



SERVING VERMONT'S CENTER-WEST ECOREGION

Center-West Ecoregion Carbon Reserve Project

Lewis Creek Association (LCA) and a partnership team including Vermont Family Forests (VFF) and others are launching a Center-West Ecoregion Carbon Reserve Project (CWE-CRP) with the goal of significantly increasing atmospheric carbon sequestration and storage under agricultural and forestland uses in cooperation with interested landowners.

Vermont's Center-West Ecoregion is a 630,000-acre area that includes portions of four Biophysical Regions. The largest is the Champlain Valley followed by the Northern Green Mountains, Southern Green Mountains, and the Champlain Hills. Each of the four Biophysical Regions has urban, agricultural, and forest land uses. Existing land uses can readily be identified as urban, agriculture, and forestland uses.

Forest land uses can be further differentiated into Production Forestry, Ecological Forestry, and Wildland Forestry. Wildland Forestry stores and sequesters more atmospheric carbon over time than Production or Ecological Forestry.

- Production Forestry has traditionally focused on timber production and to a lesser extent maple sugaring.
- Ecological Forestry has some combination of forest resource production for economic returns and forest ecosystem conservation to protect and/or enhance ecological health.
- Wildland Forestry, where the focus is on the ecological health of wild forests, that are reserved from timber management and largely self-willed but where appropriate forest-based recreation is permitted, represents less than 3% of the Vermont landscape.

CWE-CRP will actively engage the public in advocating for the implementation of conservation and protection practices that significantly enhance atmospheric carbon sequestration and storage. Conservation and protection practices that improve water quality, enhance fish and wildlife species richness and abundance, and flood and drought resilience in a rapidly changing climate will also be part of the effort. These ecosystem functions and values are part of the Commons.

CWE-CRP will work with interested landowners who voluntarily agree to participate.

CWE-CRP will adopt Optimal Conservation Practices (OCPs) for the land use category of Ecological Forestry. VFF's Optimal Conservation Practices will be employed and adapted as needed. Wildland Protection Practices (WPPs) for Wildlands Forestry will need to be identified and adopted.

Vermont Conservation Design (VCD) and other mapping tools will be used to help identify areas in each of the four Biophysical Regions where Ecological Forestry and Wildland Forestry would have the greatest impacts on atmospheric carbon sequestration and storage while providing significant

enhancement of water quality, wildlife species richness and abundance, and forest ecosystem flood and drought resilience.

Initial target watersheds will likely include the New Haven River, Little Otter Creek, Lewis Creek, and the LaPlatte Watershed.

CWE-CRP will explore ways to employ and expand the Vermont Use Value Appraisal Program -- Vermont's premier land conservation effort – in advancing our goals.

Citizen Scientists and Commoner Monitors will assess ecological health and compliance with conservation and protection practices.

This pilot action plan is, in part, informed by the New England 2017 Harvard Forest Report, *“Wildlands and Woodlands”* that documents alarming ecological impacts of a rapidly changing climate change resulting from carbon combustion, increased air pollution, reductions in soil carbon and health, and reductions in biodiversity and associated habitats that had provided critically important carbon storage and sequestration capacities.

Among similar collaborating programs, LCA's *Ahead of the Storm* program will gear up with collaborating partners, communities and property owners to identify, locate, promote, implement and monitor more robust carbon reserve conservation practices that: 1. Sequester carbon from the air; 2. Build and store significantly increased soil carbon under agricultural and forestland uses; 3. Increase carbon stocks in forests and fields; 4. Expand the number, extent, and productivity of riparian zone buffers; 5. Reduce pollution associated with chemical fertilizers and synthetic pesticides; and 6. Protect the integrity of key wildland reserves including rare and fragile natural communities, steep slopes, and wetlands.

This CWE-CRP partnership venture will incorporate these new methods and property management activities into management plans enrolled in Vermont 'Current Use' tax abatement program. Management plans for Production Forestry, Ecological Forestry, Wildlands Forestry, Agriculture or a combination will reflect our priority areas planning map, site suitability, and property owner goals.

Introduction of these practices and strategies may include landowners of properties that are not currently enrolled or eligible for the Current Use program. The genesis of this practical land management-based strategy is a direct response to limited federal and state conservation funding availability for climate resilience landscape protection programs. Perpetual conservation agreements are a long term goal.

LCA and partners will prepare project development and outreach materials in 2021-22. Best available science will inform the development of our planning, implementation and monitoring materials. Property management plan monitoring considerations for tracking success over time may include water quality, land cover/acres, forest connectivity and composition (structure/species), soil conditions, biomass, wildlife, biodiversity, and ecological diversity.

This action plan will call for inviting property owners to apply strategic management practices to protect and enhance the carbon storage and sequestration capacity of targeted landscape areas. With some carbon reserve oriented agriculture and forest management plans already approved in the Vermont "Current Use" tax abatement program, we anticipate interest and receptivity for many more to come while also becoming well-staged for potential future conservation and carbon funding opportunities.

Draft Project Workplan notes

Geographic area: Middle Lake Champlain Valley and Vermont ANR Center-West Ecoregion

Partnership Team:

Lewis Creek Association Marty Illick, Kate Kelly, Andrea Morgante

Vermont Family Forests David Brynn

Towns:

Charlotte Conservation Commission Kevin Burget

Monkton ANAC Laura Farrell

Mid Lake Champlain Regional Conservation Partnerships Laura Farrell

Chitt and Addy RPCs:

John Van Hoesen

Pam Brangan

UVM and Middlebury: Dr. Marc Lapin, Dr. Bill Keeton, Dr Luben Dimov, Dr. Don Ross

Native Geographic Jesse Mohr

Chitt and Addy County Foresters

Ethan Tapper

Chris Olsen

Purpose: increase community capacity/commitment to maximizing landscape carbon reserve capacity

Objectives:

Increase community awareness, involvement, and stewardship

Identify and pursue management practices/methods with strong concurrence and high feasibility.

Use existing programs that incentivize these practices for public benefit

Become prepared for potential funding through future mechanisms such as carbon credits

Begin with most feasible opportunities using a local action network of interested collaborators

Move toward ultimate coverage of the larger CWE ecoregion.

Focus on the commonly-held values of stored carbon, clean water, and diverse wildlife.

Tasks:

Project development, prepare and manage

Vision and planning map of priority areas for optimizing carbon sequestration & carbon storage capacity and biodiversity conservation with UVA/VFF and other parcels.

Property stewardship/management standards/protocols for priority conservation areas.

Education materials for outreach: community members, stakeholders, others

Project database by parcel, management status geographic area, other

Property owner outreach and conservation project development

Publicity

Advocacy

Project administration/fundraising

Partner Roles:

LCA: project development and oversight, project admin/fundraising

VFF: project development, management standards and implementation

? RCPs Addison and Chitt:

? UVM Rubenstein/SAL:

Tech consultants Lapin, Ross, Mohr: GIS, tech support, project mgmt

Town CCs, ANAC: publicity, outreach, advocacy

Addison and Chittenden RPCs: GIS, tech support, publicity

Gov: FWD NGNH mapping

FPR County Foresters UVA databases, management standards/protocols

LCA draft version 7

AAFM management standards

VT Sustainable Jobs Fund – project development- mgmt plans protocols

VFF/LCA Side Notes:

Weather often does not cooperate and loggers sometimes do not comply fully with AMP/RAPs/BMPs, therefore refer to new precipitation trends and OCP plan when other practices are not up to the task. Use OCP plan when infrastructure and logging equipment are poorly suited for steep sites.