

VECAN 12th Annual Conference

Building Climate Resilience: Tools, Tips and Fundamental Approaches

Presenters:

Cat Buxton, co-founder Vermont Healthy Soils Coalition

Simon Dennis, Hartford Selectboard & Center for Transformational Practice

Kye Cochran, Hartford Resilience Team

Contact Info:

Cat Buxton

catduffybuxton@gmail.com

Simon Dennis

simon.p.dennis@gmail.com

Kye Cochran

kye@uppervalleyfood.coop

802-295-1482

Sunshine to Soil Aggregate



Food



Climate



Water



Soil

HOPE!





Top: Iowa corn 2018
Bottom: Long Island Sound
Soil Loss (runoff) from
Tropical Storm Irene, 2011

Soil Health Principles

1. Living roots In the ground
2. Maximized diversity
3. Minimized disturbance
4. No bare soil
5. Animal contact with soil
6. Slow and sink water

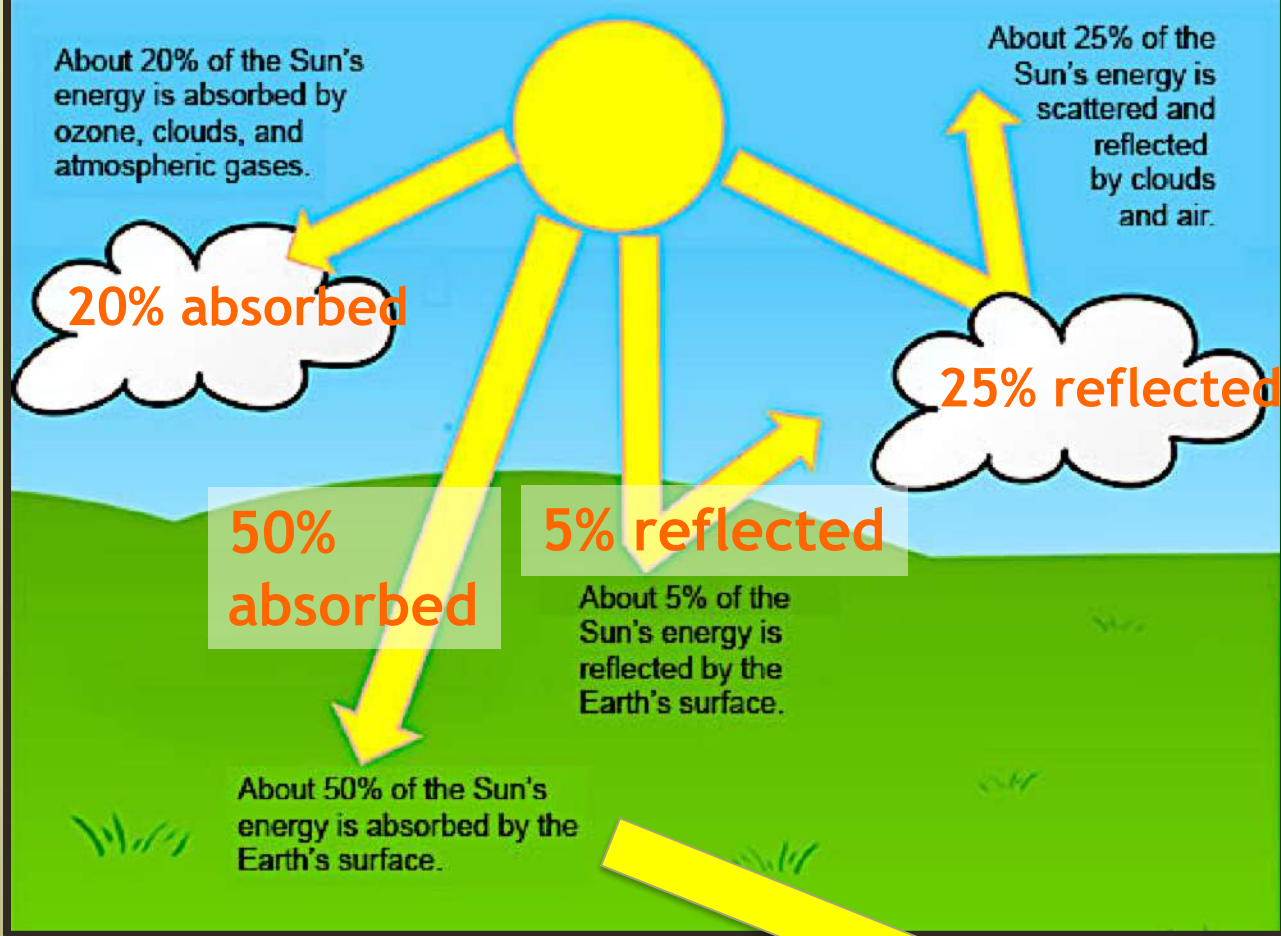
Infiltration and runoff by variety of management on agricultural land



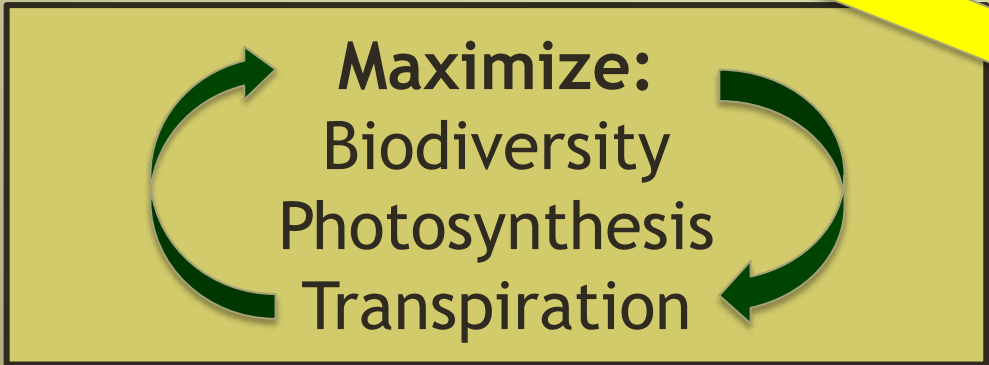
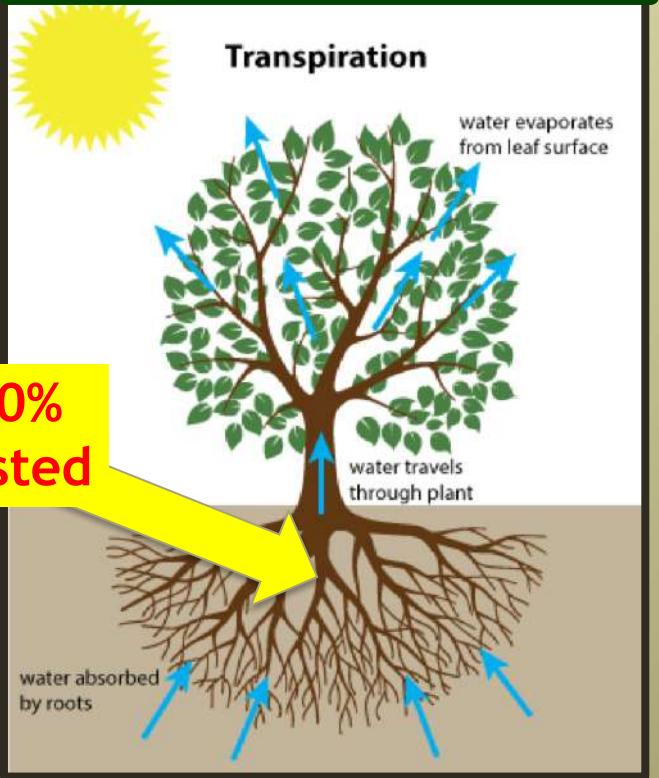
Can we harvest more
rainwater?

Image: NRCS Rainfall simulator

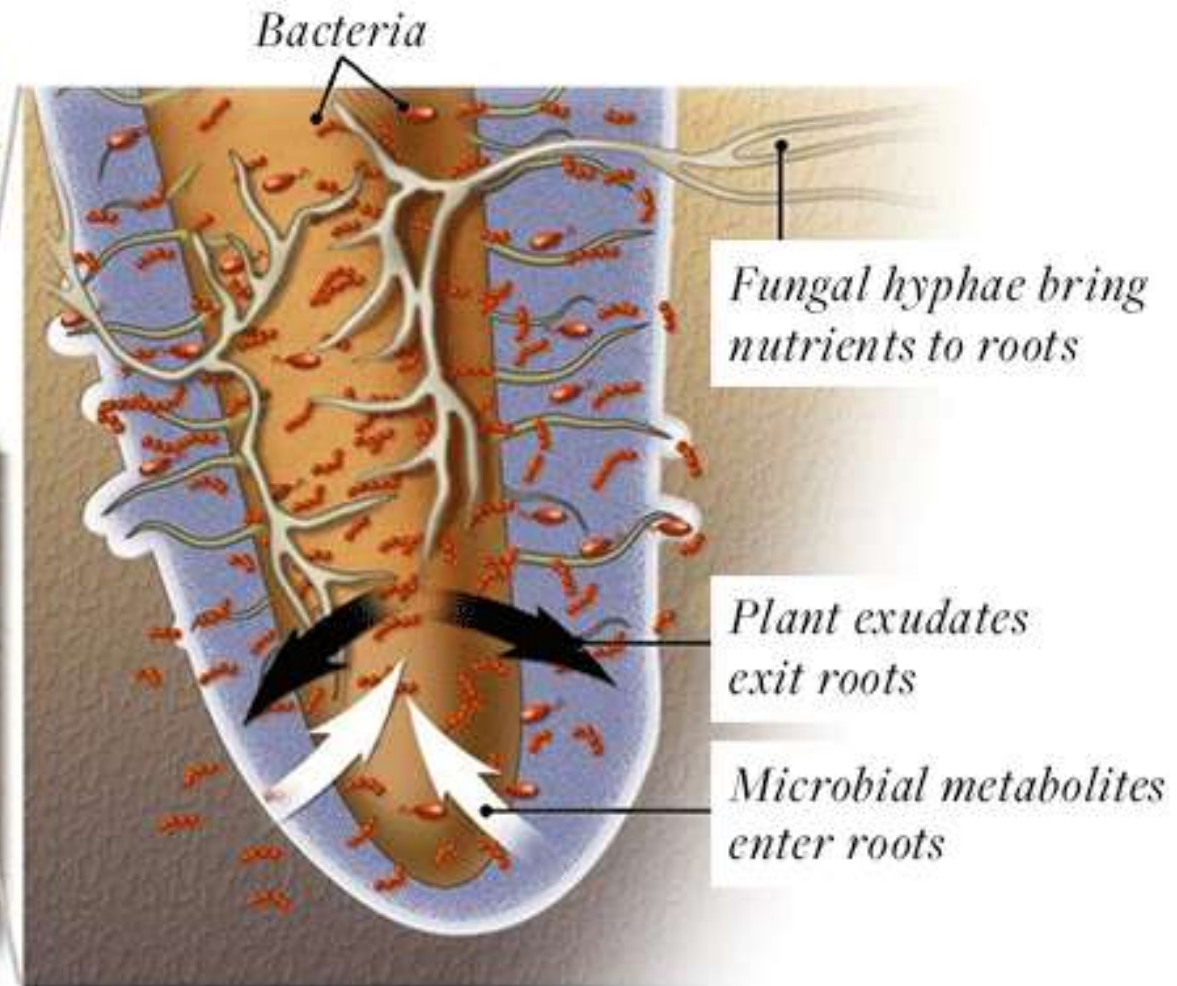
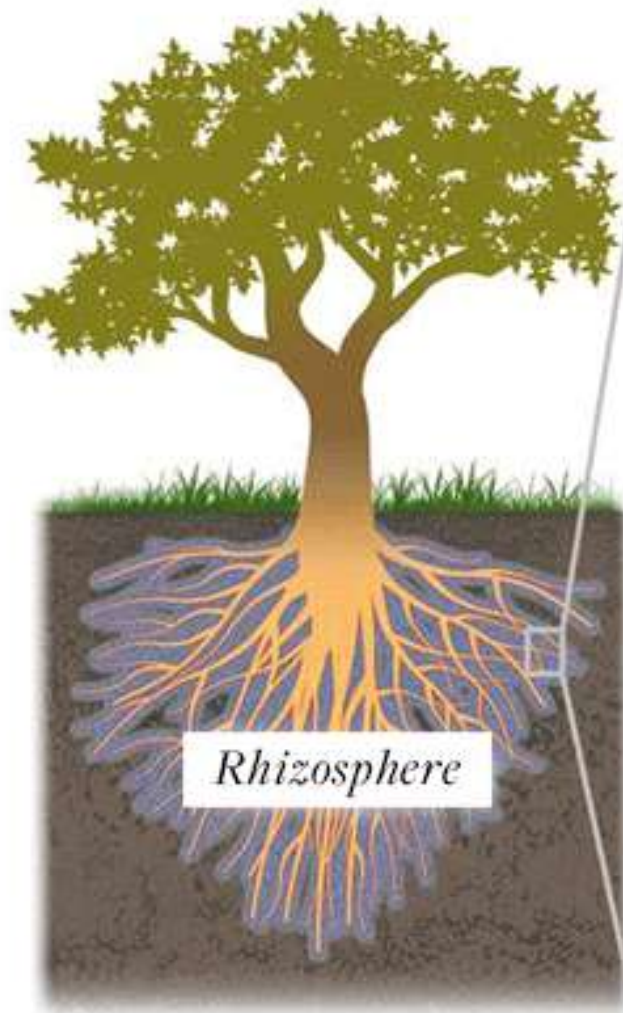
Cat Buxton
www.growmorewasteless.com



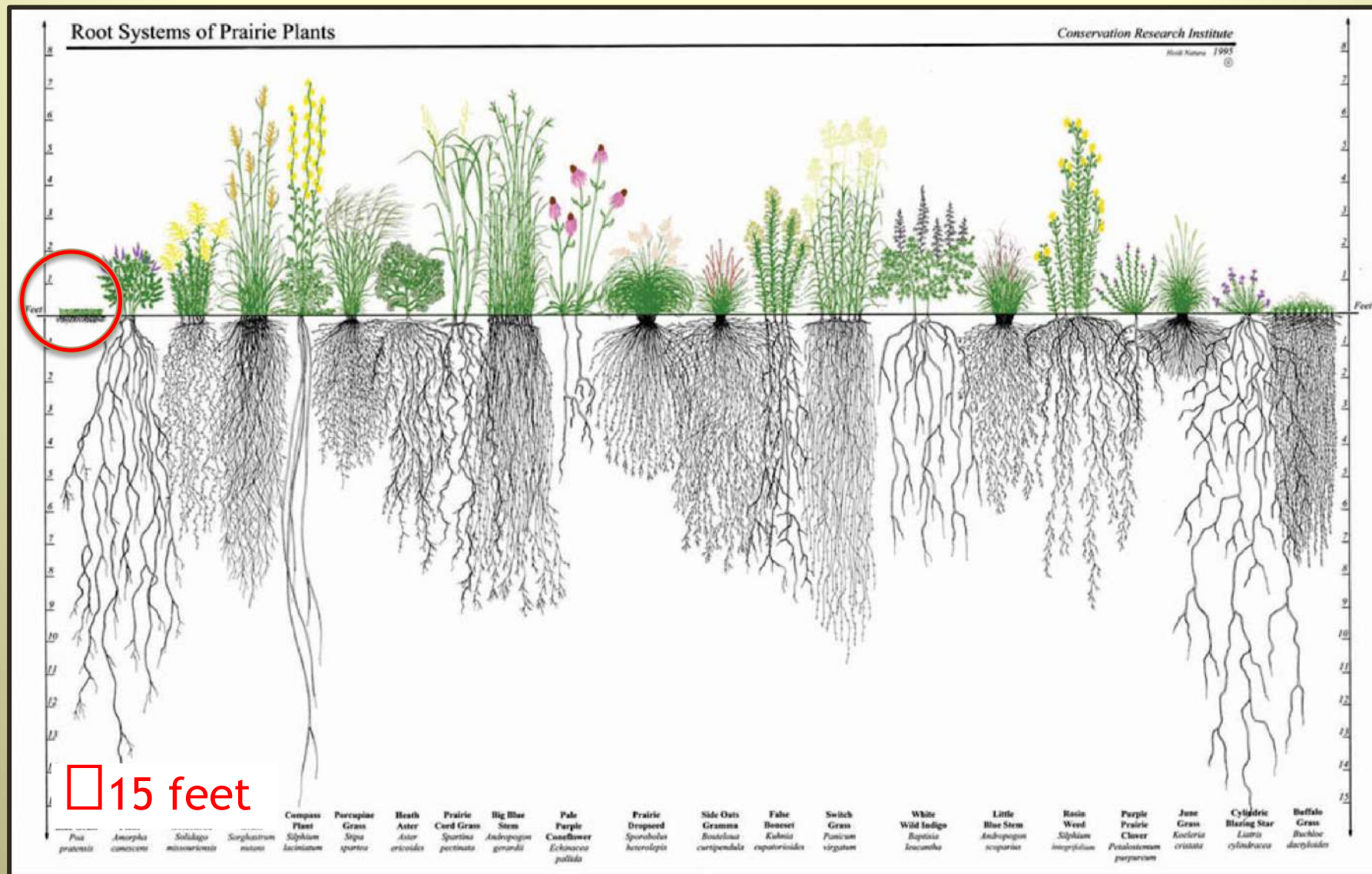
About 50% of the sun's energy is absorbed by Earth's surface (land and oceans).
 40 - 60 % of THAT energy is invested by plants into the soil to feed the underground zoo.
A great investment!



40-60% Invested

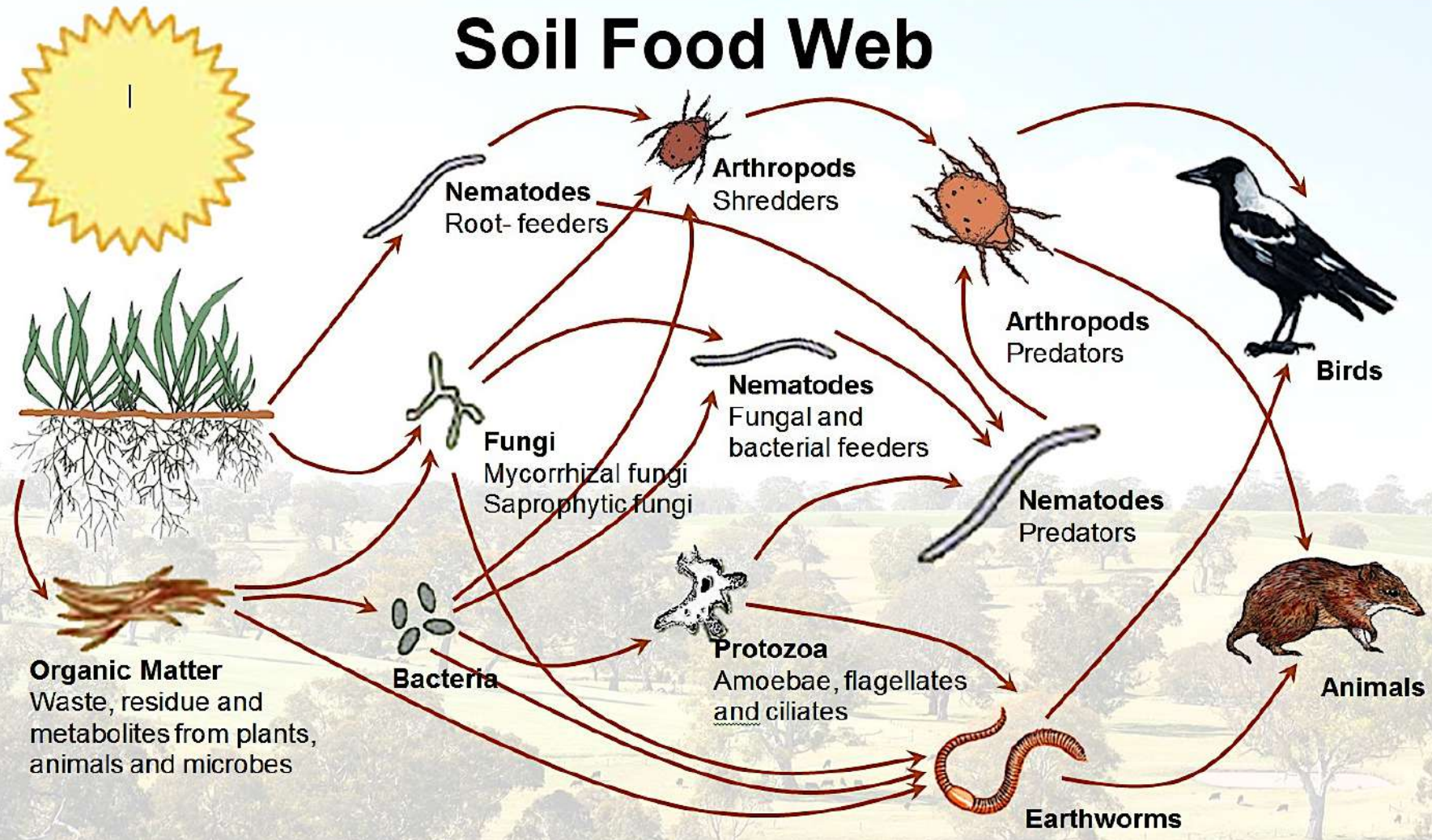


The rhizosphere can be vast!



MORE: living roots; green growing plants; diversity
LESS: bare soil; lawn; soil disturbance; toxic chemicals

Soil Food Web



First trophic level	Second trophic level	Third trophic level	Fourth trophic level	Fifth trophic level
Photo synthesisers	Decomposing Mutualists, Pathogens, Parasites, Root-feeders	Shredders Predators Grazers	High level predators	Higher level predators

Healthy Soil: Holding Landscapes and Communities in Place

Creating conditions for healthy soil will decrease flooding and drought, increase transpiration affecting the small water cycle and global cooling, and increase the nutrient density of food for humans and wildlife.

Soil carbon is the living (soil organic matter [SOM] including plants & animals), the dead (decaying SOM) and the very dead (stable humus, glomalin, fossil fuels, coal).

SOM holds 18-20 times its weight in water and recycles nutrients for plants to use.

One teaspoon of soil can contain a billion organisms: 75K species of bacteria, 10K protozoa, scores of nematodes and a mile of fungal filaments.

The first meter of soil contains three times as much carbon (in SOM) as is found in either the atmosphere or in living plants.

Living soil can absorb and store greenhouse gases AND retain and cycle water.

A 1% increase of organic matter in the top 6 inches of soil per acre can hold over 20,000 gallons of water.



Community Resilience Self-Assessment Tool:



- Basic Needs & Services (incl: **energy independence and stability**, food, health care, shelter)
- Environment & Natural Systems
- Physical Infrastructure
- Community Connections & Capacity

www.gocros.org

Hazard Mitigation vs Emergency Operations

=

future loss avoidance vs incident command

- Avoid
- Avert
- Adapt



“Resilience” as Bridge in Hartford’s Grassroots and Municipal Sectors



Simon Dennis
simon@transformationalpractice.org



2019 Potato Butt Champion of Hartford, Vermont!



The Transition Town Movement



Transition Five Villages

A First Friday/First Saturday Series

COLLAPSE!

Our Uncertain Future and How To Feel Good About It!

Record-breaking weather ... resource depletion ... unsustainable growth economy
Explore the possibility of economic, environmental and energy collapse, what we can do to prepare, and how it might make way for a better life!

1st Presenter

BEN FALK: Homesteader and Land Planner **Becoming Resilient, Why and How**

FRIDAY, NOVEMBER 1, 7-9 P.M.

At Bugbee Senior Ctr, 262 N. Main St., White River Junction, VT 05001 - Free
How can we modify our human habitat to feed ourselves, heat our homes and stay healthy in the face of uncertainty? Ben Falk, author of *The Resilient Farm and Homestead*, is a well-known leader in the study and practice of home resiliency.

Discussion and break out groups to follow.



A Hard Look at How Ready We Really Are

WORKSHOP ON SATURDAY, NOVEMBER 2, 9 A.M.-12:30 P.M.

At The Center for Transformational Practice, 149 Latham Works La., WRJ - \$50
Resilience starts at home. Case studies give the overview you need to assess your vulnerabilities and ways to overcome them. Evaluate aspects of your home and land as well as the sources of your food, heat, and energy. Whether you want to tread lightly, save money or prepare for the worst, this workshop is for you!

To register email transformationalpractice@gmail.com

Watch for These Upcoming Speakers and Workshops in the Series!

12/6/13 **GWEN HALLSMITH**, author of *The Key To Sustainable Cities*

2/7/14 **JIM MERKEL**, author of *Radical Simplicity*

3/7/14 **MARTA CERONI**, Sustainable Economics Director for the Donella Meadows Institute

HOSTS: Transition Five Villages, Hartford, VT and The Center for Transformational Practice, White River Junction, VT

CO-SPONSORS: Chelsea Green Publishing, 350VT,
Occupy the Upper Valley, Upper Valley Sierra Club, New England Grassroots Environmental Fund



LET'S TALK ABOUT

**COLLAPSE
& OPPORTUNITY!**

POSITIVE TRANSITION
FOR UNCERTAIN TIMES

A First Friday Speakers Series about the possibility of environmental, economic and energy collapse and how it might make way for a better life.

TRANSITION FIVE VILLAGES PRESENTS

**"WE CAN GET
THERE FROM HERE!"**

**THE COLLAPSE AND OPPORTUNITY
COMMUNITY FORUM AND DISCUSSION**

April 4, 6:30–9:00 p.m. Free and open to the public
Bugbee Senior Ctr., 262 N. Main St., White River Junction, VT

At this forum, the panelists will each highlight steps that can be taken in the sectors of food, energy, economic structures, and climate adaptation offering tangible solutions and practical means to become more resilient as a community.

FEATURING:

- ★ WILL ALLEN, Founder of Cedar Circle Farm and Author of *War on Bugs* "Food Security"
- ★ MARTA CERONI, Executive Director of the Donella Meadows Institute "Economic Structures for the 21st Century"
- ★ KEVIN GEIGER, Senior Planner of Two Rivers Ottauquechee Regional Planning Commission "Climate Adaptation and Planning for the Future"
- ★ ELIZABETH SAWIN, Co-Director, Climate Interactive "Climate Change Adaptation: Healthier Landscapes and Stronger Communities"
- ★ AND YOU, the Upper Valley Community!

HOSTED BY:

Transition Five Villages, Hartford, VT and The Center For Transformational Practice, White River Junction, VT

SPONSORED BY:

Chelsea Green Publishing, New England Grassroots Environmental Fund, Upper Valley Sierra Club, 350VT, Occupy the Upper Valley





Peg Elmer Hough



Community Resilience Organizations



Community Resilience Organization of Hartford (CROH) proudly presents:

Resilience U

- A series of free monthly workshop on community resilience.



From Homestead To Community

Practical Solutions to Modern Vulnerabilities

Friday, June 29th, 6:00 - 8:00 PM, Potluck Dinner at 5:15
Bugbee Senior Center, 262 North Main Street, WRJ, VT

Author, teacher and homesteader, **Ben Falk** will lead a talk and discussion about how and why he has cultivated his family's resilient homestead, living close to the land. In this talk, Ben will surface some of the reasons why community resilience is vitally important at this time and discuss practical dimensions of a resilient lifestyle that anyone can develop through highlighting some of what he has experienced on his permaculture homestead in Mad River Valley, Vermont.



Know Community Resilience, Know Social Equity

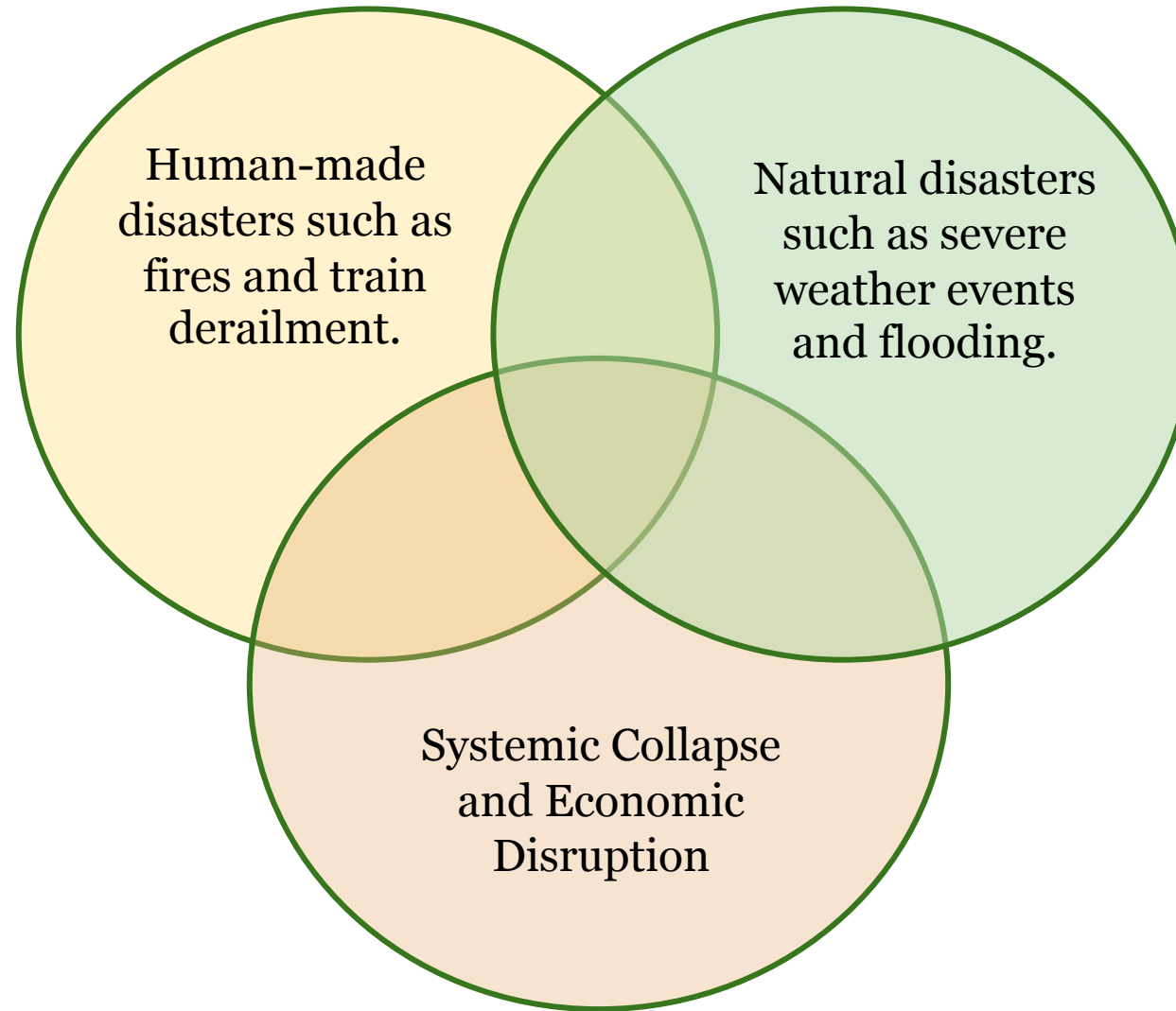
How and why rebuilding an equitable economy is essential
to our ability to withstand the threats of the 21st Century.

Friday, July 27th, 7:00 - 9:00 PM
Bugbee Senior Center, 262 North Main Street, WRJ, VT

Inequality expert **Chuck Collins** lays out the economic, environmental, and social threats confronting modern society and explains why confronting wealth disparity is an essential aspect of what we must do to prepare. This program is solution oriented, looking at the remedies and possibilities for change. Collins identifies "game changing" campaigns that have the potential to engage the broader public and move us toward a shared prosperity economy.

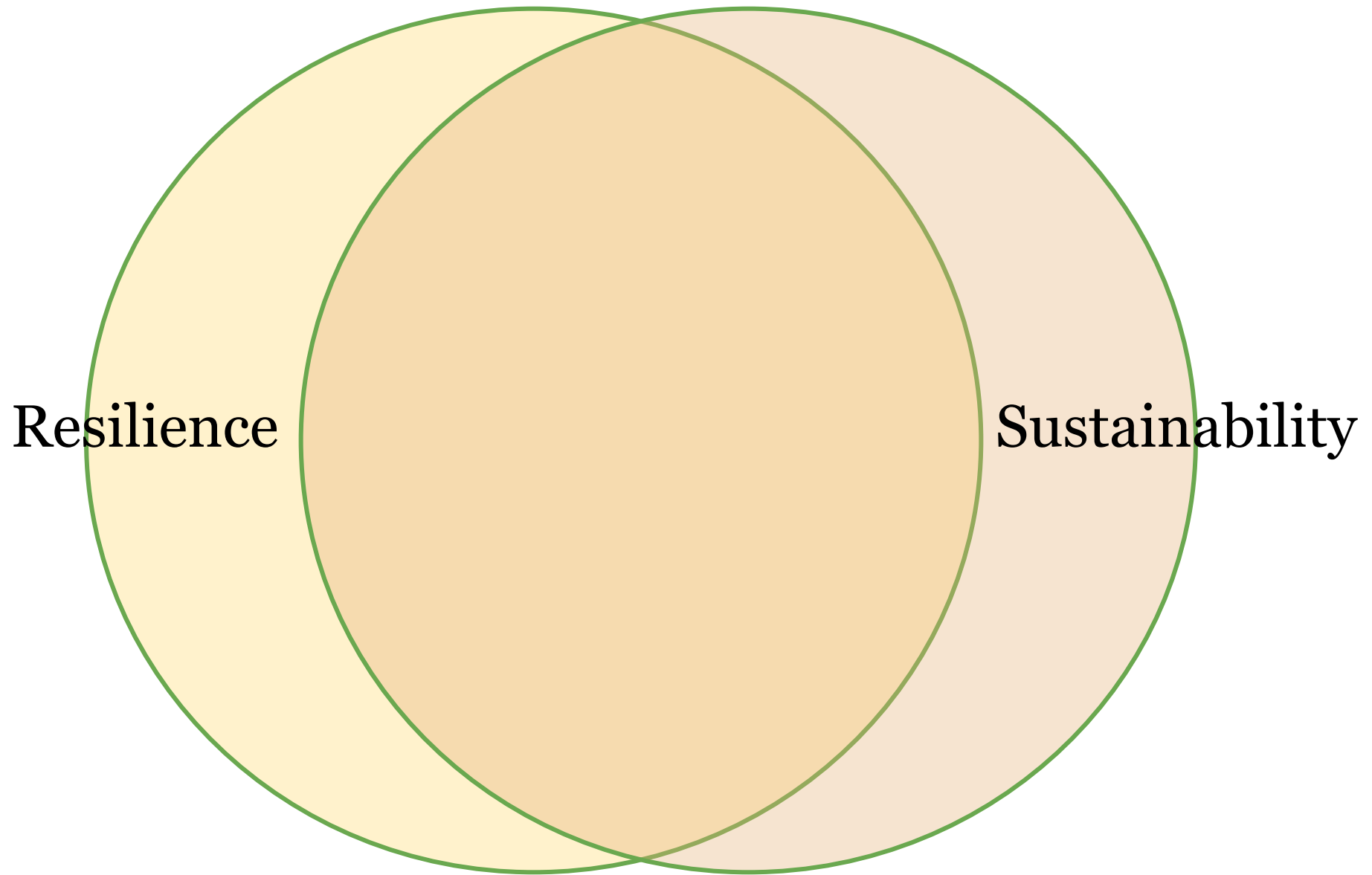
For all the details and full schedule of events, visit Hartford-vt.org.

The Municipal Conversation about Resilience:



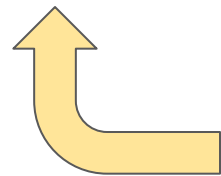
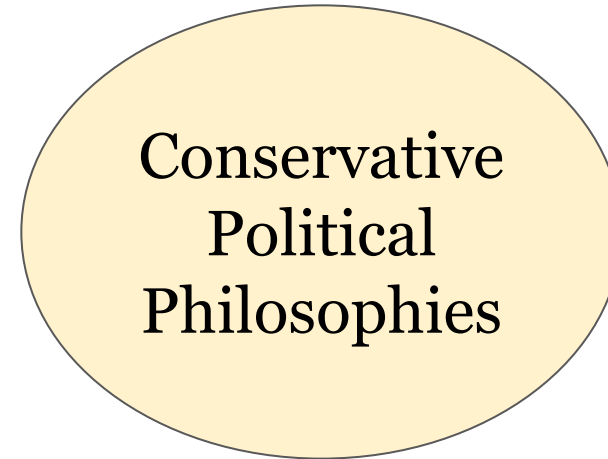
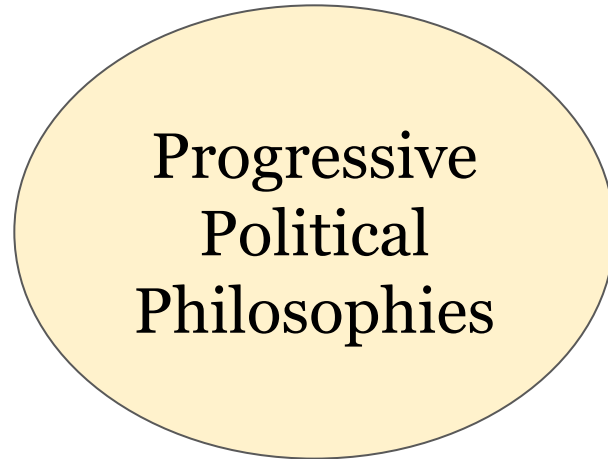
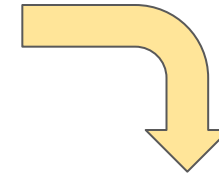
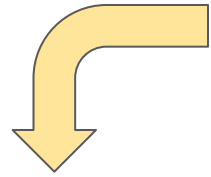


Rob Hopkins



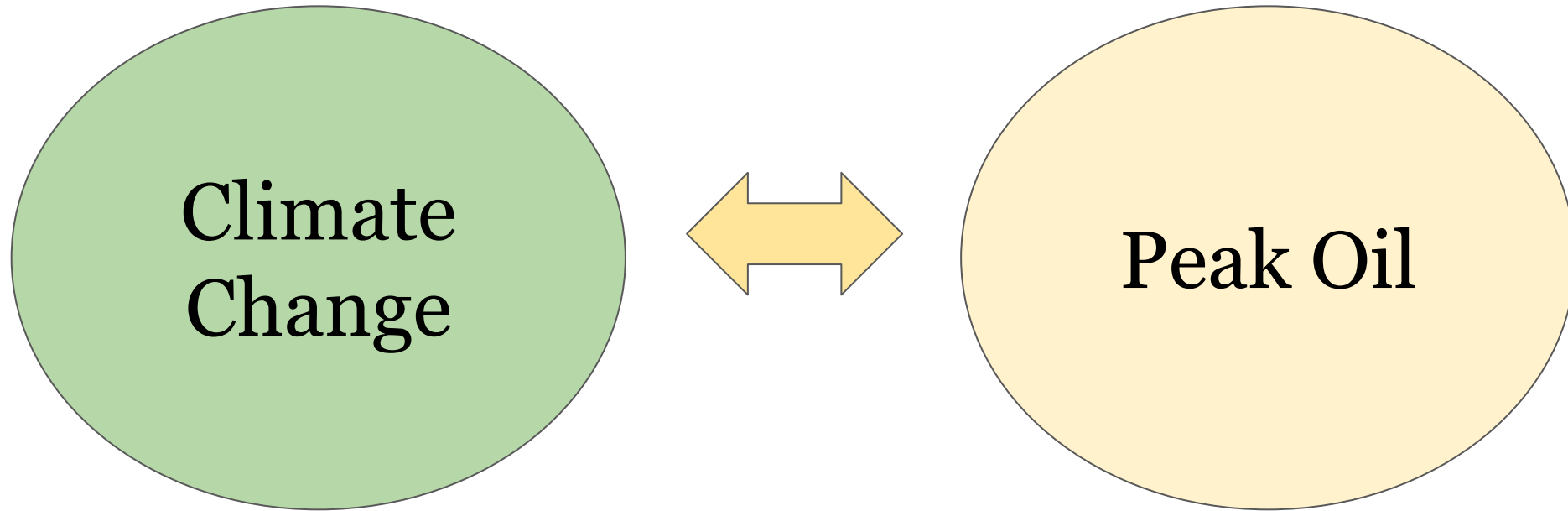
There's just so much overlap!

Resilience



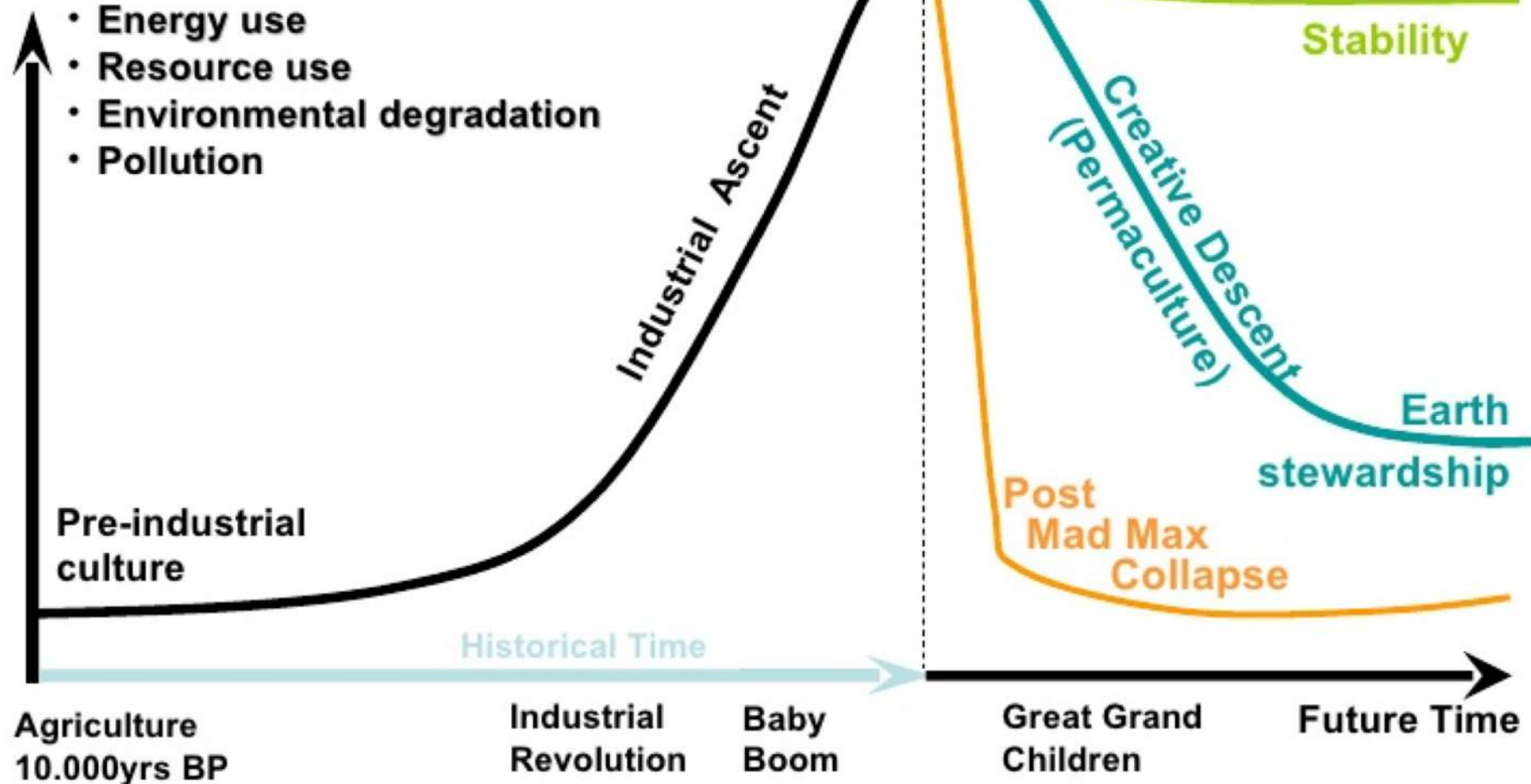
Sustainability

The Double Treat:



Framing the Problem: The Need for New 'Cultural stories'

From 'Standard Transition Presentation'





Dr. Jem Bendell

Deep Adaptation

INTHE:

Imminent Near Term Human Extinction

CPCIEP:

Catastrophe Probable

Collapse Imminent

Extinction Possible



Resilient Hartford Mission Statement:

Recognizing the threats of floods, severe weather events, economic disturbances and interruptions of basic needs such as food, water, heat, communication and electricity, Resilient Hartford seeks to promote community interdependence and preparedness by partnering with resilience-building organizations and initiatives in the region.

Hartford 2020 Strategic Vision:

Resilience

Maintain plans for potential supply interruption of basic necessities (food, water, electricity, medical, supplies, energy, and communication.)

Two Calls To Municipal Action

“We have a moral responsibility to lead Hartford to express the highest ethics of global citizenship.”

&

“We have a statutory responsibility to look out for the long-term wellbeing of Hartford residents.”

Hartford's First Annual Potato Fest

organized by
Hartford Resilience
Team



Q&A

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