiak, M.K., Daley, J. A practitioner's menu of adaptation strategies and approaches for forest carbon management. Northern Institute of Applied Climate Science. White Paper, in review. ● Draft methodologies for carbon forestry practices from the Central Appalachians FFCP pilot were kindly provided by TNC Central Appalachians and Global Carbon staff.

- Please attach the project budget template as Appendix A.
- Please include biographies for key project staff as Appendix B [limit to no more than 75 words/person].
- Supplemental documentation (further explanation of the project, organizational charts, etc.) may be provided in additional appendices though these materials may or may not be considered by the selection committee.
- Please note the Selection Committee might reach out with additional questions and information requests during the review process.

Appendix A: Budget

Project Title: Family Forest Carbon Program: southern New England

Submitting Entity: The Nature Conservancy in Massachusetts

	Total Project Budget		

	Total Budget	Accelerator Grant Request	Matching Funds	Unit Cost	Notes
DIRECT					
Personnel & Fringe	50,000	-	*50,000.00*	varies	*1*
Contractual	-				
(Add lines and List by Contracted Services)	38,000	8,000	*30,000.00*		*2*
	8,000	8,000			*3*
	70,000	70,000		Avg$/hour	*4*
Travel	-				
Vehicle	-	-		Avg$/mile	
Airfare	3,400	3,400		$1700/trip	*5*
Hotel	350		*350*		*6*
Training & Meetings	4,000	4,000			*7*
Expert vetting meetings for carbon practices x 2 (25 attendees each)				$40/attendee	
Landowner outreach meetings x 2 (one in each state, 15 attendees each))	-			$40/attendee	
Forester/logger trainings x 2 (one in each state, 10 attendees each)				$40/attendee	
Other Expense: (Design and printing)	27,000	2,000	*25,000.00*		*8*
	-			(define)	
Total Direct Costs w/o Subgrant	**200,700**	**95,400**	***105,300.00***		
Indirect Cost (Limited to 12 %)	*24,084*	*11,448*			
Grant Total	**224,784**	**106,848**			

Notes:

1 Match is from general operating funds/private asks to cover TNC staff time from MA, VT, Central Appalachians, and Global Carbon team

2 Payment to FLT to do outreach and convening of experts/practitioners, plus forester and logger training logistics (venue/food/etc.); Match is relevant portions of MA DCR RFP for Working Forest Initiative year 1 including to FLT for additional work on vetting practices (these and resilience practices), logger survey, additional info on economics.

3 Payment to Vermont Land Trust to do landowner and forester and logger outreach and recruiting

4 $60K for landowner/practitioner payments, plus $10K to AFF for administration

5 $1700x2 for US Forest Service Northern Institute of Applied Climate Science staff to attend and facilitate meetings to create climate practices

6 Existing USFS funding covers one overnight per meeting per staffer

7 Food, venue, and supply costs for expert/practitioner meetings, practitioner training, and for landowner outreach meetings

$2,000
$1,200
$800

8 Design and printing costs; match is from DCR contract to FLT (year 2 for DCR; last 6 months of this grant) for the chapter 61 program (these same practices will be in those guides)

Appendix B: Team bios

The Nature Conservancy:

Laura Marx is the Forest Ecologist for TNC's Massachusetts chapter. Laura manages a four-state Regional Conservation Partnership working to conserve a key wildlife corridor between Vermont's Green Mountains and New York's Hudson Highlands. She is also the chapter and New England Division lead on Natural Climate Solutions and works to increase the ability of land to reduce and remove greenhouse gas emissions by improving climate and energy policy, forest conservation, and forest management programs.

Jim Shallow is the Director of Strategic Conservation Initiatives for TNC's Vermont Chapter. His career has focused on helping private forestland owners achieve conservation goals including creating the award-winning "Foresters for the Birds" program. He has experience in carbon offset markets including creating Vermont's first compliance carbon offset project. He was recently appointed by the VT Senate to the Vermont Forest Carbon Sequestration Working Group and is member of the AFF Woodlands Operating Committee.

American Forest Foundation:

Elizabeth Vranas, Manager of Northeast Conservation & Family Forest Carbon Program **–** Elizabeth focuses on implementing and evaluating innovative strategies for landowner engagement and promotion of wildlife habitat based on social marketing and behavior change theories. She manages the implementation of the Family Forest Carbon Program, creating and testing landowner outreach and engagement strategies.

Christine Cadigan, Director of Northeast Conservation & Family Forest Carbon Program – Christine Cadigan is focused on enhancing and promoting wildlife habitat on family-owned woodlands in the 13-state Northeastern region. She has her Master of Environmental Management and Master of Forestry from Duke University's Nicholas School of the Environment.

Franklin Land Trust:

Emily Boss, (MS Forest Resources, UMass Amherst), Executive Director of the Massachusetts Woodlands Institute and Land Protection Specialist at Franklin Land Trust, is licensed to practice forestry in Massachusetts. As Director of the Institute she has managed MWI's involvement in the Stewardship Program, a cost share and technical assistance for forest landowners administered by the MA Department of Conservation and Recreation, and the implementation of Foresters for the Birds in Massachusetts.

Melissa Patterson, (BA Environmental Studies, Allegheny College) Director of Community Outreach and Education at the Massachusetts Woodlands Institute and Franklin Land Trust, has extensive experience in program development, coordination and promotion, and has been administering state and federal grants for 10 years.

Vermont Land Trust:

David McMath: Before joining VLT in 2018, David was a consulting forester for over 23 years providing natural resource management services for a diversity of clients throughout New England. Clients include; investors, corporate entities, non-profit groups, individuals, family trusts, town and state. David has experience in GIS mapping(ArcGIS), forest management, timber harvesting, marketing, and carbon verification. He is a member of SAF & Forest Stewards Guild and a Licensed Forester in the State of Vermont.

Massachusetts Executive Office of Energy and Environmental Affairs:

Bob O'Connor is the Director of Conservation Services for Massachusetts agencies. He coordinates land and forest conservation among agencies, landowners and NGO's He was the statewide Director of the Watershed Initiative and the Natural Resources Director for the Boston Metro water supply and the Director of Quabbin Reservoir. He has a B.S. in Forestry from S.U.N.Y Syracuse, and an M.B.A. and a MA in Conflict Resolution from the University of Massachusetts, Boston.

US Forest Service:

Maria Janowiak is a trained forester and Deputy Director of the Northern Institute of Applied Climate Science. She is also coordinator for the New England Climate Change Response Framework, serving New York, Vermont, New Hampshire, Maine, Massachusetts, Connecticut, and Rhode Island. She has a M.S. in Forestry and has been working with land managers on issues related to climate change and adaptation since 2007.

Todd Ontl is an ecologist and the Fellow for the USDA Northern Forests Climate Hub with the Northern Institute of Applied Climate Science. His work focuses on climate change adaptation in forest management and developing tools and resources for helping natural resource professionals manage working lands for carbon mitigation benefits. His previous experience includes a Ph.D. in soil carbon cycling and post-doctoral research on climate change impacts to peatland carbon fluxes.

Please see attached Appendix C for calculations of total carbon benefit and cost per ton.