Global Grassland and Savannah Dialogue Platform
5. Meeting

Restoration and Sustainable Management: Importance of Grassland/Rangeland for Food Production

16. February 2021

Agenda

- **Welcome**
  (Short 3 minutes up-dates)
- **UN FSS – Role of Grassland and Rangeland**
  (Martina Fleckenstein, WWF International)
- **Up-dates from the January meeting and results from Miro Board**
  (Martina Fleckenstein)
- **Rangeland communication and mapping working group:**
  Fiona Flintan, ILRI
- **Identification of grassland and savannah hotspots working group:**
  Alissa Wachter
- **New WWF Grassland Lead: Karina Berg, WWF Brazil**

Presentations

- **Sustainable pasture management in the Northern Great Plains, USA:**
  Martha Kauffman, WWF US

- **Co-management for livestock and wildlife in Amboseli, Kenya:**
  Jackson Mwato, Director of Amboseli Ecosystem Trust and Lucy Waruingi, Director of the African Conservation Centre.

- **The Potential of Dietary Change to Sequester Carbon and Restore Nature,**
  Brent Loken, WWF International, Food Practice

- **Q & A**

Generating Ideas for the UN Food Systems Summit

Degradation: proposals were overwhelmingly for solutions based on (better) cultural management.

Biodiversity: proposals were more varied: prioritising protected areas in grassland, holistic, regenerative agriculture, ecological corridors and strategic rewilding.

Greenhouse gases: the key message here was to gain better recognition (and understanding) of the role of grasslands and grassland soils in carbon storage and sequestration.

Impacts on society: a strong reaction against demonising pastoralists (and meat eaters), and for diversified, labour-intensive, gender sensitive production systems working with wildlife.

Knowledge gaps: included especially many aspects of carbon sequestration and restoration, awareness of “conversion fronts” for grasslands and on-site, off-site impacts of different systems.

Policy responses: related to altering agricultural support, linked to initiatives such as Thousand Landscapes, building an enabling environment for sustainable management and restoration.

Investment: innovative and catalytic strategies blending public and private finance are needed, the former often to kick-start sustainable processes.

Freshwater: was less well addressed, although the needs for ecological flows and linking clean water and healthy grasslands in PES schemes were noted.

Role of Grassland and Rangeland in the UN Food Systems Summit

Grassland and Rangeland as Game Changing solution:

- **Restoring grasslands, shrublands and savannahs through extensive livestock-based food systems**
- **Adopting nature-positive livestock production systems**

Next steps:

- **Alignment with Action Tracks and input from member states, UN entities and public survey**
- **Set up thematic platform hubs**

Grassland and savannah hotspots

Working group: draft list of people agreed, representatives from WWF, WCS, academia – still space if others want to be involved.

Involvement: will include at the least some online meetings to discuss methodology, potentially some more work analysing data from regions that they know.

Units: we will be using ecoregions as the units of analysis – there are around 150 grassland and savannah ecoregions.

Methodology: two stages

- Overlaying maps of protected areas, KBAs and potentially other elements (Centres of Plant Diversity) against the ecoregions
- Doing an analysis of each ecoregion in turn to measure key indicators

Next steps:

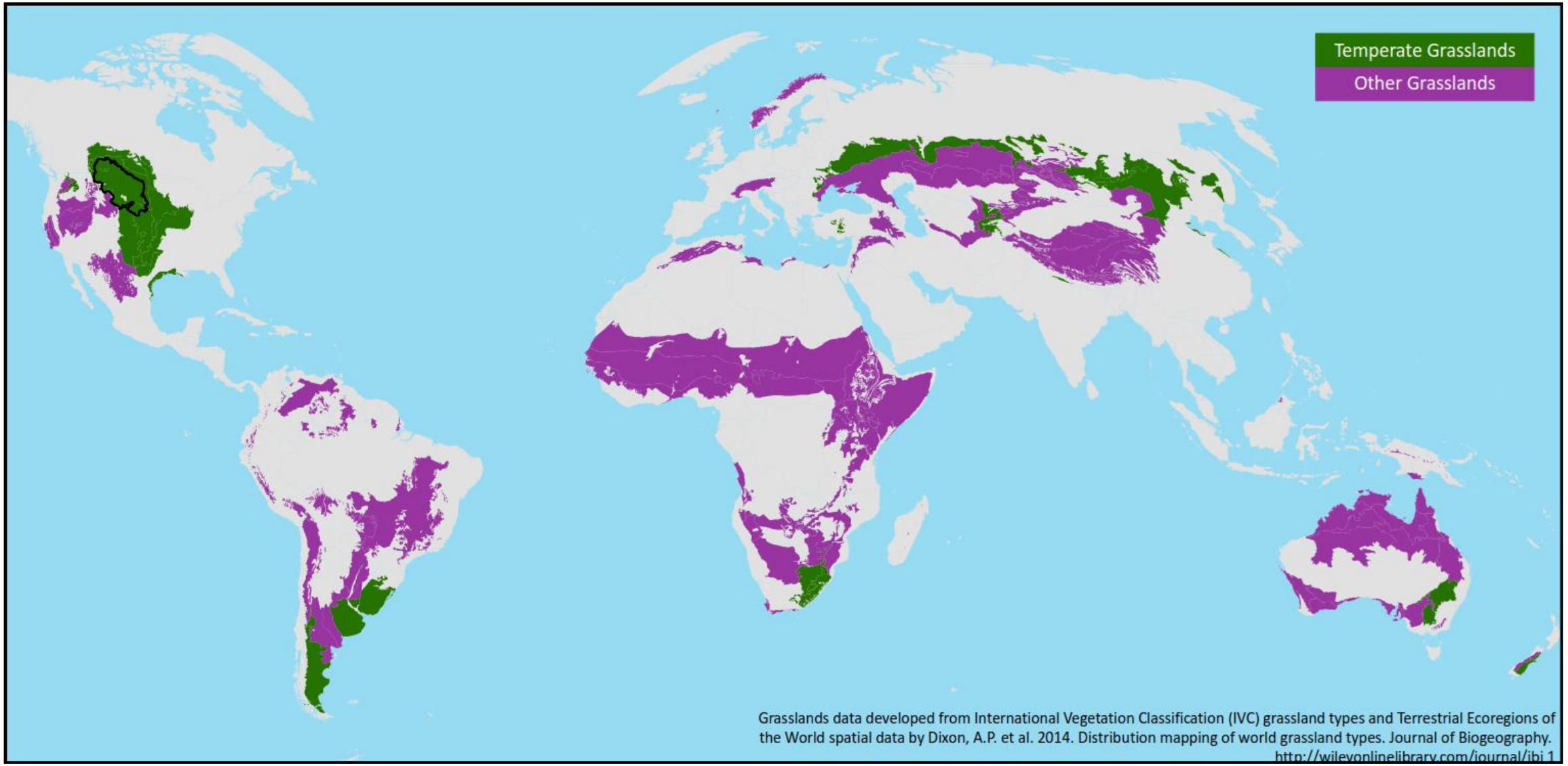
- Agreeing a standards set of indicators for identifying the hotspots
- Initial run through the existing ecoregion database to identify the ecoregions judged too be most at risk – we'll concentrate on these first
- More focused analysis of ecoregions at risk to provide an initial list of hotspots
- Note that indicators will include both ecological and social values

Sustainable pasture management in the Northern Great Plains, USA:

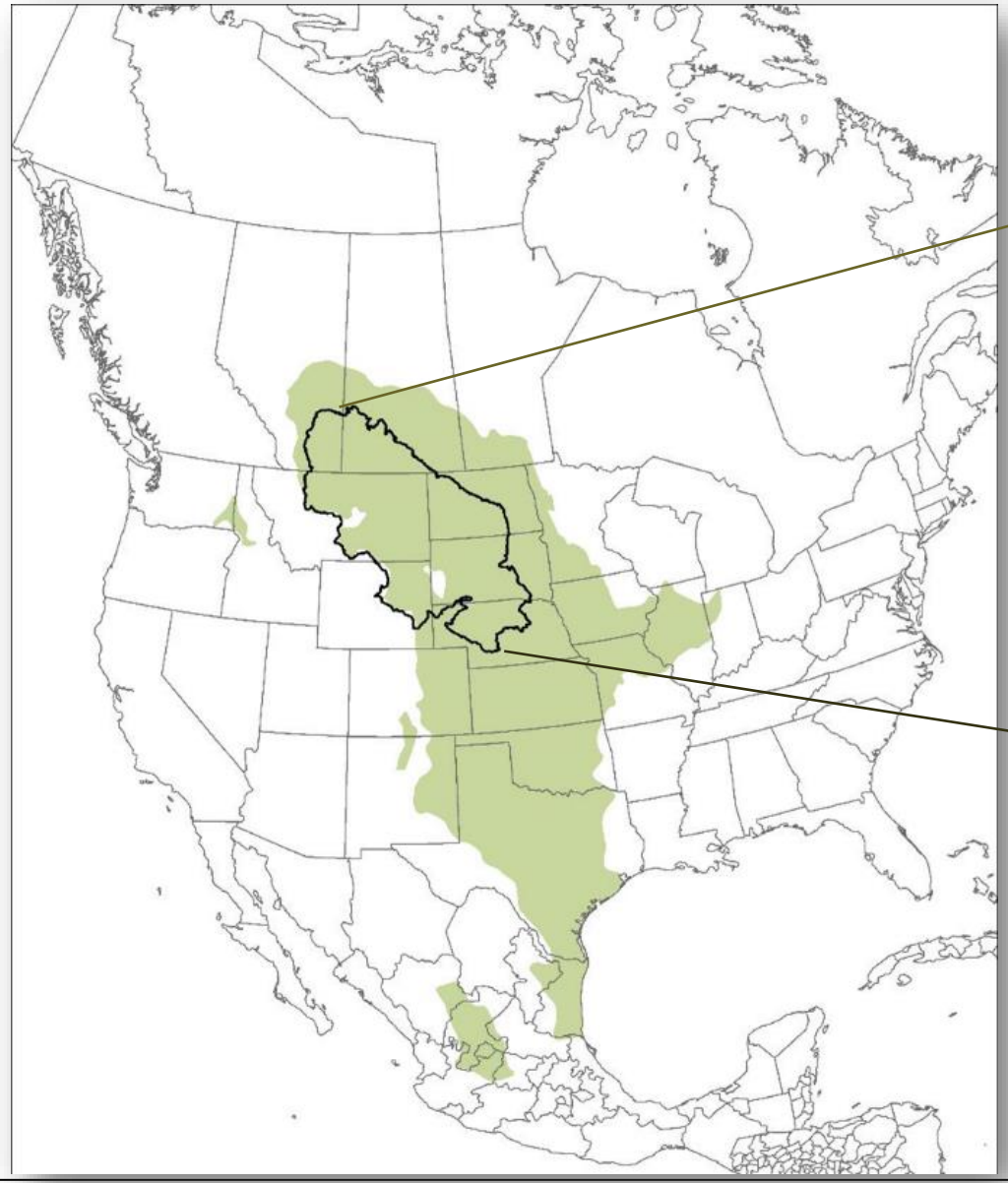
Martha Kauffman, WWF US


WWF Northern Great Plains
© Thomas Lee / WWF-US
WWF

Global Grasslands

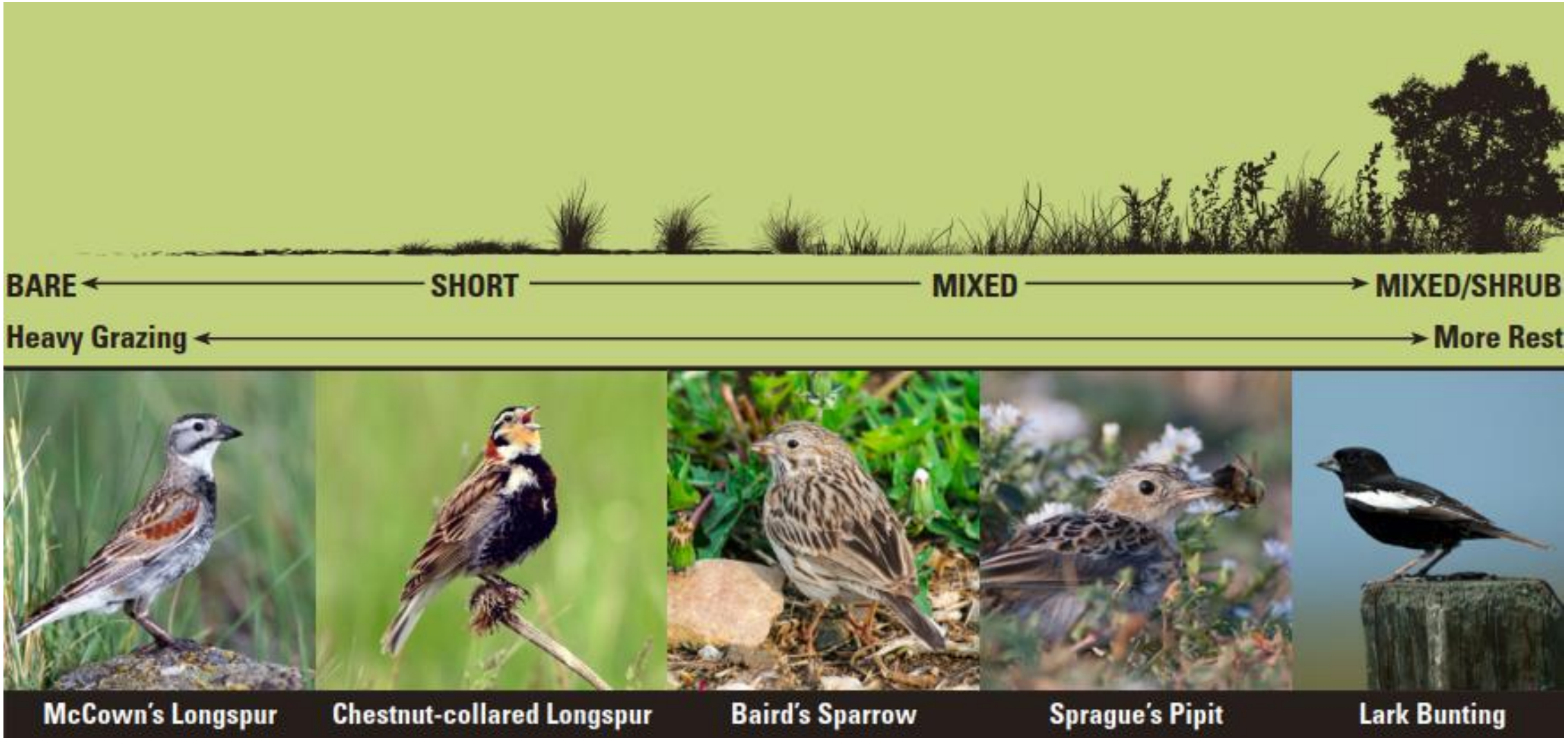


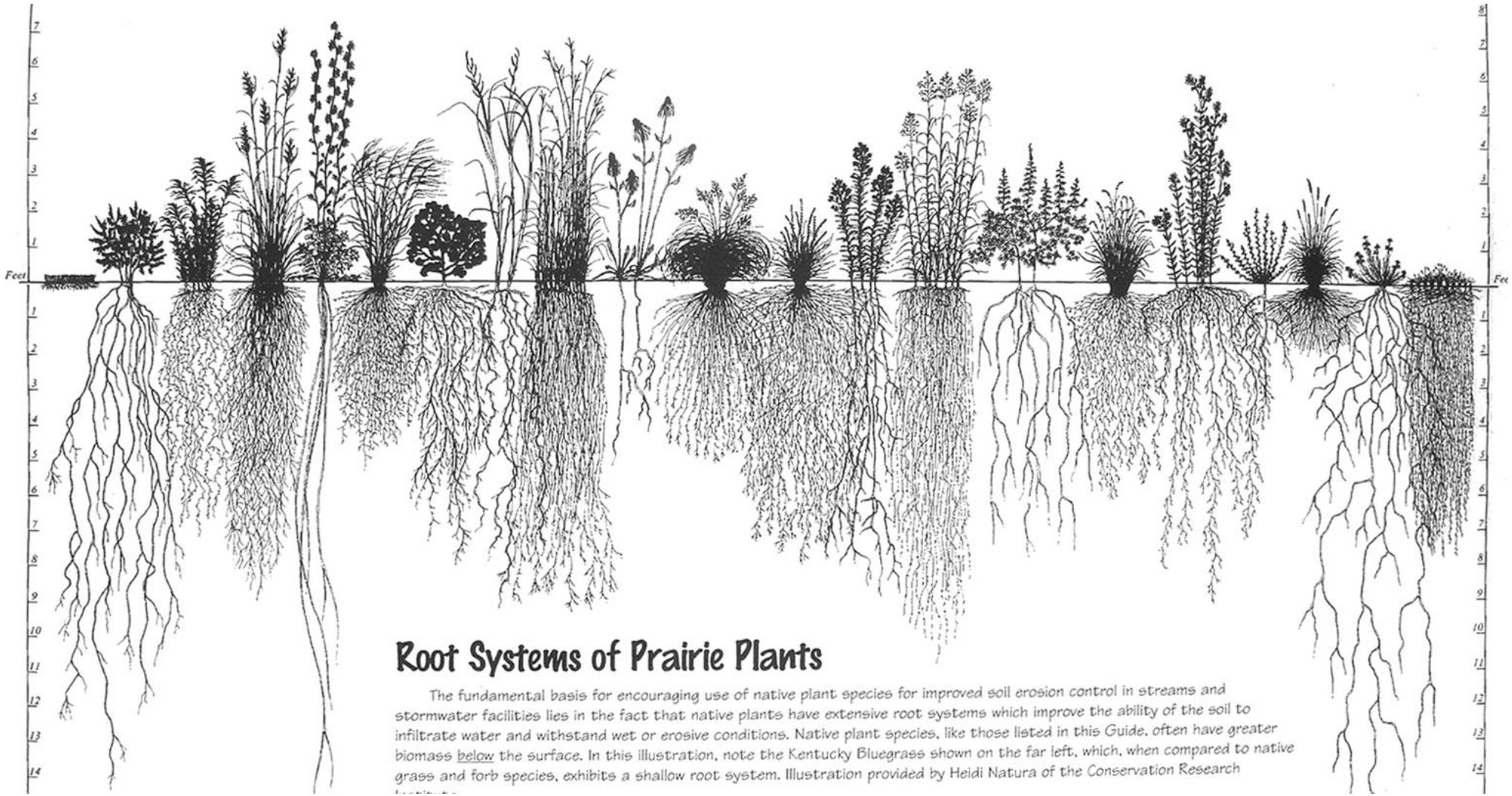
North American Temperate Grasslands



183 million ac (74 million has) across
5 US states and 2 Canadian provinces

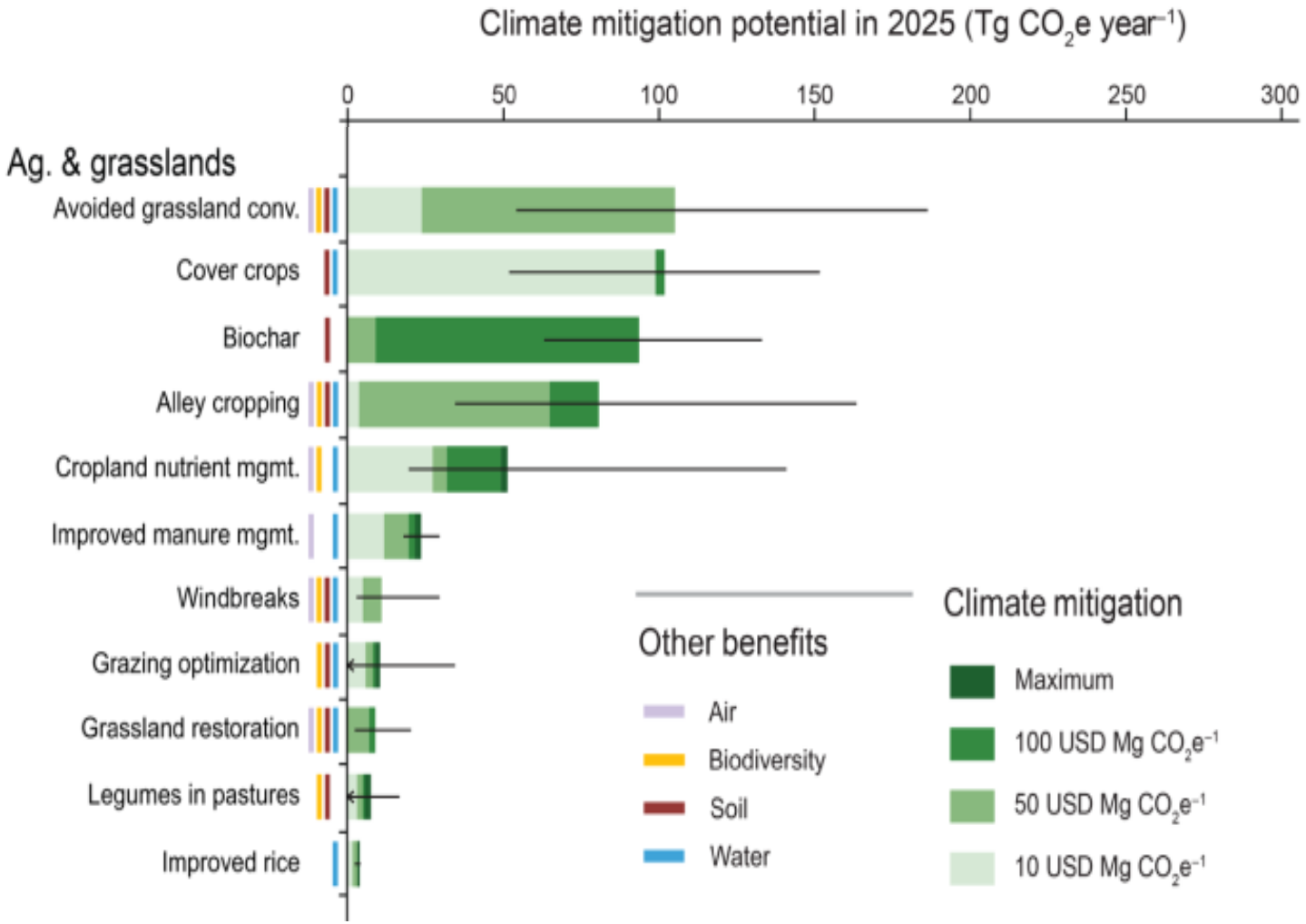

© WWF/Troy F


BARE
SHORT
MIXED
MIXED/SHRUB
Heavy Grazing
More Rest
McCown's Longspur
Chestnut-collared Longspur
Baird's Sparrow
Sprague's Pipit
Lark Bunting



Root Systems of Prairie Plants

The fundamental basis for encouraging use of native plant species for improved soil erosion control in streams and stormwater facilities lies in the fact that native plants have extensive root systems which improve the ability of the soil to infiltrate water and withstand wet or erosive conditions. Native plant species, like those listed in this Guide, often have greater biomass below the surface. In this illustration, note the Kentucky Bluegrass shown on the far left, which, when compared to native grass and forb species, exhibits a shallow root system. Illustration provided by Heidi Natura of the Conservation Research



Fargione et al. 2018

1870

© Wikimedia Commons

Bison skulls for fertilizer

1878

© J. Peaco

40,000 buffalo hides


© Chris Boyer / Kestrel Aerial / kestrelaerial.com

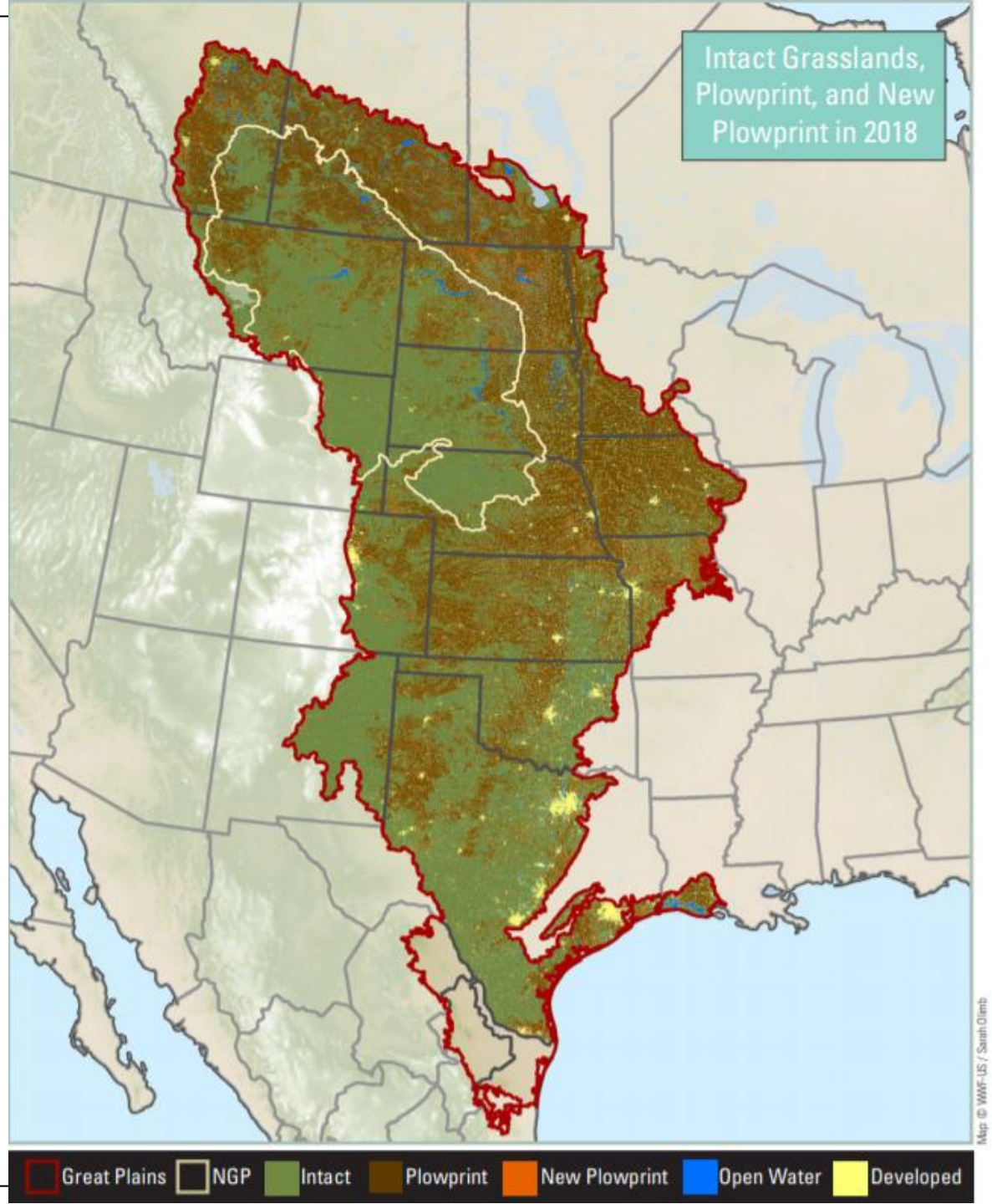
Plowprint Report

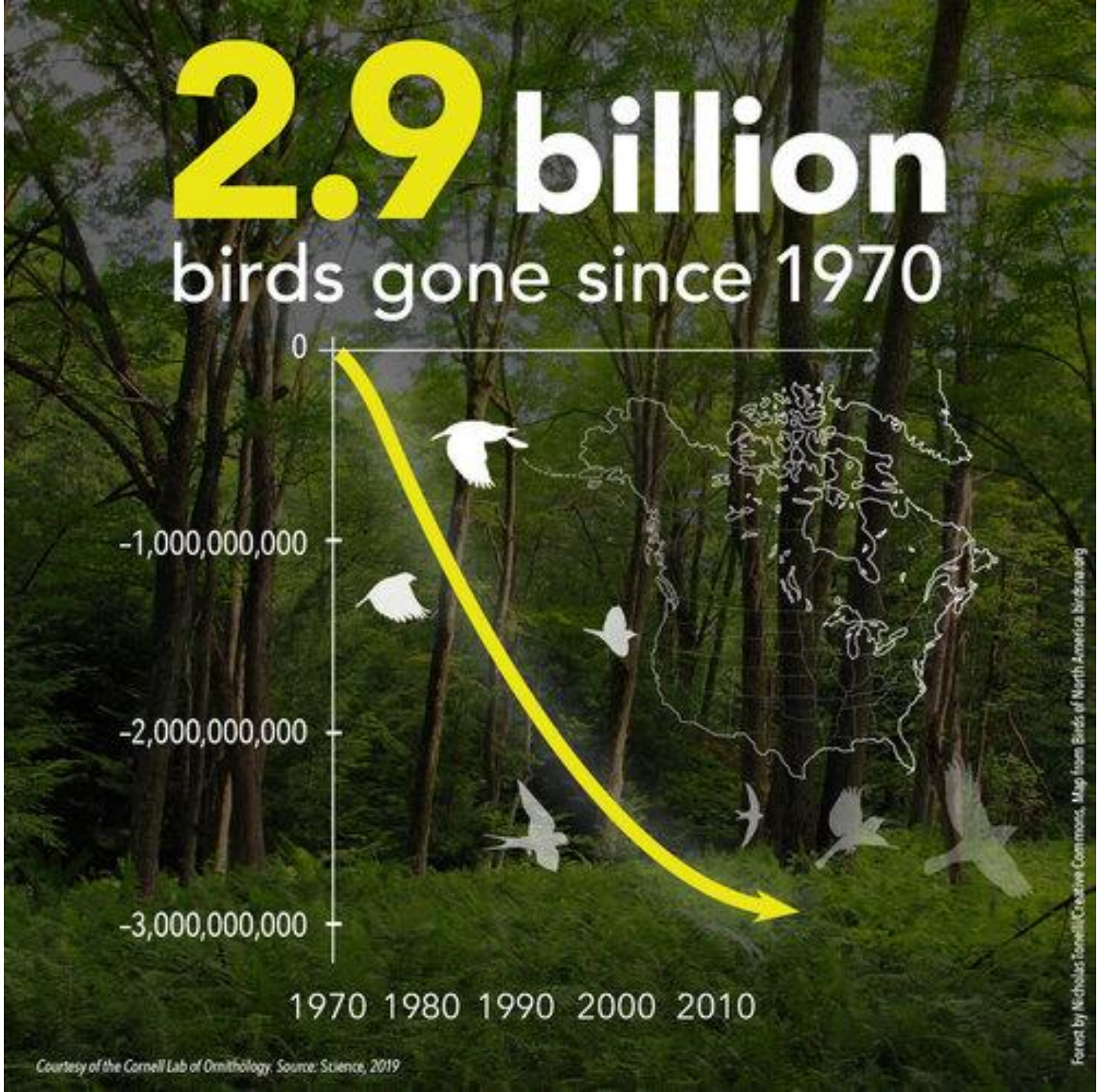
Goal

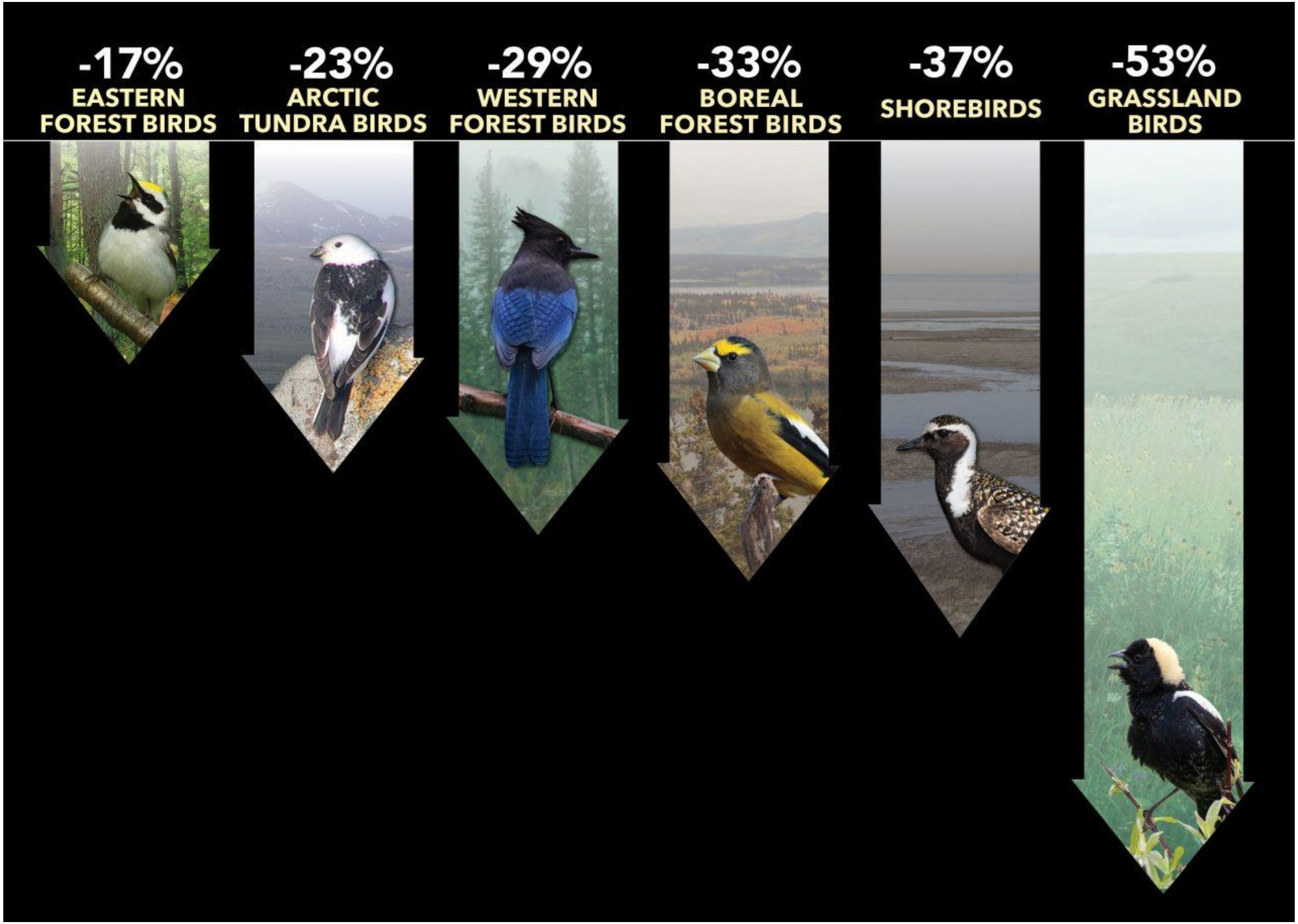
Track annual conversion

Key findings

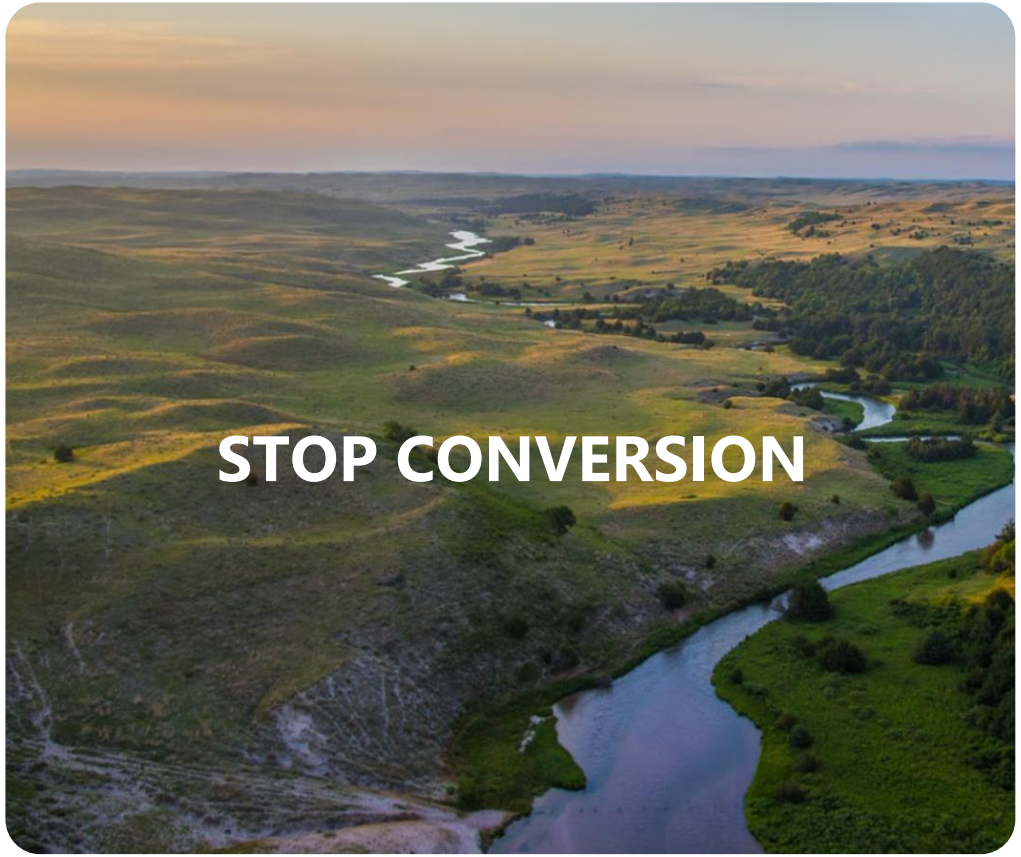
- ~700,000 ac/yr (283k ha/yr) converted
- Primary crops: wheat (41%), corn (9%), soy (7%)

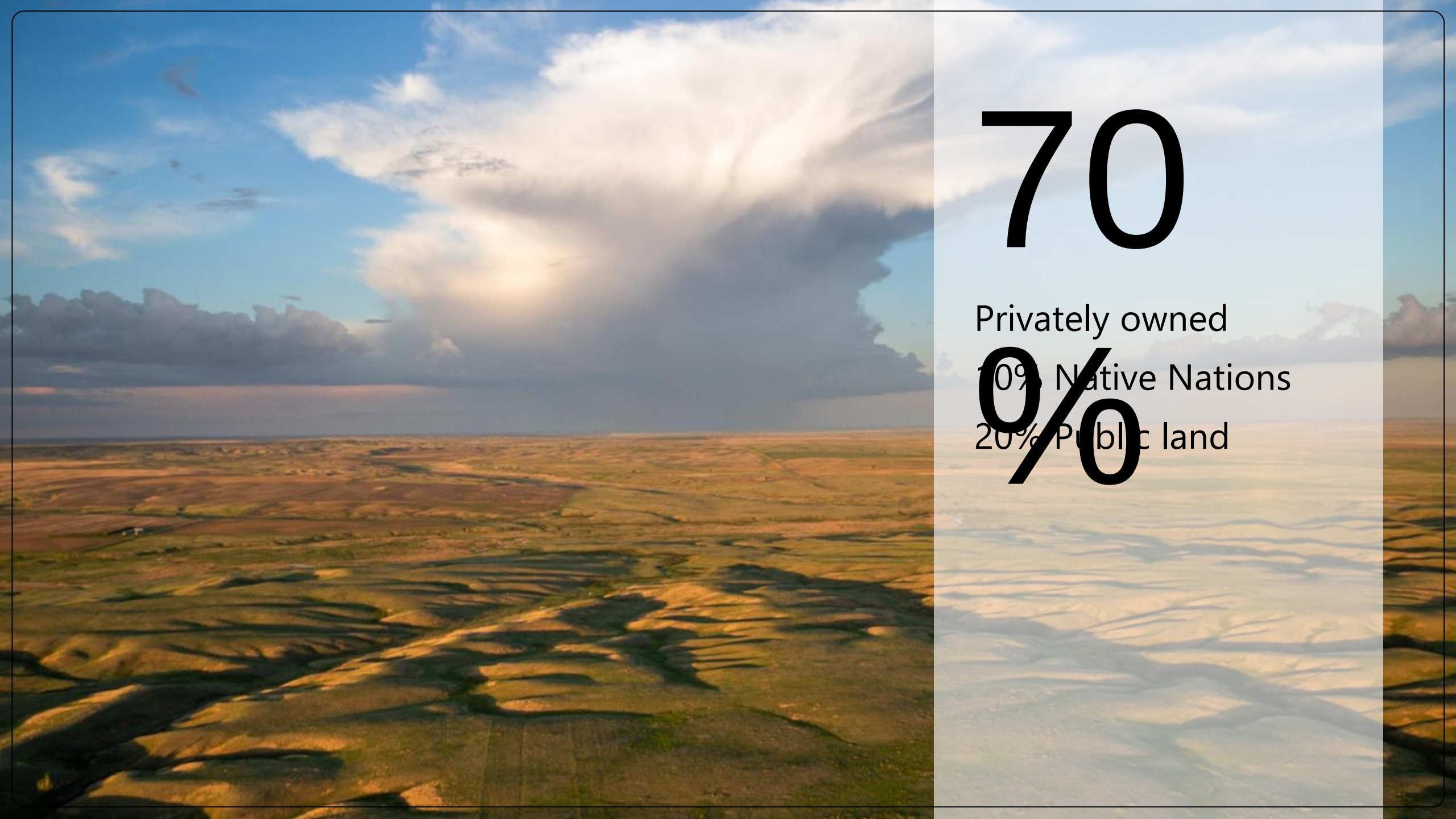



2.9 billion
birds gone since 1970
0
-1,000,000,000
-2,000,000,000
-3,000,000,000
1970 1980 1990 2000 2010
Courtesy of the Cornell Lab of Ornithology. Source: Science, 2019


-17%
EASTERN FOREST BIRDS
-23%
ARCTIC TUNDRA BIRDS
-29%
WESTERN FOREST BIRDS
-33%
BOREAL FOREST BIRDS
-37%
SHOREBIRDS
-53%
GRASSLAND BIRDS

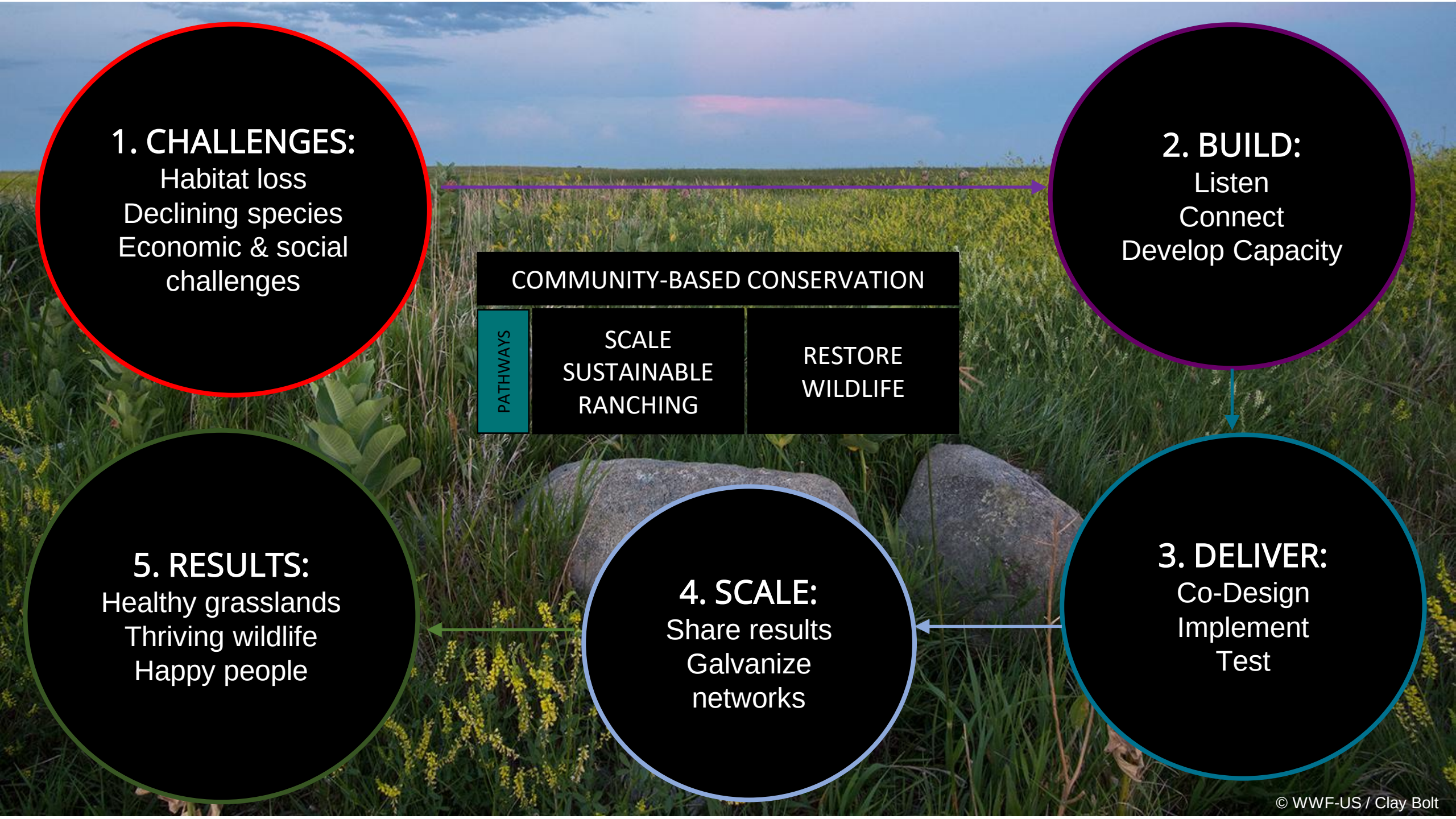
WWF NORTHERN GREAT PLAINS GOALS




70
Privately owned
10% Native Nations
20% Public land
%

Econ omic

Cultural



Restore Wildlife

Fort Peck Reservation, Montana

Bison restored in 2001 (after 120 year absence)

Scale Sustainable Ranching

Ranch Systems and Viability Planning (RSVP)

Goal:

Improve ecological function on one million acres by 2025

Engage producers by providing:

1. Education opportunities
2. Ongoing technical assistance
3. Funding to implement grazing plans
4. 3rd party monitoring (carbon, water, vegetation, biodiversity)
5. Peer-to-peer learning network

Ecological Indicators	Socio-Economic Indicators
Ground cover (e.g. bare ground)	Forage utilization
Soil stability	Livestock related income
Soil carbon	Non-livestock related income
Soil compaction (e.g., bulk density)	Energy use
Water quality (e.g., nutrient loading)	Capacity to experiment
Water infiltration	Rancher satisfaction
Cover, abundance, and/or diversity of native plants	Rancher connection to community
Cover, abundance, and/or diversity of invasive plants	Community health
Extent & condition of riparian systems	
Animal species of interest (e.g., concern, game species, pollinators, etc.)	
Bird diversity	
Plant Productivity	

Partnerships

Ranchers Stewardship Alliance

WINNETT ACES

Sandhills Task Force
"Where People and Land are One"

beefSD

SDSU Extension

USDA United States Department of Agriculture
Natural Resources Conservation Service

AMERICAN BIRD CONSERVANCY

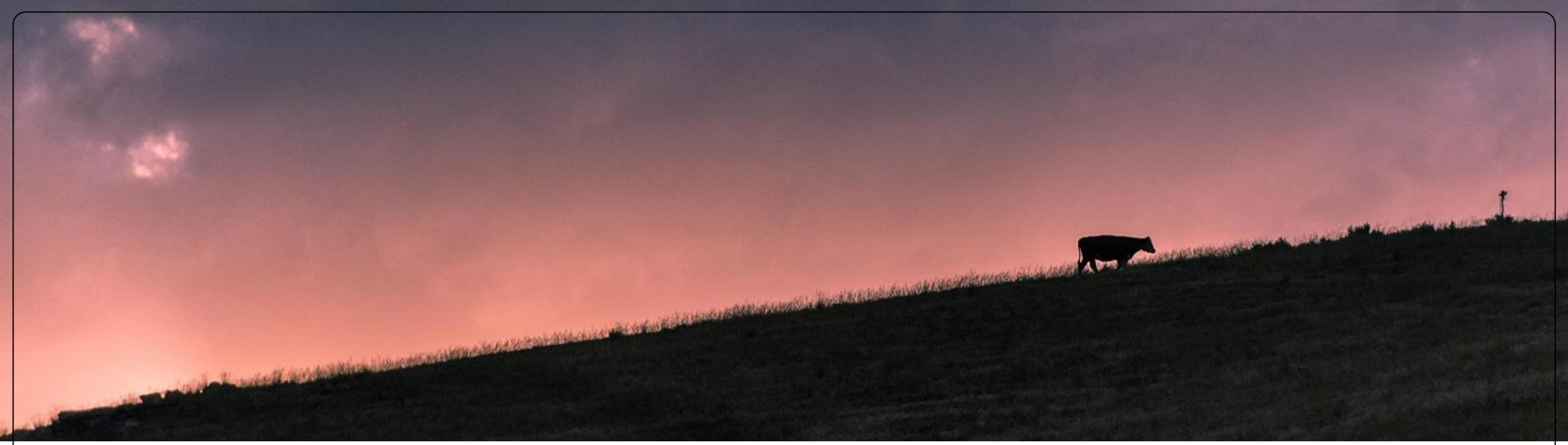
PHEASANTS forever
The Habitat Organization

res

SUPPORT LIVELIHOODS

CONSERVE GRASSLANDS

Produce Food



Working Lands

Protect, enhance, restore

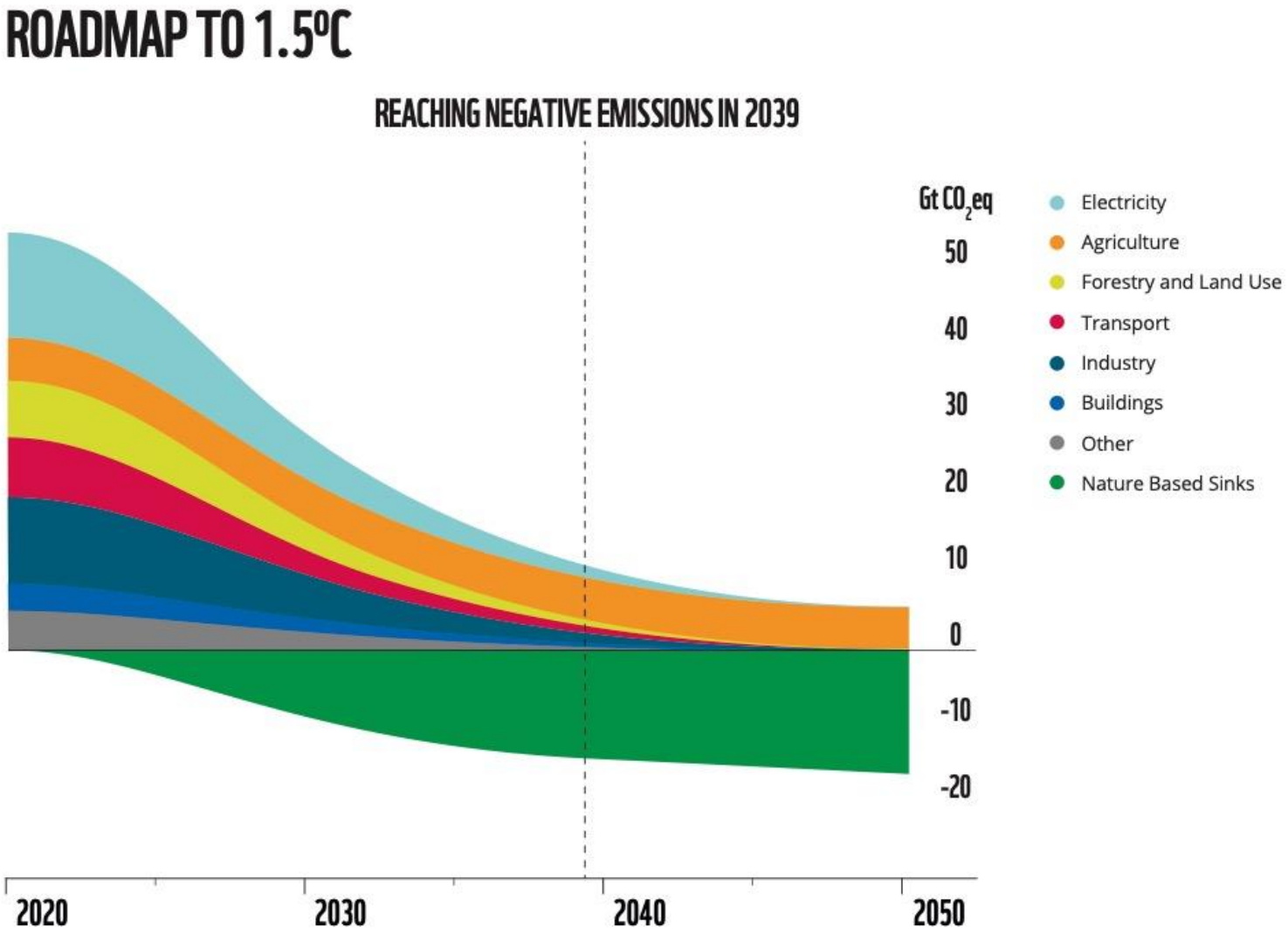
Conserve the world's grasslands to sustain nature's diversity, benefit our climate, and support human well-being.

- Local capacity & technical assistance
- Funding to implement management changes
- Markets that reward ecosystem services
- Policies that create the right incentives

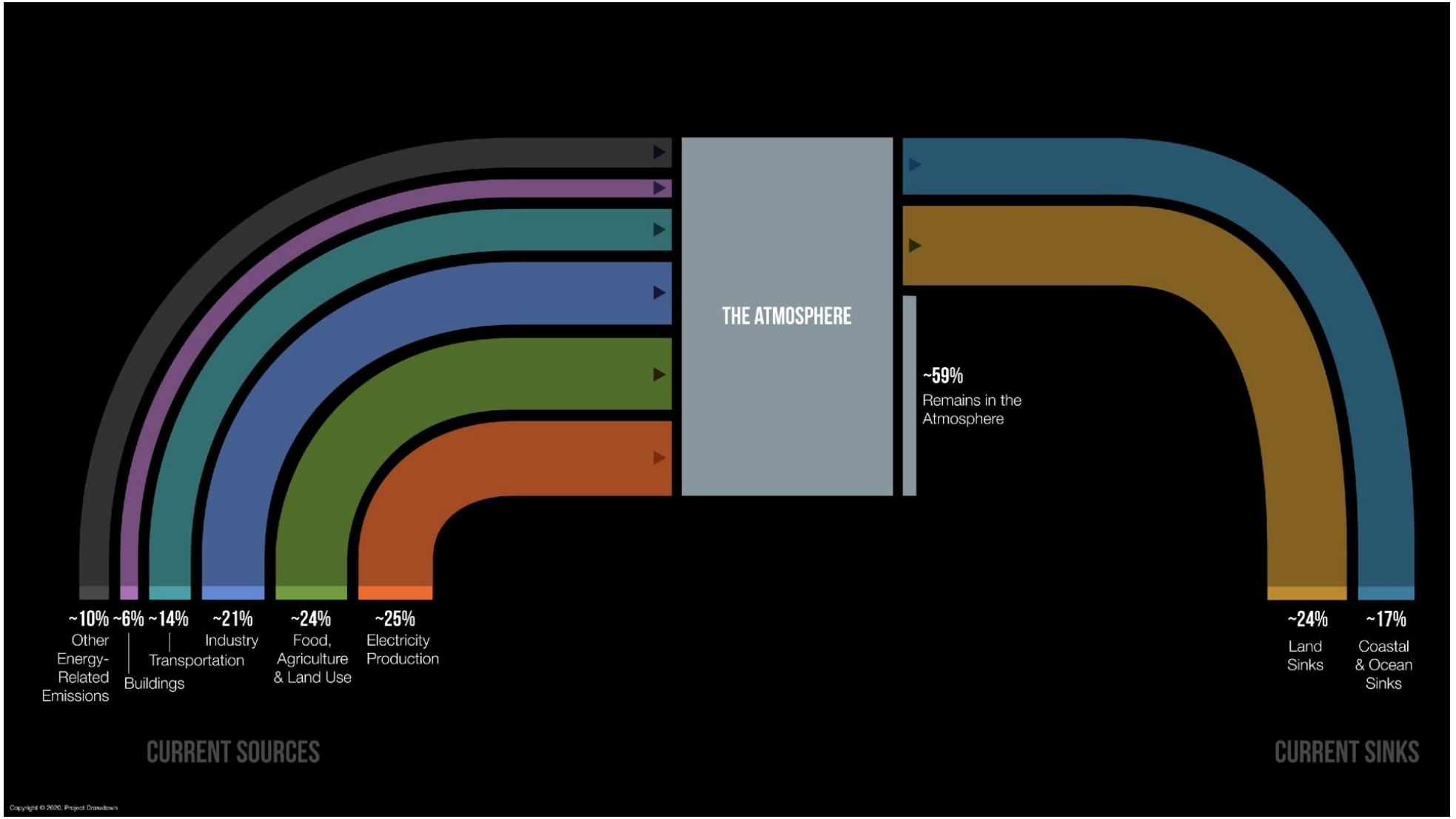
The Potential of Dietary Change to Sequester Carbon and Restore Nature

Brent Loken, WWF International, Food Practice Global Science Lead

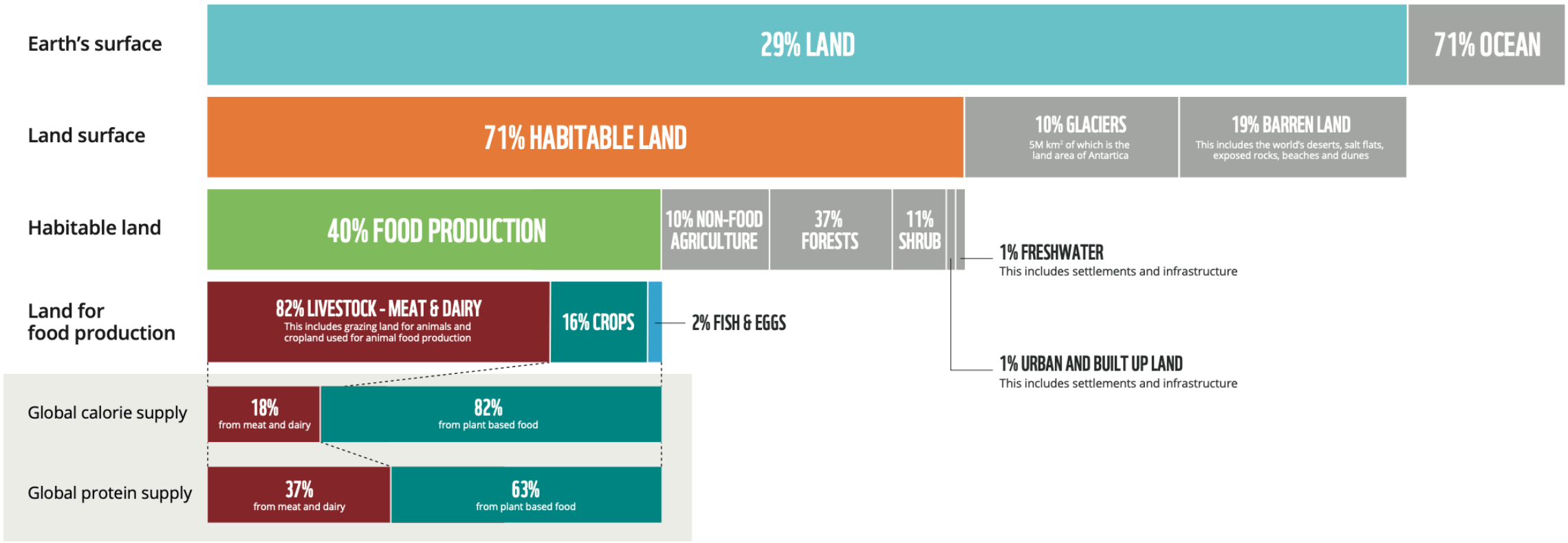
Roadmap to 1.5C



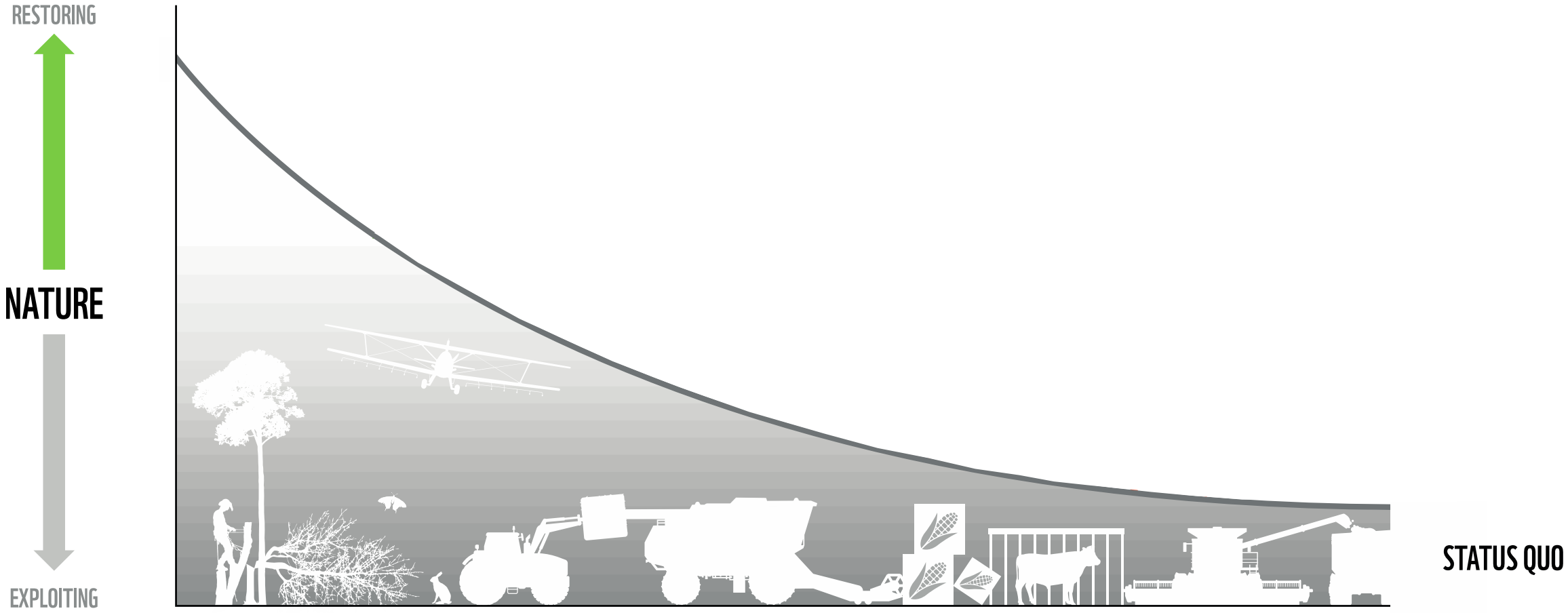
Sources and sinks



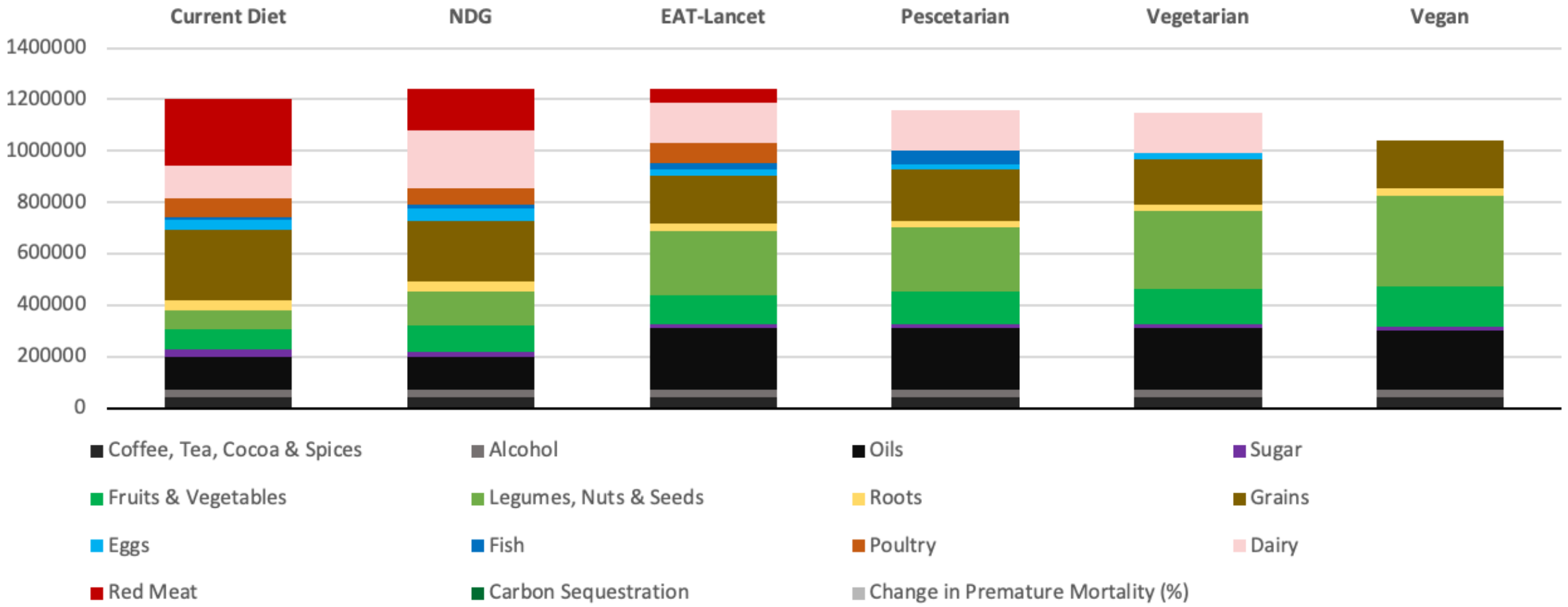
Global land use



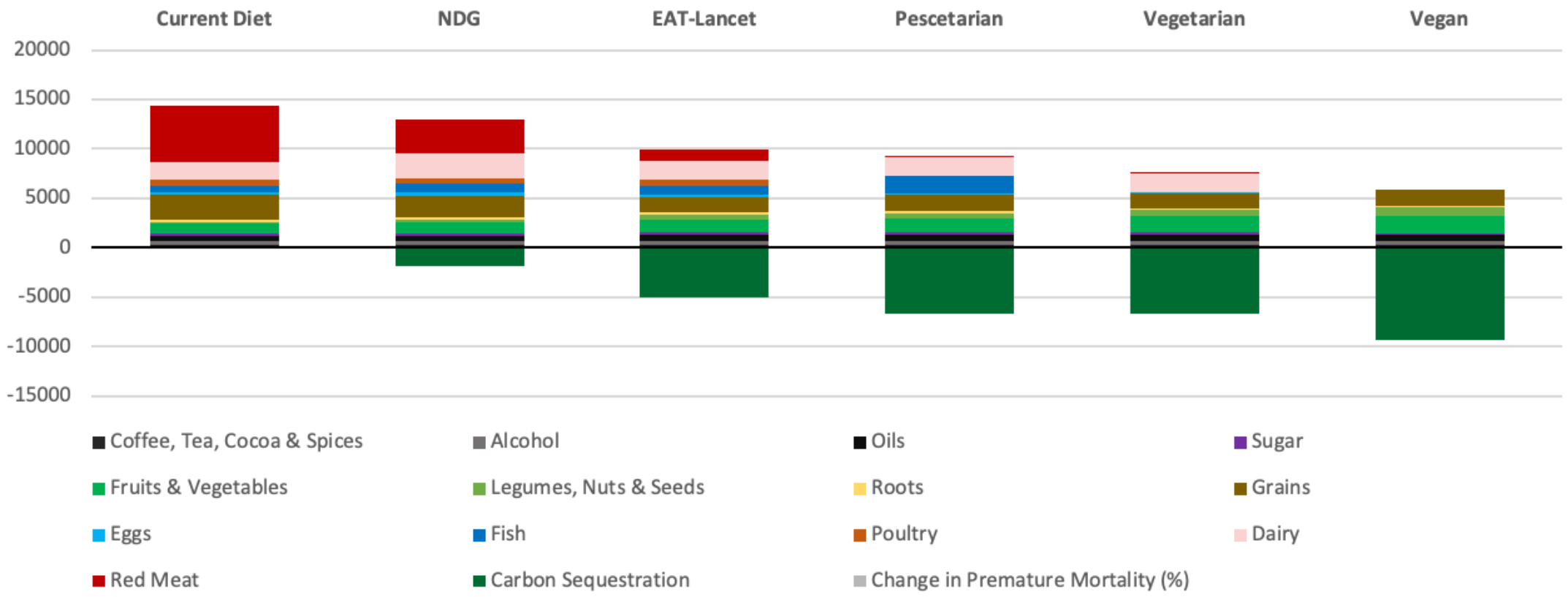
Food system can help restore nature



Total cropland use with various diets



Carbon sequestration potential of various diets



Sequestration potential of grazing lands

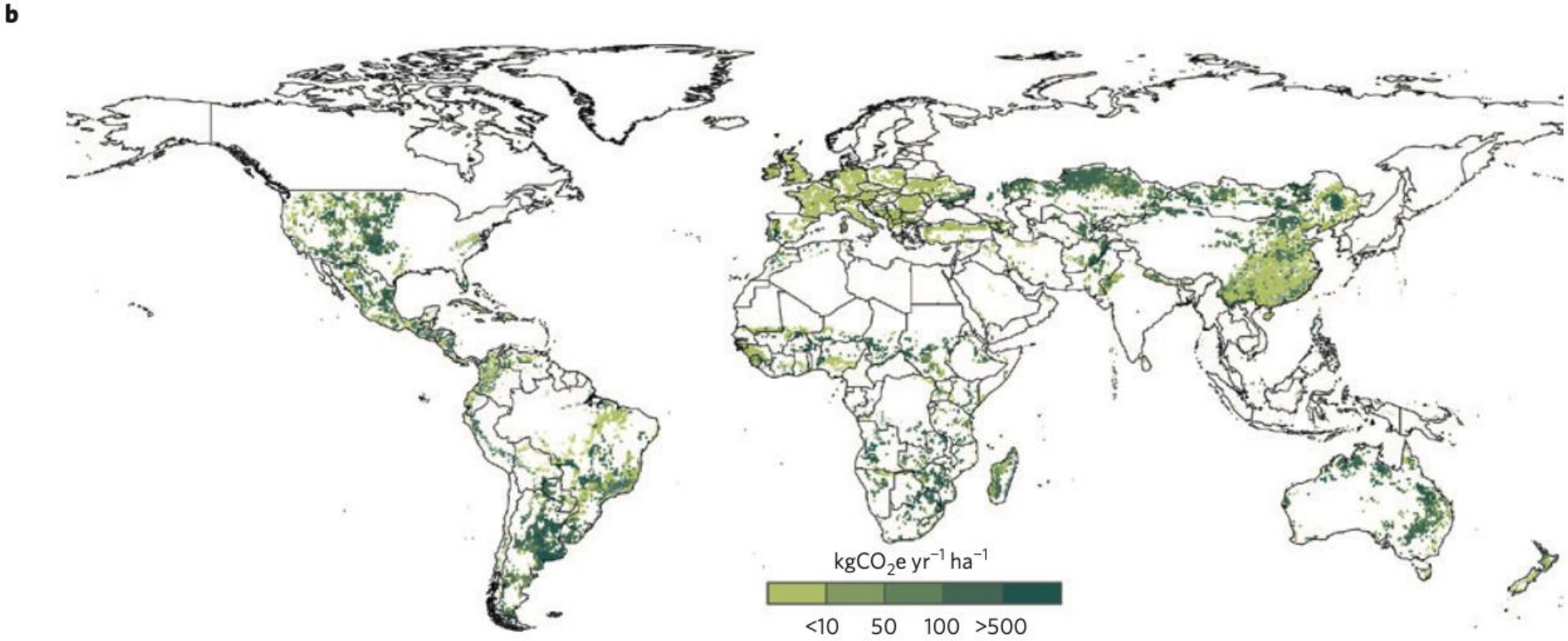
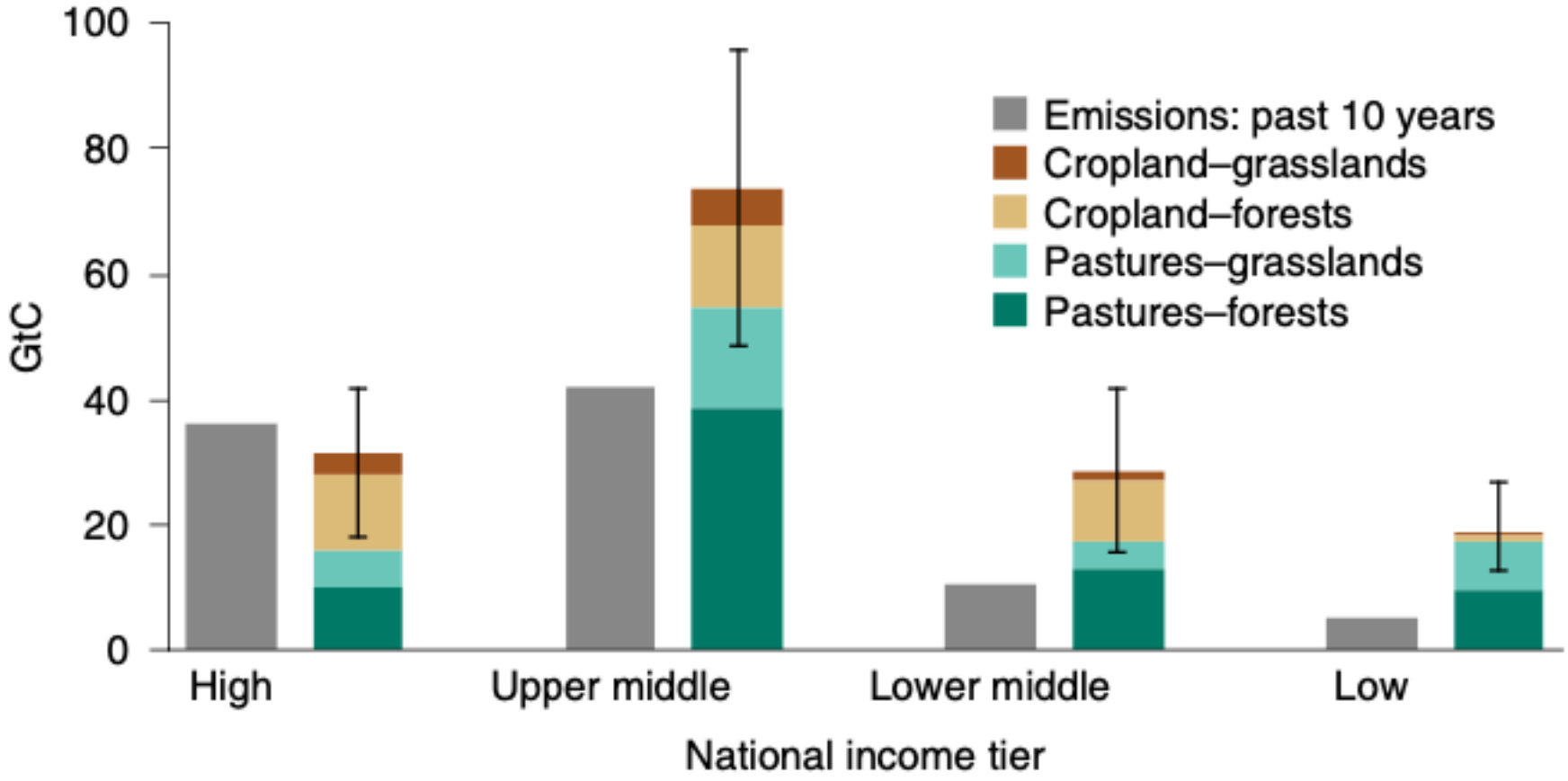


Figure 4 | The carbon sequestration potential of grazing lands. a, The mitigation potentials for carbon sequestration in grasslands through rangeland rehabilitation and grazing management are shown for selected regions (left) and the globe as a whole (right). Data are from the references indicated. **b**, The spatial distribution of the carbon sequestration potential in rangelands[56].

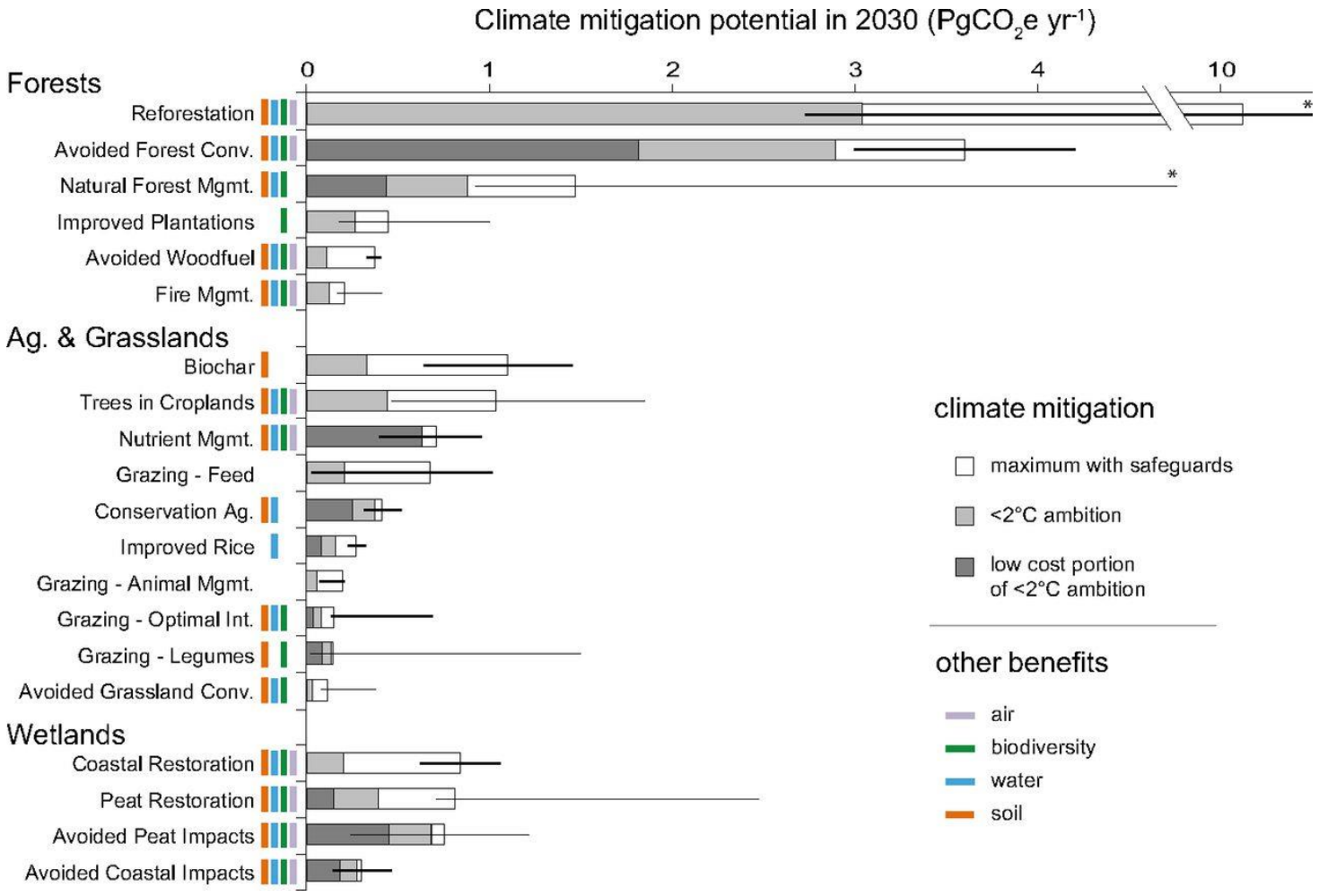
Herrero et al. 2016

Carbon opportunity cost of rangelands



Hayek et al. 2020

Natural Climate Solutions



Griscom et al. 2017