



January - February 2019 Newsletter

Greetings!

What a start to the new year!

We have a lot of big changes underway, and are happy to announce that Bio4Climate is now allied with [Regeneration International](#) as [Regeneration Northeast](#). Stay tuned for more on this in our next newsletter . . .

This month and last we tabled at the Northeast Organic Farming Association (NOFA) conferences in Massachusetts, New York state, and Vermont. We learned about [traditional African American farming practices](#), the medicinal and health benefits of organically grown food, [what organic really means](#), and the increasing need for consumer education to support local organic farms.



We owe a lot to our regenerative farmers, livestock and soil life for doing what they do! Not only are they feeding towns and populations, *but they are simultaneously restoring landscapes and natural cycles, and ultimately, the biosphere.* They truly are our Superheroes for the Future.

More to come as we make our way to the rest of the NOFA conferences next month (listed on the [Regeneration Northeast](#) website) next month! Join us as we continue to learn about the multitude of places where people are continuing to restore our planet to its once bountiful splendor ☐

Manjulika Das, Project Manager

☐ Read on to Discover . . .

*Soul Fire Farm and Leah Penniman

*The Role of Wild Grazers in Climate Change Reversal

Where do many of our Agricultural Practices come from? Leah Penniman Reminds Us of Forgotten Histories



Leah Penniman, co-director of Soul Fire Farm in upstate New York, presented a workshop at the recent NOFA New York conference, called African Diasporic Wisdom for Farming and Food Justice. We are now rediscovering the great contributions that people of African descent have made to farming in the U.S.

You may not know that many of the Africans brought as slaves had been selected because they were rice agriculturalists who knew the land. Leah's book, *Farming While Black*, "is dedicated to our ancestral grandmothers, who braided seeds into their hair before being forced to board transatlantic slave ships, believing against the odds in a future of sovereignty on land."

The workshop was historical – who knew that Cleopatra was a vermiculturalist? Or that George Washington Carver, botanist and head of the Agriculture Department at the Tuskegee Institute, the country's first historically black educational institution taught the practice of cover cropping to farmers across the south? Black farmers already understood the human/livestock connection in farming, along with soil testing through the senses, and other sustainable soil-building practices.



Penniman and her partner founded [Soul Fire Farm](#) in response to the need for healthy food in poor neighborhoods in Albany. It has grown into a community focused both on farming and on healing young people through restorative work on the land. The chapters in her book that address Youth on Land and Healing from Trauma are unique – important for achieving social justice but also for making possible a return to the land for young African American and Latino people who were taught that this was menial work they should want to escape.

In 1920, African Americans owned 14% of total farming acreage; today that proportion is 1%. Discriminatory federal policies and KKK attacks on successful black farmers helped drive this decline. But that trend can be reversed by young people who see the value of food sovereignty, of honoring the land and agricultural traditions, and working in

community: all proud and vitally important traditions.

As Mohawk Farmer Rowen White has written about Leah, “With these teachings of resilience, channeled from her generations of wise ancestors, she has watered seeds of hope that will nourish many beyond our time.”

Breaking Myths: The Role of Wild Grazers in Climate Change Reversal

A team of interdisciplinary scientists led by Yale's Oswald J. Schmitz, Professor of Population and Community Ecology at the Yale School of Forestry and Environmental Studies, has made the case that wild animals significantly impact the lands upon which they graze by influencing the carbon uptake of an ecosystem.



Remote-sensing technologies are allowing scientists to measure carbon storage in global landscapes, so they can evaluate the potential for ecosystems to mitigate the impacts of climate change. Such advancements in these technologies can also inform us about how animals significantly alter ecosystems over time. . . [\(See more\)](#)

Blessed Unrest in Ethiopia

In 2012, the United Nations awarded the village of Abrha We Atsbha, in Ethiopia, the Equator prize for reclaiming over 224,000 hectares of land.

Consistent restoration work on the Ethiopian highlands aided by government support and external funding has markedly increased the productivity of land in the region by improving soil quality, and replenishing ground water, thus raising crop yields.



What had once been dryland, leading many to migrate away, has been transformed into a landscape of opportunity for Ethiopian youth, who most often become involved in the pursuit of farming. [Read more about this restoration success here.](#)

Staff Notes - Introducing . . .

. . . Christopher Haines - Architect and Volunteer

Christopher joined the Bio4Climate team in 2015. A member of the Boston Society of Architects (BSA), he has a background in energy efficiency and resource management, and consulted on commercial and industry energy efficiency for about 20 years. He later expanded into offering a systemic view of resource management, including water and other resources that companies use.

Christopher has particular interests in regenerative architecture, and the role that the built environment plays in global warming.



"Greenhouse emissions exacerbate global warming by reflecting back sensible heat [the heat we feel]. We are converting solar energy into sensible heat at the solar interface, a large part of which is the built environment. Greenhouse emissions are then trapping this sensible heat."

There's a way around this. The solar interface can be converted to vegetative surfaces that create very moist conditions which in turn produce latent heat [the heat required to turn liquid water into vapor without changing the temperature, providing a cooling effect]. If we can do this, we will not have as much sensible heat for the greenhouse to reflect. And, because the built environment (which includes roadways, buildings, and walkways) can hold even more heat, it heats up even faster than bare ground, so the built environment has a significant impact on the amount of heat that is retained within the earth's atmosphere.

Christopher plans to discuss this more in a book he is writing about reframing climate change. While the urban heat island has been studied for decades, it has been talked about in the limited context of cities and their surrounding areas. What Christopher hopes to build in his book is the recognition that what we have effectively created is a *global* heat island.

Tar Sands Songbook: Save the Date!

A Documentary Performance about
Music, Memory and Oil

Saturday, April 13, 2019 at 7pm

**Harvard Epworth Church,
155 Massachusetts Ave., Cambridge MA**

A Benefit concert for the Better Future Project and Biodiversity for a Livable Climate by a musician and artist who grew up in Fort MacMurray, Alberta - long the land of oil and now the home of Tar Sands. She became a musician because she never wanted to see oil again. And now she's back . . .





Tanya Kalmanovich is a Canadian violinist, ethnomusicologist and educator. Though she is based in Brooklyn, her layered artistic research practice has rewarded her with extended residencies in India, Ireland, Afghanistan, Turkey, and Siberia.

Ted Reichman is an accordionist, keyboard player, and composer, focusing on connections between improvisation and various forms of folk, popular music, and jazz.

And . . .

Here's another excerpt from our [Compendium of Scientific and Practical Findings Supporting Eco-Restoration to Address Global Warming](#). The article below is from [our second issue](#), March 2018, Vol. 1 No. 2 (pp. 21-23):

Natural Climate Solutions, 2017

This is one of the most comprehensive mainstream studies to date of a broad spectrum of natural climate solutions; written by 32 co-authors, it was supported by The Nature Conservancy. The report examines “20 conservation, restoration, and/or improved land management actions that increase carbon storage and/or avoid greenhouse gas emissions across global forests, wetlands, grasslands, and agricultural lands.” For each action, the authors seek to assess both the potential emissions from land use and the potential for carbon sequestration.

We applaud Griscom et al. for an excellent and comprehensive analysis and review of many of the factors in natural climate solutions. But we do want to make two points. First, we believe that the potential of nature’s solutions is far greater than the authors estimate. Second, the temperature limits (1.5 - 2 degrees celsius) are too high and too dangerous, considering that natural processes are already changing, drastically and for the worse, with an average global temperature increase of barely 1 degree celsius.

Griscom et al. acknowledges that their estimates are conservative, as the studies they analyzed tend toward the mainstream and are primarily based on established and widespread practice. This is perfectly reasonable in the process of what Thomas Kuhn calls “normal science” (see [Compendium Vol. 1 No. 1](#) for an extensive discussion of Kuhn’s landmark work).

Unfortunately the process through which normal science accepts new thinking and discoveries usually takes decades, and we are currently in the throes of an extinction episode, and an emergency with respect to biodiversity and climate change. So, we have to accelerate our response. Accordingly, Bio4Climate searches for studies that tend to examine *positive variants*, i.e., examples of what is possible beyond current conceptual boundaries. We emphasize goals to strive for, even if the data are not yet “sufficiently robust for global extrapolation.” The robustness of such data will increase as researchers focus on it more intentionally.

Griscom, B.W. et al., 2017, Natural Climate Solutions, *PNAS* October 31, 2017, 114:44, 11645–11650, <https://www.pnas.org/content/114/44/11645>

Compendium of Scientific and Practical Findings Supporting Eco-Restoration to Address Global Warming

Volume 1, Number 2, March 2018
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Last but not least . . .

You're concerned about the current state of the Earth, and we are working for you, our young people, and the diverse web of life we all rely on.

Not to put too fine a point on it, we just want to say that we're a small non-profit doing **BIG** things.

Your support and involvement are very important! Please be sure to . . .



. . . and a monthly donation is *especially* appreciated . . .

Many thanks!

See what's happening on our social sites:

