

**ENVS 0401B Spring 2025 Project with Standing Trees**  
**Rewilding Vermont: *Reimagining our shared public lands to overcome the climate, extinction, and water quality crises***

**Project Partners**

- Zack Porter, Standing Trees Executive Director
- Chris Gish, Standing Trees Grassroots Mobilization Manager

**Resource Partners**

- [Climate Forests Coalition](#)
- [Save Public Forests Coalition](#)
- [Stop Vermont Biomass](#)

**Background Context**

Founded by volunteers in the fall of 2020 and incorporated as a nonprofit in the fall of 2021, Standing Trees is the only organization in New England dedicated to advancing policy and legal solutions that will permanently end logging in New England’s state and federal public lands, restoring the region’s native old-growth forests across ten percent of the Northeast US (and about 12% of Vermont). Standing Trees serves as a watchdog for state and federal agencies, ensuring that land-managers follow the latest climate and biodiversity science. In addition to public forest protection, we engage in policy and legal advocacy to end New England’s reliance on biomass electricity and other false climate solutions.

The impacts of climate change are escalating in the Northeast: extreme precipitation and flooding devastated northern New England in the summers of 2023 and 2024. Public forest protection is a multi-solving strategy in an era that demands solutions with multiple co-benefits. Public forests across the Northeast are of exceptional importance: they store an average of 1/3 more carbon than private forests; they contain the largest contiguous blocks of unfragmented forest habitat; and they contain the headwaters for many of the region’s largest rivers. By protecting public forests from logging, we can double forest carbon storage by 2100, safeguard biodiversity, improve water quality, reduce the risk of droughts and floods, and support mental and physical health.

**Project Need**

In 2023, Standing Trees achieved a major legislative victory in Montpelier with passage of [Act 59](#), championed by Rep Amy Sheldon ‘88 (D-Middlebury). The “Community Resilience and Biodiversity Protection Act” grew out of the initial Vermont Climate Action Plan. The legislation establishes goals to conserve 30% of Vermont’s total land area by 2030, and 50% by 2050, using Vermont Fish and Wildlife’s [Vermont Conservation Design](#) to guide conservation planning. An [inventory of conserved land](#) in Vermont was completed in the fall of 2024. A 30x30 and 50x50 conservation planning process is set to commence soon, and will be completed by the end of 2025.

The Middlebury Capstone Team will support the work of Standing Trees to:

- a) Achieve maximum protection for *public lands* as an outcome of the Act 59 conservation planning process and through potential state legislative campaigns to help implement Act 59;
- b) Improve public awareness, understanding of, and appreciation for the multiple co-benefits of public forest protection;
- c) Provide context and strategies that support state-wide engagement in Act 59 implementation and related public land protection efforts.

## Project Objectives

- Develop an understanding of the policies, science, cultural perspectives, and public opinions that inform the management of state and federal public lands in Vermont.
- Produce an ArcGIS Story Map that persuasively and holistically conveys a) the myriad benefits of rewilding Vermont's state and federal public lands (flood resilience, water quality enhancement, biodiversity protection and restoration, economic benefits, etc.) and b) personal stories/testimonies about why people value wild public lands from a diverse cross section of Vermonters. Individual components of this project will also be designed for use as content to support social media outreach on a range of platforms.
  - GIS elements could include:
    - Mapping the largest blocks of contiguous forestland in Vermont, highlighting the essential role public lands play with private lands in forever-wild conservation for connectivity that supports biodiversity;
    - Mapping public lands as headwaters for clean water and water management during floods and droughts in order to discern importance;
    - Mapping the biomass energy source areas for VT biomass facilities to consider the demand biomass energy places on public forest lands.
    - Researching models for mapping carbon density to allow a comparison of Vermont public lands compared to private lands;
- If time allows:
  - Host an event on the Middlebury campus to educate the community about Act 59 and other opportunities for students and the public to advance public land protection.

## Initial Resources

- [Act 59](#), the "Community Resilience and Biodiversity Protection Act"
- [Vermont Conservation Design](#)
- Save Public Forests Coalition "[myth busting](#)" fact sheet
- "Wildlands in New England" [website](#) and [full report](#) and [VT State Report](#)
- Moomaw et al 2019, "[Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good](#)"
- Faison et al 2023, "[The importance of natural forest stewardship in adaptation planning in the United States](#)"
- Kellett et al 2023, "[Forest-clearing to create early-successional habitats: Questionable benefits, significant costs](#)"
- Sterman et al 2022, "[Does wood bioenergy help or harm the climate?](#)"

# **ENVS 0401B Spring 2025 Project with Addison County Relocalization Network and Green Mountain Farm to School: *Supporting the Future Development of the Vermont Food Hub Community of Practice***

## **Project Partners**

- Lindsey Berk, Executive Director, Addison County Relocalization Network (ACORN)
- Catherine Cusack, Executive Director, Green Mountain Farm-to-School

*What if local food systems could become a dominant, even commonplace feature of regional planning? What if local food hubs became established elements within a given community's infrastructure? What if we started to see the widespread availability of healthy, sustainably sourced food as an essential civic virtue that demands our attention? What if Food Hubs are valued as a vital public service, and supported as such?*

## Background / Context

Founded in 2005 and officially incorporated as a non-profit in 2009, the [Addison County Relocalization Network](#) (ACORN), was established to “serve as a catalyst for developing local, sustainable and collaborative solutions to the challenges facing Addison County communities from the growing instability of our energy systems, environment and economy.” With a focus on provisioning sustainable sources of food, a primary goal of ACORN’s work is to “create a more cooperative and sustainable future in response to the depletion of our natural resources and the impacts of climate change; the growing disruptions in our financial and economic system; and the erosion of community and responsibility in our social and political life.” Working toward this goal will demand the mix of practical approaches, visionary imagining and creative thinking.

The ACORN Food Hub opened its doors in the fall of 2022 with the goal of increasing sales of locally produced food to wholesale buyers (e.g., restaurants, food retailers, institutions), thus promoting small farm viability and contributing to a resilient, vibrant local economy.

The ACORN Food Hub offers a unique set of services to support farmers and food producers:

- Marketing, Sales and Distribution
- Dry, Refrigerated, & Frozen Storage
- Cross-Docking (an efficient process of receiving and quickly transferring products with minimal storage time)
- Freight Drop (a centralized drop shipping space for businesses that are not easily accessible to trucks)

- CSA Hosting
- Physical infrastructure and a network of volunteers to rely on in cases of natural disasters and other emergencies

Founded in 2008, [Green Mountain Farm-to-School](#) has grown from a single school garden to a nonprofit organization that works to improve childhood nutrition, support Vermont's food producers, and make fundamental changes in the region's local food system by connecting schools, farms, and communities through food and education. GMFS creates change through their 1) Farm-to-School program serving 17 Northeast Kingdom schools; 2) Green Mountain Farm Direct, a statewide food hub, partnering with 200 wholesale customers and 50 farmers/food producers; and 3) The Lunchbox, a mobile summer meal site in the Northeast Kingdom serving around 600 children and their families each summer. In addition to these core programs, we provide consumer education and food access initiatives to Northeast Kingdom communities. Through our collaborative approach, we are building more sustainable and equitable local food networks to improve the well-being of all Vermonters.

Green Mountain Farm Direct (Farm Direct) is a rapidly expanding social enterprise, a regional aggregation and wholesale distribution food hub designed to increase access to local food by delivering from local farms to institutions, restaurants, and direct-to-consumer markets (such as specialty retailers) throughout Vermont. Farm Direct's sales approach is mission-driven and two-fold: 1) The program strategically assists small farms in reaching wholesale markets they may not have previously accessed and 2) Farm Direct provides education, engagement, and support to customers interested in purchasing local food. Building meaningful relationships with producers and customers is a critical part of Farm Direct's work. These relationships help the Farm Direct team develop creative and customizable solutions to support and expand the local food economy.

Farm Direct is building resilience in the local food system by facilitating the sale, aggregation, and distribution of local food to area institutions and businesses, with a timely 80% return to farm partners. In the last 10 years, the food hub has sold over \$4 million worth of local food and continues to see annual sales grow, particularly with school and specialty retail partners.

### Research Need

The ACORN Food Hub operates as an enterprise within ACORN and its business model assumes income will be a mix of revenue generated from earned revenue, grants,

philanthropy, and profit from other ACORN enterprises. Similarly, GMFTS and all non-profit food hubs in the state are reliant on this multi-pronged funding stream, even those that have been in operation for more than a decade and sell millions of dollars in food annually. It is hoped that in the future, food hubs will be valued similarly to libraries; both are services that benefit the public. To that regard, food hubs should be supported with consistent public and private funding.

The inherent challenge of food hubs across the country are the thin margins on which they operate. Food hubs try to avoid cutting into farmers' margins as well as driving up the price of local food. The very thing we're trying to solve is also our biggest weakness in regards to financial sustainability. The Vermont Food Hubs created a Community of Practice (COP) in late 2024. This committee of Food Hub Executive Directors and Operations Managers meet monthly to streamline logistics, address challenges and celebrate successes together. We are also considering how we can best collaborate to advocate for funding, together.

Students will focus on advocacy for the Food Hub Community of Practice (COP) at the state level to find long-term, sustainable funding streams.

- Research how the Food Hub COP can focus on state-level advocacy to change budgets at the state agency level
- ID strategies for state funding ([Vermont Housing and Conservation Board](#), [Working Lands Enterprise Initiative](#), other?) to 1) support Hubs in a meaningful way and 2) avoid competition for limited resources between the Food Hubs in VT. ***These strategies should be developed based on:***
  - Conversations with legislators and state agencies to identify what messaging will resonate with legislators (food access, farm viability, etc.).
  - Conducting case study research on state-funded Food Hubs (e.g. Rhode Island) - how were these policies enacted?
  - Gaining insights through interviews with local and regional partners, e.g.: Jake Claro ([Vermont Farm to Plate](#)) Ellen Kahler ([Vermont Sustainable Jobs Fund](#)/VT Prosperity Project), [Jon Erickson](#)/UVM/Gund/VT Prosperity Project and [Karen Nordstrom](#)(UVM/Food Solutions New England), Kate Raworth (Doughnut Economics/[Vermont Prosperity Project](#)), Shane Rogers ([Food Solutions New England](#)), Jesse Rye ([Farm Fresh Rhode Island](#))
  - Considering how Farm to School work is funded through the state as a potential model and/or area for collaboration ([Local Food Purchasing Incentive](#), [VT-FEED](#), etc.). Are there other models in Vermont that can act as precedent?
    - Potential interviews: Betsy Rosenbluth ([Shelburne Farms/ VT-FEED](#)), Kayla Strom ([NOFA-VT](#)), [Gina Clithero](#) (Agency of Ag)

**ENVS 0401B Spring 2025 Project with The Garrison Institute:  
*Designing a Transformative Leadership Retreat for Planetary Health***

**Project Partner:**

Stephen Posner, PhD, Director of Pathways to Planetary Health, The Garrison Institute

**Resource Partner:**

Willie Freeman, Initiative Program Coordinator, The Garrison Institute

**Background Context:**

For the past several years, Pathways to Planetary Health has convened large annual events that gather people at the Garrison Institute in the Hudson Valley of New York. Recently, our model has evolved into a retreat in September that aligns with global environmental leaders being in New York City for Climate Week NYC and/or the meetings of the UN General Assembly (UNGA).

The goal of these convenings is to catalyze relationships among participants and to platform important and often underrepresented voices to an audience of changemakers. These learning experiences influence and invigorate planetary health work for participants. In simple terms, these retreats are gatherings for learning, healing, and partnership forming.

In 2023, we hosted a retreat with the Club of Rome *at the end of* Climate Week NYC focused on an “Earth4All” vision for broad economic systems transformation. In 2024, we hosted a retreat with the UNDP Conscious Food Systems Alliance *as a lead up to* Climate Week NYC focused on food systems transformation (see resources below). In 2025, we are planning for another retreat in this series. This is an exciting opportunity to shape the design of this impactful event.

**Project Need:**

We would like to apply everything we’ve learned from the last two retreats to design a transformative co-learning journey at the Garrison Institute.

First, we need to reflect on our shared purpose for why we do this work. For example, we value the inner dimensions of systems change. How can we create opportunities to bring people together to experience shared awareness of interconnectedness, engage in planetary healing, and integrate these experiences to connect what they learn with responsible action?

Second, we need to harvest lessons learned from 2023 and 2024. What worked and why? What didn’t work? What conditions enabled or hindered positive impact?

Third, we are designing a gathering for September 2025. How can we apply lessons learned to improve the creative design of an impactful retreat?

Fourth, we need to get to work. What are key next steps and planning considerations? Who needs to do what and when? What is the process for strategically engaging with key participants, contributors, and supporters?

### **Project Objectives:**

1. Craft a pithy and compelling case for support of a transformative leadership retreat for planetary health to be held in September 2025.
2. Describe key lessons from the past two retreats. Specifically, evaluate the advantages and limitations of:
  - a. Tie to global events such as Climate Week NYC and UNGA? Host the retreat before or after Climate Week NYC?
  - b. Focus on a different narrow topic each time (e.g. Oceans, Biodiversity, Food, Energy, etc.) or adopt a consistent broad focus (e.g. Planetary Health) or maintain a steady focus on food systems?
  - c. Partner with another organization to co-host or partner in limited, specific ways (and what are criteria for good partnership)?
  - d. Use an open invitation model or continue to host a curated invite-only event?
3. Design key aspects of a transformative retreat.
4. Chart next steps.

### **Student Learning Opportunities:**

- Hone skills for designing and implementing a planetary health event for international leaders
- Learn the basics of group facilitation for maximizing impact at climate negotiations and other major convenings
- Gain insight into a Planetary Health lens for viewing interconnected environmental issues

### **Initial Resources:**

Garrison Institute approach

- History of the Pathways to Planetary Health initiative <https://www.garrisoninstitute.org/initiatives/programs/pathways-to-planetary-health-2/history/>
- Integrating Inner & Outer Systems Change <https://www.garrisoninstitute.org/integrating-inner-and-outer-systems-change/>
- Two Eyed Seeing <https://www.garrisoninstitute.org/two-eyed-seeing/>
- Islands of Coherence <https://www.garrisoninstitute.org/islands-of-coherence/>

September 2024 Retreat

- Summary report with purpose statement, program, bios, acknowledgements, and photos <https://www.garrisoninstitute.org/wp-content/uploads/2024/11/Retreat-on-Food-Systems-and-Planetary-Health-September-2024-Report-1.pdf>
- A reflection written by Karen Nordstrom and V. Ernesto Méndez shows how we came together in community to explore the inner dimensions of our work – Bridging

Contemplation and Action: A Transformative Retreat for Food Systems Leaders

<https://foodsolutionsne.org/bridging-contemplation-and-action/>

- Brief video recap <https://www.youtube.com/watch?v=kgmvtCZrAVQ>

Others doing similar things:

- A reflection on “impact gatherings”  
<https://reneelertzman.substack.com/p/convenings-cohorts-communities-notes>
- Climate leaders retreat (Christina Figueres and monastics from Plum Village Zen Buddhism Community) <https://weall.org/back-to-earth>
- Retreat Center Collaboration (Commonweal and Fetzer Institute)  
<https://www.retreatcentercollaboration.org/about>



**ENVS 0401B Spring 2025 Project with Gedakina**  
**The Intervale: Biomass, Climate Change, Equity, and Public Health**  
**Project Description**

*"There could not be a more stupid or suicidal way to produce energy [than biomass]."*

~Bill McKibben

**Project Partner**

- Judy Dow, Gedakina Executive Director and member of Agriculture and Ecosystems Subcommittee of [Vermont Climate Council](#)

**Background Context and Need**

For generations the Intervale neighborhoods in Burlington's Old North End and Winooski, Vermont, have been home to new immigrants and under-resourced populations. In Winooski 32 languages are spoken and New Americans make up the majority of the population. The ravine where the Intervale is located between these two communities has been a place for subsistence farming and fishing going back 15 to 16 generations for indigenous families in Vermont.

Today this area includes the Richard Kemp Center, the [McNeil Generating Station](#) (biomass) as well as a water treatment plant, a community health center, many businesses, and 5,000 residents. The area has a long history of air and water quality problems associated with biomass emissions, flooding, landslides, stormwater runoff and sewage overflows.

This project will support the groundwork needed to contribute to a more stable community where health consequences are acknowledged, possibly leading to changes in current practices to the benefit of these communities.

Through Gedakina's additional work with other students and partners, this team will have access to real time story-building to learn more about the Riverside Avenue neighborhood and their resilience in the face of a changing climate and landscape as told through the history and stories of this region's people, place, and infrastructure.

**Project Objectives:**

1. Assess and compile air quality health impacts on the community surrounding McNeil - Modeling of carbon and pm2.5 and pm10 (and other criteria pollutants) emissions within 1 mile radius - include transportation of wood for burning and the smokestack emissions from McNeil - with a mix of ambient air quality data, direct smokestack emissions, and proxy data sets.
2. Compile a literature review and lifecycle analysis evaluating biomass as a renewable energy source in Vermont (see [Massachusetts](#) for example).

3. Investigate how McNeil is exacerbating issues in Riverside Avenue's built environment, impacting health, housing, education, and local businesses (past, present, future). For example the unintended consequences of road widening and addition of sidewalks to serve biomass deliveries to McNeil.
4. Deliver a recommended and preliminary community-based outreach strategy (for use by future fellows and interns) informed by above research of the built and natural environment of the area surrounding McNeil that could include:
  - Stakeholder map (the people/communities),
  - Narratives, visuals, historical and current,
  - Develop a potential stakeholder committee,
  - Compile a legal and policy history of the environmental justice activity in the neighborhood, and
  - Propose a scope of work to create outreach and education materials to increase access to educational information on health stressors in the community.

#### **Potential Project Formats:**

- A project report that partner Judy Dow can take to the Climate Council to make a case for deeper research on the health impacts of biomass at industrial scale, as well as the climate impact of biomass.
- A report for the Richard Kemp Center to support their community outreach and education strategies.
- Contribute to the storytelling featuring airshed, watershed, flood plains maps and stories of local community members (past and present)
- Note: There exists potential for ongoing work via a Climate Fellow or Intern from Midd for summer 2025, as well as potential winter term class in January 2026 focused on hydrology and soils, past, present and future in the Intervale in a climate changing world (linked to #3 above).

#### **Community Stakeholders and Resource Contacts**

- Christine Hughes, The Richard Kemp Center Director
- The Richard Kemp Center Event Planner
- Pike Porter, Ashley Adams, [Stop Vermont Biomass](#)
- Community Health Center, Riverside Avenue
- Mark Hughes, Vermont Racial Justice Alliance
- Neighborhood Planning Associations who are within the 1/2 mile radius of McNeil (Winooski and Burlington)
- Cedar Huish from UVM, senior environmental science major working on historical narrative as capstone<sup>1</sup>

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<sup>1</sup> Cedar Alexander Huish (he/they) <[cedar.huish@uvm.edu](mailto:cedar.huish@uvm.edu)> general availability for this semester:

- David Grass, VT Department of Health, Climate Council Sub Committee, Science and Data, History of monitoring, Understanding of health-based pm2.5 regs
- Study from Judy - needs pre and post updating (just landslides) UVM mapping resources
- [Vermont Geological Survey: Landslides, Rockfalls, and Erosion](#)
- Sam Byrne, Kate Crawford, & Pam Berenbaum (Middlebury Public Health-focused professors)
- Franklin Environmental Center at Hillcrest [Climate Action Fellows](#)
- [VT Public Health Association's Public Health Caucus](#)
- Massachusetts DEP - based on biomass plant cease, Laura Haight; History of health impacts around existing plants; Policy and Practice Impacts
- VT Lung Association
  - o Health Impacts of wood burning - commercial scale and residential
- VT Heart Association
  - o Health Impacts of wood burning - commercial scale and residential

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Some Mondays after 12:30; Tuesdays after 1:30pm; Select Thursdays after 1:30pm (cannot meet 2/6, 2/27, 3/27, or May 1)