

The Soil Series: Grassroots for the Climate Emergency  
Part 2: Shielding Soil with Plants and Animals  
Speakers: Tatiana Schreiber, Graham Unangst Rufenacht (Cat Buxton Presenting), Lisa McCrory  
February 27, 2019

## Contents

- Living Notes FROM THE WALL:
- Actions; upcoming events; people, groups, initiatives to connect with
- Group Discussion - *statements and questions*
- Presentation notes
- Recording from Orca Media of [The Soil Series: Part 1](#)

## Soil Series Hosts

- [Building A Local Economy \(BALE\)](#) - South Royalton, VT. BALE is a community resource center for local economy initiatives in the White River Valley of Vermont, intentionally multi-issue in focused and multi-dimensional in their programmatic work. Check out the [documentary film](#) *Dancing With the Cannibal Giant: Five New Stories for the Great Transition*.
- [Vermont Healthy Soils Coalition](#) - To join the Vermont Healthy Soils Coalition Email Listserv, fill out this [quick survey](#). Then, follow the instructions in the email confirmations that you'll receive to join the listserv. Join the [VHSC Facebook group](#).

**With deep gratitude for support from the [New England Grassroots Environmental Fund](#)** and our long (and growing) list of sponsors. *Contact Cat Buxton to become a sponsor: [cat@growmorewasteless.com](mailto:cat@growmorewasteless.com).*

*When you're out in the world, please thank these **Soil Series sponsors!***  
[NOFA-VT](#), [Upper Valley Food Coop](#), [Gardener's Supply Garden Centers](#), [Soil4Climate](#), [Vermont Compost Company](#), [UVM Center for Sustainable Agriculture](#), [Clean Yield Assets Management](#), [Rural Vermont](#), [Cedar Circle Farm](#), [350-VT](#), [Vermont Land Trust](#), [Community Resilience Organizations](#), [Long Wind Farm](#), [Community Resilience Organization of Hartford](#), [Orcamedia](#), [Earthwise Farm & Forest](#), [Sowing Peace Farm](#), [the Center for Transformational Practice](#), [MycoEvolve](#), [Voices of Water for Climate](#), [Building A Local Economy \(BALE\)](#), [Vermont Healthy Soil Coalition](#), [Black Krim](#), [Two Rivers-Ottawaquechee Regional Commission](#), and [Grow More, Waste Less](#).

## **Living Notes FROM THE WALL**

*This is not complete list of resources by any means The lists below were compiled from the collective voices throughout the event. All this in just 2 hours!*

**ACTIONS** (*people are already doing these things in our region*)

- Know your coffee/cacao producer

- Catch and slow water in your yard, neighborhood, town, region
- More perennials
- Emerald Ash Borer
- Town Energy Plans
- Solar Fields - get involved in research
- Need to connect in small groups
- Growing/making our own clothes

## EVENTS

### PAST SOIL SERIES EVENTS

Part 1 Ground to Body Soil Health and Human Health: [VIDEO](#), [NOTES/RESOURCES](#)

Part 2 Shielding Soil with Plants & Animals (VIDEO *coming soon*) [NOTES/RESOURCES](#)

*Cat was on Carl Etniers' Radio Show, Relocalizing Vermont (scroll to the replay of the show [at the link](#)) on March 14, Relocalizing Vermont. Before her, Jaiel Pulskamp was on from 350 VT (Jaiel is also a VHSC Steering Committee member) talking about the No New Fossil Fuels Infrastructure (NNFI) Town Resolution campaign, the NNFI bill, and the [Next Steps Climate Walk](#). Between Jaiel and Cat on the show were a group of passionate Middlebury College students talking about the March 15 [Youth Climate Strike](#).*

### UPCOMING EVENTS

[The Soil Series: Grassroots for the Climate Emergency](#)

**March 20** Storytelling Panel

**March 27** Building the Soil From the Ground Up

**April 10** Social Mycelium: the Fiber of Community Resilience

**April 24** A Soil Sponge to Cool the Planet

**March 19** [The Stories Behind Our Food](#). Springfield VT. Equal Exchange and Springfield Food Co-op are collaborating as part of their workshop series Connecting with Food which encourages us to deepen our connection with the food we eat and the people behind it.

**March 20** Connection Through Stories, Part 3 of [the Soil Series: Grassroots for the Climate Emergency](#)

**March 20** [Food Connects Spring Garden Planning](#) Workshops for Schools, Bellows Falls and Brattleboro

**March 20** - 7 to 8:30 BALE Commons SoRo - Full Moon Gathering: Movement, Sound, Community

**March 21** [Our Four-Town Future](#), 6-8:30 PM at Barrett Hall in South Strafford

**March 24** [Mushroom Medicine](#) Charlotte VT. Vermont Myconode

**March 24** Dowsing & Agriculture class - Sunday March 24, 1-4:30 @ [Earthwise](#)

**March 24** Mushroom Medicine Charlotte VT. Vermont Myconode

**March 27:** Food Connects Spring Garden Planning  
Workshops for Schools, Bellows Falls and Brattleboro

**March 28** Our Four-Town Future, 6-8:30 PM at Sharon Elementary School in Sharon

**March 30** Cultivating Farm to Early Childhood Workshop, Morrisville

**March 30** at 6 pm - Vermont Law School/BALE - Meet Your Farmer/ Feed Your Farmer

**March 30** - Faces of Dairy Conversations with Vermont Farmers - 11 to 2 @ the Dairy Center in Enosburg Falls - [Ruralvermont.org](#) for details

**April 2-4** 2019 New England Farm to Institution Summit

**April 3** - at BALE 8pm Sound BATH by Relax with Tones

**April 4** Get Up and Grow: Youth Gardening Symposium

**April 6 & 7** Wild Roots Farm, Spring Homestead Weekend: Scion Swap, Dutch Oven Potluck, and Homesteading Demos

**April 5 - 9** 350 VT Climate Walk: A 5 day, 53 mile walk from Middlebury to Montpelier.  
<https://350vermont.org/nextsteps/>

**March/April** Meetup series for new farmers: Vital Communities is organizing a short meet-up series for new farmers that have been in production for three years or less in the White River valley. The group will be meeting 3-4 weeknight evenings in Bethel between March and early April. The meet-ups are primarily geared towards building community between new farmers, though each will also feature a brief dinner table presentation from a local agricultural expert. Email [Lauren@vitalcommunities.org](mailto:Lauren@vitalcommunities.org) to get plugged in.

**April 11** Vermont Organics Recycling Summit (VORS). Vermont Technical College, Randolph VT

**April 14** VHSC Common Ground for Climate Action, Brattleboro

**April 11** [Vermont Organics Recycling Summit](#) (VORS). Vermont Technical College, Randolph VT

**April 14** [VHSC Common Ground for Climate Action](#), Brattleboro

**April 14** [MycoRemediating a Vermont Brook](#) Poultney VT Vermont Myconode

**April 14** Family Cow Class - 12:30 to 5 pm @ [Earthwise](#)

**April 14** [MycoRemediating a Vermont Brook](#) Poultney VT Vermont Myconode

**April 16** Bow Thayer's first ever solo show of his paintings runs through April 16 at the White River Gallery at BALE in South Royalton.

**April 16** [Emerald Ash Borer training](#) Hartland - VT Urban & Community Forestry Program

**April 23** Post Oil Solutions [Climate Café](#) usually meets on the 4th Tuesday of each month 6:00 PM, at Brooks Memorial Library, Brattleboro. "Our House is on Fire" Community Conversations

**April 27** Vermont Community Garden Network's Day in the Dirt

**May 5** Management - Intensive Grazing Class - 10 to 4 @ [Earthwise](#)

**May 8** Soil Series - Next Steps: Growing Grassroots Agency & Action for the Climate Emergency  
6 - 9 PM Bethany Church, Randolph

**May 28** Post Oil Solutions [Climate Café](#) usually meets on the 4th Tuesday of each month 6:00 PM, at Brooks Memorial Library, Brattleboro. "Our House is on Fire" Community Conversations.

**June 7 - 8** [Resilient Vermont Conference](#) Norwich University, Northfield VT

**June 25-27** Vermont FEED's Northeast Farm to School Institute

### **CONNECTIONS** *(from this session)*

- [Rich Earth Institute](#) - Brattleboro - urine recycling
- Dan Young - Thermodynamics
- [Stephen Gleissman](#) - agroecology
- Henry Homeyer - NH/VT garden writer
- Walter Jehne - Microbiologist, Australia
- Jan Lambert - Author - NH - Voices of Water4Climate group
- Community orchard in Randolph, Camden and Jess - [Randolphcommunityorchard.org](#)
- Lyme FTS summer Camp
- Barre - sustainable teaching
- Elena and Tony seeking collaboration on their land
- [UVM Center for Sustainable Agriculture](#)

### **INFORMATION** *(from this session)*

- Agroecology
- Vermont has an Agroforestry Task Force (cat & Graham are members)
- Harvard Forest Study - Broadening the Vision for New England - [Report summary](#).
- NC State University - tree resources/info
- Harvard Forest (Resource, Tatiana)

- Management intensive grazing
- Holistic Grazing management
- Water catchment - slow and sink
- Fruit tree guilds
- Life Lab curriculum for garden school
- Jane Brown Landscape architect, [VT Urban & Community Forestry](#)
- The Hidden Life of Trees Book by Peter Wohlleben
- Ben Falk - [Whole Systems Design](#)
- CLARA coalition [report](#) on land-based approaches to climate change
- [Cornell Agroforestry Resource Center](#)
- [Center for Agroforestry](#) – University of Missouri
- [Association for Temperate Agroforestry](#)

## PEOPLE (alphabetical) (from ALL Soil Series sessions so far)

*(New England people are in GREEN)*

- **Anne Biklé** - Microbial Roots of Life and Health, ([1 hr video](#))
- **Jane Brown** Landscape architect, [VT Urban & Community Forestry](#)
- **Cat Buxton** - Grow More, Waste Less. Compost and soil health educator. [Handouts](#), [slides](#), [resources list](#), [classes and presentations](#)
- **Steve Diver** - [profile](#) Farm Superintendent UK Horticulture Research Farm, Lexington
- **Ben Falk** - [Whole Systems Design](#)
- **Jay Fortier** farm in Quebec - [The Market Gardener](#)
- **Grace Gershuny** - Books: Organic Revolutionary; The Soul of Soil; The Rodale Compost Book)
- **Steve Gabriel** - [Book](#): Farming the Woods, 2014
- **Steven Gliessman** - UC Santa Cruz, [Profile](#)
- **Richard Heinberg** - [Book](#): The House is on Fire, [Profile](#)
- **Henry Homeyer** - <http://www.gardening-guy.com/>
- **Dan Jaffe** [University of Washington](#)
- **Walter Jehne** Seminar in Fairlee VT, 2016 (*the spark that started VHSC*) Part 1 Restoring Water Cycles to Naturally Cool Climates and Reverse Global Warming ([2 hrs 15 min, P1 video](#)), Part 2 Regenerating the Soil Carbon Sponge ([2 hrs, P2 video](#))
- **Dr. David Johnson and Hui-Chun Su Johnson** - Johnson – SU compost bioreactor. How to build one ([pdf](#)) . How it works ([12 min video](#)).
- **Michael Kravcik and Jan Lambert** [Water for the Recovery of the Climate: A New Water Paradigm](#)
- **Jack and Anna Lazor** - Butterworks Farm, Westfield VT. Organic dairy farmers. Grass and grain growing experts.
- **Dr. Daphne Miller** - Book: Farmacology: Total Health from the Ground Up. [Video](#).
- **David Montgomery** - The Hidden Half of Nature: Microbial Roots of Life & Health. ([video, 1 hour 20 min](#)) Books: Hidden Half of Nature; Dirt.
- **Leah Penniman** - [Soul Fire Farm](#), Petersburg, NY. [Acres USA interview March 2018](#)  
Book: Farming While Black.

- **Didi Pershouse** - Book: The Ecology of Care. Resources at [Didipershouse.com](http://Didipershouse.com). Online course: Growing the Soil Sponge for Flood, Drought and Wildfire Resilience at [LandandLeadership.org](http://LandandLeadership.org). Teaching Manual at <http://soilcarboncoalition.org/learn>
- **Gerald Pollack** - Professor of Bioengineering at the University of Washington. Book: The Fourth Phase of Water. [Video](#).
- **Jess Rubin** - [Mycoevolve](#)
- **Allan Savory** – How to Fight Desertification and Reverse Climate Change. ([20 min TED talk](#)). Hope for Reversing Desertification and Climate Change - What You Can Do ([1 hr 15 min, video](#)) at Stonewall Farm, Keene NH, September 2018.
- **Judith Schwartz** - [Books](#): Cows Save the Planet, Water in Plain Site
- **Eric Toensmeier** - Holyoke, MA - [Perennial Solutions](#)
- **Peter Wohlleben** [Book](#): The Hidden Life of Trees

## GROUPS/INITIATIVES - Local Resilience Connections

(from ALL Soil Series sessions so far)

- [Black Krim Tavern](#) in Randolph (local food restaurant. Provided our event food!)
- Hospitals, engaged healthy food systems
  - Mount Ascutney Hospital – 27% local food
  - Fletcher Allen Hospital - Local foods initiative. Rooftop garden
  - Dartmouth Hitchcock Hospital - CSA pickup and Farmers' Market weekly at Cancer Center lot.
- [Center for Sustainable Medicine](#), Didi Pershouse, Thetford VT
- Online Course. Regenerating the Soil Carbon Sponge for Flood, Drought, and Wildfire Resilience: Six-Week Intensive on Whole Systems Landscape Function. More at [Land and Leadership](#).
- [Center for Transformational Practice](#), White River Junction VT
- VT Law School – [Center for Sustainable Agriculture and Food Systems](#), [Institute for Energy and the Environment](#), and [Environmental Law Center](#)
- Mother Up! (a 350VT project)
- [Soil4Climate](#) Facebook Community. The Vermont chapter has a [facebook page](#) too. [www.Soil4climate.org](http://www.Soil4climate.org)
- Regional Conservation districts – have some **equipment sharing** opportunities. White River Conservation District has a grain drill.
- New Community Climate Change Group (Chester, VT) (*anyone have a link or contact?*)
- [350 Vermont](#) - 350 Vermont organizes, educates, and supports people in Vermont to work together for climate justice – resisting fossil fuels, building momentum for alternatives, and transforming our communities toward justice and resilience.
- Bethel – Intentional community/land share (*anyone have a link or contact?*)
- [NOFA-VT](#) – Resources for farmers and gardeners
- Food security and gleaning operations: [Salvation Farms](#) and [Willing Hands](#)
- [Upper Valley Seed Savers](#) and [Solstice Seeds](#)
- [Voices of Water for Climate](#) Educating globally to empower people to act locally, to renew natural small water cycles to aid climate recovery.
- [Valley Green Journal](#) NH. A free monthly newsletter to foster grassroots connections, locally and globally, to help grow caring communities based on sustainable agriculture.

- [Green Energy Times](#) newspaper
- [Vermont Grass Farmers Association](#)
- [Vermont Myconode](#) We research, practice inoculation techniques, experiment with, and educate about how to apply fungi in habitat enhancing applications such as food & medicine in clean sites & through remediative infrastructure in polluted sites.
- [VT Urban & Community Forestry](#)
- [Upper Valley Apple Corps](#) - Community volunteers plant and care for free-for-the-picking fruit and nut trees in public places.
- [Veggie Van Go](#) – in VT – Sharing food around the state, free and available
- East Valley Community Group (Middle Branch Valley) [EVCgroup@googlegroups.com](mailto:EVCgroup@googlegroups.com)
- [Community Resilience Organizations](#) Randolph, Braintree, Brookfield

### **GROUPS/INITIATIVES (not so local)** *(from ALL Soil Series sessions so far)*

- 4/1000- Initiative: <https://www.4p1000.org/>  
The international initiative "4 per 1000", launched by France on 1 December 2015 at the COP 21, consists of federating all voluntary stakeholders of the public and private sectors under the framework of the Lima-Paris Action Plan (LPAP). The aim of the initiative is to demonstrate that agriculture, and in particular agricultural soils can play a crucial role where food security and climate change are concerned.
- Maryland study – hospitals and local food
  - o The Center’s Food Communities and Public Health program focuses on developing relationships with communities to improve food environments, increase access to healthy food, and inform food and nutrition policy. [More info.](#)
  - o Food Insecurity and the Role of Hospitals ([pdf](#))
- [Fibershed](#) develops regional and regenerative fiber systems on behalf of independent working producers, by expanding opportunities to implement carbon farming, forming catalytic foundations to rebuild regional manufacturing, and through connecting end-users to farms and ranches through public education.
- [Yes! Magazine](#): recent issue includes Leah Penniman, Anne Bikle’ and David Montgomery
- <http://soilcarboncoalition.org/learn> - free curriculum online
- [Mothers Out Front](#) Grassroots mothers, grandmothers, and other caregivers coming together to make climate change an issue that leaders can no longer ignore.
- CLARA coalition [report](#) on land-based approaches to climate change
- [Cornell Agroforestry Resource Center](#)
- [Center for Agroforestry](#) – University of Missouri
- [Association for Temperate Agroforestry](#)

### **Wedge Issues**

*Wedge issues are important issues that tend to divide us and distract us from the whole. These are some of the wedge issue we heard and managed to record.*

# Group Discussion

Pose a question that won't be answered; State a comment or how you're feeling; Question(s) you're left with.

*Below are your questions and statements as best as we could capture them*

## Questions:

- How we balance collective concern for everything we need to do for climate change (individual concern)?
- What do we need to do to help people integrate these things?
- How to build a solar field to encourage co-production?
- What is "my" role in this movement/effort?
- What is my role when I am not a land owner with a lot of knowledge and experience?
- How to grow our own clothing - hemp/wool?
- Why are we losing forest in Vermont (fragmentation, development, not forestry practices)?

## Statements:

- Interested in soil
- Interested in integrating trees and shrubs into approaching their farm in a different way
- Jazzed about fungus and mycellia
- Soil health and building resiliency in community and soil health
- Use this knowledge
- Immune system required clean air for health
- Making humanure!
- This is important
- Want to learn more about fruit tree guild
- Homestead - buying and working on community orchard, regenerating this soil in Randolph
- [Randolphcommunityorchard.org](http://Randolphcommunityorchard.org)
- Co-production on solar fields
- Would like to have smaller group discussions at these Soil Series events
- [Soil4Climate](http://Soil4Climate)
- Need a dose of hope
- Inspiration regarding community around Soil Series
- Cannot shake sense of responsibility to the planet and future generations
- Living purposefully
- This is what we need to all be learning about
- Lyme, NH - farm to school summer camp connections?
- [Rural Vermont](http://RuralVermont) - inspired by healthy soils
- Solutions-based teaching
- Permaculture and soil building in a variety of climates (deserts)
- I am a seedling, want to find out what function I can serve
- Learn about where my food comes from



- Lack of experience but owns land - want to collaborate!
- Essential skills - need to learn
- Offer the land as a healing sanctuary for all beings
- Go BALE and Cat!
- [Life Lab](#) - UCSC in California - Getting children to use garden as a classroom, trying to bring this to Hartland school
- Solar arrays to complement the farm
- Permaculture practices
- Thankful for a community taking this seriously
- 350-Vermont - Youth Climate March on Friday
- 350-Vermont 5 day walk - Middlebury to Montpelier; stopping at solutions-based areas
- Micro-livestock
- Entomology

## Presentations

### Tatiana Schrieber, PhD

#### Presentation Overview

- From Westminster, Vermont
  - o Has a farmstead where she sells seeds
  - o Teaches at Keene State College
  - o Rich Earth Institute in Brattleboro - working to reuse human urine as fertilizer
  - o Environmental anthropology doctorate - Mexico
- Focus on Trees
- Climate Change is a symptom of a larger problem - disruption of ecosystems and ecological functions
- Reducing fossil fuel use / greenhouse gasses won't solve this issue on it's own
- To restore ecosystem health, we need to restore biomass and biodiversity
- Need to reserve ecological disorder that we're in
- Focus: What is the best way to do this in Vermont
- Agroecological Thinking
  - o Ecosystem approach
    - Farms and gardens viewed with biological or ecosystemic perspective, rather than using an industrial model of production and efficiency
  - o Biomimicry
  - o Polycultures - over monocultures
  - o Multiple systems - agriculture is embedded in multiple systems - biophysical, social, political-economic, and cultural
  - o Local Knowledge - preservation of local knowledge over the imposition of universal methodologies
  - o Local Self-Management - Favors local self-management of natural conditions of production, and promotes local control of political and economic institutions
- What role do trees and shrubs play in our life
- Want to mimic a deciduous temperate forest in Vermont - this is our climate
- Deciduous temperate forest can store up to 40 tons/acre of biomass - 30 to 40% of that is in the roots
- Slow decomposition in this type of forest due to cool, shaded soil

- Wild apples come from Kazakhstan
- Cacao and coffee farms can have almost as much diversity as a rainforest
- Below ground - trees roots affect soil structure, nutrient cycling, soil moisture - interact with microbes
- Rule of thumb: Ratio of root radius to trunk diameter is 38: 1
- Rhizosphere is considered one of the most diverse ecosystems on earth
- Aboveground - Trees alter light environment which affects humidity and evapotranspiration
- Branches and leaves provide habitat for animals, birds, insects and modify effects of wind and heavy rain.
- Leaves fall, provide soil cover, affect soil environmental
- Leaves decay and become source of organic matter, feeding soil organisms
- Oak trees have 38 insect species associated with them
- Trees affect surrounding agroecosystems - limits wind and water erosion, provide shade and browse for animals
- Fungi consume about 30% of the sugars that plants produce through photosynthesis from fungi
- System supports nutrient cycling and carbon sequestration
- 35,000 kilometers of fungi per
- Leguminous trees/shrubs contribute nitrogen to system via nitrogen-fixing bacteria
- Trees can reduce excess water through hydraulic lift - from roots pulling up deeply stored water
  - A mature tree can lift 100-200 gallons of water per day - North Carolina State University (400 gallons during the growing season) Can share this water with the plants surrounding them
- 7 kW power output cooling capacity of trees per day
- A tree can sequester 48 pounds of carbon dioxide per year
- One tree can sequester 1 ton of carbon dioxide by 40 years old
- Mexican study - trees in and around a cornfield - soil conditions were improved; Carbon, Nitrogen, Phosphorus improved; increased moisture content around trees.
- Tatiana is currently trying to think of solar panels as trees to grow other things around them

[Direct from Tatiana's Notes](#) (click the link)

## Lisa McCrory

### Presentation Overview

- Earthwise Farm & Forest - Bethel, VT - farm started in 2003
- The Farm as an Organism
- Primarily perennial crops - apple trees, blueberry bushes etc, 1 acre of annuals, woodland, animal pasture, sugaring
- Connections to and relationships with the next generation(s)
- Background in organic farming, extension agent of sorts
- Certified organic homestead farm using draft animals

- Market: Raw milk, organic meats, vegetables, eggs, maple syrup, flowers, value-added products
- On-Farm Workshops & Off-Farm Consulting
  - Value-added: Cheese, butter and yogurt
  - Spiritual component
  - Dowsing
  - The Family Cow; etc.
- Rely on livestock enterprises for key stages in soil building and nutrient management
- Managing gardens with minimal soil disturbance
- Live this way for human health
- Wooded areas around open areas serve variety of purposes
- Gravity-fed irrigation/rainwater capture system
- Home itself: Log home and Off-Grid, low energy system
  - Wood that built the house came from this property
  - Solar panels
  - Rainwater roof catchment system
  - Wood stoves and copper piping
  - 15-20% of energy used compared to traditional family households
- Rotational grazing systems - turned marginal soil into healthy, robust pasture (using the poultry close to the home)
- Rotational grazing with cows and meat birds can alternate and graze
- Increasing the amount of feed available for livestock over time by building soils
- Animals are harvesting feed on their own
- Pasture reclamation with pigs - rotovators
  - Turn it up, then reseed and graze
- Pastures - 2 to 4 acres in size, surrounded by browse and hedgerows
  - Provides food, shade, and windbreak/protection for animals
- Winter Management of Pastures - out-wintering the livestock on select pastures each year, continue to accumulate nutrients
  - Loose hay or round bale feeder supplies the animals food over the winter
- Getting active - using Farm's voice with Rural Vermont; GMO labelling bill; grassroot organizing
- Preparing/involving the next generation - homeschooled their kids on the farm, seed start with hard work, passion, and skills
  - Passing on the wisdom and giving kids room to grow
- Farmer's Creed - Relationship with the plants and animals and humans ("I believe" statements read out loud)

## Graham Unangst Rufenacht (Presented by Cat Buxton)

### Presentation Overview

- Graham - beef farmer at Robinson Hill Beef
- Rural Vermont
- How do we co-create and co-manage healthy soils in relationship with plants and animals
- Our goals and understanding must go beyond protection / mitigation
- We (humans) are a part of this ecosystem/farm - whole systems thinking

- Youth-led strikes for Climate Change Action on Friday March 15
- Where are we?
  - Map without colonial lines
  - Lake Champlain recognizable
  - We are on stolen land
  - Engagement with a new way forward
- Know your biome!
  - Now and historical
- History of Vermont in terms of plants, animals, and soil - we need to ask these questions
- Humans don't know how to integrate into the ecosystem
- Humus, Hubris, Human, Humor, Humility - word connections
- Images of farms around the world
  - So many ways to do things that doesn't disturb everything around us
  - Biomimicry - look and listen to the world around us; learn from nature
  - Cover cropping on a home farm
- Need integrated systems of land management
  - Ecosystem mimicry - we are "parts-oriented"
- Permaculture image- fruit tree guild, multi-functional stacked system
- Nature stacks function
- Alley cropping - using the space between fruit trees
- Mob grazing
- Silvi-pasture - use forests to help raise animals (take a field and plant trees)

## **Wants**

Talk in small groups