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March 23, 2016

# The Power and Promise of Biodiversity: Visions of Restoring Land, Sea and Climate

Saturday, April 30, 2016 A conference at Harvard University



# **Events**

The Power and Promise of Biodiversity: Visions of Restoring Land, Sea and Climate

#### When

Saturday, April 30, 2016 9 a.m. to 5 p.m.

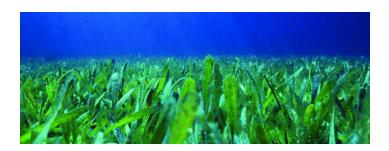
### Where

Harvard University Geological Lecture Hall 24 Oxford Street Cambridge, MA

## **Fees**

The good news that we promise is this: Restoring biodiversity can restore health to the earth, bring devastated ecosystems back to life, is inexpensive and not hard to do, has countless benefits, and is really the only process that can offer a reprieve from the catastrophic climate forces that are currently in play. We must reduce emissions as well- but even going to zero tomorrow would not nearly be enough. We have to pull carbon out of the atmosphere and put it back into the ground, by the gigaton. And we can!

We've got a conference coming up that will provide you with what you need to get started.



In this conference we will present the concepts, history and processes for the restoration of biodiversity, along with its myriad benefits. We will emphasize how we can apply what we've learned from a variety of cultural and species perspectives to advocate for regeneration of healthy, biodiverse landscapes that draw down atmospheric carbon, restore water cycles and reverse global warming. Finally, we will consider many environmental and social issues that we now face, and examine how biodiversity is at the heart of the solutions-not only for humans, but for the whole interconnected web of life that has made Planet Earth unique in the known universe.

Learn more about the conference <u>program</u>, our list of <u>excellent speakers</u> and <u>register</u> to attend!

# Can Livestock Help Repair Degraded Soils?

Regular, \$50; Early-Bird (by April 11th), \$35; Students/low-budget, \$15



For up-to-date info on our events

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# **About BLC**

Our mission at **Biodiversity for a Livable** Climate is to mobilize the biosphere to restore ecosystems and reverse climate change. Our primary project is to redirect the mainstream climate conversation from an almost exclusive concern with atmospheric carbon to encompass the entire carbon and water cycles and the regenerative role of biology.

Learn more about our ongoing projects, upcoming events and find additional information

and resources at bio4climate.org.



Circle Ranch in the Sierra Diablo mountains of WestTexas.

Managed holistically by Chris and Laura Gill.

As the international conversation on climate change continues to evolve, it is highlighting the importance of healthy soil for storing excess atmospheric carbon dioxide. The 68th UN General Assembly declared 2015 the <a href="International Year of Soils">International Year of Soils</a>. Even <a href="Michael Pollan has proclaimed">Michael Pollan has proclaimed</a> that healthy soils can reverse climate change. Soil is finally getting the attention it deserves.

So how do we repair the billions of acres of degraded soils across the globe? The answer is multifaceted: we must use various restoration tools that are appropriate to both the local ecosystem and the community involved. But to repair any damaged ecosystem, humans must work in tandem with the natural environment. And for degraded soils in dryland regions of the globe, ruminants and other grazing animals can play a significant role in the restoration process.

In North America, over 70% of arid lands are <u>considered</u> <u>degraded</u>. Modern land managers facing such soils typically resort to removing animals and letting the land rest completely, but this approach has failed; these lands remain barren with hard-compacted soil that cannot absorb rain and nutrients. While conventional large-scale meat producers are notorious for creating deplorable conditions that also emit substantial amounts of greenhouse gases and destroy the surrounding environment, alternative models of animal husbandry can actually support a healthy, biodiverse landscape. One fascinating method has shown to repair degraded lands and their associated ecosystems.



# Cattle grazing under HM. Photo via holisticmanagement.org

This method is known as "managed intensive rotational grazing," or more simply as holistic management, combines planned grazing and holistic land management. Mimicking the natural grazing habits of wild herds, holistic management is not a one-size-fits-all approach to land management. Instead, the manager takes several variables of the natural environment into account to create a schedule for rotating livestock so that as they graze, the animals till and fertilize the soil. This prepares the land for new vegetation before moving the herd on to a new area. By continually moving the herd, the manager avoids overgrazing and allows the newly fertilized land to rest and absorb much-needed water and nutrients.

Savory	Rotational Grazing	Rational Grazing	Holistic Planned Grazing
Grazing periods are based on:	Number of grazing divisions and desired rest period.	Recovery periods needed during fast and slow growth.	Recovery periods needed during fast and slow growth.
Grazing adjustments based on:	Height of grazed plants in grazing division.	Daily growth rate of plants.	Daily growth rate of plants, livestock performance, and/or wildlife needs.
Stocking rate is based on:	Estimated dry matter intake and/or rainfall received.	Animal days per acre/hectare (ADA/ADH)	ADA/ADH available for the non- growing season, plus a "time reserve" for drought, and effectiveness of water cycle.
Animal nutritional needs addressed by:	Estimated dry matter intake and daily monitoring of animals.	ADA/ADH estimates and daily monitoring of animals.	ADA/ADH estimates, daily monitoring of animals, and allocating the best grazing divisions for critical times, then planning backward from those critical periods.
Use of herd effect for land restoration	Not planned.	Not planned.	Incorporated into plan that is essential in brittle environments.
Wildlife and other users/uses	Not planned.	Not planned.	Incorporated into plan so livestock can be used to enhance.
Drought planned by:	Reserving grazing areas.	Reserving time (days of grazing) spread over all grazing divisions.	Reserving time in all grazing divisions, and ADA/ADH estimates at end of growing season in a closed plan.
Performance in brittle environments	Breaks down in brittle environments.	Breaks down in brittle environments.	Does not break down in any environment.
Performance in less brittle environments	Good short term, but likely to break down long term.	Good short and long term.	Does not break down in any environment.
Fire prevention	Not planned.	Not planned.	Routinely planned.
Management decisions based on:	Multiple goals involving either forage, animals, or finances at any one time.	Multiple goals involving either forage, animals, or finances at any one time.	A Holistic Context that addresses social, environmental, and economic factors simultaneously.

The strategy of holistic land management is gaining attention and legitimacy around the world; projects with a management of livestock that emulates the pattern of wild herds are showing remarkable improvements in soil health and the regrowth of native vegetation on nearly 40 million acres on four continents around the globe. As holistically-minded ecologists, researchers, organizations and farmers work together on these projects, they demonstrate how humans can harness the power of natural systems to reverse the consequential mistakes of the Industrial Age.

### -Jacqueline Sussman

Additional Resources and Testimonials on HM:

http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/use/?cid=nrcs142p2\_054028

http://permaculturenews.org/2010/10/07/holistic-management/

# http://savory.global/

http://bio4climate.org/downloads/Geotherapy\_chapter.pdf

 $http://www.rangemagazine.com/features/fall-09/fa09-what\_works.pdf$ 

http://circleranchtx.com/science-and-range-scientists/