

Grasslands & Savannas Neglected ecosystems? – Time to act

WWF Conference. 4th of June, 2019 in Berlin
Magnus Haus, Kupfergraben 7, 10117 Berlin



Supported by:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

based on a decision of the German Bundestag

Sustainable grassland management and the role of livestock:
- Successful examples of livestock production in harmony
with nature.

Stephan H. Böhm, Gut Haidehof, German Savory Hub

A local perspective...



GUT HAIDEHOF

REGENERATIVE AGRARKULTUR

Why we farm the way we farm



Why we farm the way we farm

Ecological

We restore ecosystems and water cycle, increase biodiversity while drawing CO₂ out of the atmosphere.

Economic

We regenerate soil fertility and grow more grass. We decrease input costs while increasing carrying capacity and profits.

Social

Applying a decision-making framework lets us cope with the complexities of managing land, livestock and people.

Health

Healthy soil leads to healthy plants and healthy animals. Having access to such nutritious food, our health as humans thrives.

Community

Based on good and profitable farming practices we re-build a thriving farming community and network.

Communication

Honest and open communication is the basis for collaboration and trust. We share our knowledge and experiences.

... embedded in a global perspective.

May 14, 2019

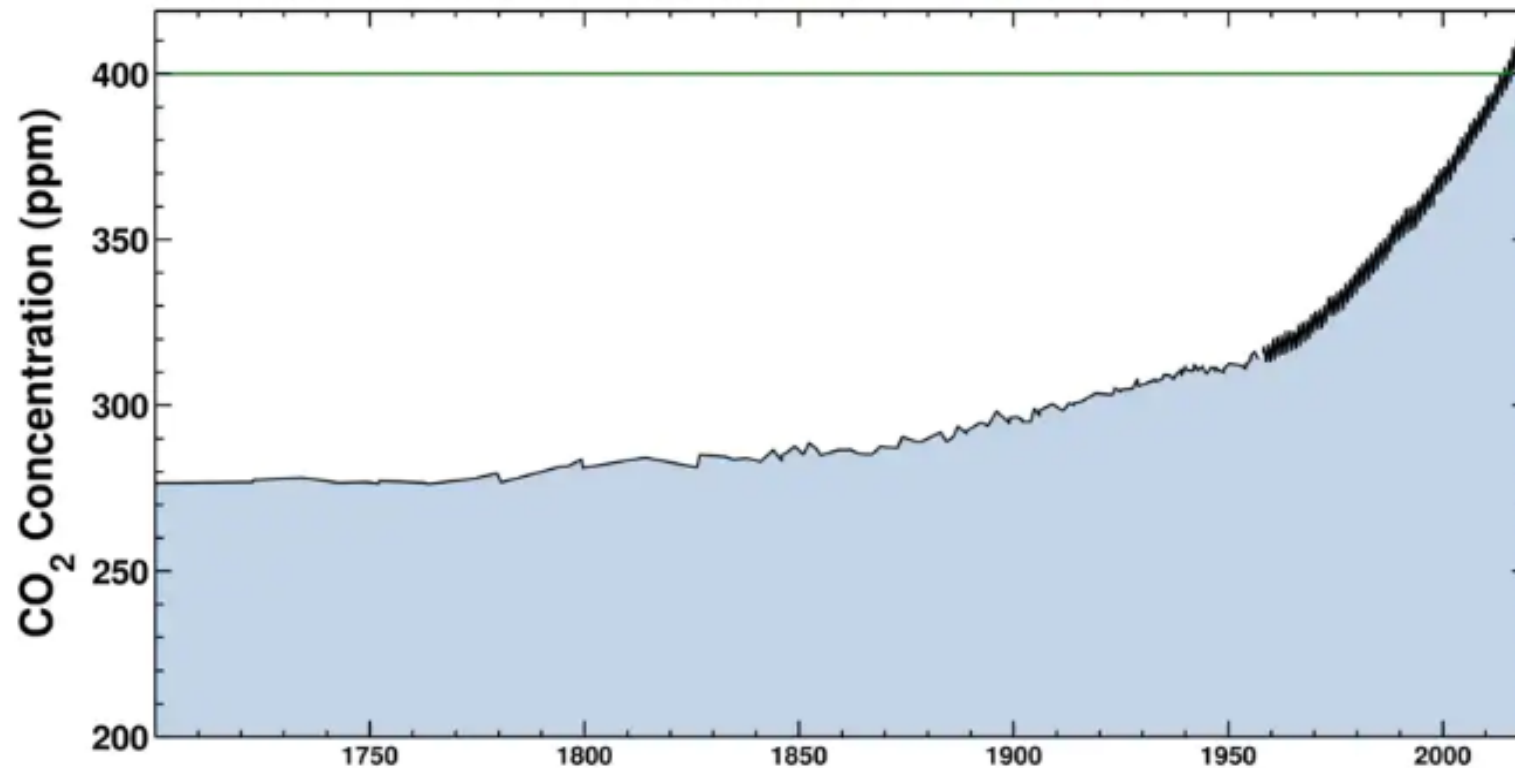
(29 °C)

It was 84 degrees near the Arctic Ocean this weekend as carbon dioxide hit its highest level in human history

Latest CO₂ reading
May 11, 2019

415.26 ppm

Ice-core data before 1958. Mauna Loa data after 1958.



PROBLEM

Reductionist thinking, industrialized agriculture, and extractive capitalism have wreaked havoc on our global grasslands, which represent 1/3 of Earth's land surface.



70%

Amount of Earth's grasslands facing desertification

\$24
TRILLION

Global cost of poor land use by 2050

60
YEARS

UN FAO's estimate of time left to farm at current rate of soil degradation

405
PPM

Current level of atmospheric CO₂, up from pre-industrial level of 280ppm.

“Climate change, biodiversity loss and desertification are three sides of the same coin.”

Allan Savory

Allan Savory's discoveries:

Land rest leads to desertification



**Predators keep herds moving
thereby preventing overgrazing**



Animals can be used as tools



Planned grazing

Getting animals to the right place at the right time with the right behavior for the right reason.



Land planning

Thinking before you act. Planning long-term infrastructure needs that meet ecological, financial, & social goals.

HOLISTIC MANAGEMENT

Financial planning

New behaviors persist only if financially feasible. Farm finances planned to ensure maximum marginal reaction.



Ecological monitoring

Rapid feedback loops that assist farmers in making the best management decisions for their land base.

The impact of grazing

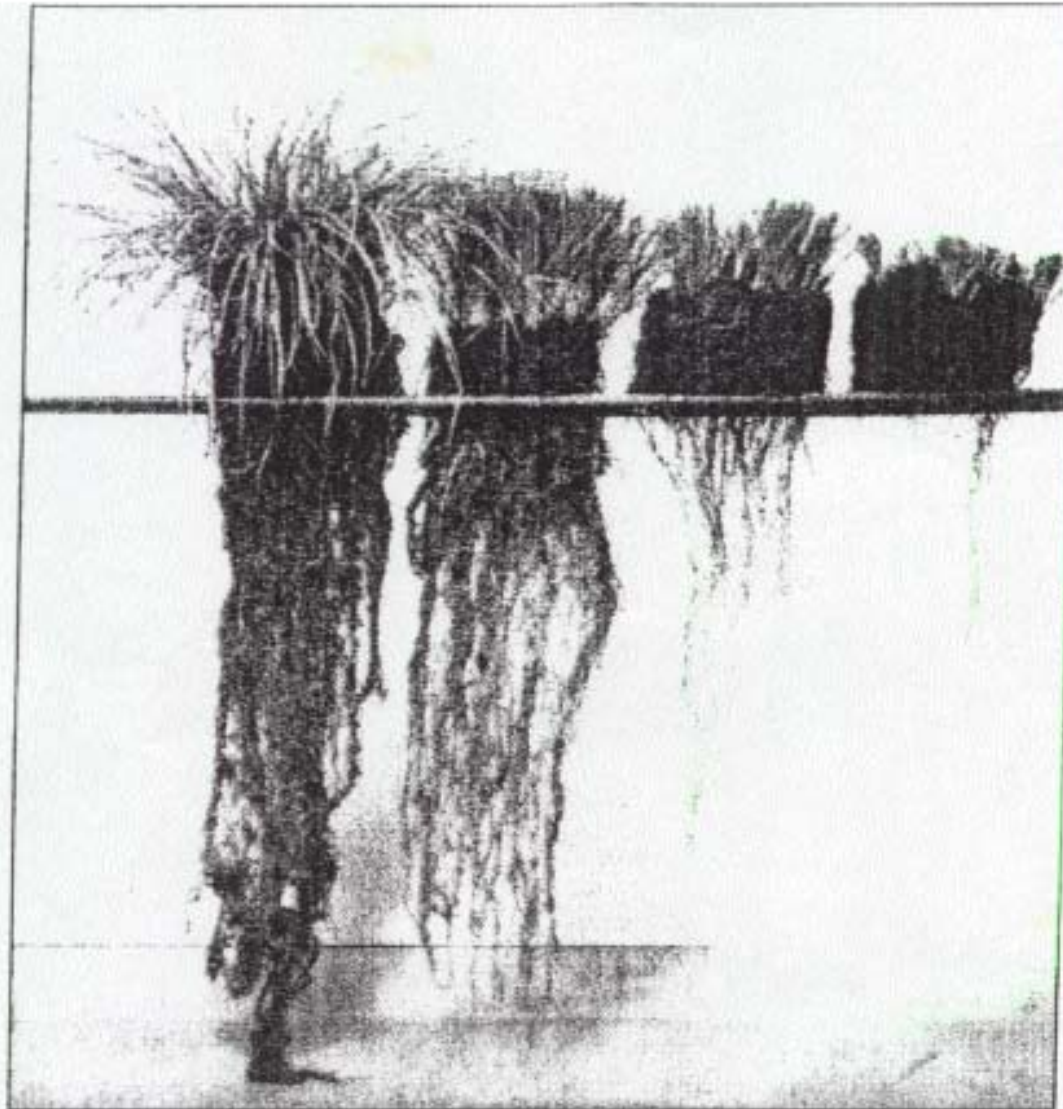
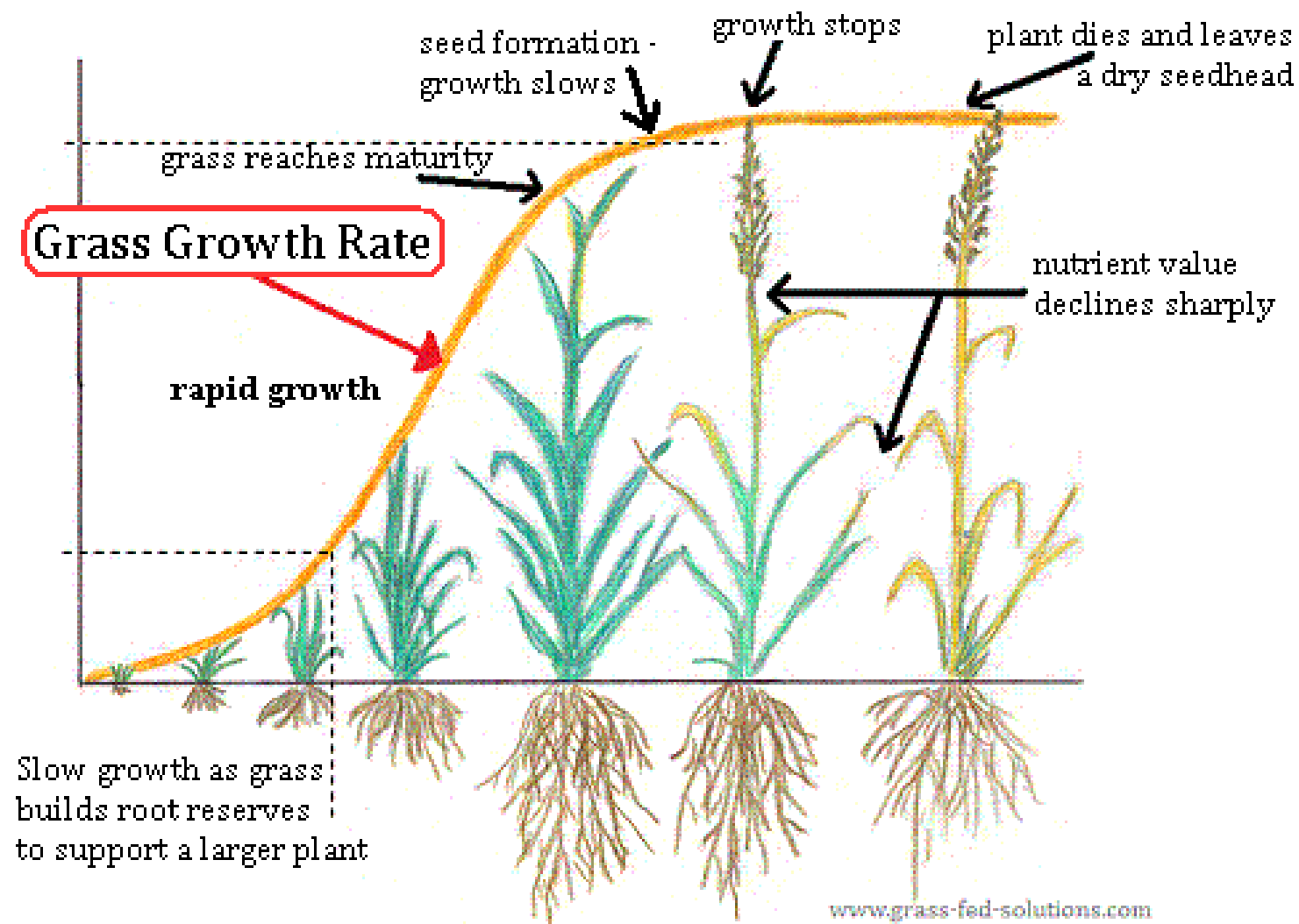


Fig. 1. Effect of clipping intensity on roots (from Agriculture and AgriFood Canada publication 1589).



Grass growth rates vary greatly depending on plant maturity.

How we graze:



GUT HAIDEHOF
REGENERATIVE AGRARKULTUR

40 years of overgrazing by horses lead to:

- Poor sandy soil with a rating of 15/100 points
- Neither soil life nor humus
- Couch grass-dominated pastures
- Few species and legumes
- Strong water influence on former marshland

The objective: regenerate our grasslands

We plan our grazing

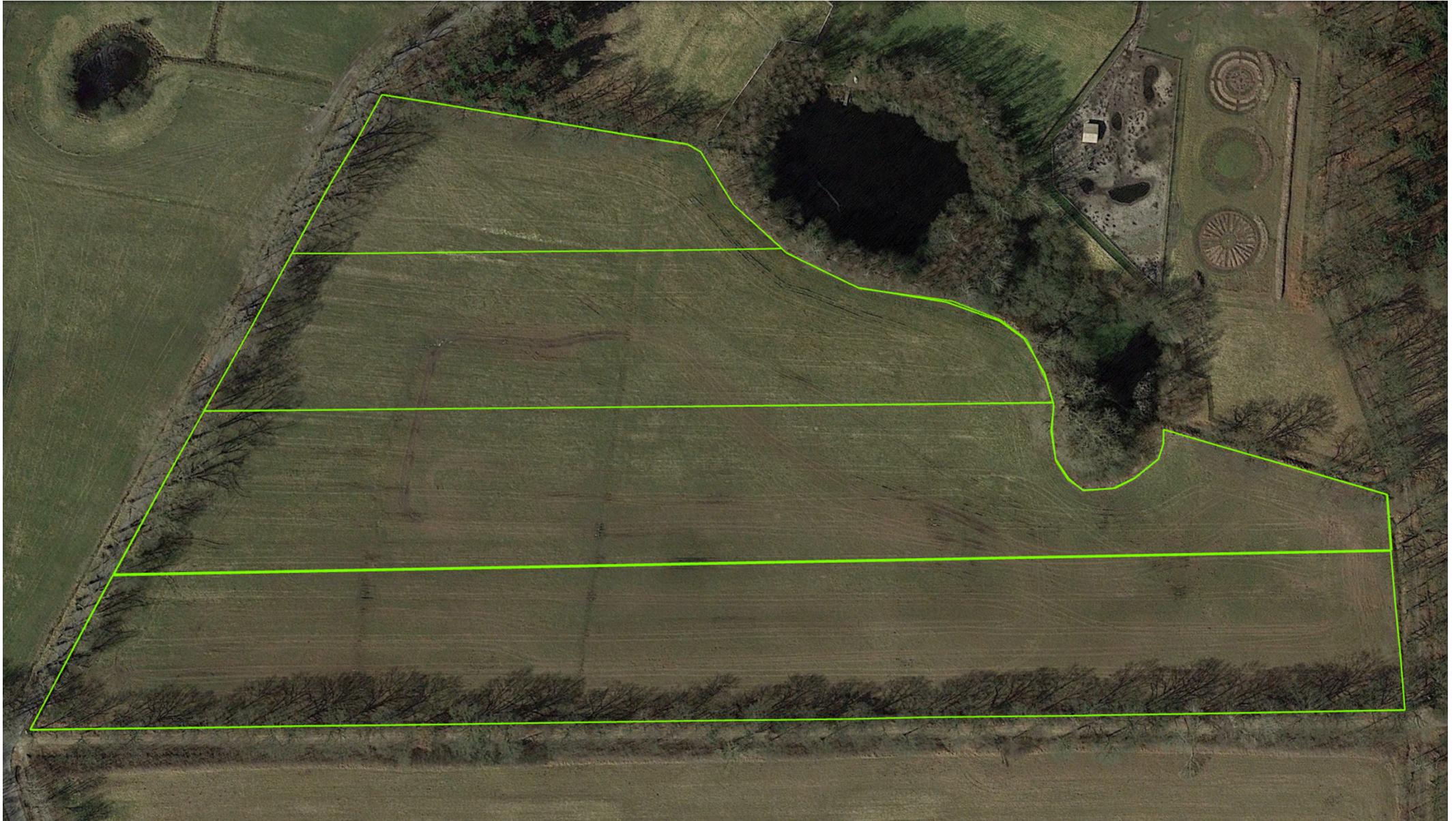
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The essence of Holistic Planned Grazing



The essence of Holistic Planned Grazing



The essence of Holistic Planned Grazing



The essence of Holistic Planned Grazing



The implementation



June 01, 2019



June 01, 2019



Differences between the grazing regimes:

- **Set stocking:** livestock are allowed to stay on the same land for a long time, mostly for the entire season. There is no management of their behavior.
- **Rotational grazing:** livestock are moved from one pasture to the next. Only moves are considered, not their timing. Rotations are set and neither growth rate nor recovery time of plants are taken into account.
- **Mob grazing:** high stock density, short duration grazing with high numbers of animals bunched together to increase animal impact. Moved are as frequent as 3 times per day. The recovery time of plants is not planned.
- **Holistic Planned Grazing:** practice of charting grazing moves that consider the time that a plant is exposed to a grazing animal so that its recovery is planned. Wildlife, human and other needs influence the grazing plan.

RESULTS



CASE STUDY



Dharma Lea Dairy

Paul and Phyllis Van Amburgh purchased Dharma Lea and its dairy cattle in 2007. They began with rotational grazing, without the use of inorganic fertilizers, and supplemented with corn and grain until 2008 when they made the decision to go 100% grass-fed.

In 2013, after attending a Holistic Management workshop, they decided to switch from rotational grazing to Holistic Management, and began Holistic Planned Grazing in 2015. They achieved the following results:



Sharon Springs, NY, USA

120

INCREASE IN
GRAZING DAYS PER
YEAR

68%

INCREASE IN
GRASS
HARVESTED

41%

GROSS MARGIN,
UP FROM
PREVIOUS 3%

10%

INCREASE IN
MILK SOLIDS



A True Carbon Sink
that accumulates and
stores carbon in the soil

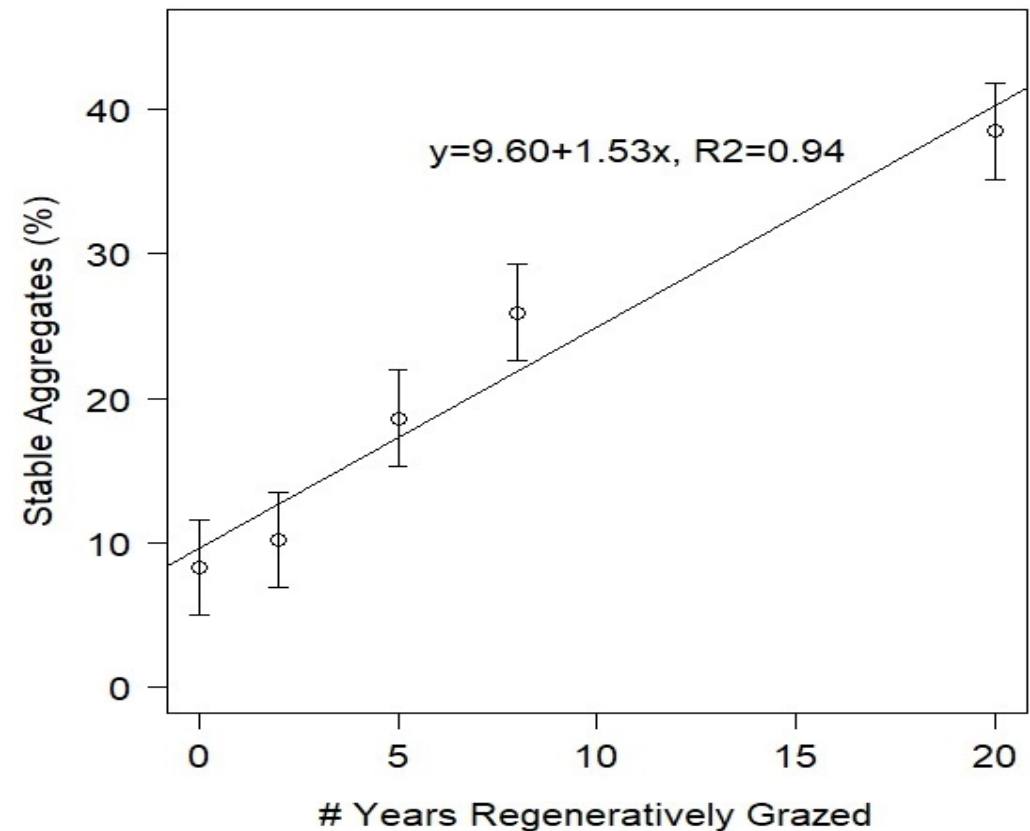
Carbon Footprint Evaluation of
Regenerative Grazing At
White Oak Pastures

Life Cycle Assessment
Mariko Thorbecke & Jon Dettling
02/25/19

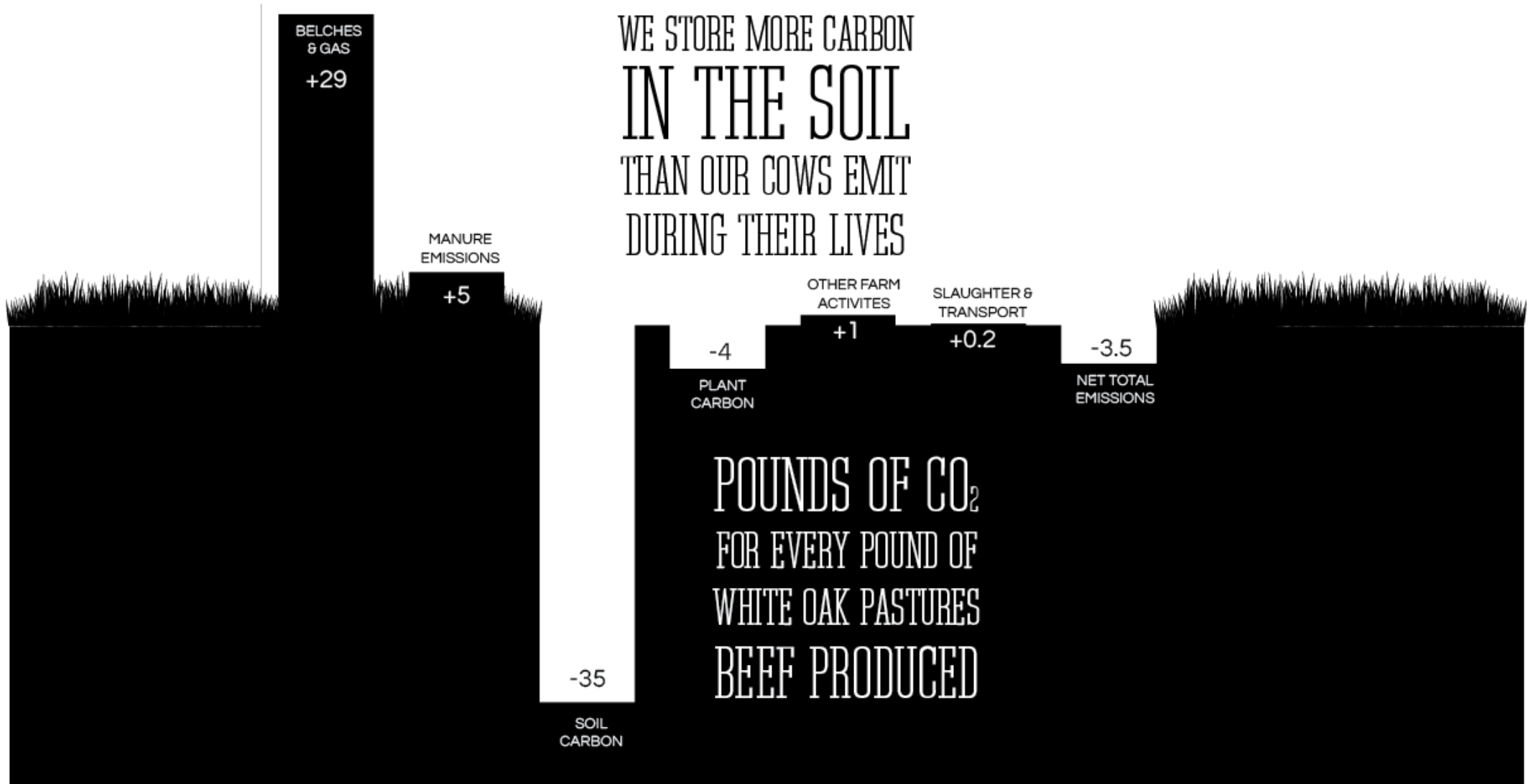


CASE STUDY

Water-Stable Aggregation

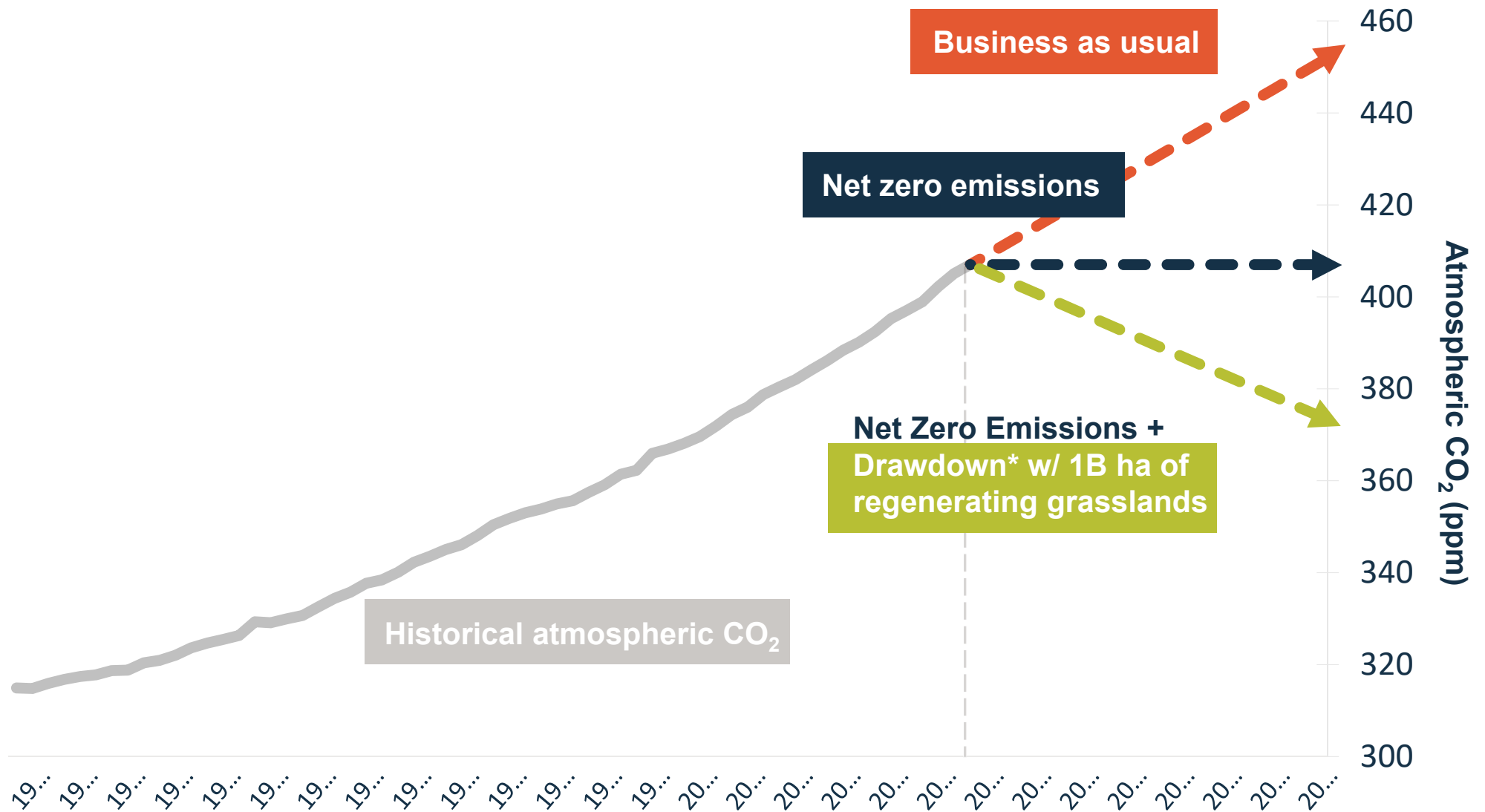


CASE STUDY



ATMOSPHERIC CARBON **DRAWDOWN**

POTENTIAL FOR GLOBAL GRASSLAND REGENERATION
TO PLAY A MAJOR ROLE IN REVERSING THE CLIMATE CRISIS



*At a rate of 3 tons C/ha/yr (Teague 2011), recognizing that some lands have the potential to drawdown more and others less, dependent on soil type, climate, and previous management practices.

THE SAVORY NETWORK

North America

- Arizona
- California (northern)
- California (southern)*
- Colorado
- Georgia
- Hawaii*
- Ohio
- Oklahoma*
- Maine*
- Manitoba, Canada*
- Michigan
- Missouri
- Minnesota
- New Hampshire
- Northern Territory, Canada
- Texas
- Virginia
- Wyoming*

Asia / South Pacific

- India*
- Pakistan
- New South Wales, Australia
- New Zealand
- Perth, Australia*

Central / South America

- Argentina
- Brazil
- Chile
- Colombia*

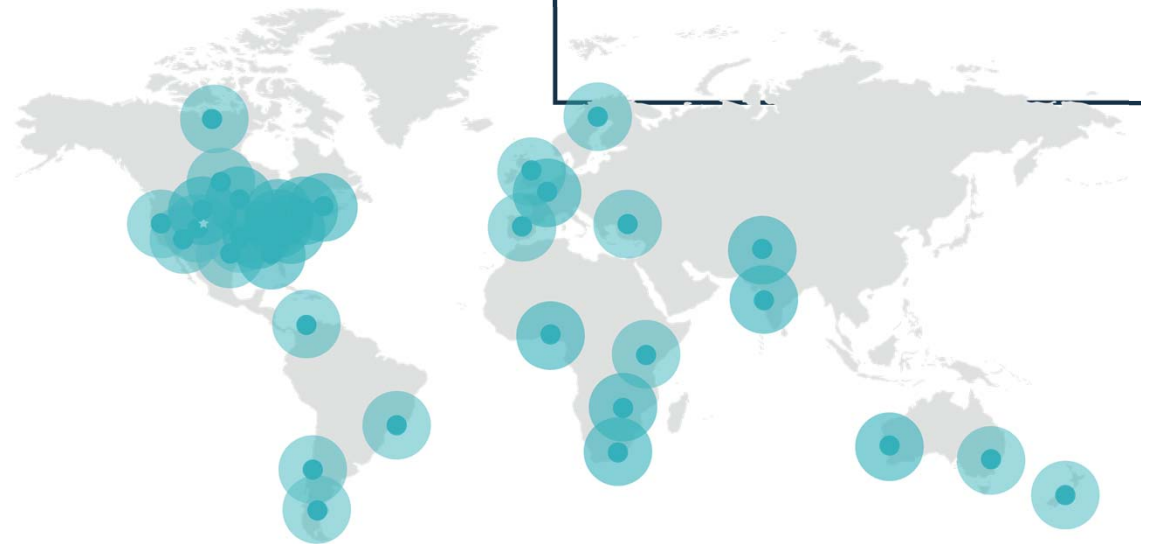
Europe

- Croatia*
- Denmark*
- Finland*
- France*
- Germany*
- Spain
- Sweden
- Turkey
- United Kingdom

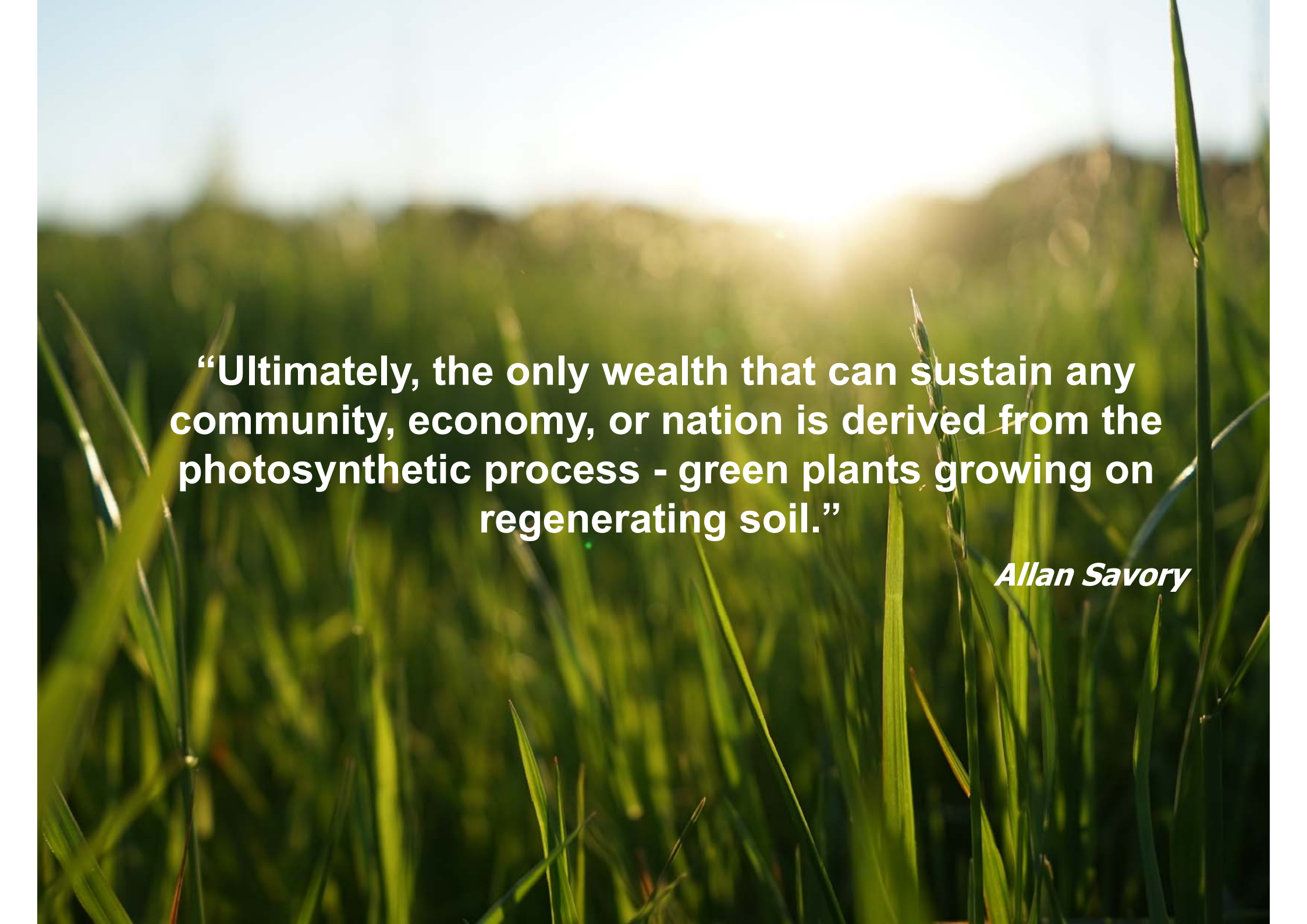
Africa

- Ethiopia*
- Ghana*
- Kenya
- Nigeria*
- South Africa
- Uganda*
- Zimbabwe

**A nodal network
of regional
learning Hubs.**



* denotes a Hub in training (12-18 month onboarding process)



“Ultimately, the only wealth that can sustain any community, economy, or nation is derived from the photosynthetic process - green plants growing on regenerating soil.”

Allan Savory



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