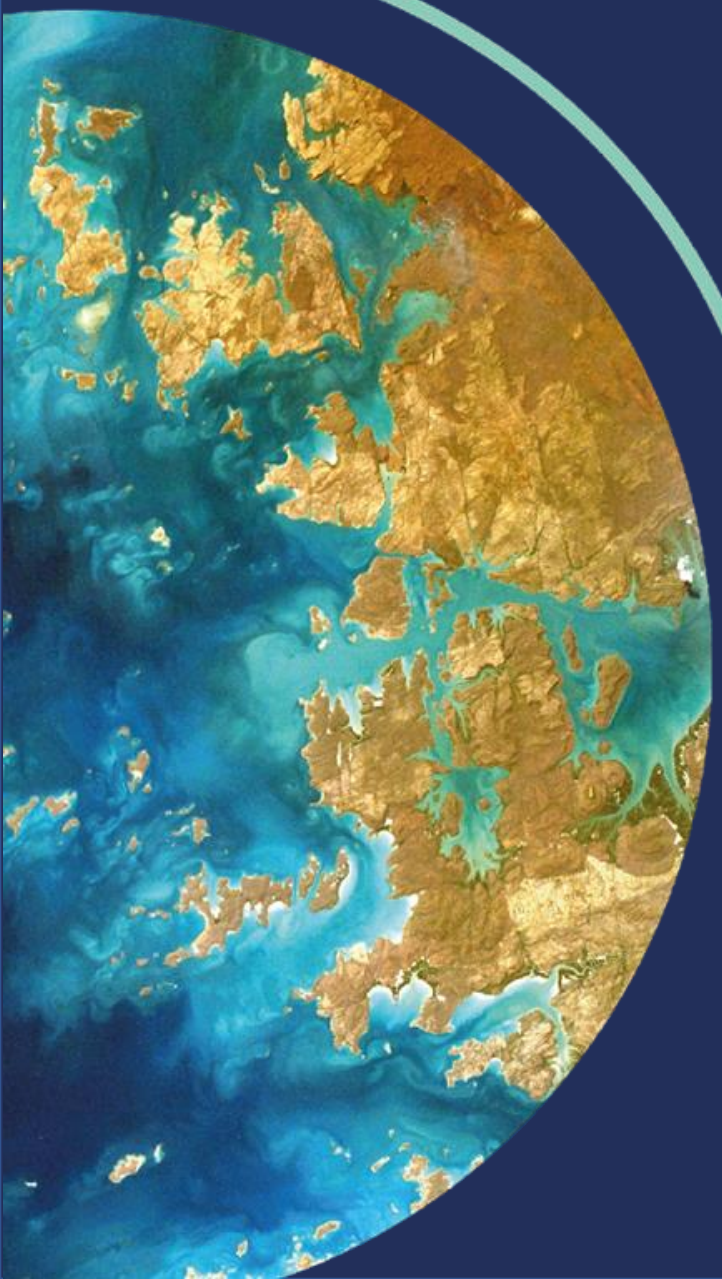
Global Deal for Nature

Jamison Ervin

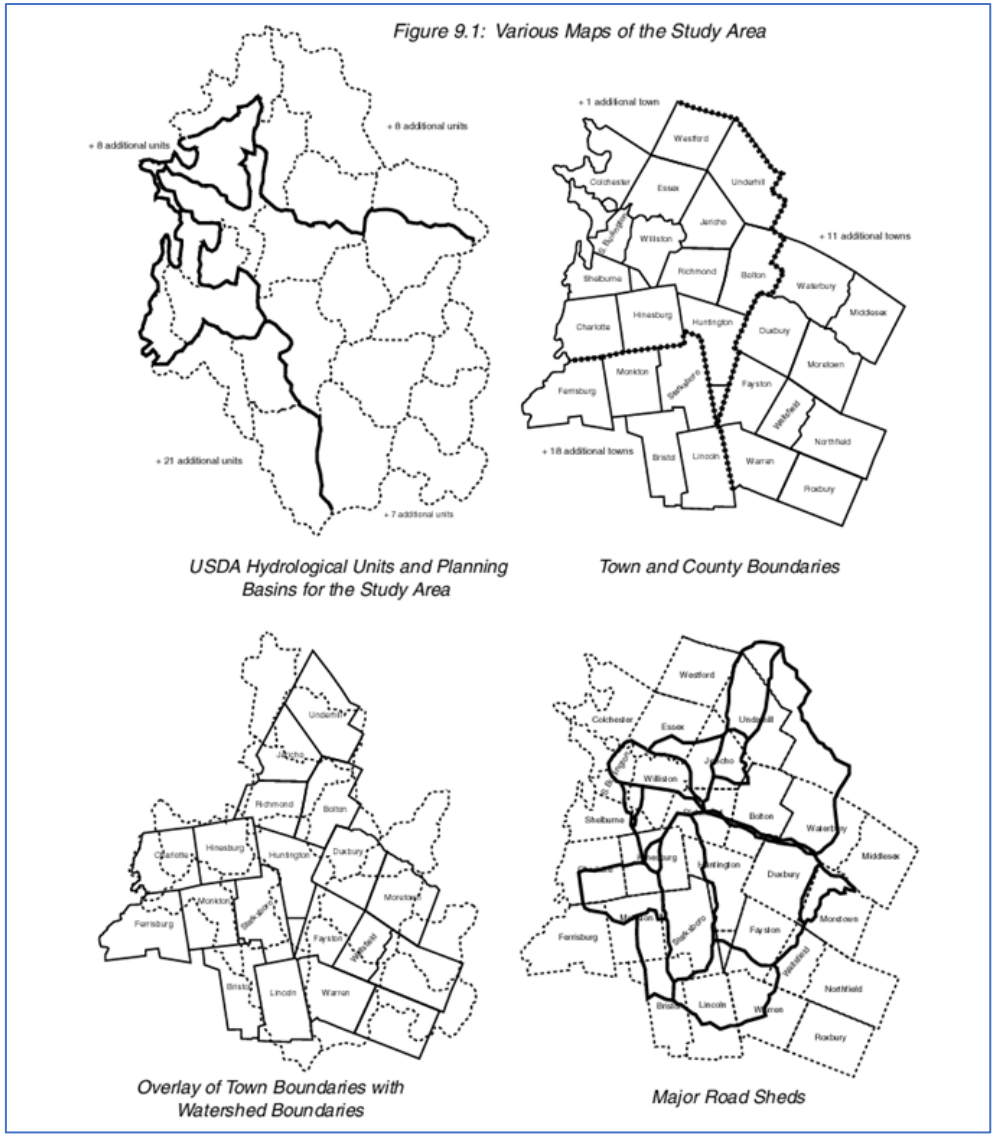


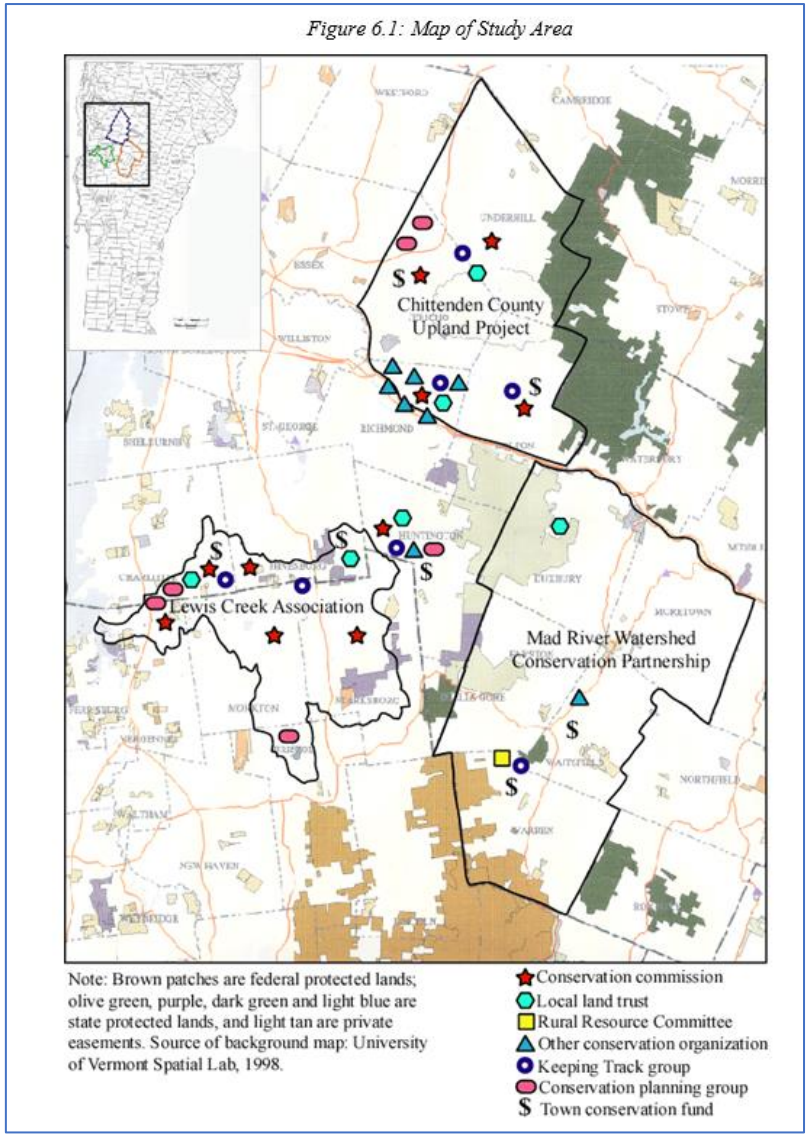
A few words about my background

My background: personal

- Duxbury Planning Commission
- Duxbury Land Trust
- Waterbury Local Energy Action Partnership

My background: academic





- PhD. in Natural Resources from University of Vermont, 2003
- Focus: Cross-boundary land use planning in Vermont

My background: professional

United Nations Development Program – 13 years

The Nature Conservancy (TNC) – 6 years

World Wildlife Fund (WWF) – 6 years

Forest Stewardship Council – 7 years

Britain Nepal Medical Trust – 3 years

My background: professional

- Support 140 countries in developing national biodiversity plans
- Support 200 countries and territories in assessing status of parks and protected area networks
- Support 60 countries in identifying nature-based climate solutions
- Support 12 countries in integrated spatial planning for nature, climate and development goals
- Manage multiple global events to raise awareness on the nature-climate-development nexus

What is the broad global context?


2015: Global adoption of the “Sustainable Development Goals”

Sustainable Development Goals

Sustainable Development Goals

Goal 15: Life on Land

- Protect, restore and sustainably manage ecosystems
- Restore degraded forests
- Avoid extinctions
- Integrate ecosystem services into land use planning

Goal 13: Climate Action

- Strengthen resilience and adaptive capacity to natural hazards

2015: Global adoption of the Paris Agreement

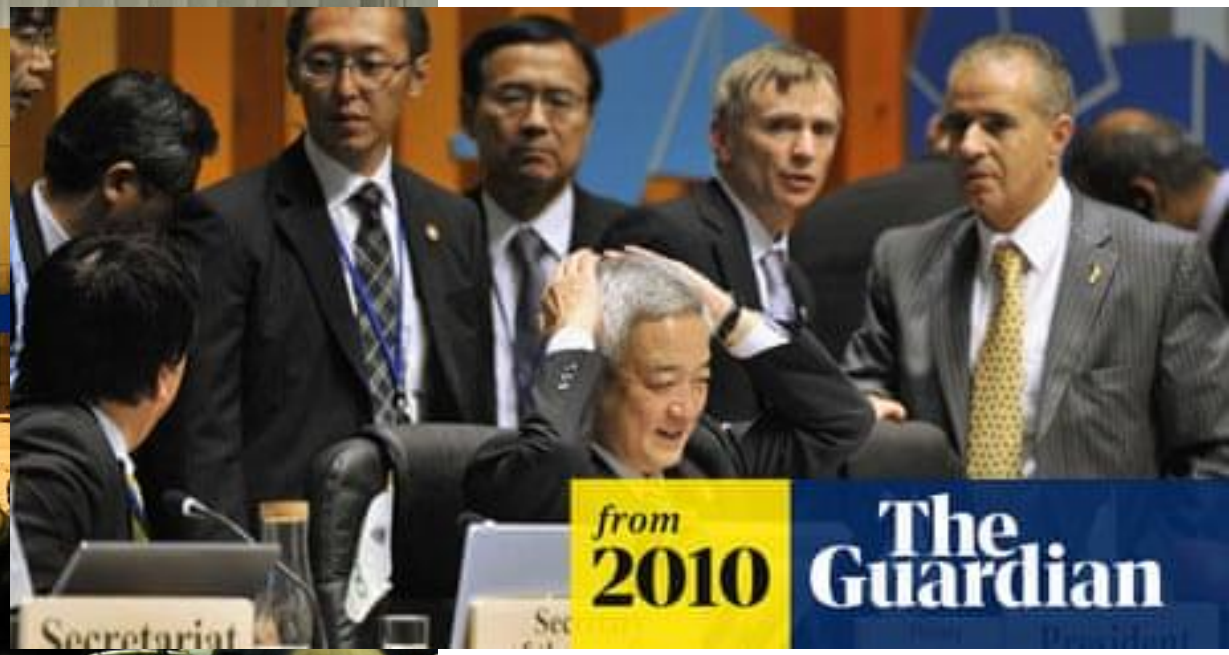
Paris Agreement

PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Article 5 of the Paris Agreement:

- Conserve and enhance carbon sinks, including forests
- Encourage incentives for forest conservation, protection, restoration and sustainable management

2010-2020 Global Strategic Plan for Biodiversity



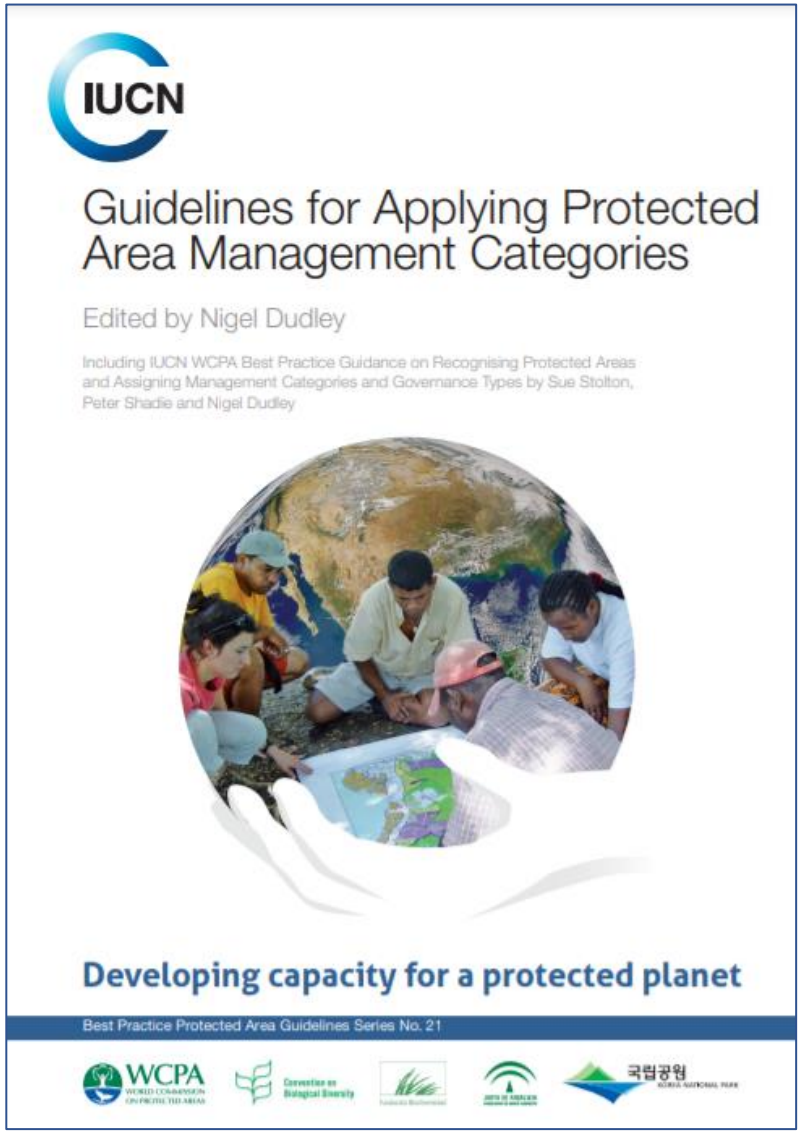
2010-2020 Global Strategic Plan for Biodiversity

- **Target 11:** Protect well managed, connected, representative networks of land (17%)
- **Target 12:** Avoid extinctions
- **Target 13:** Protect areas important for water, health, wellbeing
- **Target 14:** Protect areas important for carbon mitigation, adaptation

Protected areas - definition

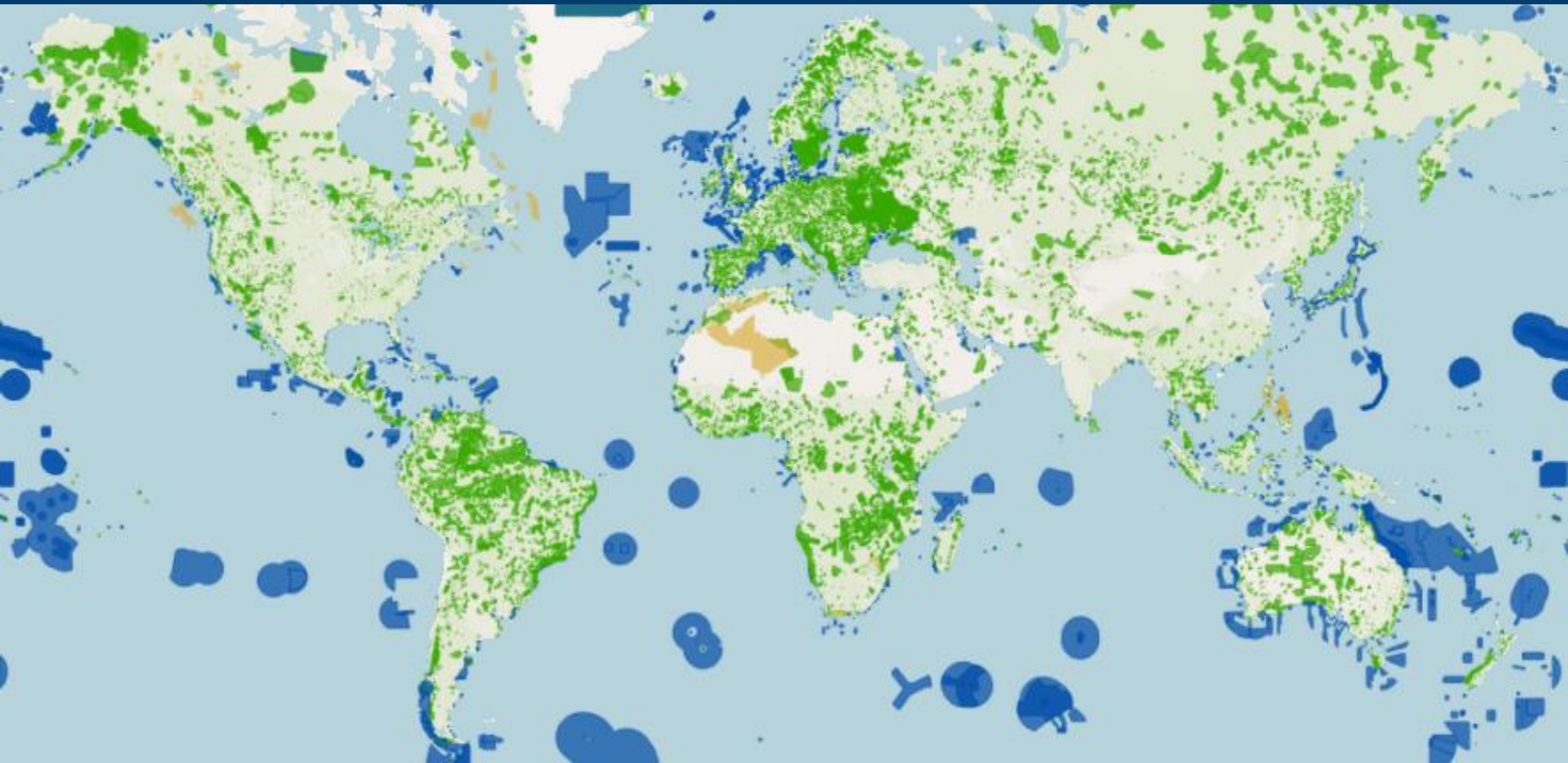
- “A clearly defined geographical space,
- recognized, dedicated and managed, through legal or other effective means,
- to achieve the long-term conservation of nature
- with associated ecosystem services and cultural values.”

Protected areas – different types and categories

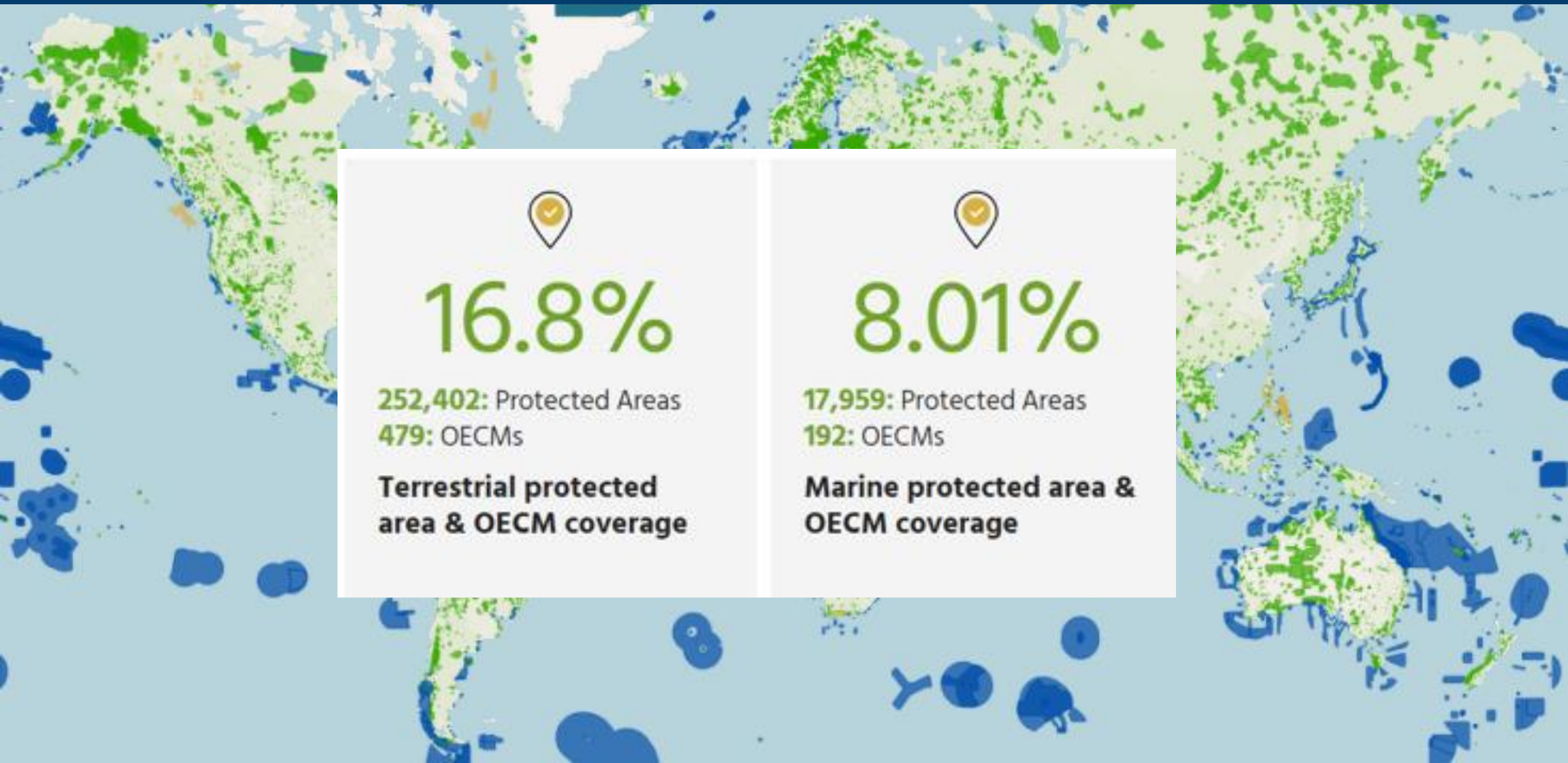


- **Category 1:** Strict protection, wilderness
- **Category 2:** National, state park
- **Category 3:** Natural monument
- **Category 4:** Habitat/species management
- **Category 5:** Protected landscape/seascape
- **Category 6:** Protected area with sustainable use

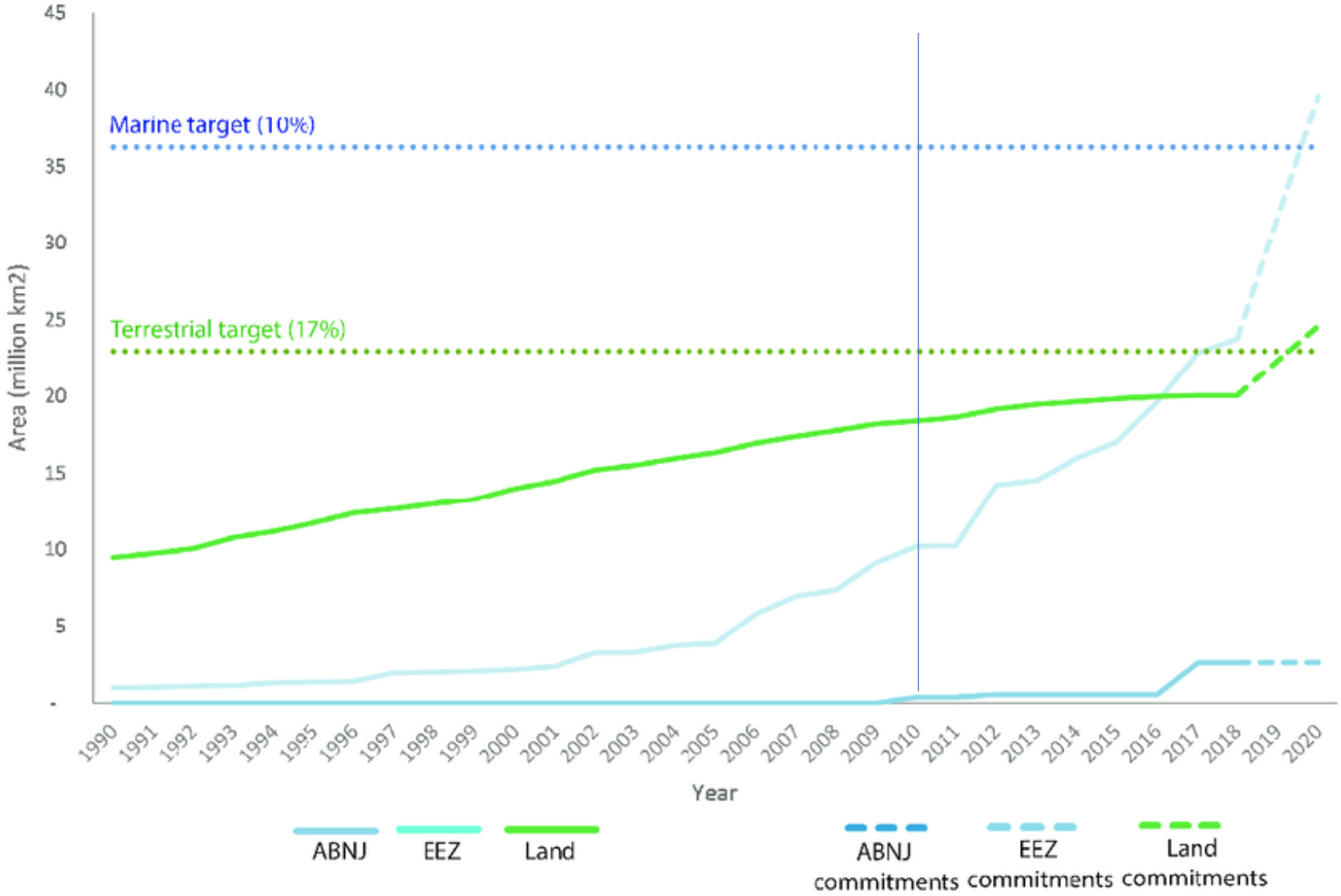
Current global status of protected areas



Current global status of protected areas

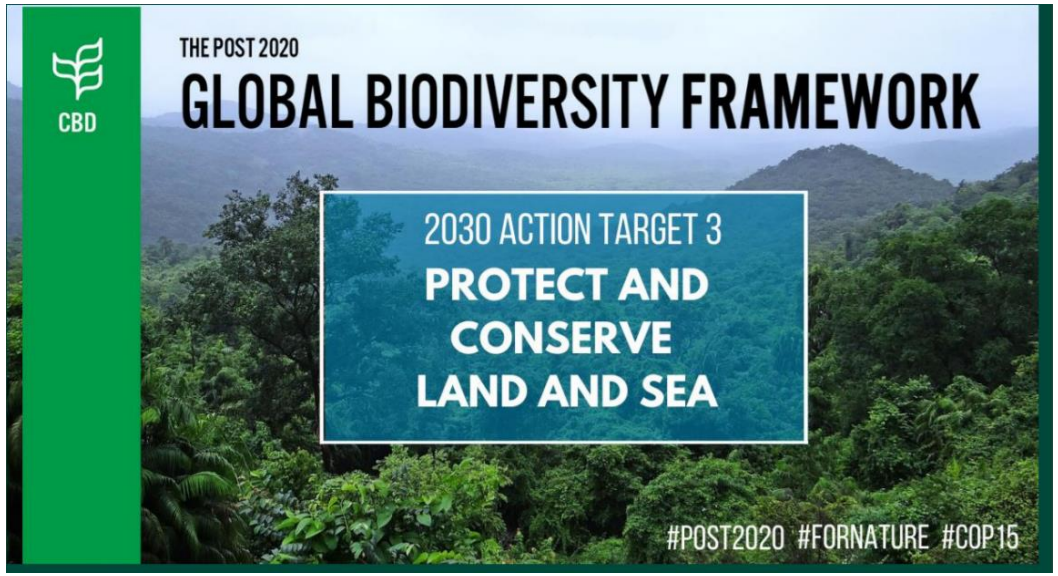


Growth in Protected Areas 1990 - 2020



- There has been a continued increase in land and sea protection
- Most gains occurred since 2010

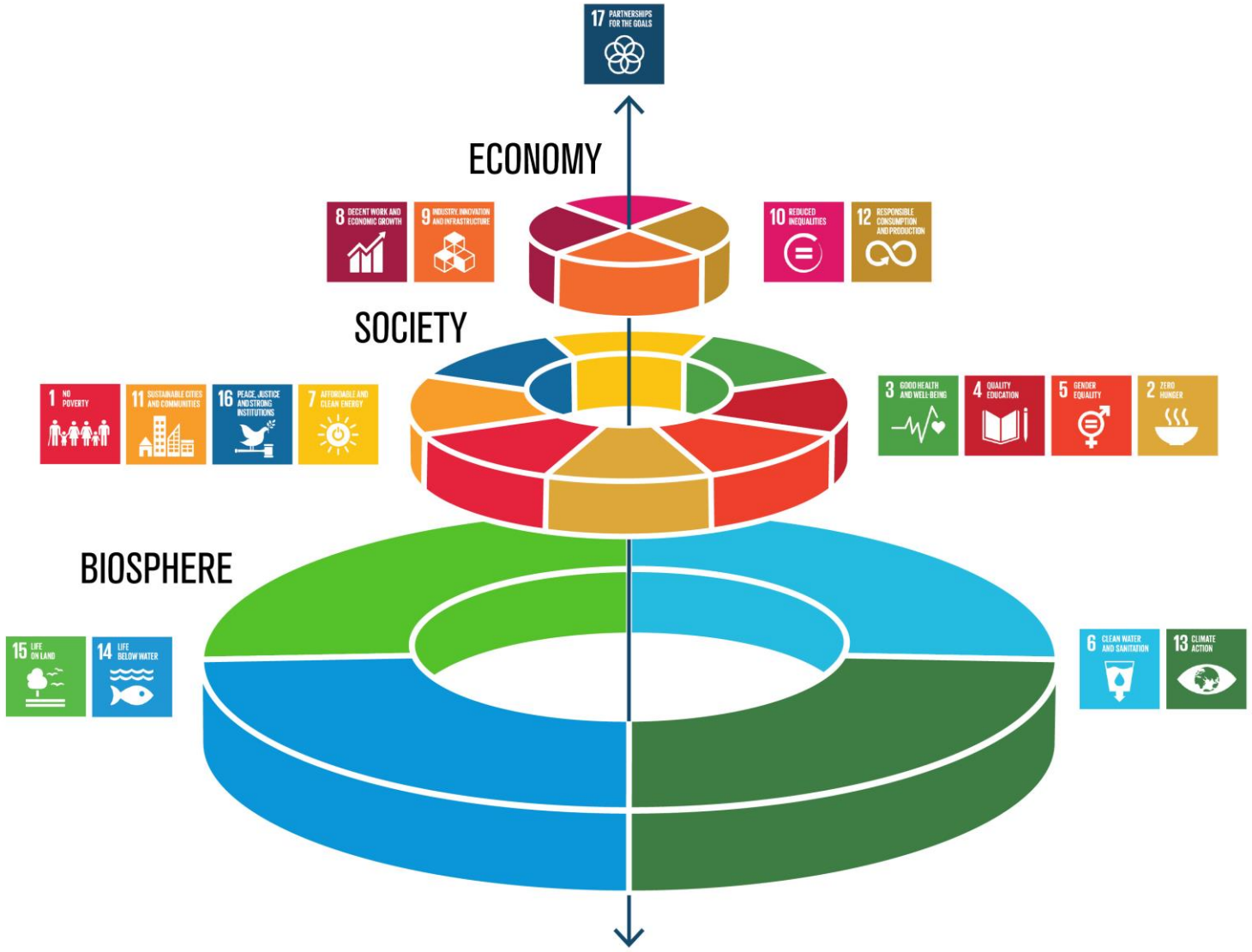
2022-2030 Global Biodiversity Framework



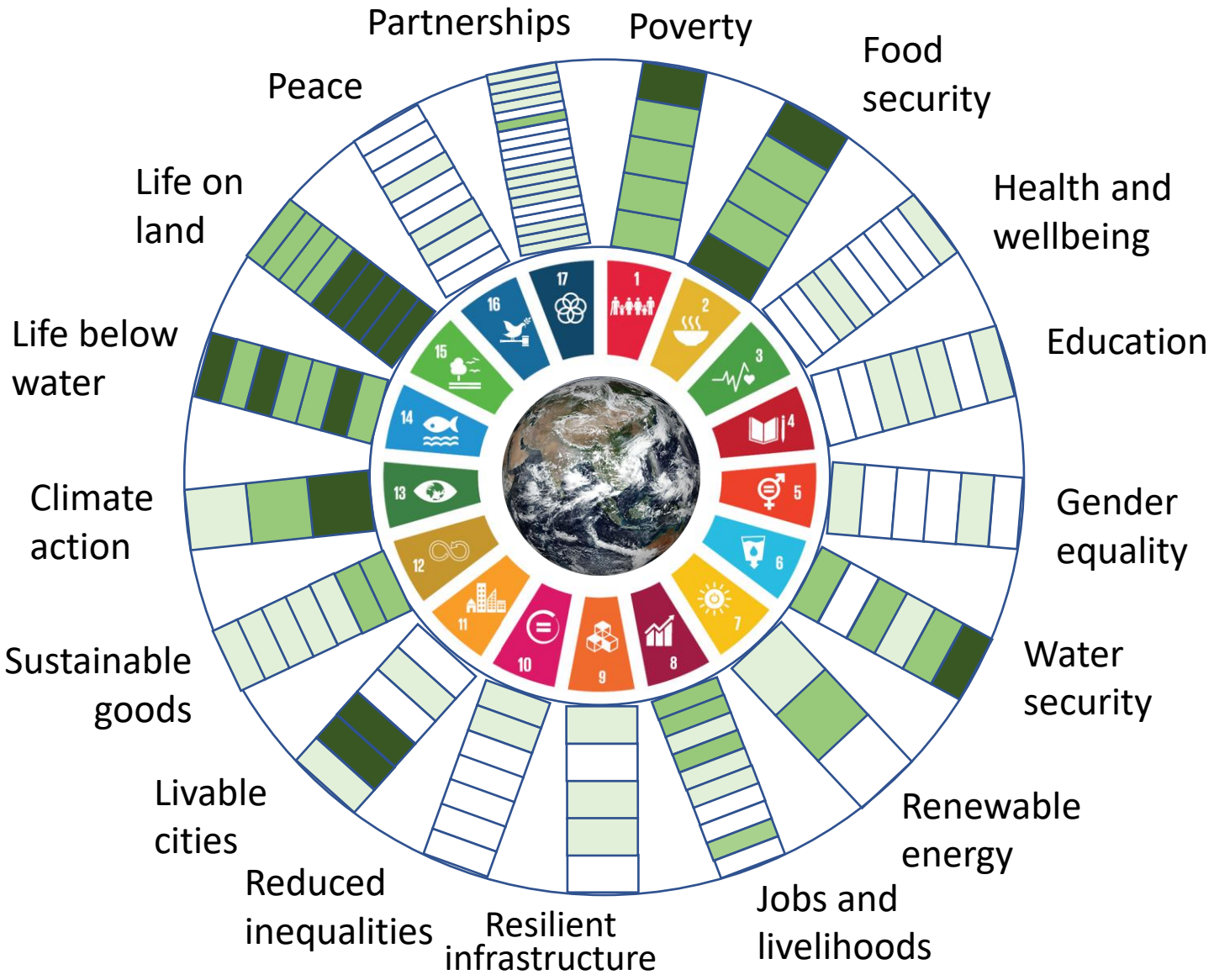
- **Target 1:** Ensure integrated spatial land-use planning, retaining intact and wild lands
- **Target 3:** Ensure at least **30% of land and sea are conserved** in effective, representative and well-connected networks of protected areas
- **Target 8:** Manage nature to mitigate and adapt to climate

Evolving context – linkages between nature, climate and wellbeing

Biodiversity as the foundation for wellbeing

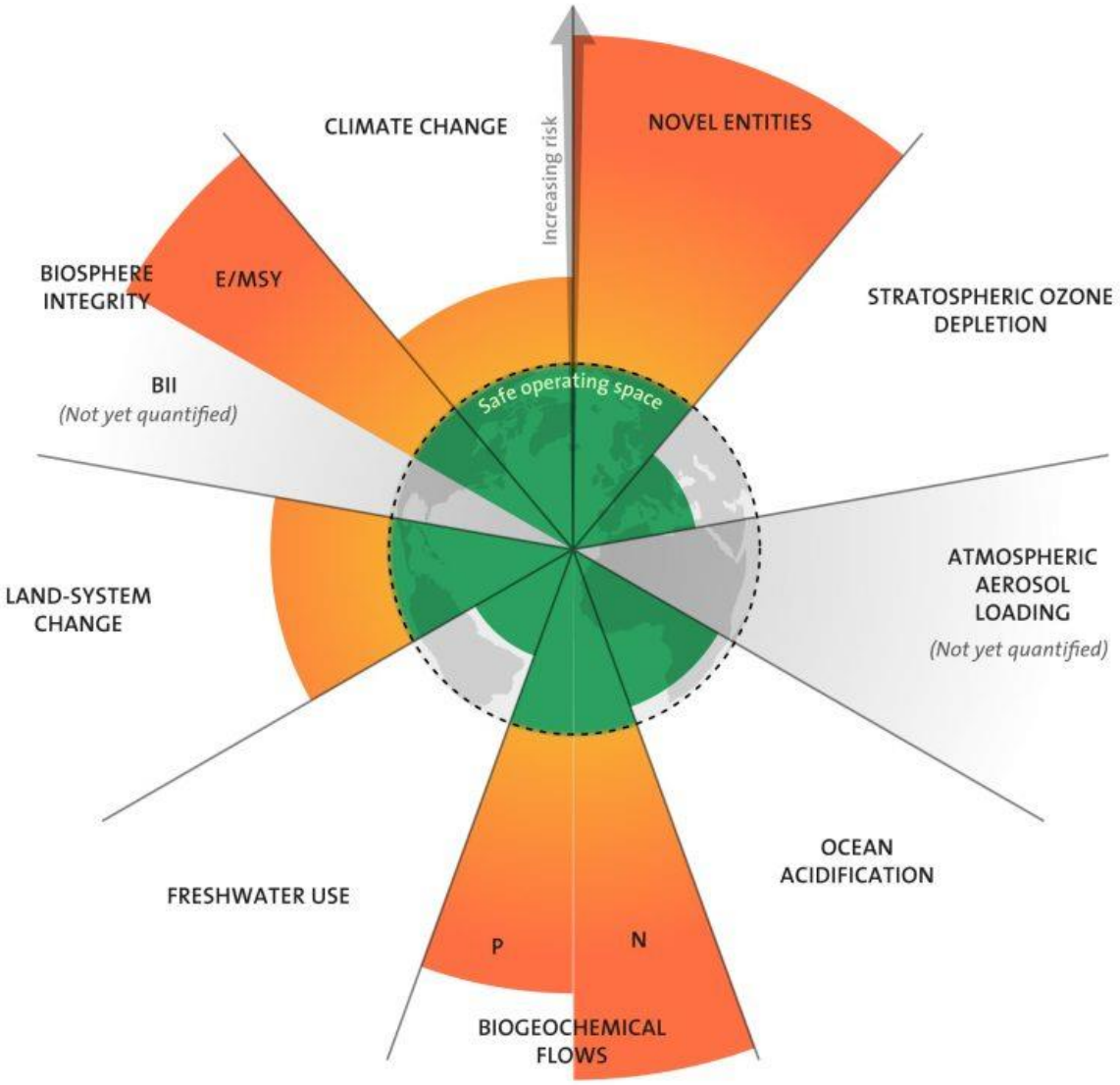


Recognition of role of nature in wellbeing



- Poverty reduction and livelihoods
- Food security
- Health and wellbeing
- Water security
- Disaster risk reduction
- Climate mitigation and adaptation

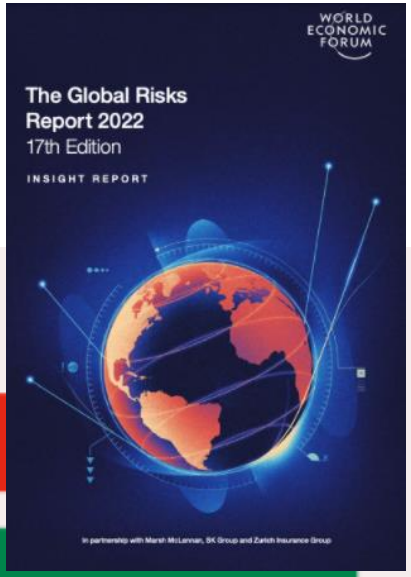
Recognition of “Planetary Boundaries”



New Netflix documentary brings the planetary boundaries to the world

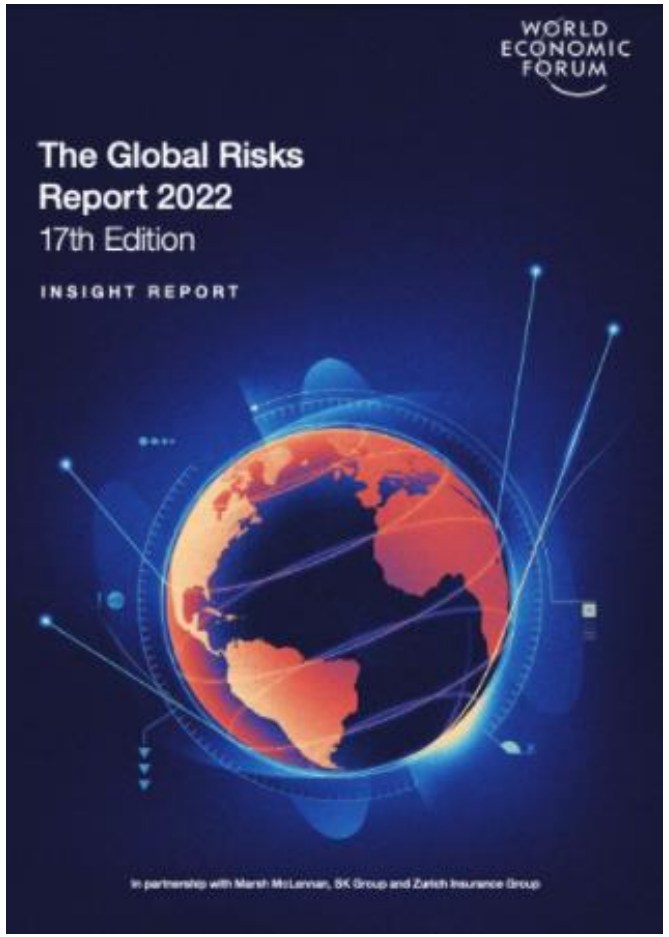
Boundaries that define the ‘safe operating space for humanity’

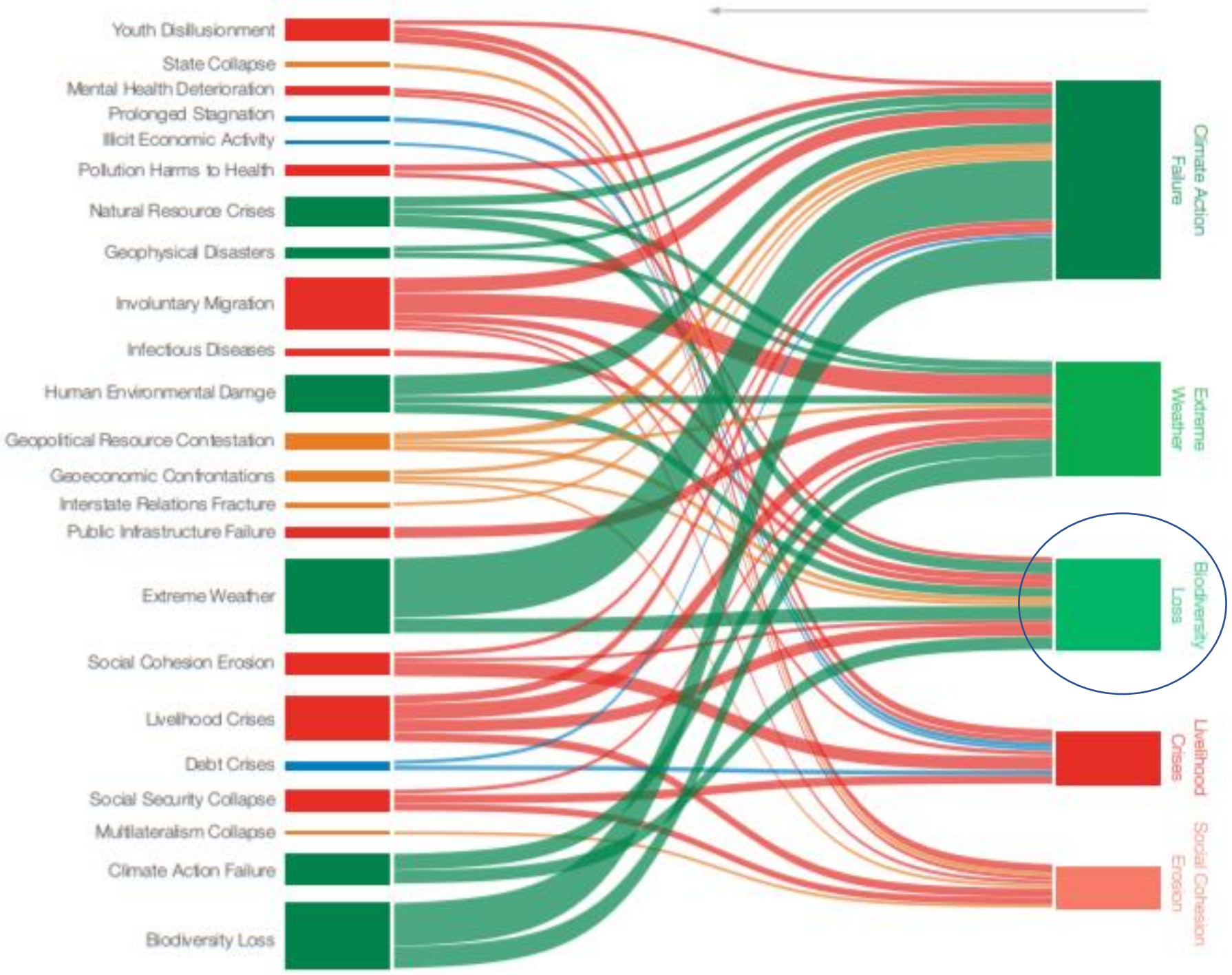
Global Risks: World Economic Forum



Economic | Environmental | Geopolitical | Societal | Technological

1st	Climate action failure	6th	Infectious diseases
2nd	Extreme weather	7th	Human environmental damage
3rd	Biodiversity loss	8th	Natural resource crises
4th	Social cohesion erosion	9th	Debt crises
5th	Livelihood crises	10th	Geoeconomic confrontation

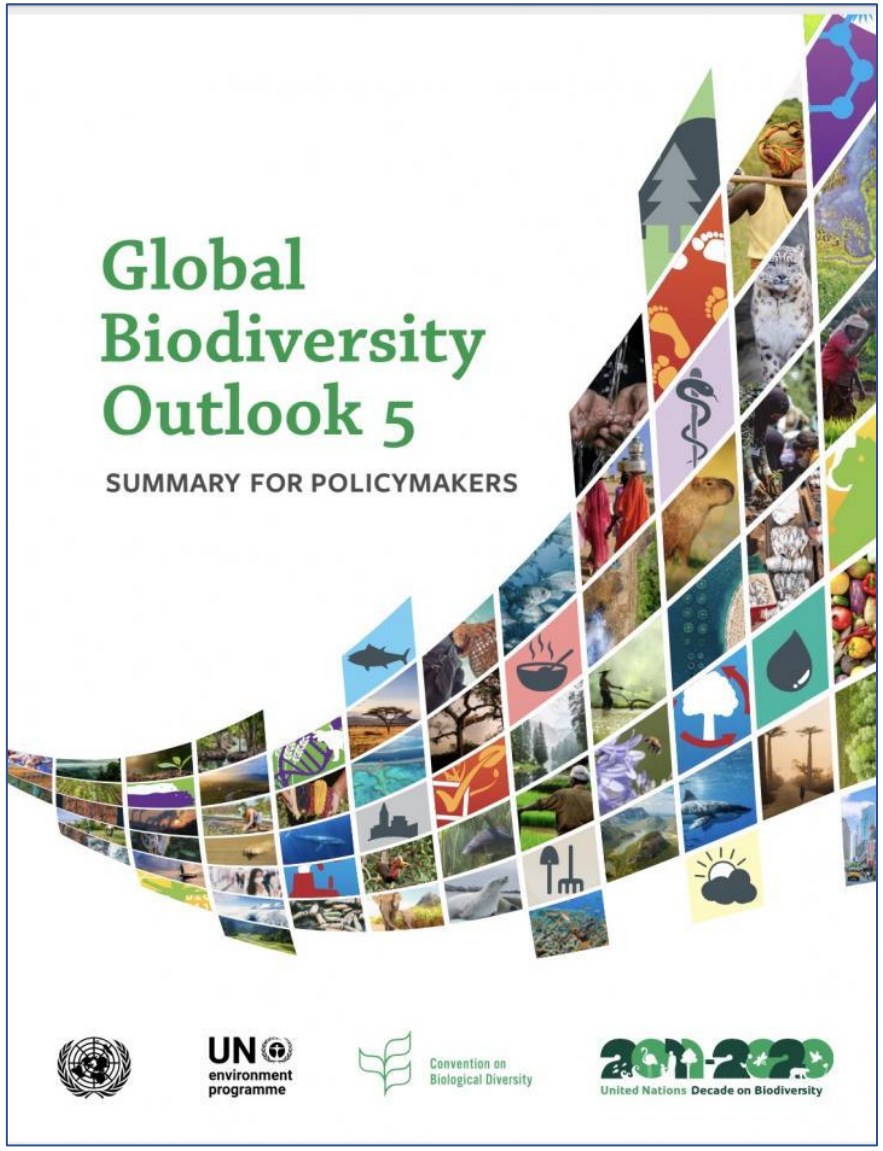

WORLD ECONOMIC FORUM
The Global Risks Report 2022
17th Edition
INSIGHT REPORT
In partnership with Marsh McLennan, SK Group and Zurich Insurance Group

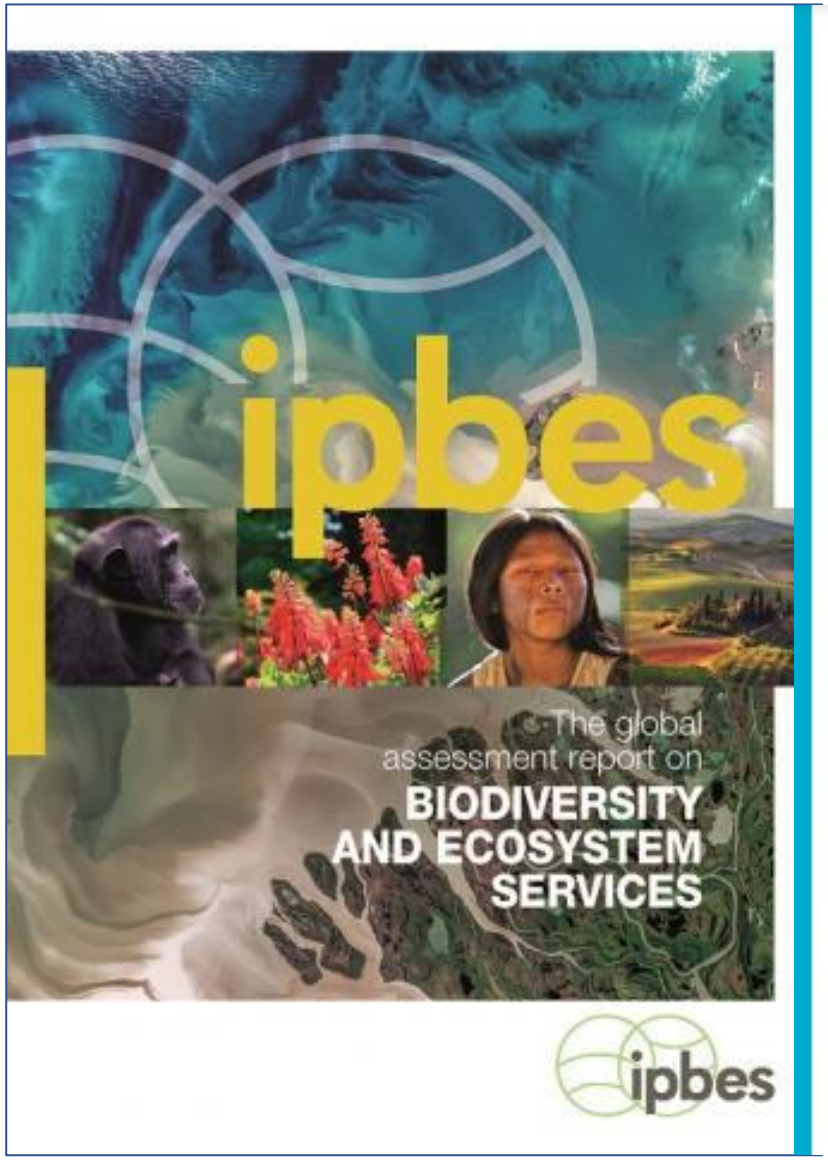

Youth Disillusionment
State Collapse
Mental Health Deterioration
Prolonged Stagnation
Illicit Economic Activity
Pollution Harms to Health
Natural Resource Crises
Geophysical Disasters
Involuntary Migration
Infectious Diseases
Human Environmental Damage
Geopolitical Resource Contestation
Geoeconomic Confrontations
Interstate Relations Fracture
Public Infrastructure Failure
Extreme Weather
Social Cohesion Erosion
Livelihood Crises
Debt Crises
Social Security Collapse
Multilateralism Collapse
Climate Action Failure
Biodiversity Loss
Climate Action Failure
Extreme Weather
Biodiversity Loss
Livelihood Crises
Social Cohesion Erosion

Multi-faceted Planetary Emergency

- **Climate crisis**
- **Water crisis**
- **Food and soil crisis**
- **Biodiversity crisis**

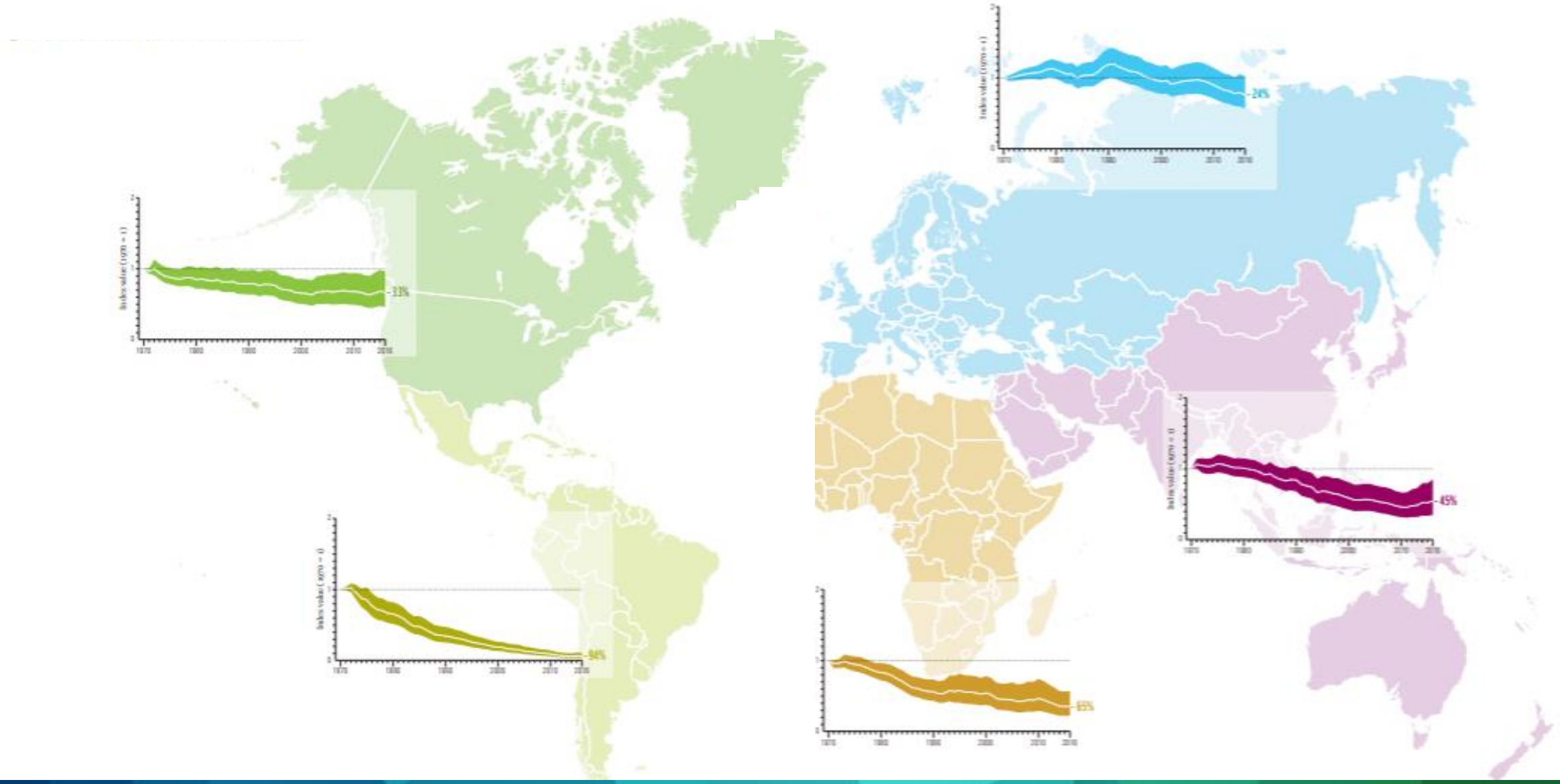
Biodiversity Emergency





Biodiversity Emergency

Biodiversity Emergency



Biodiversity Emergency – economic impacts

- More than half of global GDP is at risk from biodiversity loss
- Investing in biodiversity is an investment in economic health

moderndiplomacy

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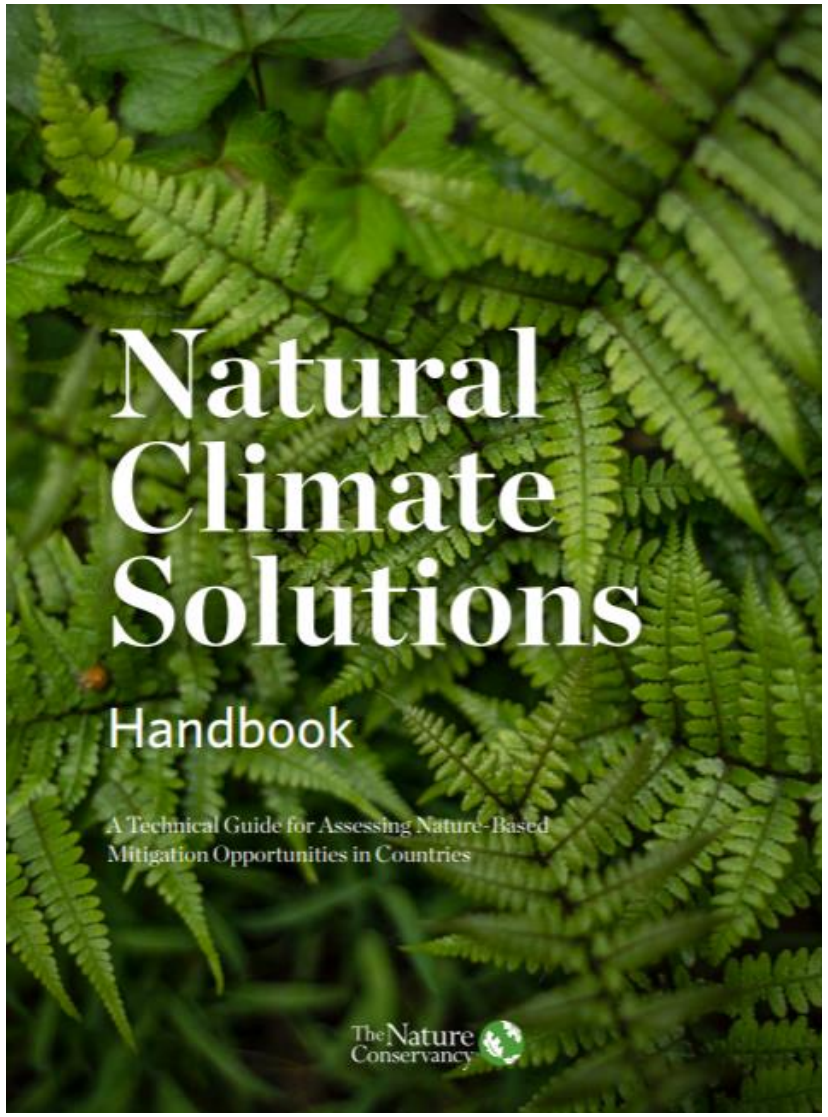
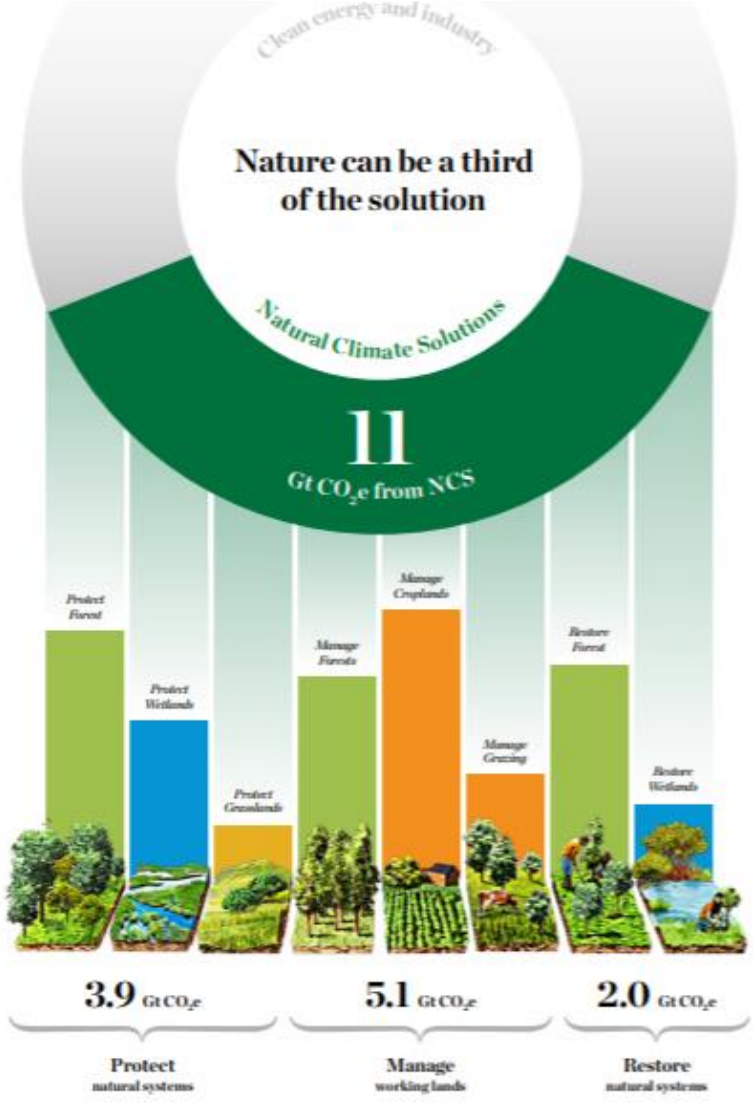
FINANCE

China: $1.9 Trillion Boost and 88M Jobs by 2030 Possible with Nature-Positive Solutions

Published 3 days ago on January 17, 2022
By Newsroom

Relationship between nature and climate





- Land use (clearing of forests, traditional agriculture) = 24% of greenhouse gases
- Nature can mitigate up to 38% of greenhouse gases

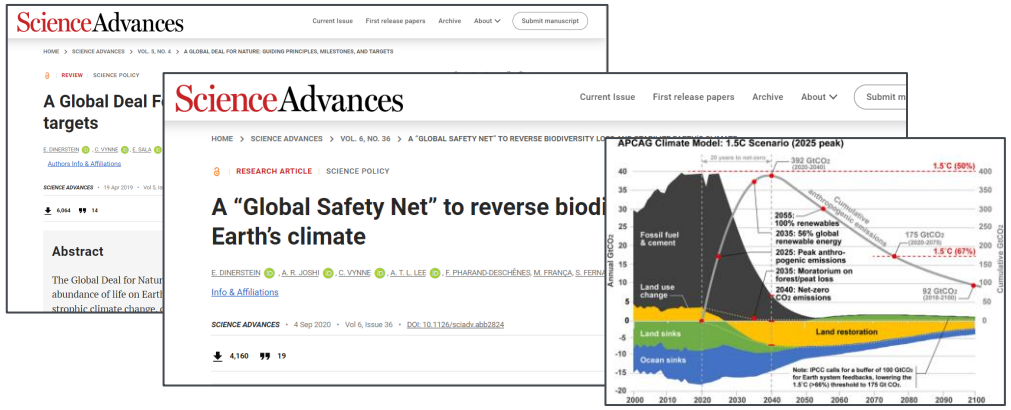
Forests & climate: More nuanced understanding

- **Older, mature forests** sequester more carbon than younger forests
- **Large, intact patches and intact forested landscapes** are key
- **Forest soils** must be accounted for in carbon calculus

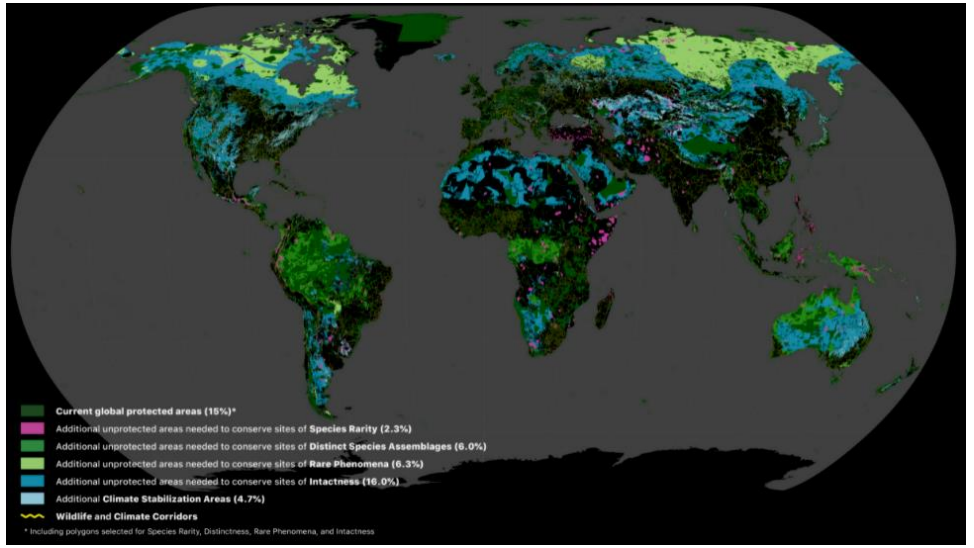
What is the Global Deal for Nature?

Global Deal for Nature

1. Science



2. Maps and data



3. A global movement

3,052,118

People in 92 countries who have signed the Global Deal For Nature petition calling on world leaders to protect our planet.

Global Deal for Nature – the science

REVIEW | SCIENCE POLICY

A Global Deal For Nature: Guiding principles, milestones, and targets

E. DINERSTEIN, C. VYNNE, E. SALA, A. R. JOSHI, S. FERNANDO, T. E. LOVEJOY, J. MAYORGA, D. OLSON, G. P. ASNER, [...] E. WIKRAMANAYAKE +10 authors

Authors Info & Affiliations

SCIENCE ADVANCES • 19 Apr 2019 • Vol 5, Issue 4 • DOI: 10.1126/sciadv.aaw2869

Abstract

The Global Deal for Nature (GDN) is a time-bound, science-driven plan to save the diversity and abundance of life on Earth. Pairing the GDN and the Paris Climate Agreement would avoid cata-

Global Deal for Nature – the science

Science Advances

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HOME > SCIENCE ADVANCES > VOL. 6, NO. 36 > A "GLOBAL SAFETY NET" TO REVERSE BIODIVERSITY LOSS AND STABILIZE EARTH'S CLIMATE

RESEARCH ARTICLE | SCIENCE POLICY

A "Global Safety Net" to reverse biodiversity loss and stabilize Earth's climate

E. DINERSTEIN, A. R. JOSHI, C. VYNNE, A. T. L. LEE, F. PHARAND-DESCHÊNES, M. FRANÇA, S. FERNA

Info & Affiliations

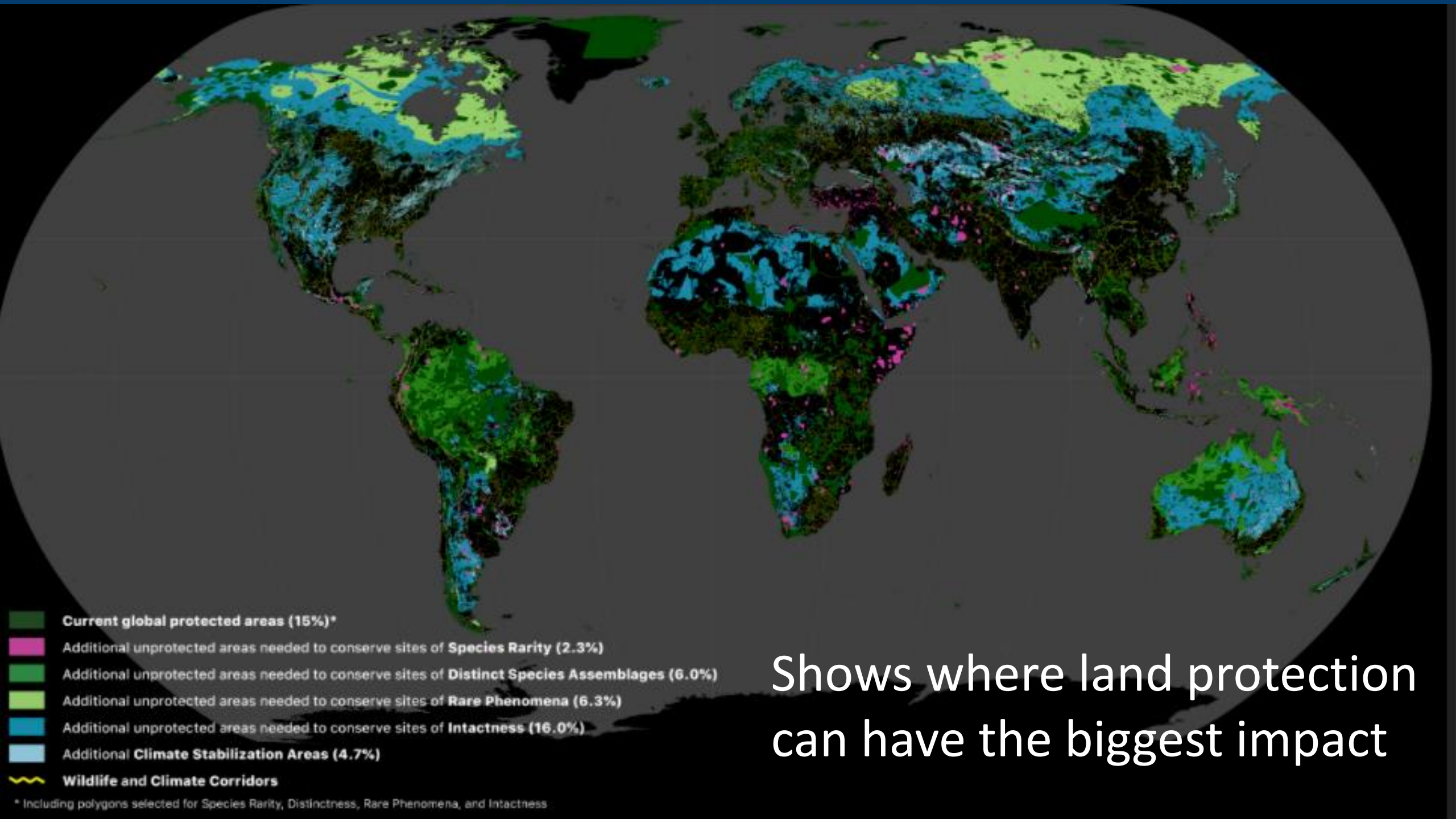
SCIENCE ADVANCES • 4 Sep 2020 • Vol 6, Issue 36 • DOI: 10.1126/sciadv.abb2824

Calls for 30% by 2030, 50% by 2050 of land protection

Why 30%?

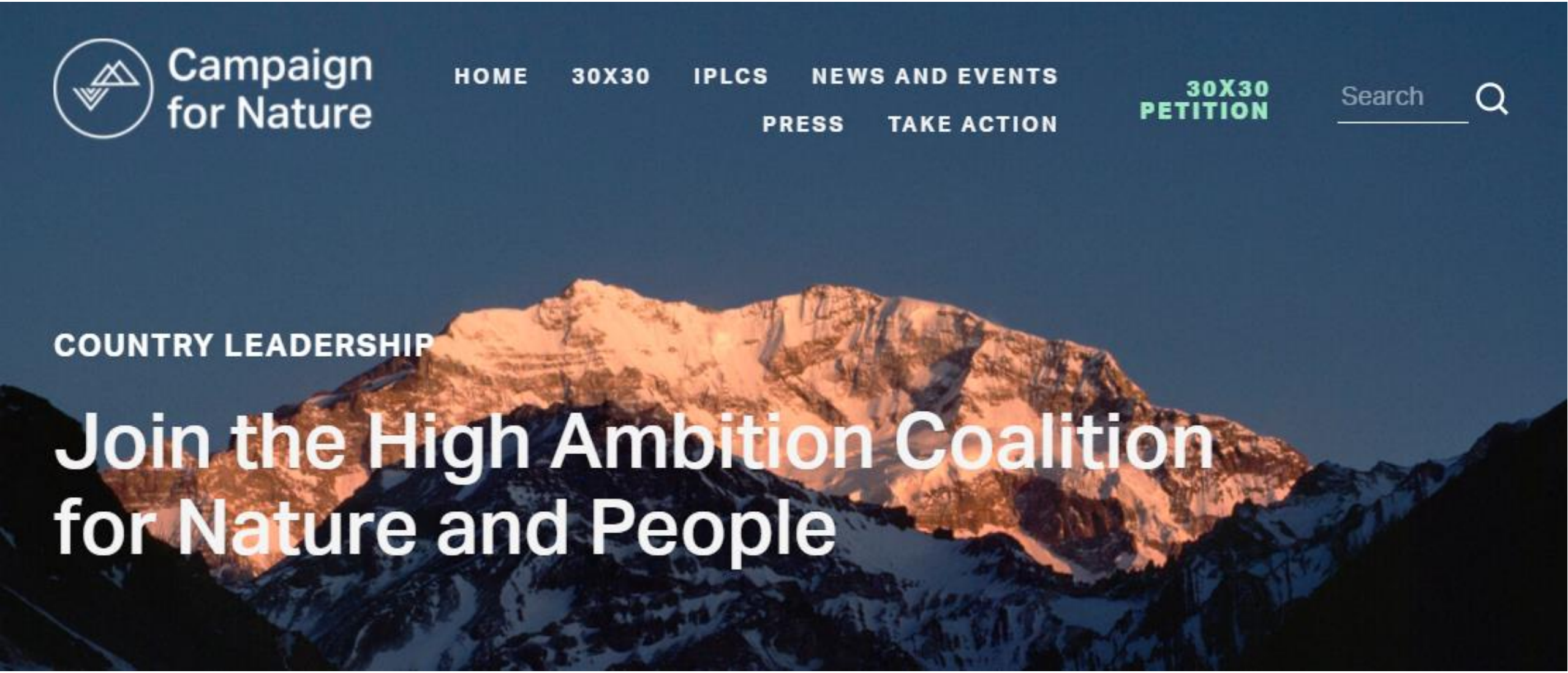
- Scientists widely agree that 30% of protection is **the minimum** required to prevent **ecological breakdown** at local, regional and global scales

- 30% would safeguard ½ of terrestrial carbon stocks and **reduce extinction risk** by 90%



Shows where land protection can have the biggest impact

Support for 30 x 30: Campaign for Nature



Support for 30 x 30: Campaign for Nature

Russ Feingold, Chair of the GSC

Former US Senator and former Special Envoy to Great Lakes Region of Africa

Ernest Bai Koroma

Former President of Sierra Leone

José María Figueres

Former President of Costa Rica

Olafur Ragnar Grimsson

Former President of Iceland

Hindou Oumarou Ibrahim

President, Association for Indigenous Women and Peoples of Chad (AFPAT)

Christiana Figueres

Former Executive Secretary UNFCCC

Tzipi Livni

Former Foreign Minister of Israel

Ellen Johnson Sirleaf

Former President of Liberia

Mary Robinson

Former President of Ireland

Hailemariam Desalegn

Former Prime Minister of Ethiopia

Dr. Ruhakana Rugunda

Former Prime Minister of Uganda

Susanna Malcorra

Former Foreign Minister of Argentina

Amre Moussa

Former Foreign Minister of Egypt

Emil Salim

Former Environmental Minister of Indonesia

Olusegun Obasanjo

Yongyuth Yuthavong

Former Deputy Prime Minister of Thailand

Graça Machel

Former First Lady of South Africa

Loren Legarda

Philippines Deputy Speaker

Zakri Abdul Hamid

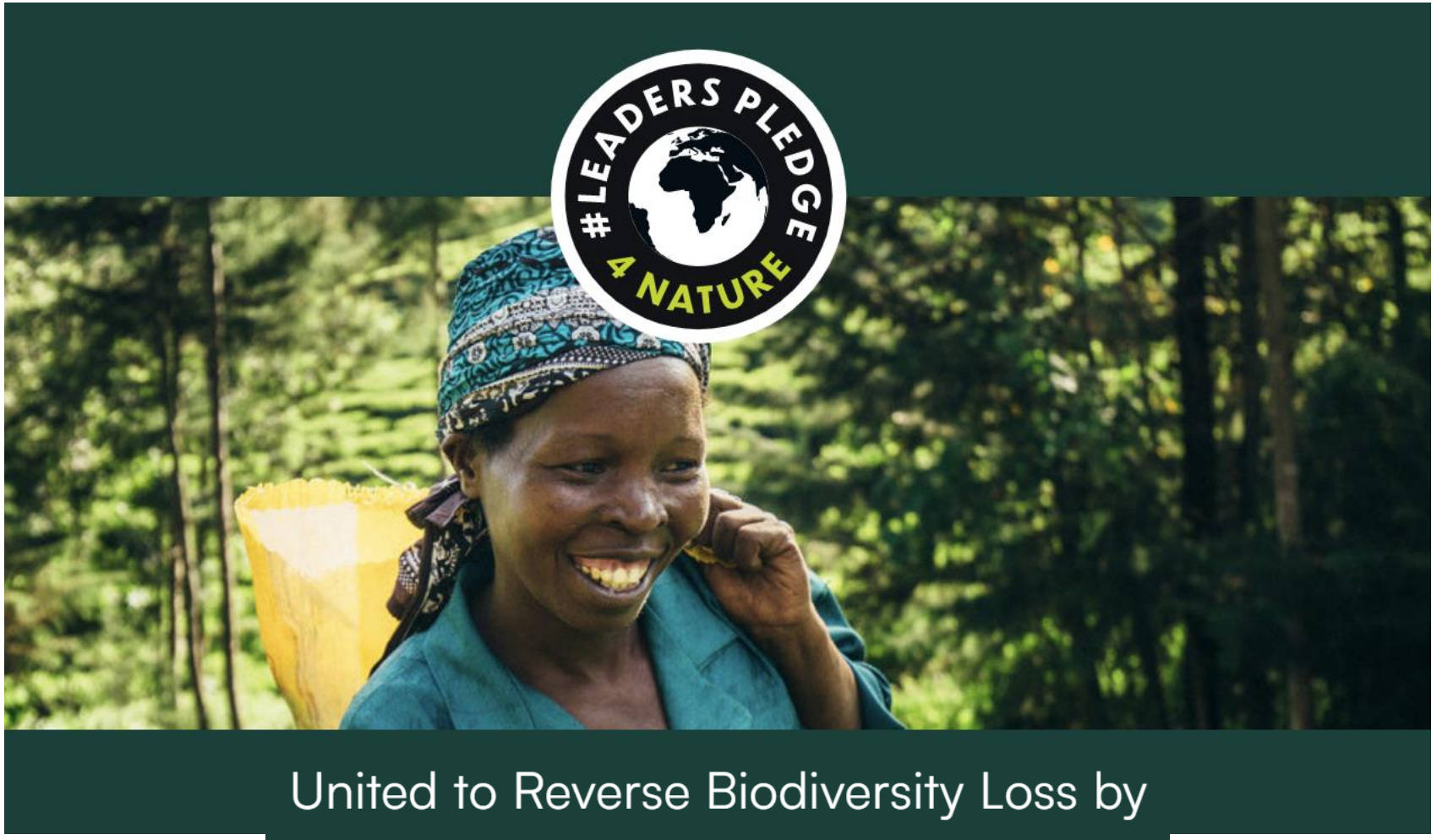
Former Science Adviser to Prime Minister of Malaysia

Rashid Sumaila

Professor, Institute for Oceans and Fisheries

Support for 30 x 30 internationally

Support for 30 x 30: Leaders Pledge for Nature



- 94 heads of state have endorsed the “Leaders Pledge for Nature”
- Explicit goal is to protect 30% by 2030 in each country

Support for 30 x 30: High Ambition Coalition

- Led by Costa Rica, France and UK
- Goal is to leverage 30 x 30 goals in global frameworks
- 90+ countries have signed on

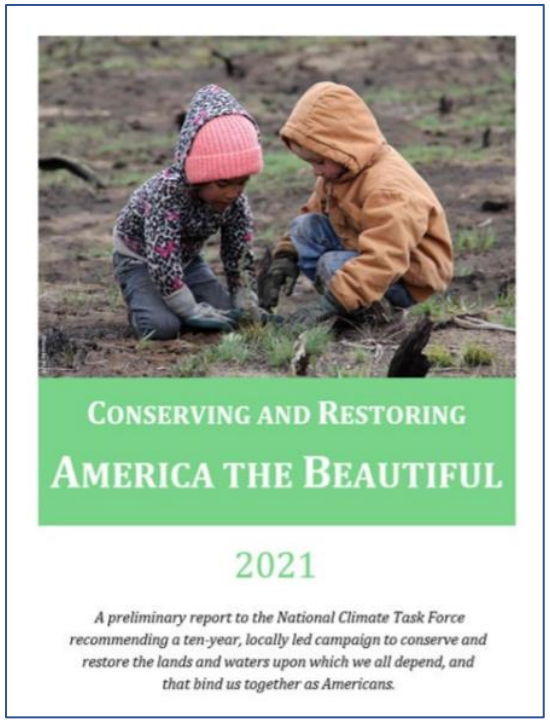
Support for 30 x 30: G7 and G20

"We commit to champion ambitious and effective global biodiversity targets, including conserving or **protecting at least 30 percent** of global land and at least 30 percent of the global ocean by 2030 **to halt and reverse biodiversity loss by 2030 and address climate change**" G7 communiqué

Support for 30 x 30 in the United States

The Biden administration has a game-changing approach to nature conservation

The America the Beautiful initiative could redefine US conservation as we know it.



Biden wants to triple protected lands

Conserving 30 percent of land and 30 percent of ocean waters by 2030 would be a big win for the climate and biodiversity.

Support for 30 x 30 in the United States

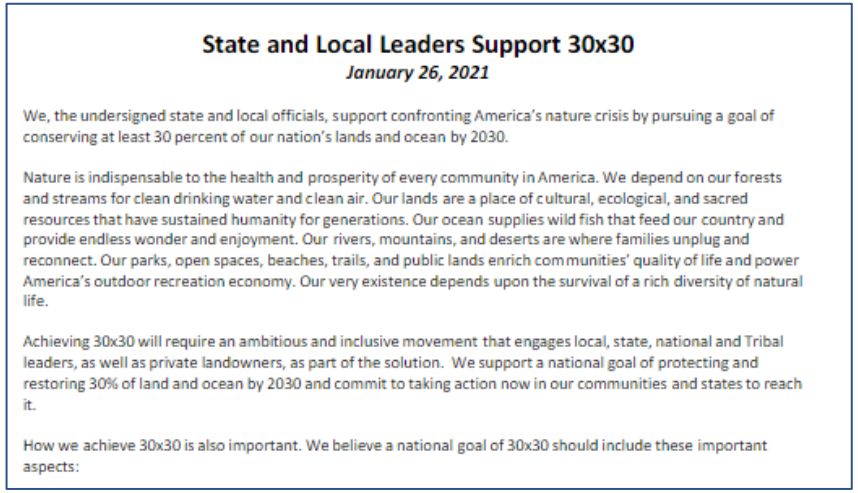
ENVIRONMENT

State And Local Leaders Push Biden To Protect 30% Of U.S. Land, Waters By 2030

In an open letter, more than 400 elected officials pledge to do their part to achieve the new administration's ambitious conservation goal.

By Chris D'Angelo

01/26/2021 05:45am EST



State and Local Leaders Support 30x30

January 26, 2021

We, the undersigned state and local officials, support confronting America's nature crisis by pursuing a goal of conserving at least 30 percent of our nation's lands and ocean by 2030.

Nature is indispensable to the health and prosperity of every community in America. We depend on our forests and streams for clean drinking water and clean air. Our lands are a place of cultural, ecological, and sacred resources that have sustained humanity for generations. Our ocean supplies wild fish that feed our country and provide endless wonder and enjoyment. Our rivers, mountains, and deserts are where families unplug and reconnect. Our parks, open spaces, beaches, trails, and public lands enrich communities' quality of life and power America's outdoor recreation economy. Our very existence depends upon the survival of a rich diversity of natural life.

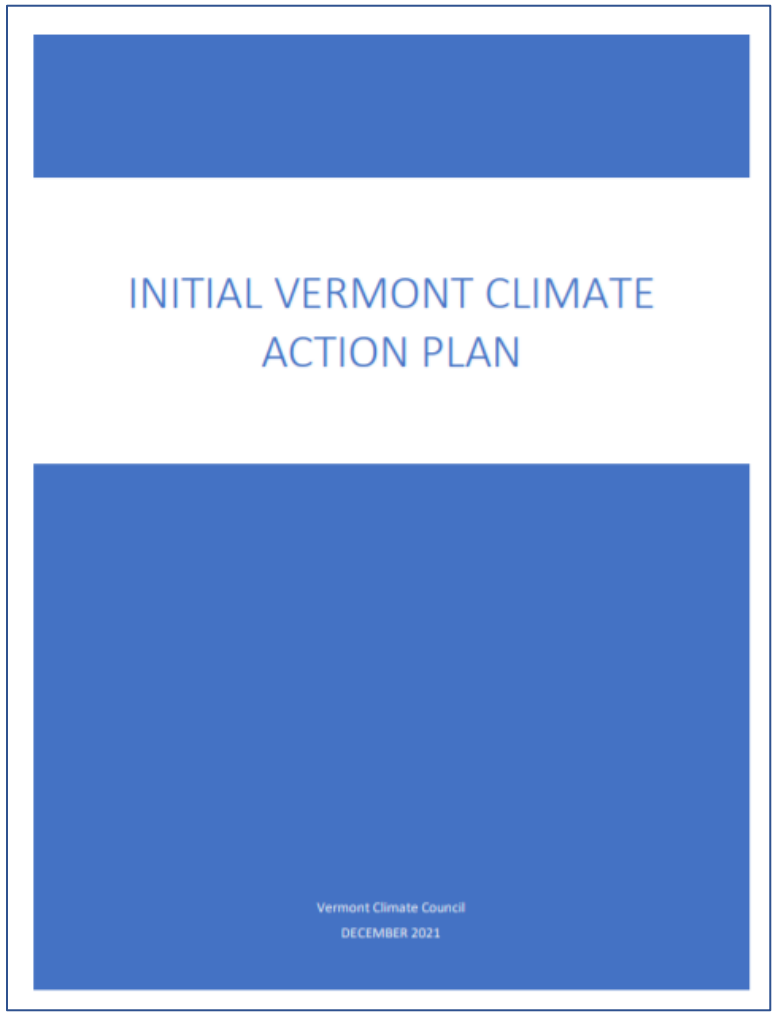
Achieving 30x30 will require an ambitious and inclusive movement that engages local, state, national and Tribal leaders, as well as private landowners, as part of the solution. We support a national goal of protecting and restoring 30% of land and ocean by 2030 and commit to taking action now in our communities and states to reach it.

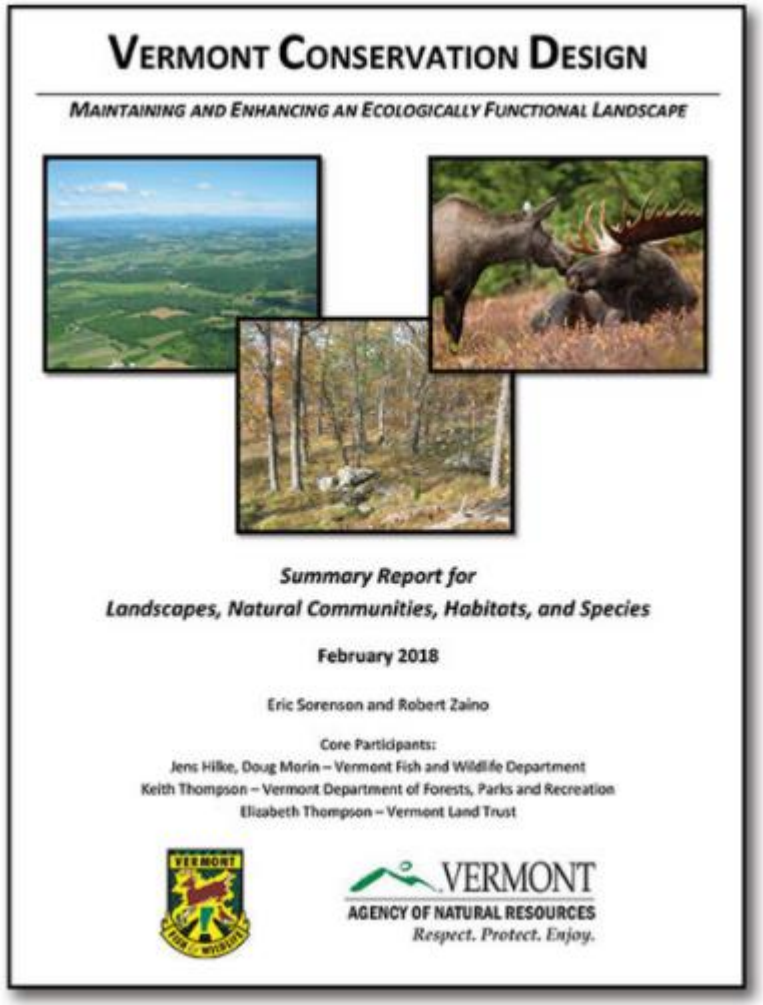
How we achieve 30x30 is also important. We believe a national goal of 30x30 should include these important aspects:

- 450 elected officials from 44 states
- 12 state reps from Vermont

- Gavin Newsom signed an executive order to pledge to 30%
- Maine's climate action plan references 30%
- NY and SC have introduced 30 x 30 legislation

Support for 30 x 30 in Vermont

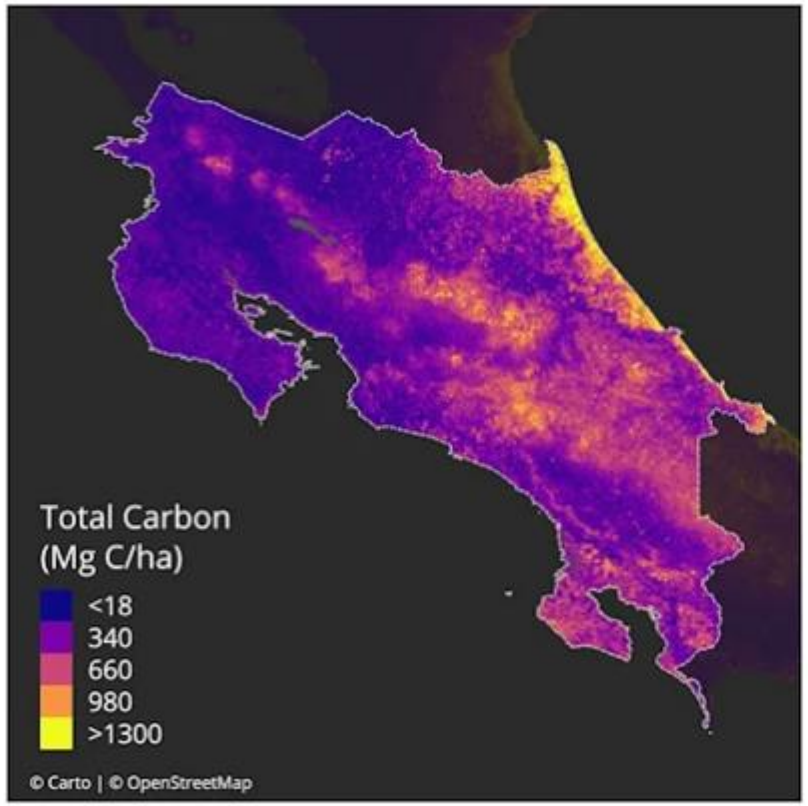


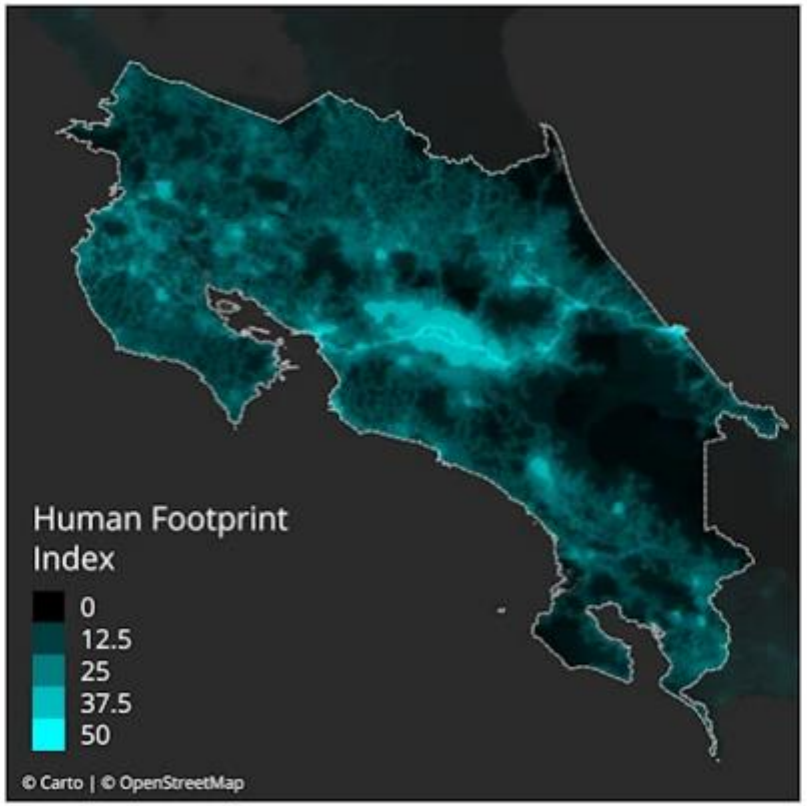


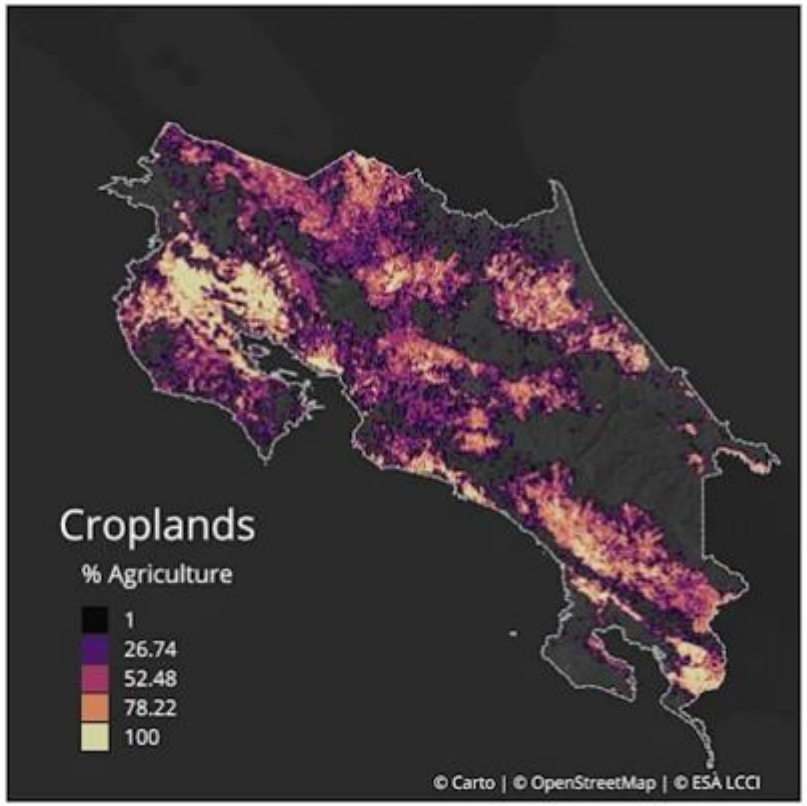
- VT endorsed 30 x 30 in its Climate Action Plan
- VT embedded its 30 x 30 commitment to Vermont Conservation Design by calling for protection of older forests

How are governments developing integrated spatial plans to implement 30 x 30?

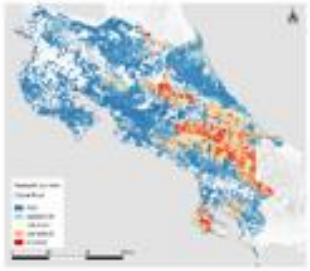
Integrating multiple data sets

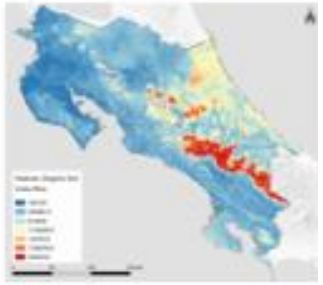


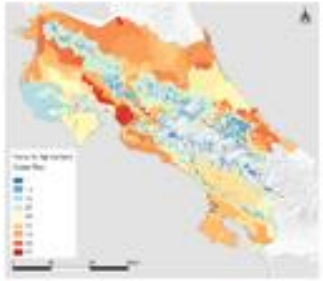


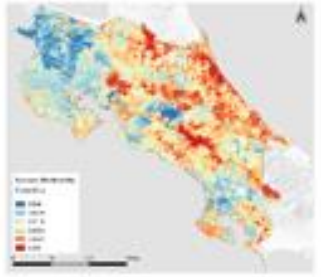


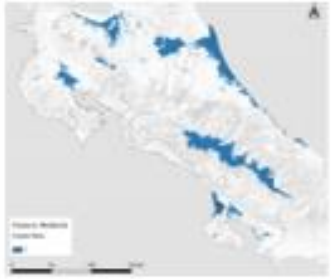
Prioritizing national goals and values



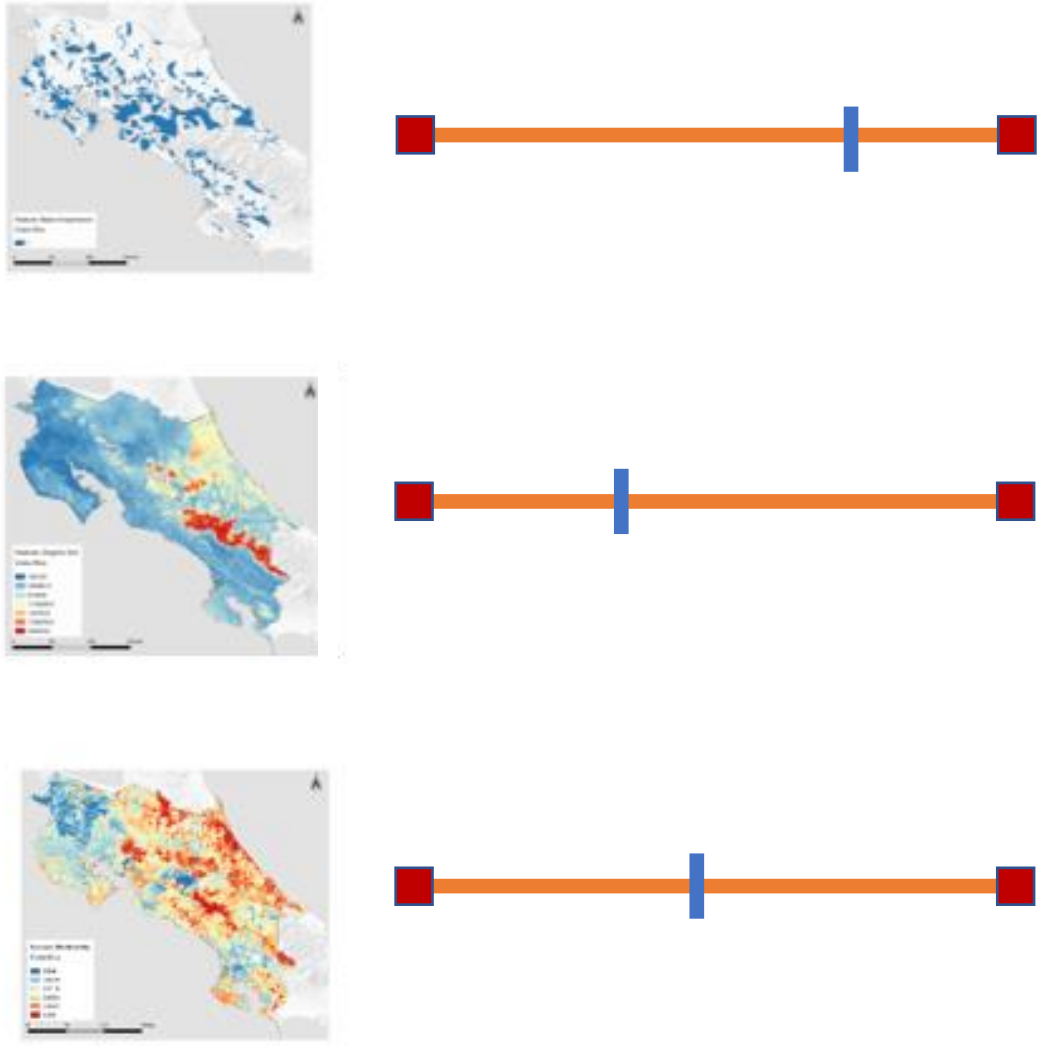




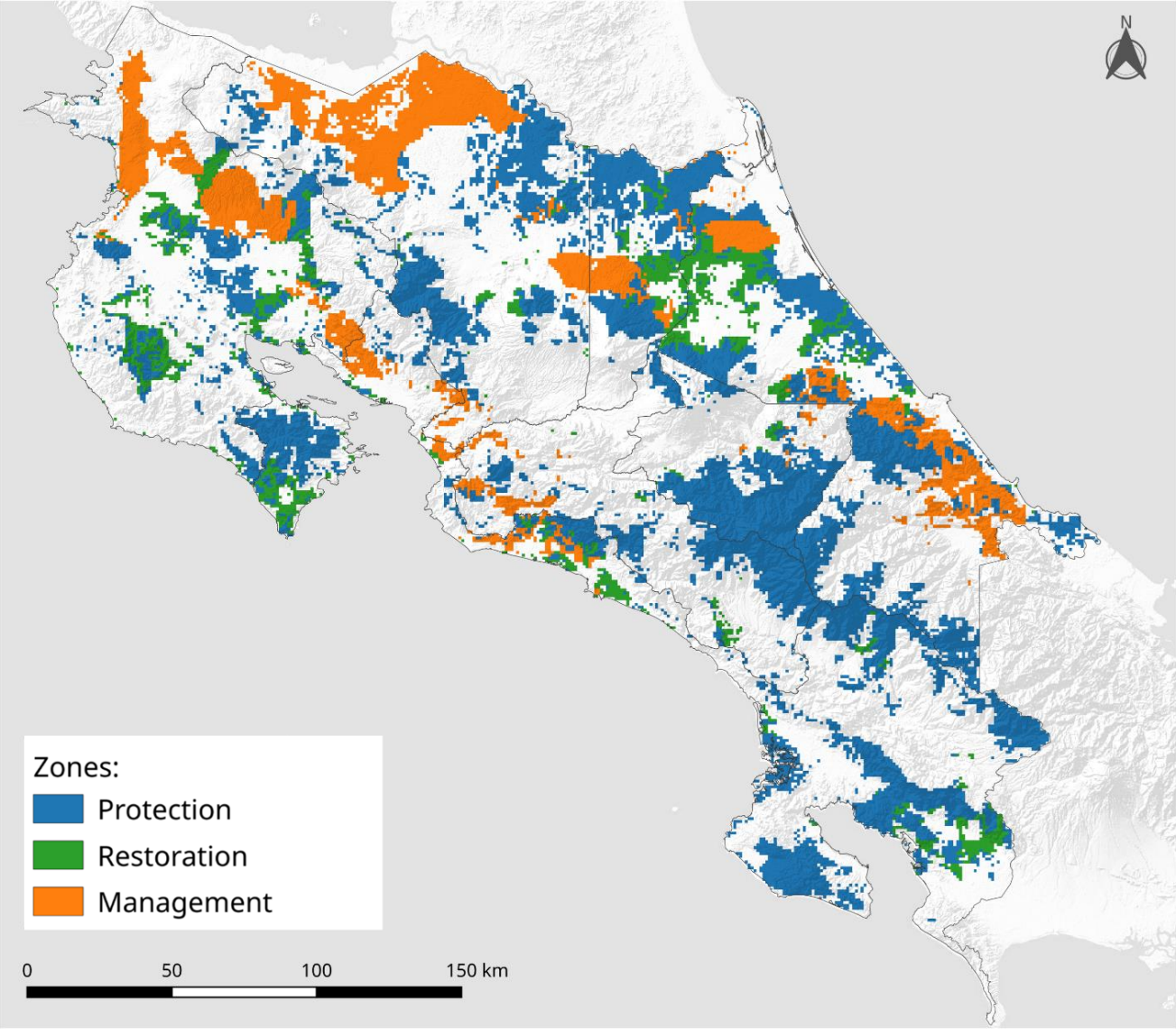




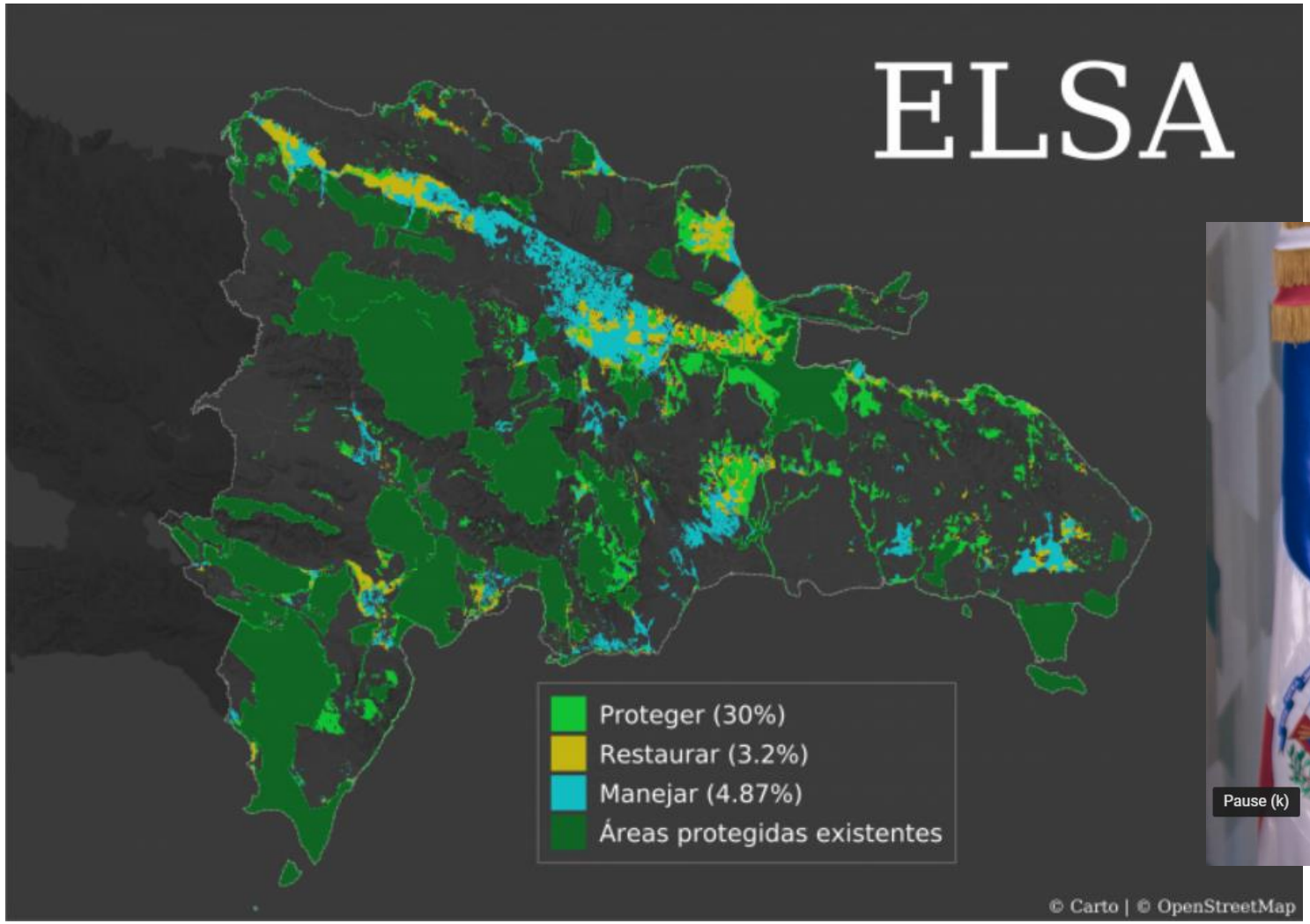
Prioritizing national goals and values



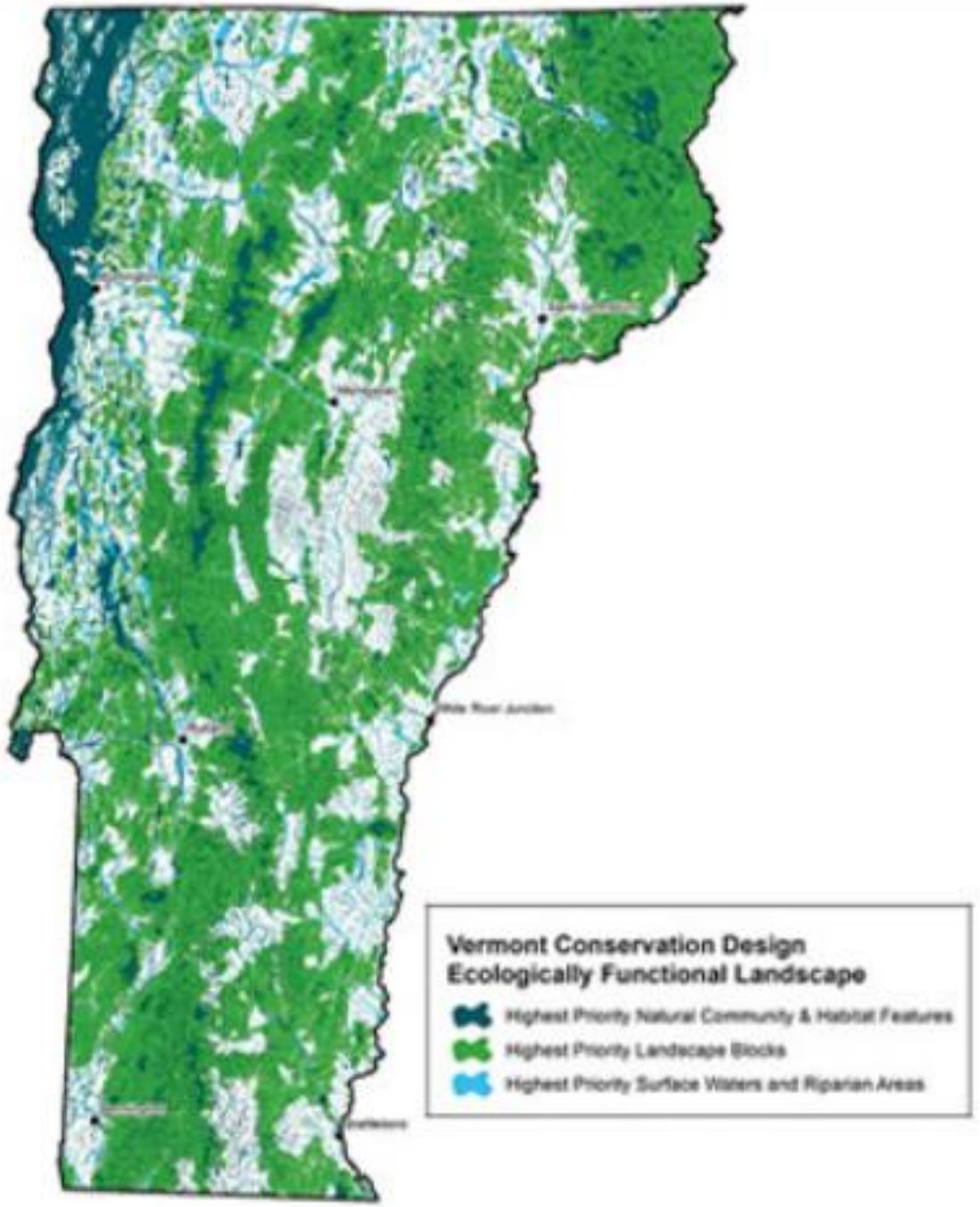
Creating a national map of protection priorities



Creating a national map of protection priorities



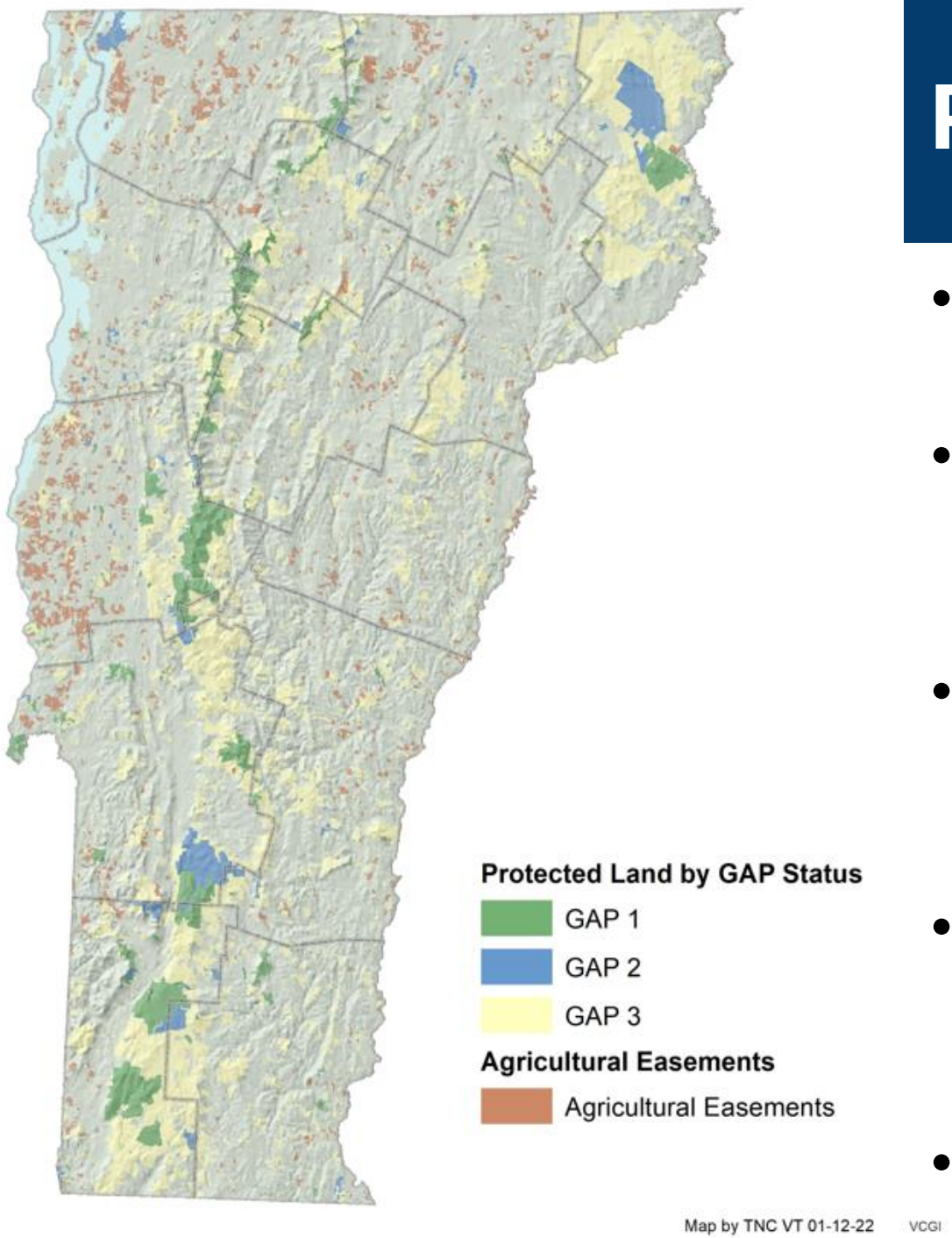
Creating a state map of protection priorities



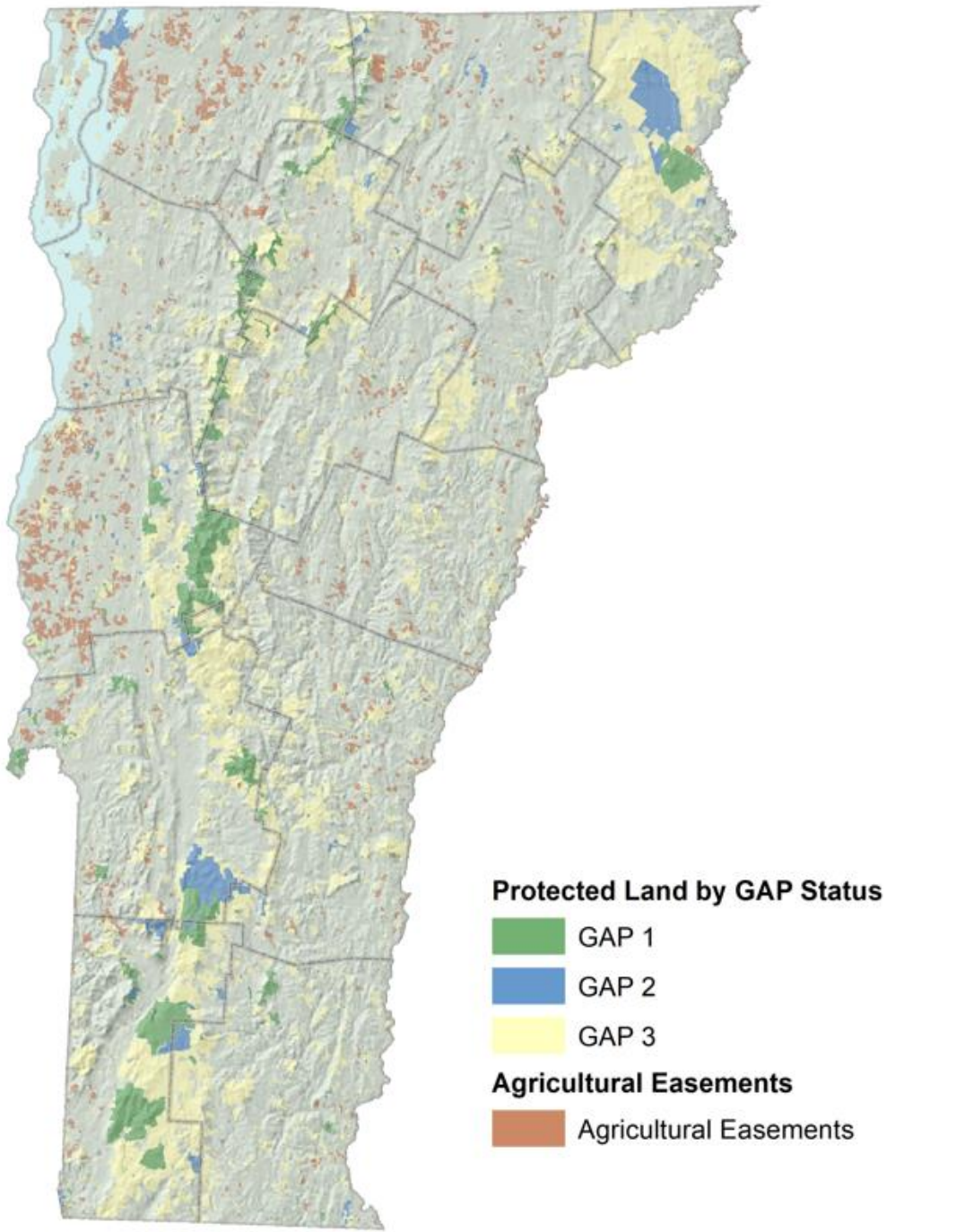
- Vermont conservation design lays out a clear vision for an ecologically functional landscape

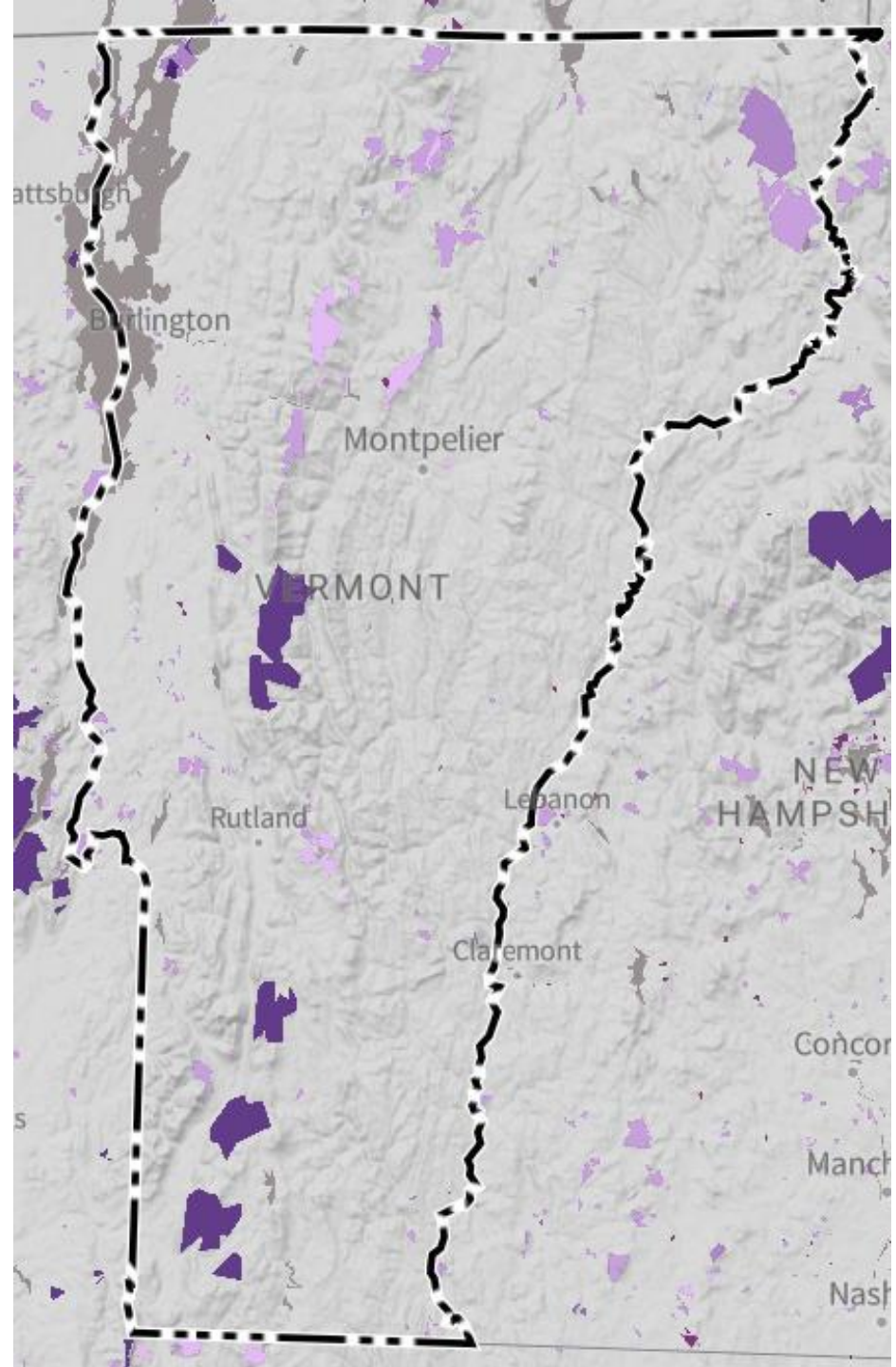
State of protection and conservation in Vermont

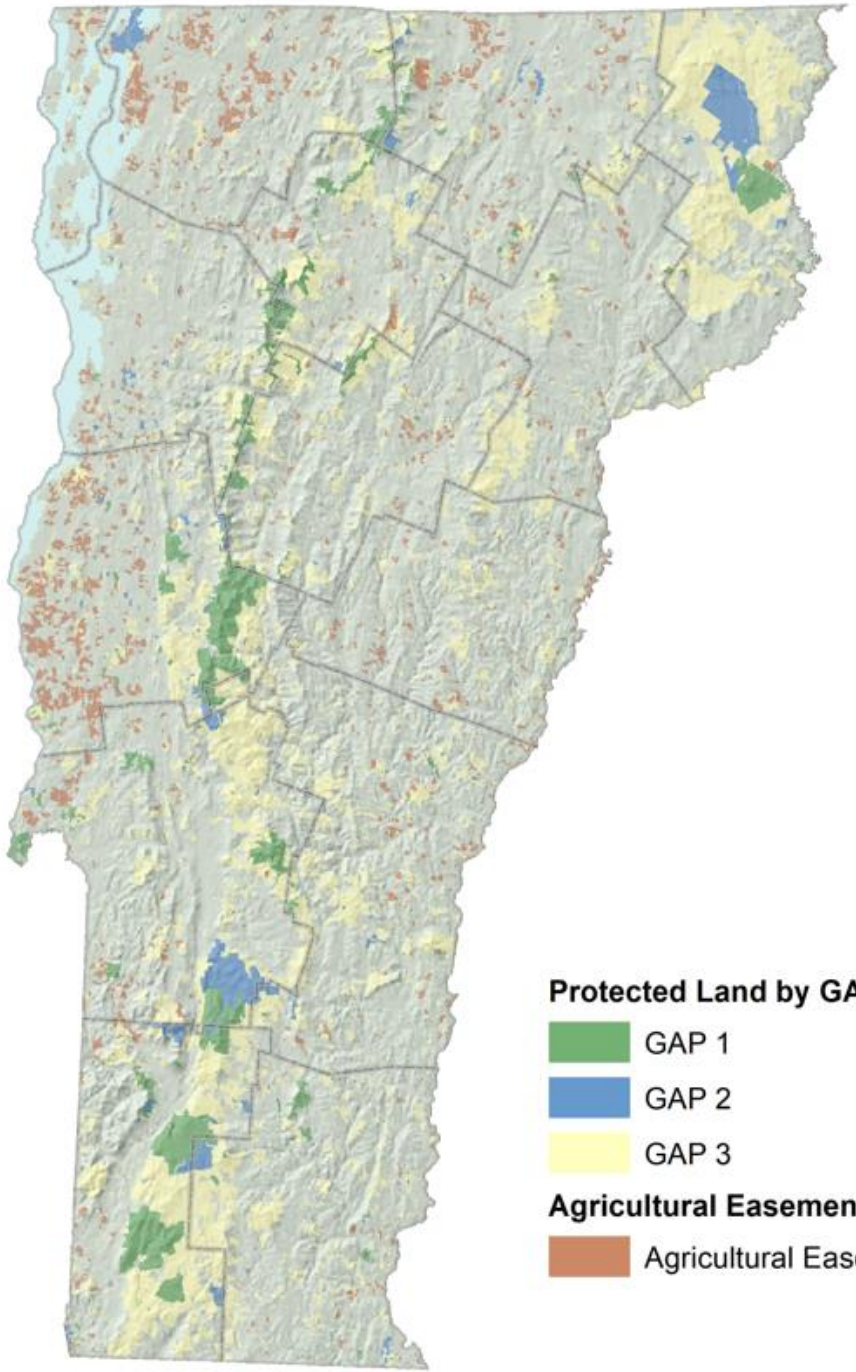
Protected areas in Vermont



- All lands (Gap 1 – Gap 3.9): 26.1%
- Percent managed for older, mature forests: <3%
- Percent in Gap 1 status: 3.6%; percent in GAP 2 status: 1.8%
- Most Gap 1 lands are at high elevation, not well connected, not representative
- Large swaths of little or no protection


Protected Land by GAP Status
GAP 1
GAP 2
GAP 3
Agricultural Easements
Agricultural Easements
Map by TNC VT 01-12-22
VCGI


Burlington
Montpelier
VERMONT
Rutland
Lebanon
NEW HAMPSH
Claremont
Concor
Manch
Nash



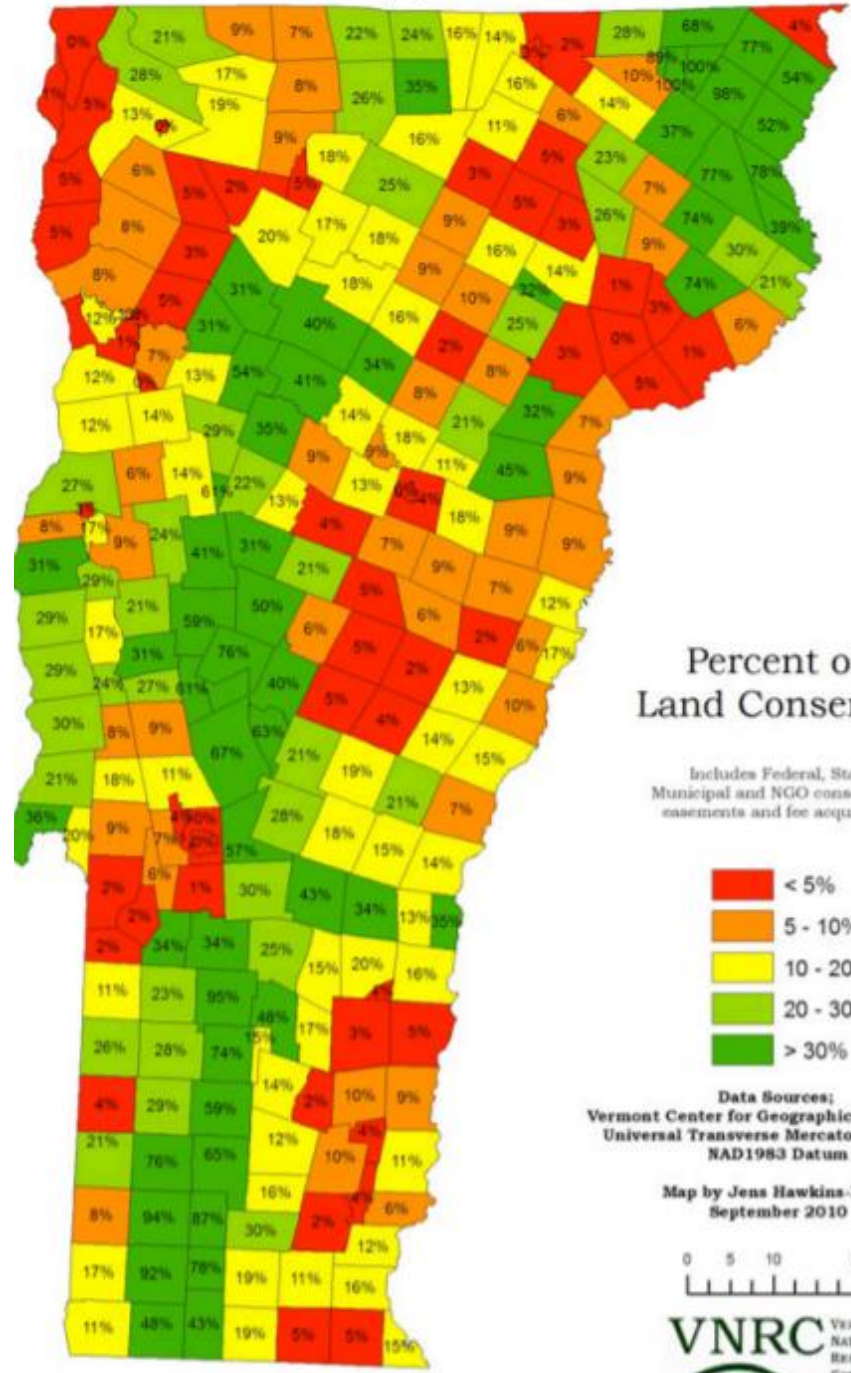
Protected Land by GAP Status

- GAP 1
- GAP 2
- GAP 3

Agricultural Easements

- Agricultural Easements

Map by TNC VT 01-12-22 VCGI



Percent of Land Conserved

Includes Federal, State, Municipal and NGO conservation easements and fee acquisitions

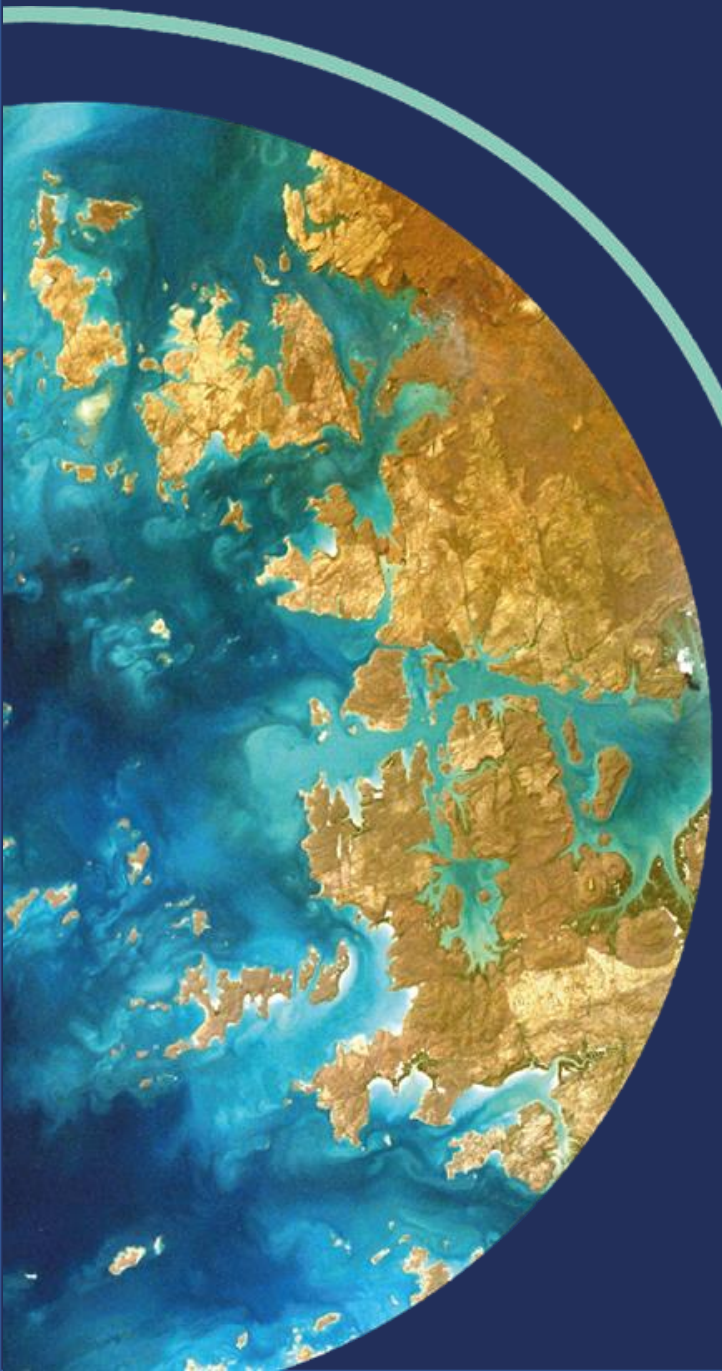
- < 5%
- 5 - 10%
- 10 - 20%
- 20 - 30%
- > 30%

Data Sources;
Vermont Center for Geographic Information,
Universal Transverse Mercator Projection
NAD1983 Datum

Map by Jens Hawkins-Hilke
September 2010

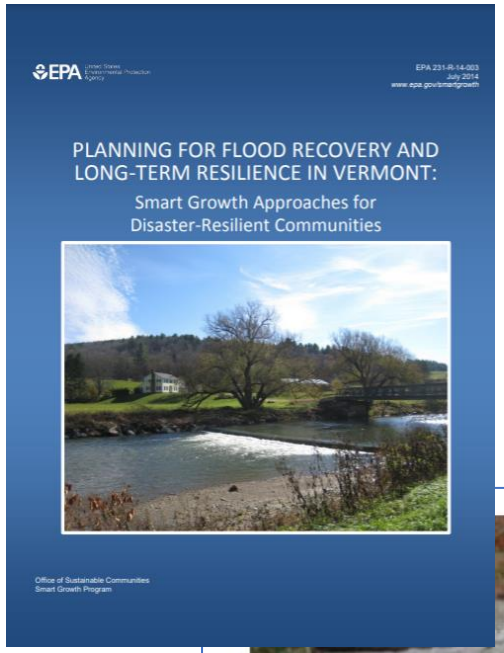
0 5 10 20 Miles

VNRC Vermont Natural Resources Council



What does all this mean for Vermont – 5 questions

1. Are we managing for natural disasters?

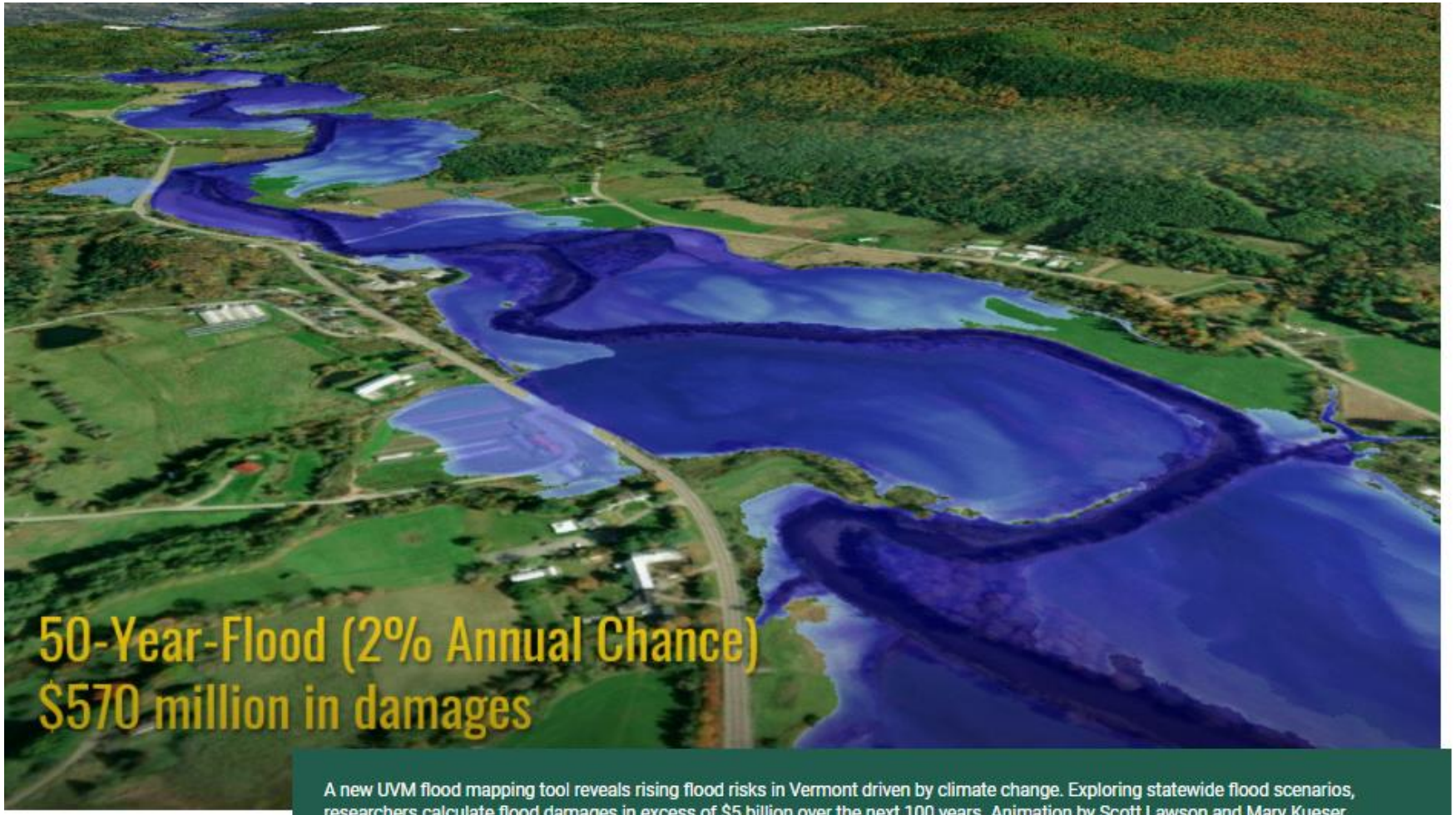


- To mitigate floods, “communities could start by preserving existing, undeveloped forested areas”

- 90% of Vermont state lands are in forested headwaters
- These areas are extremely important for mitigating floods

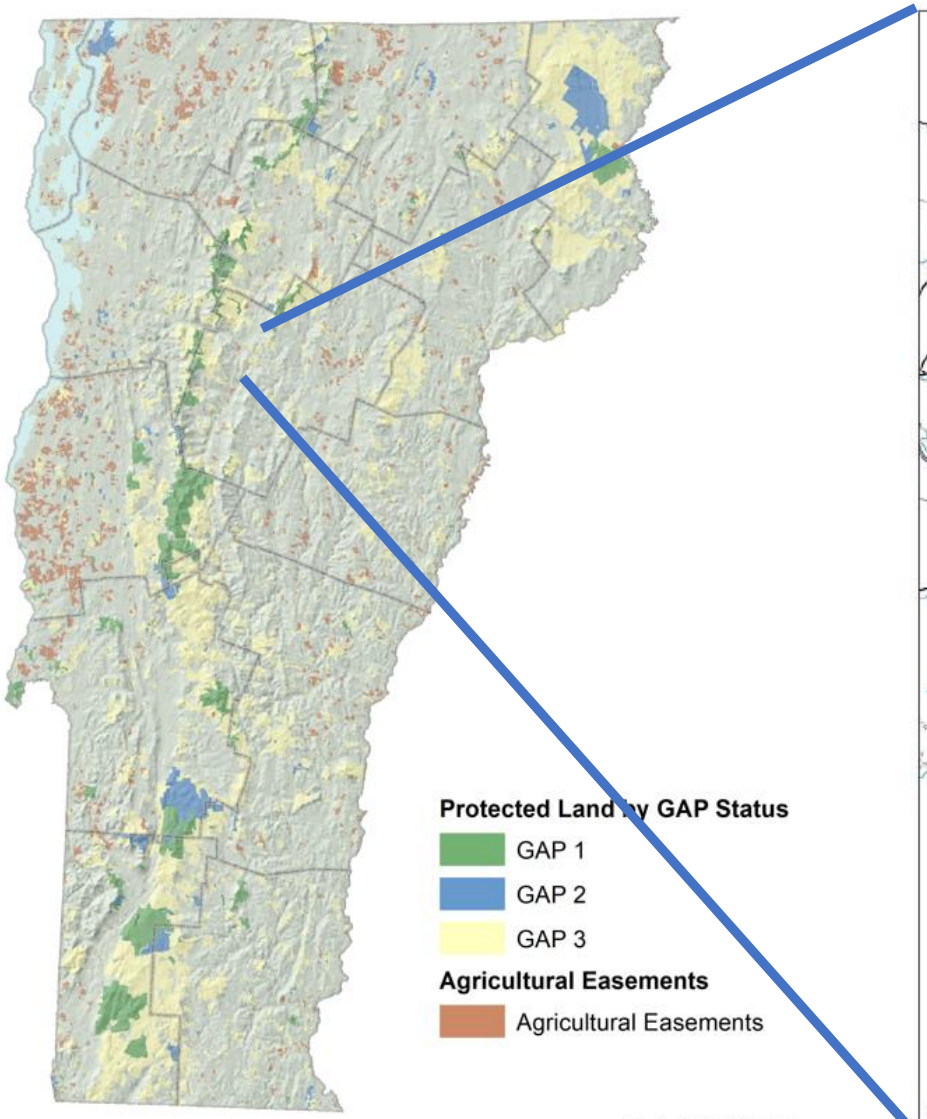
Are we managing for natural disasters?

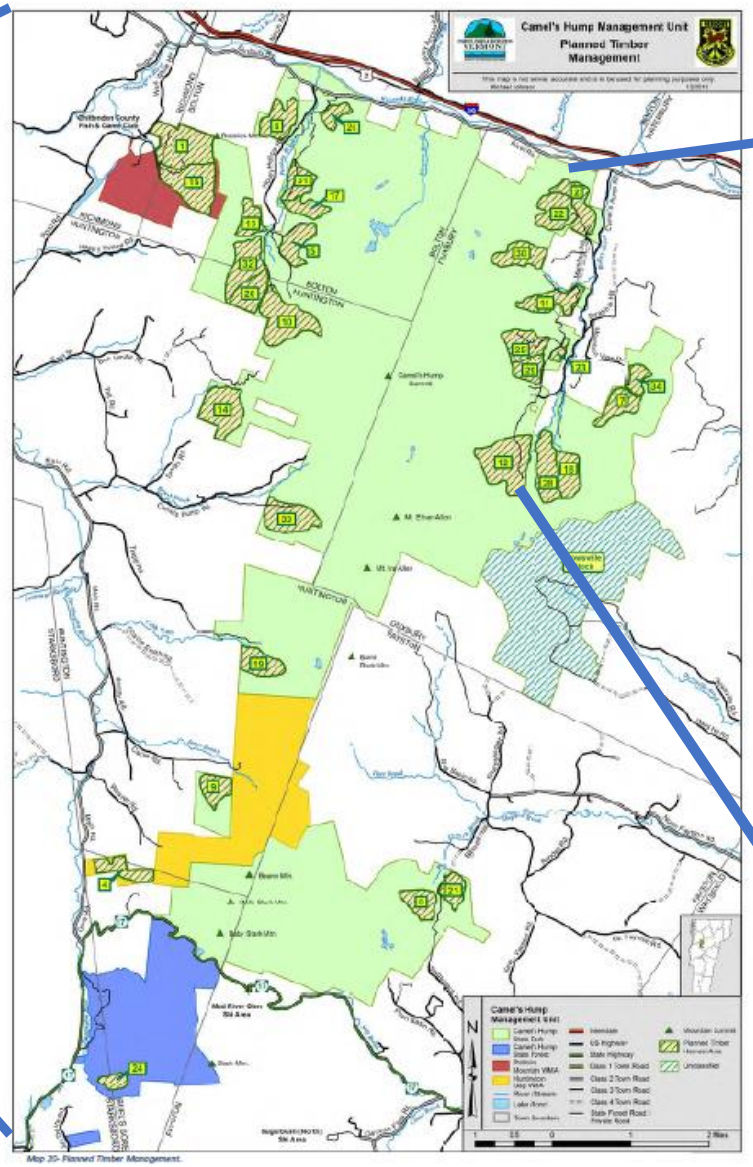
Vermont Flood Costs Could Exceed $5.2 Billion

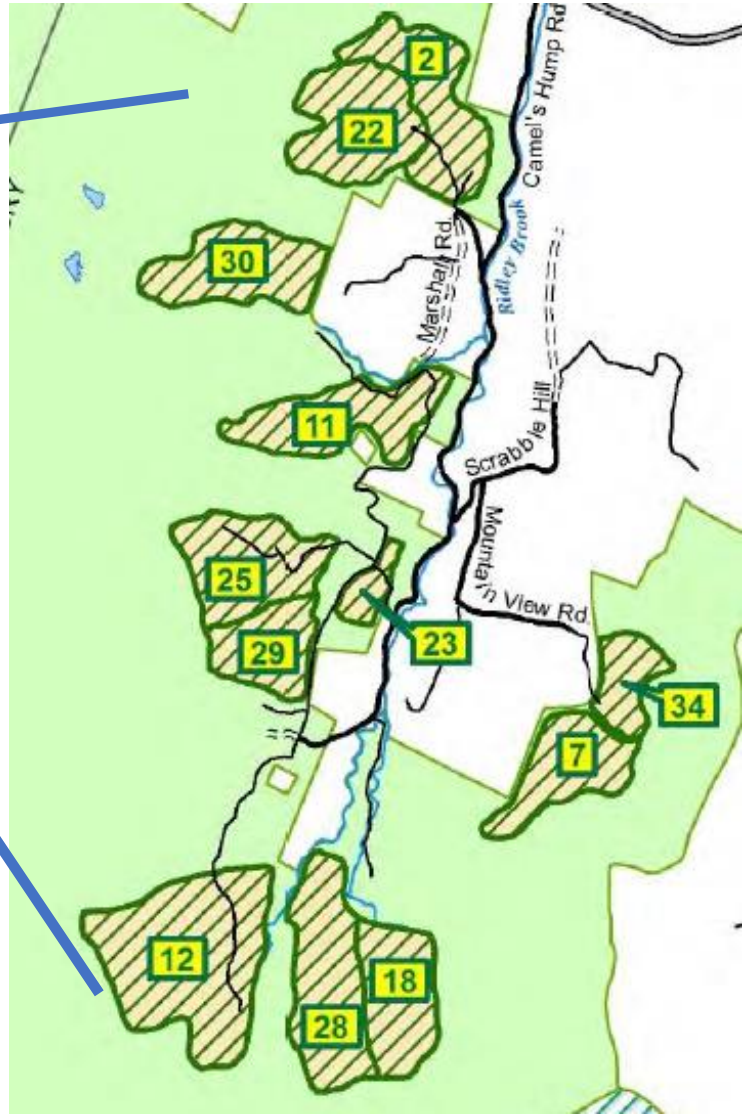


A new UVM flood mapping tool reveals rising flood risks in Vermont driven by climate change. Exploring statewide flood scenarios, researchers calculate flood damages in excess of $5 billion over the next 100 years. Animation by Scott Lawson and Mary Kueser.

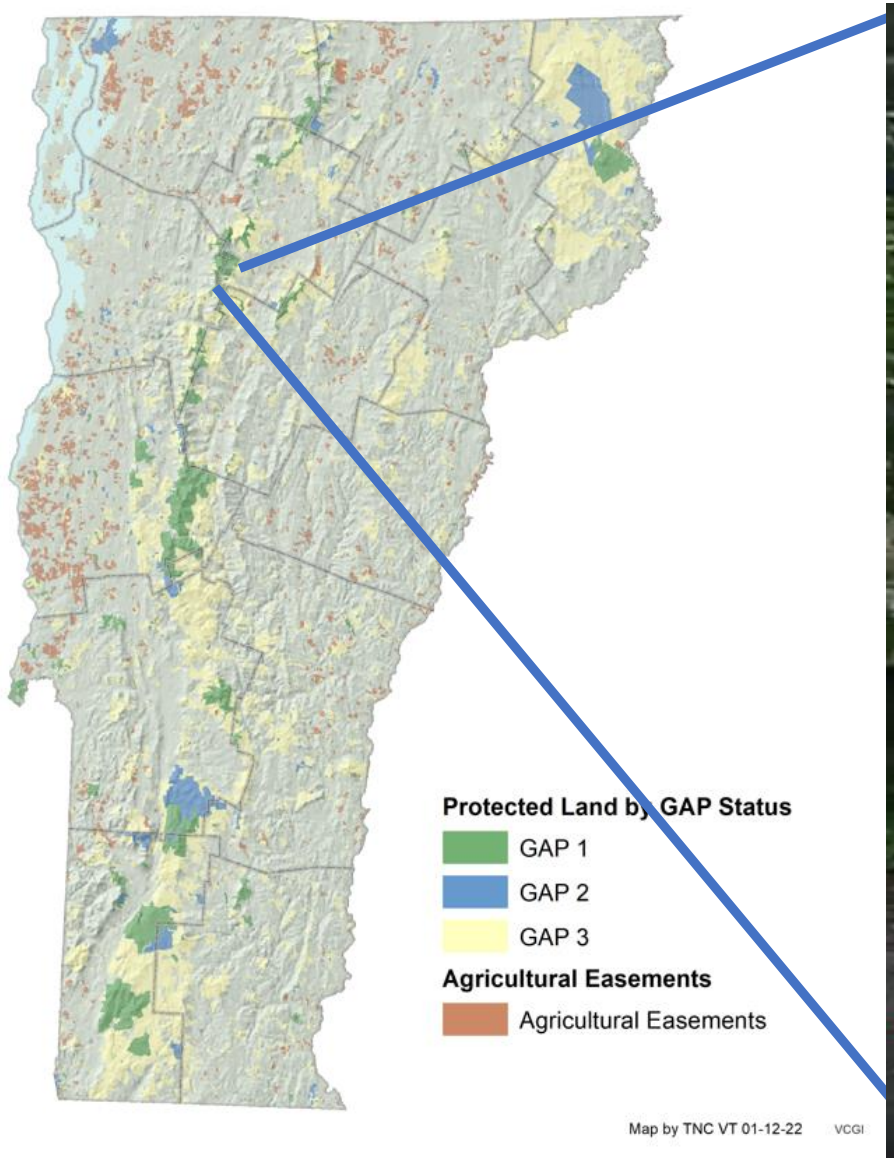
Are we managing for natural disasters?







Are we managing for natural disasters?



2. Are we managing for forest intactness and integrity?

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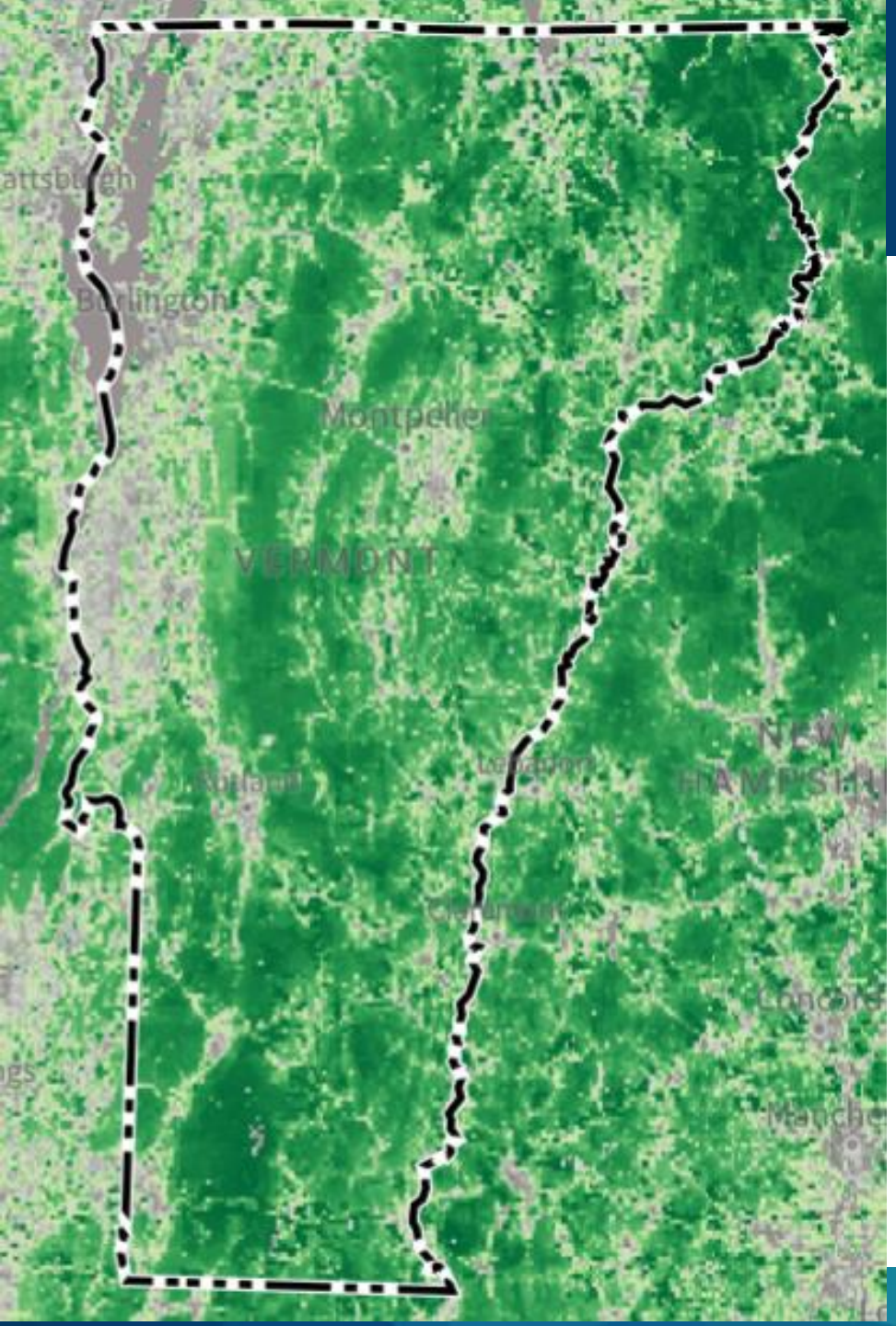

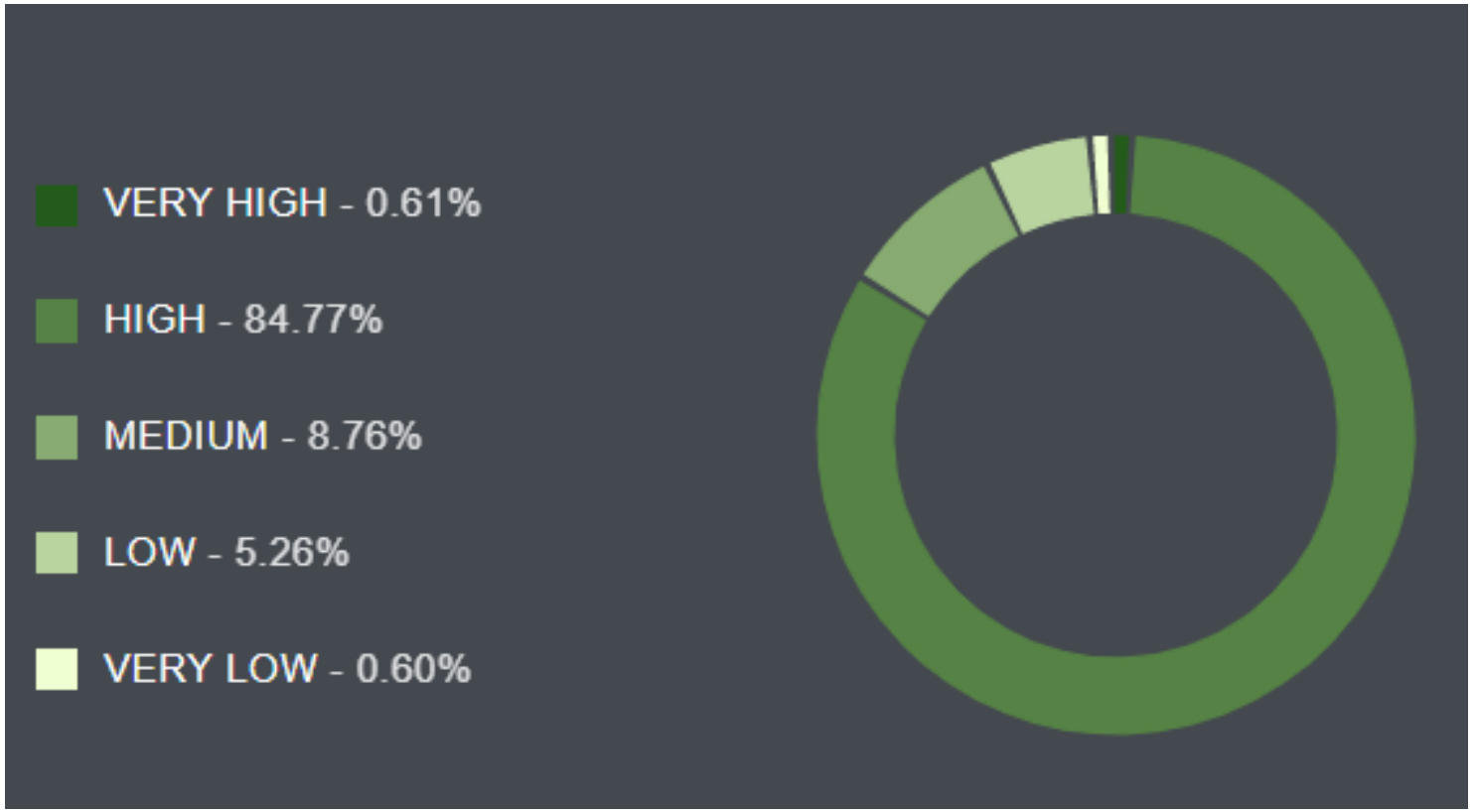

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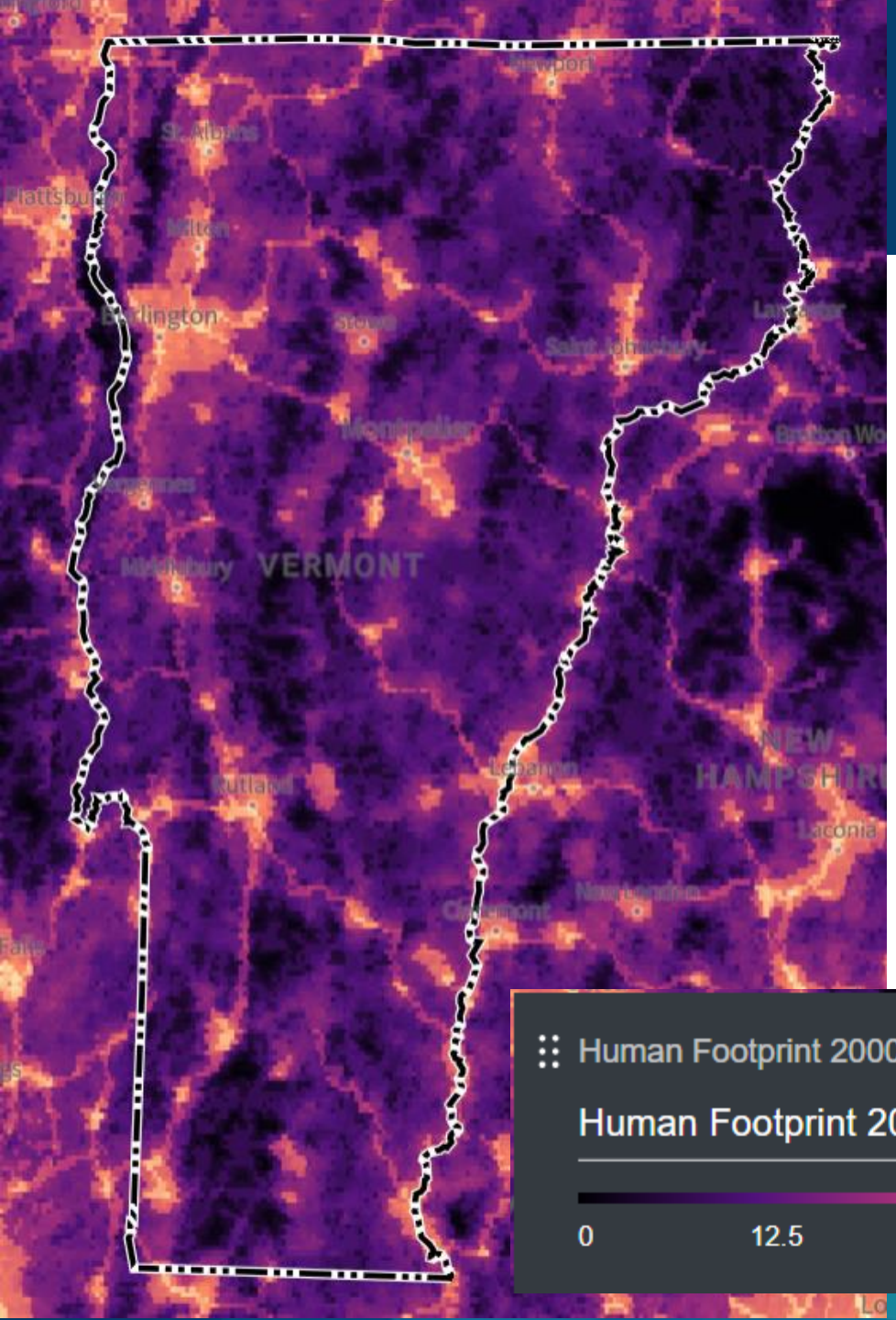
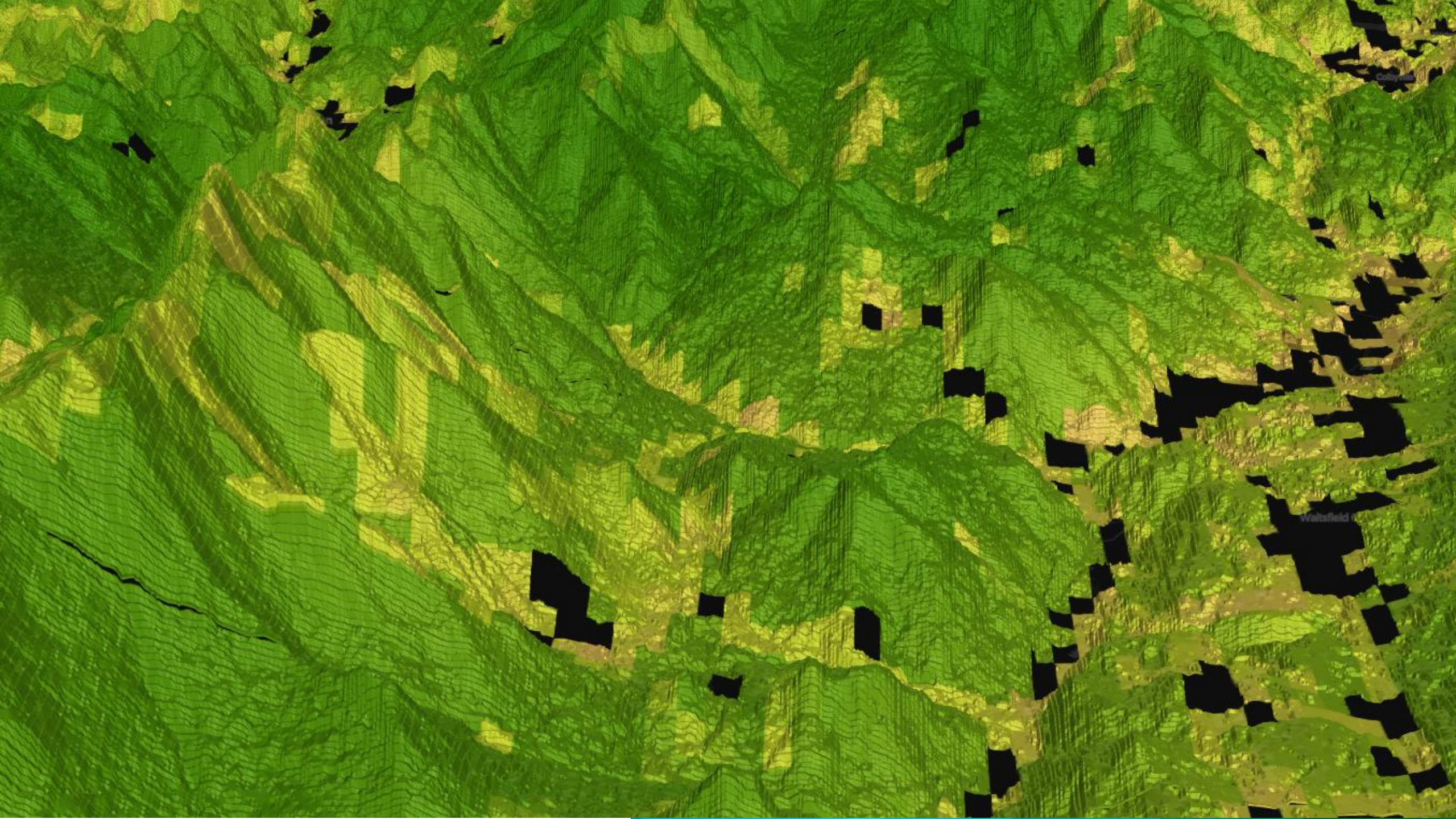
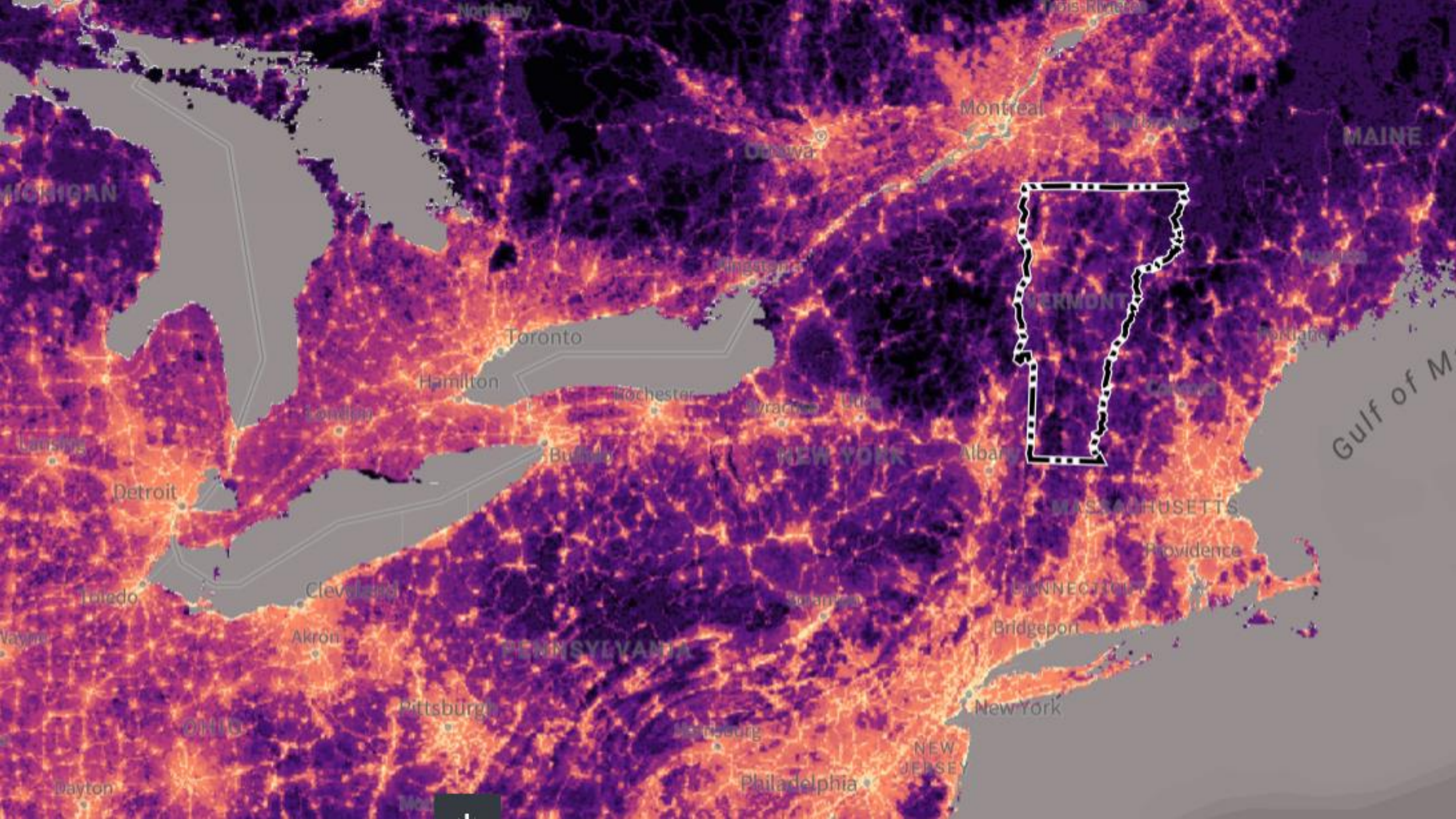


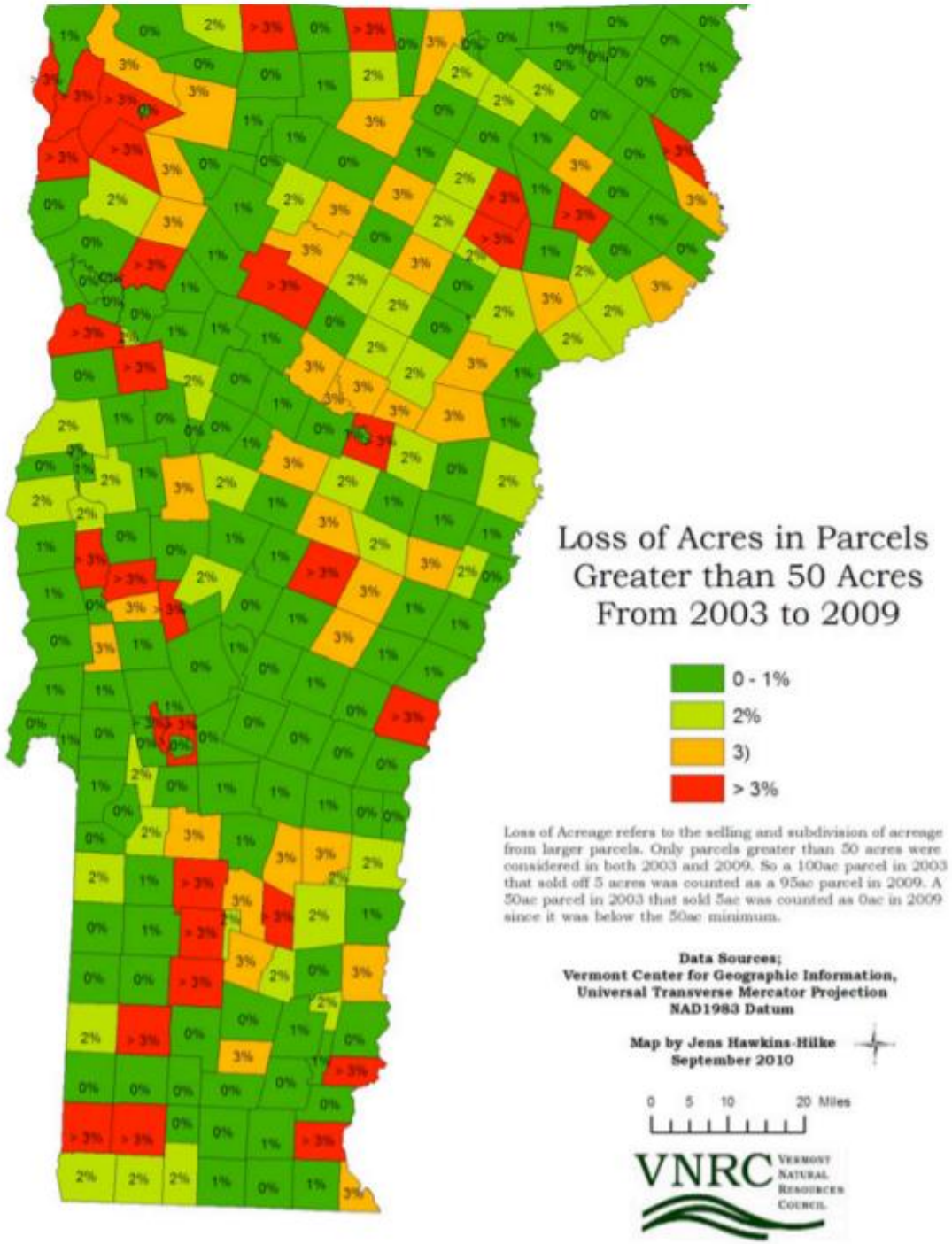
- Relatively intact
- Very high potential for increased fragmentation from development, logging, roads
- Very few large forested blocks with high integrity





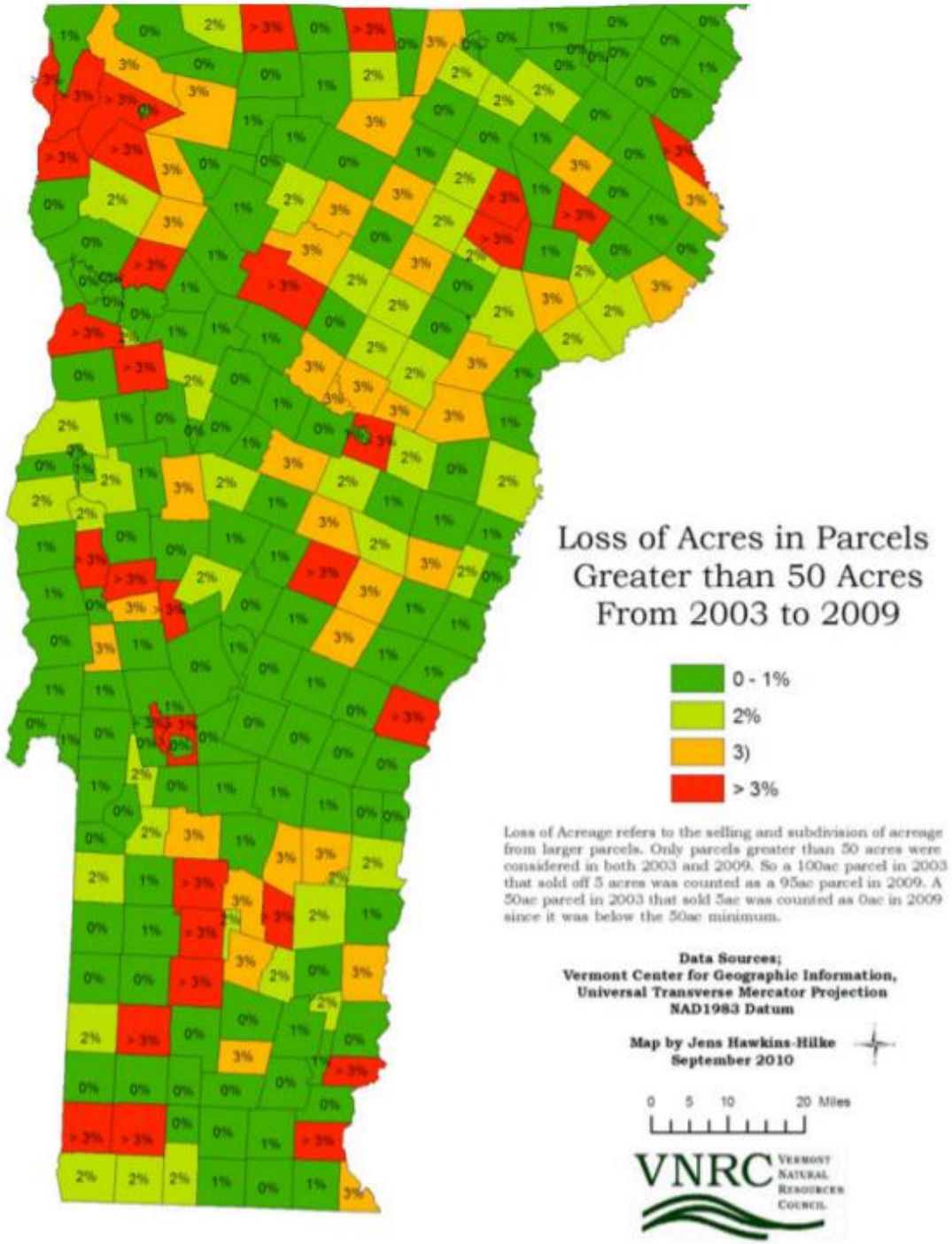
North Bay
Montreal
Ottawa
MAINE
MICHIGAN
Kingston
VERMONT
Toronto
Hamilton
Rochester
Syracuse
Utica
London
Lansing
Buffalo
NEW YORK
Albany
Detroit
MASSACHUSETTS
Providence
Toledo
Cleveland
CONNECTICUT
Akron
Bridgeport
PENNSYLVANIA
Pittsburgh
New York
OHIO
NEW JERSEY
Dayton
Philadelphia

Are we managing for forest intactness and integrity?

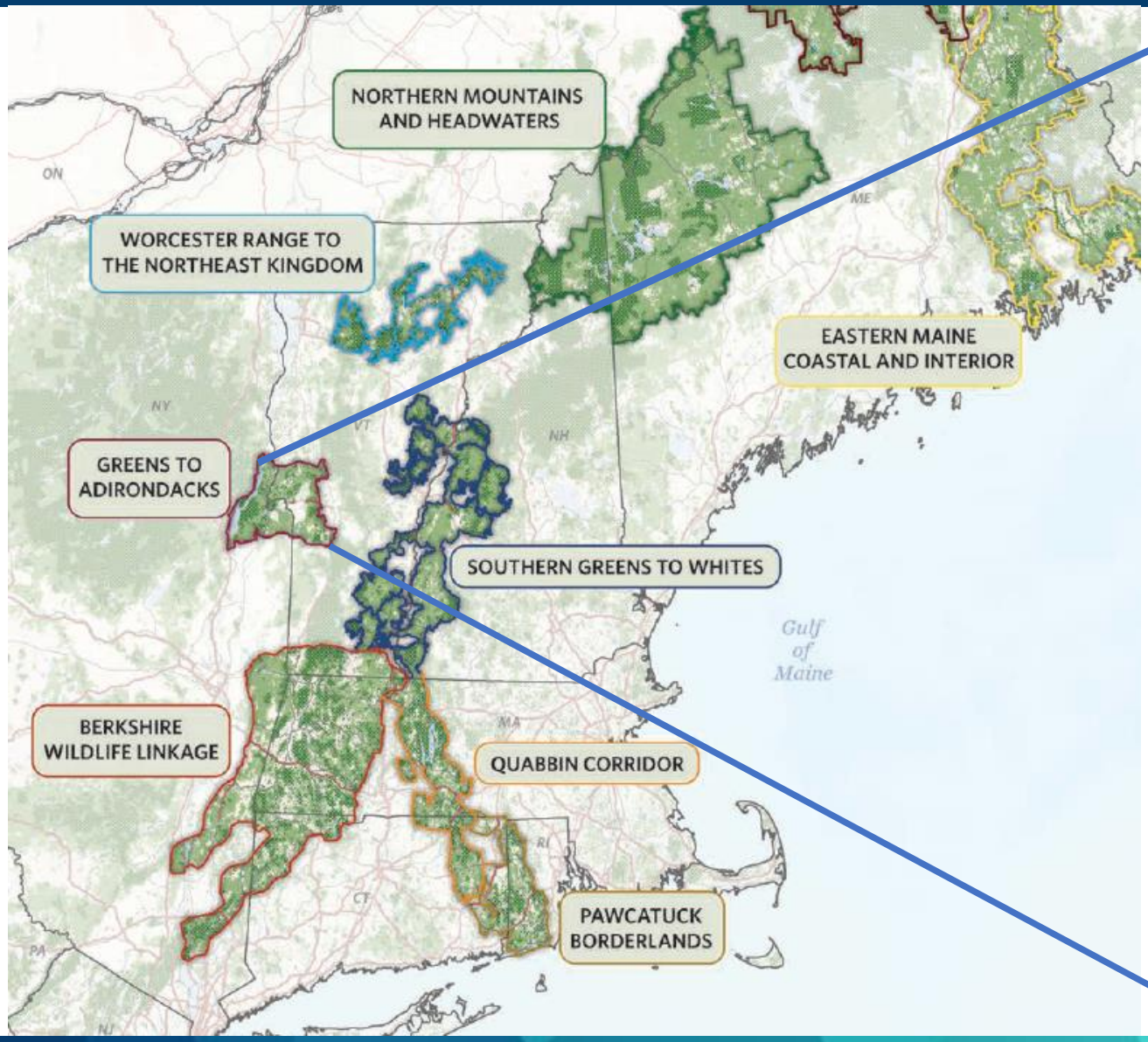


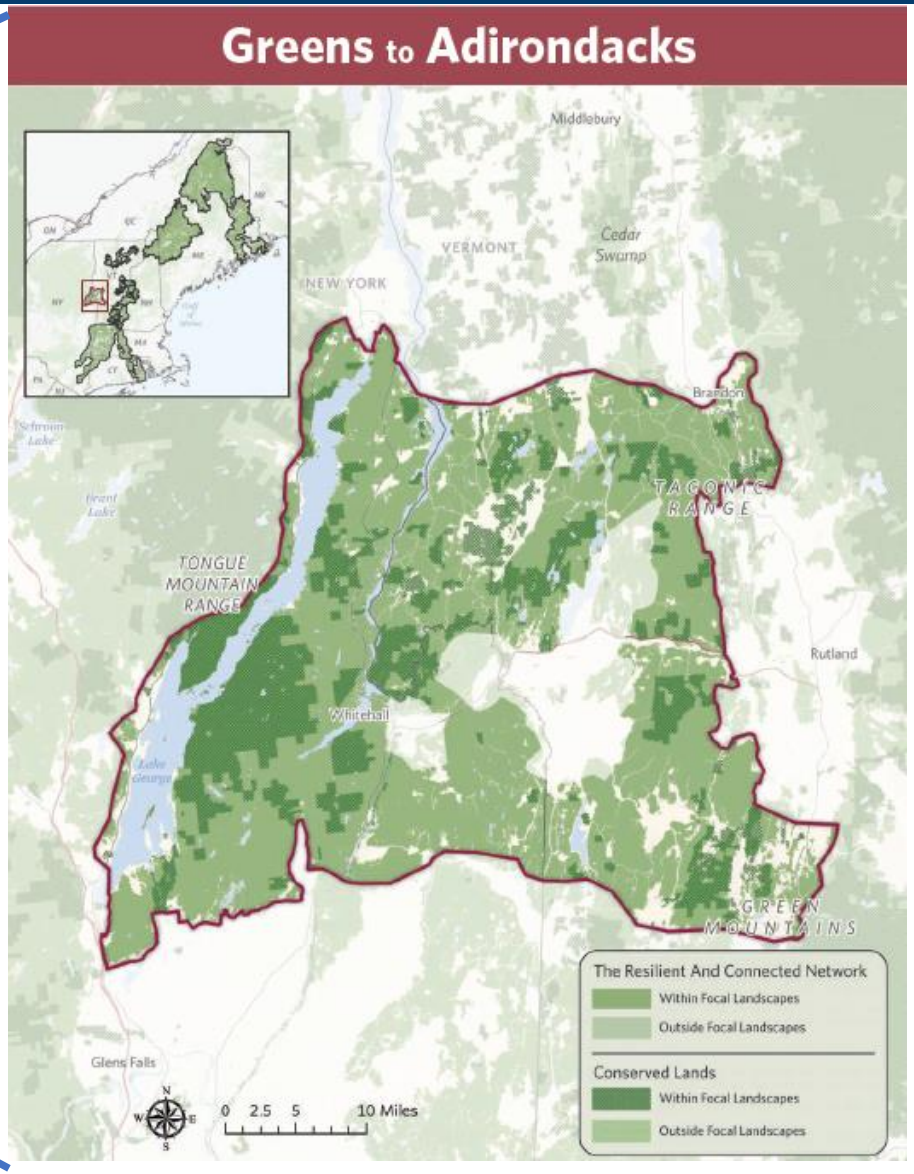
- Very high potential for inter-generational turnover of lands
- Increased forest sub-divisions for housing
- Increased roads for rural, ex-urban, peri-urban development

Are we managing for forest intactness and integrity?



3. Are we managing for regional connectivity?





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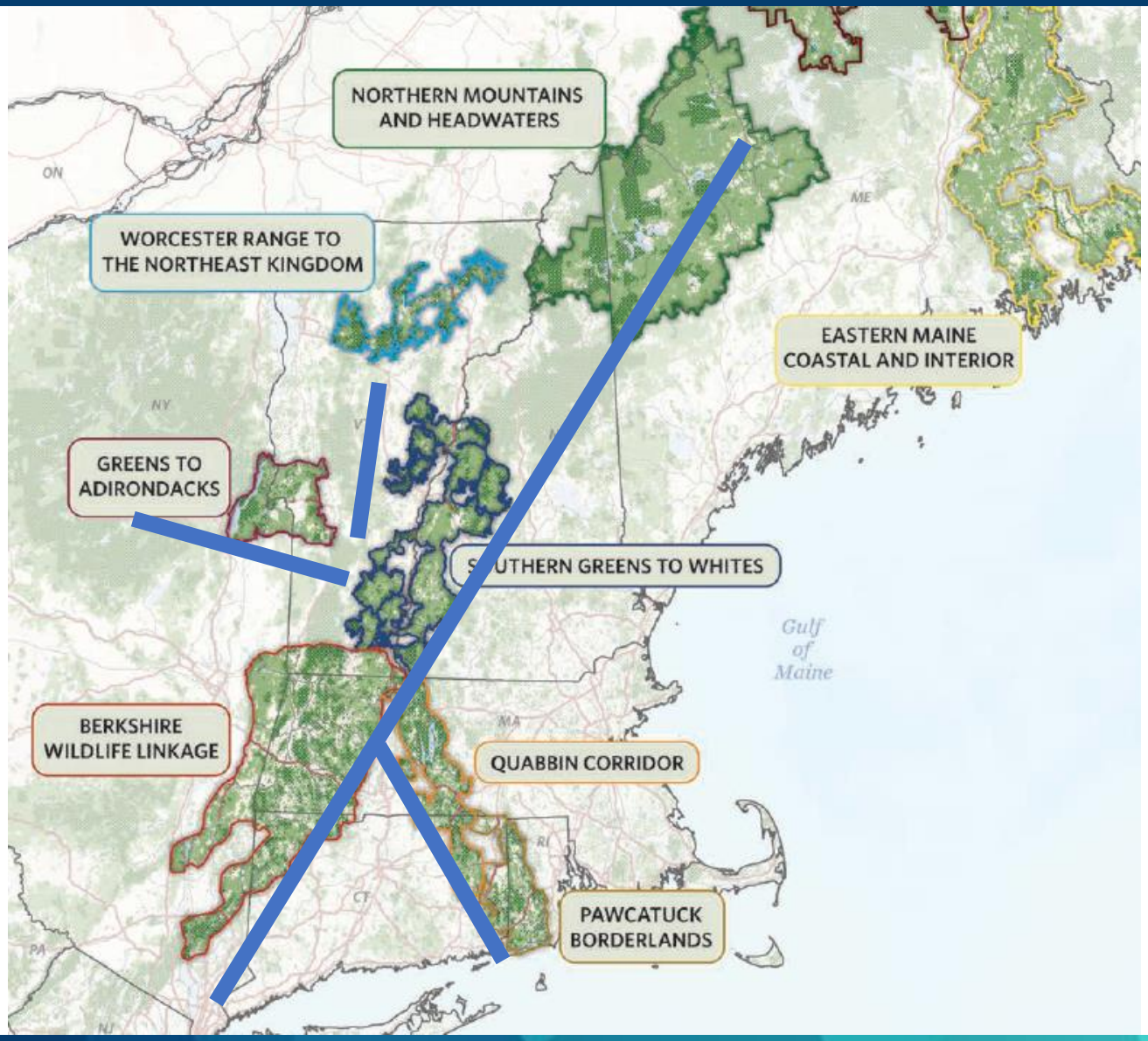
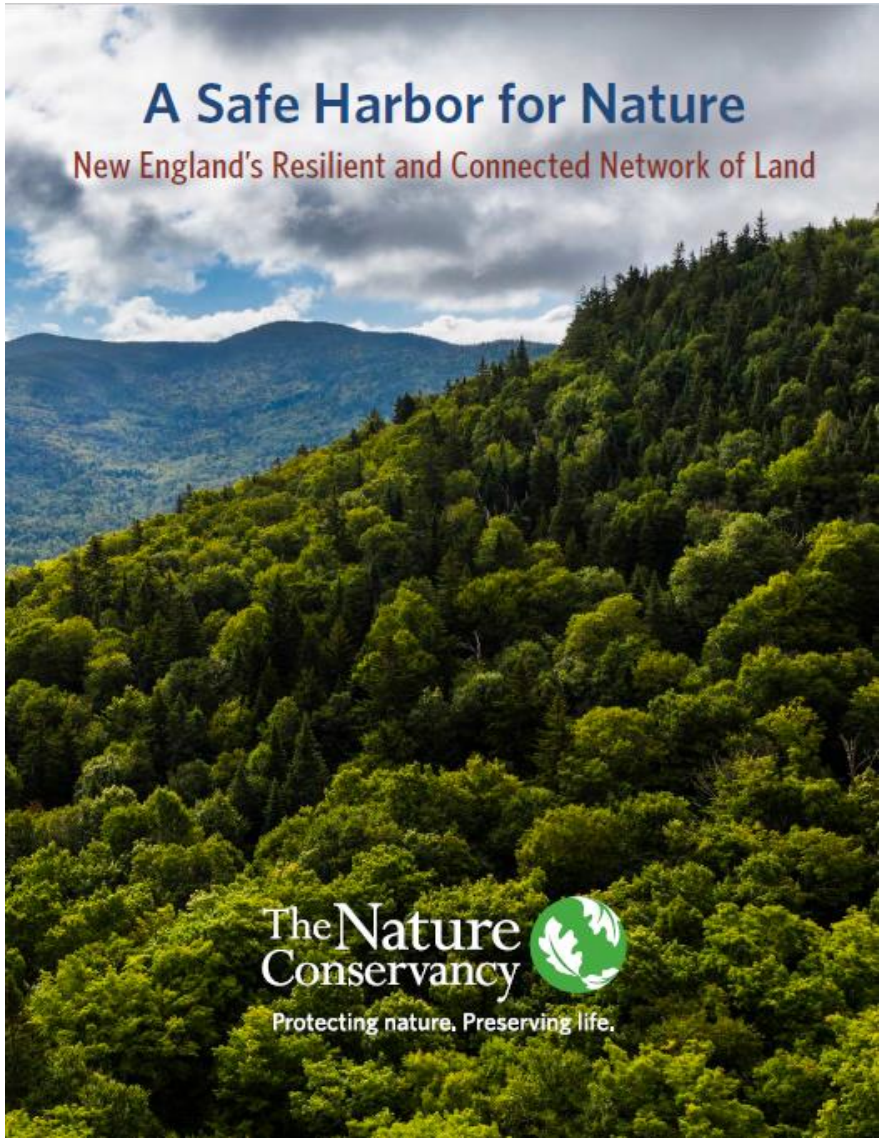
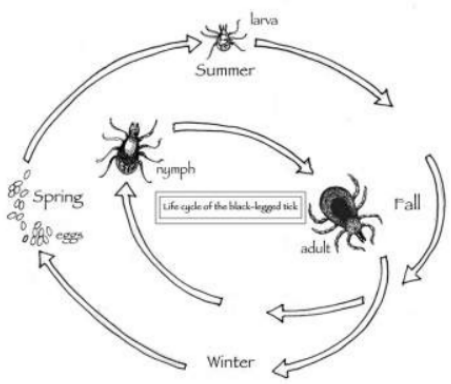


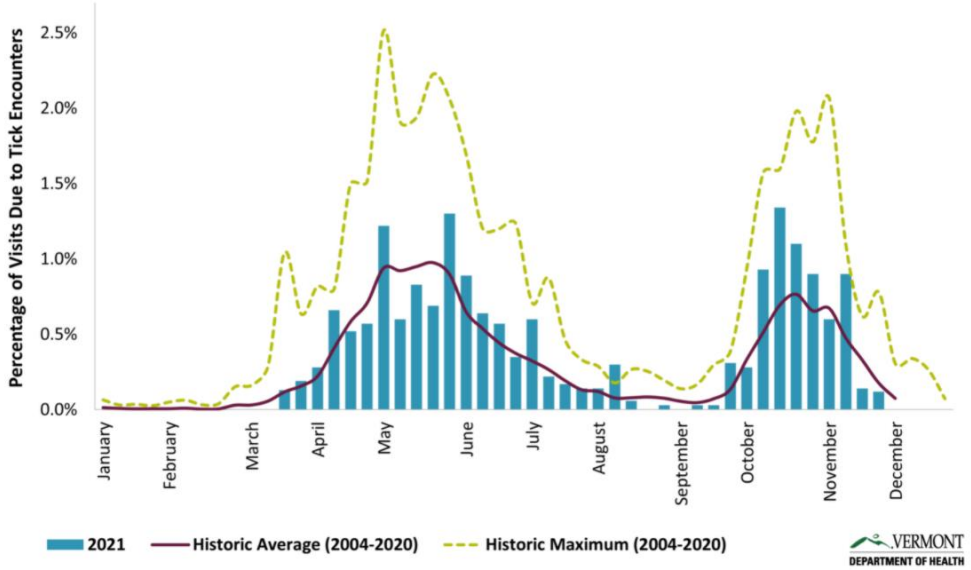


4. Are we managing for human health?

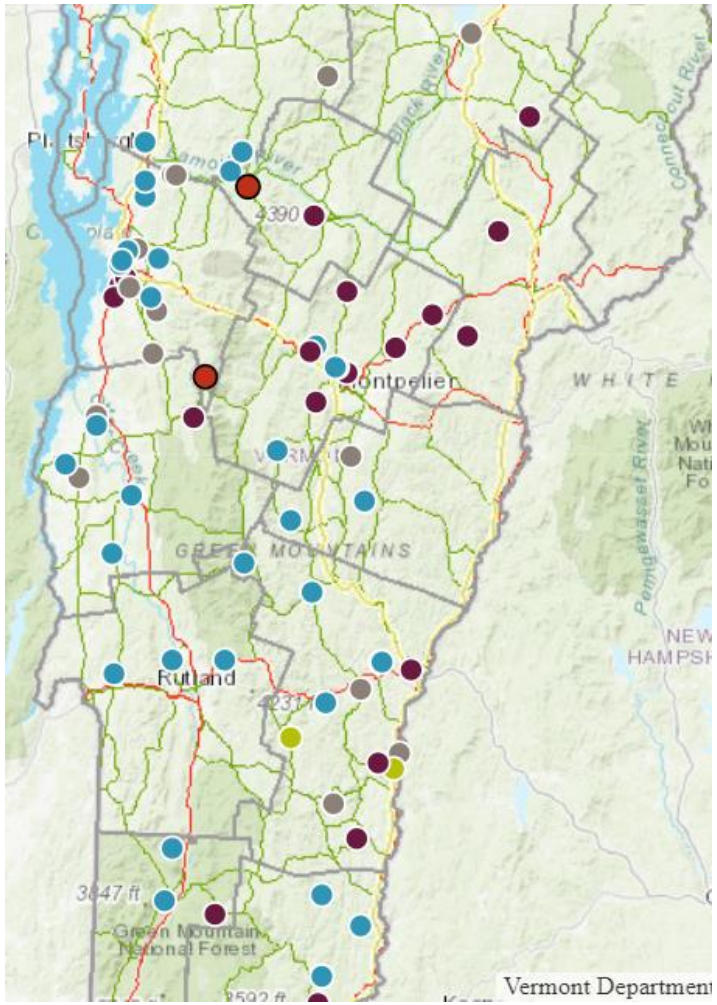
A Plague of Ticks: Scientists Search for Solutions

On a hike this spring, we walked through a clear-cut area with tall grass and brambles. Afterwards, our pant legs were crawling with black-legged ticks (*Ixodes scapularis*), also known as deer ticks, the kind that carry Lyme disease. Scientists with the Vermont Department of Health recently examined over 2,000 ticks and found that 53% of black-legged ticks tested positive for Lyme disease. A small percentage of the ticks carried pathogens that cause anaplasmosis or babesiosis, two other tick-borne diseases that can make people gravely ill.

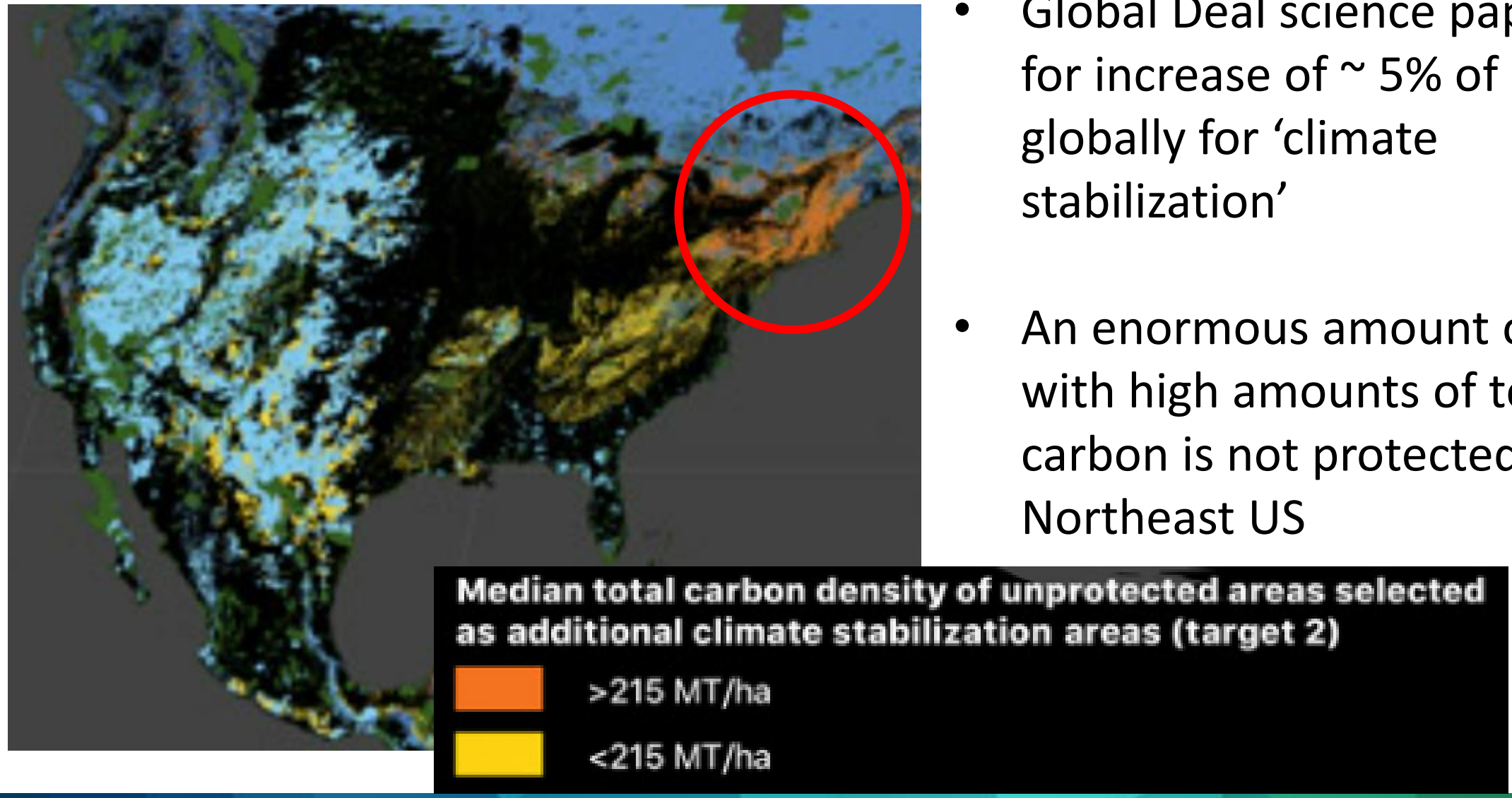




- Climate change increases tick populations
- Logging increases tick populations

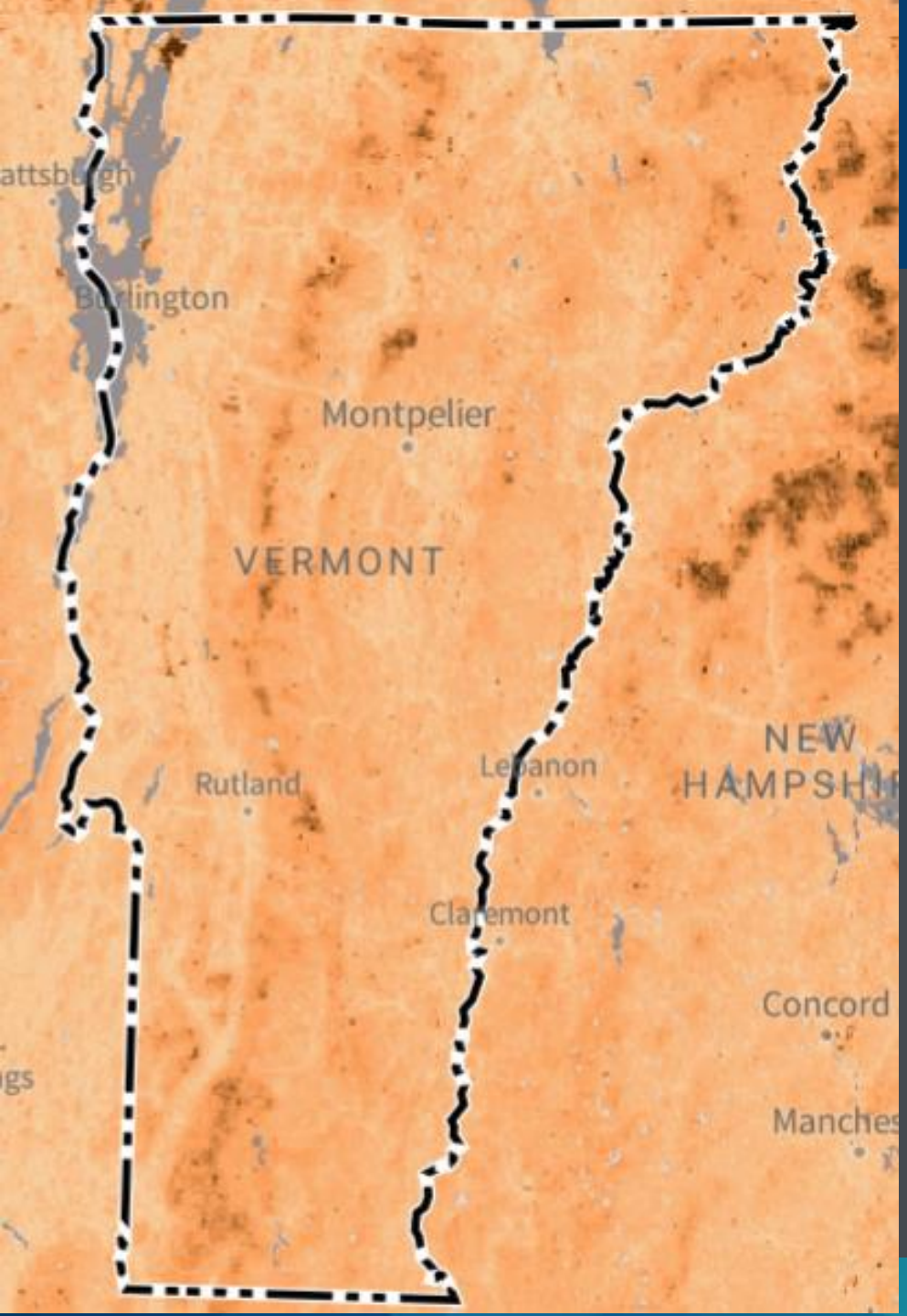


5. Are we managing for carbon sequestration?



- Global Deal science papers call for increase of ~ 5% of land globally for ‘climate stabilization’

- An enormous amount of land with high amounts of terrestrial carbon is not protected in the Northeast US

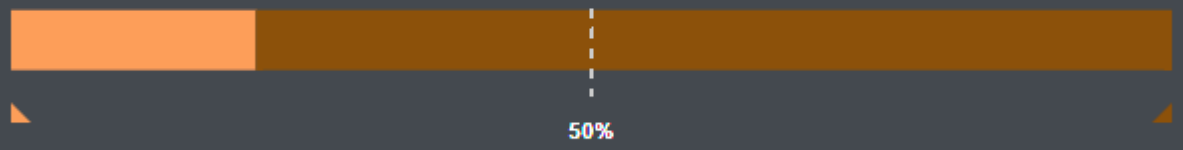


5. Are we managing for carbon sequestration?

Vermont has a high amount of biomass and soil organic carbon – 826+ megatons

826.47 Mt

TERRESTRIAL CARBON

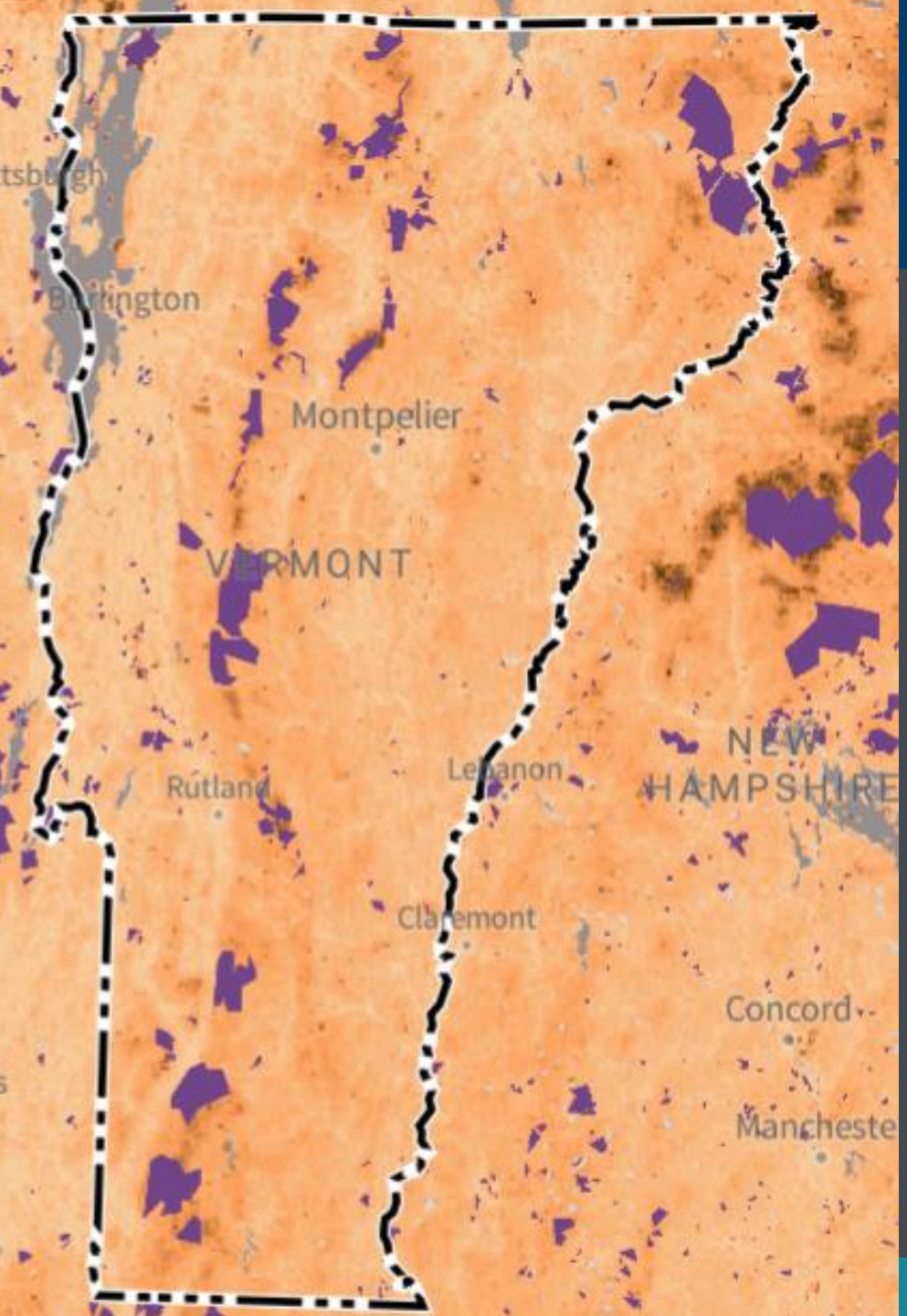


174.26 Mt

BIOMASS CARBON

652.21 Mt

SOIL CARBON



5. Are we managing for carbon sequestration?

But the vast majority of the lands with high carbon are not protected

826.47 Mt

TERRESTRIAL CARBON

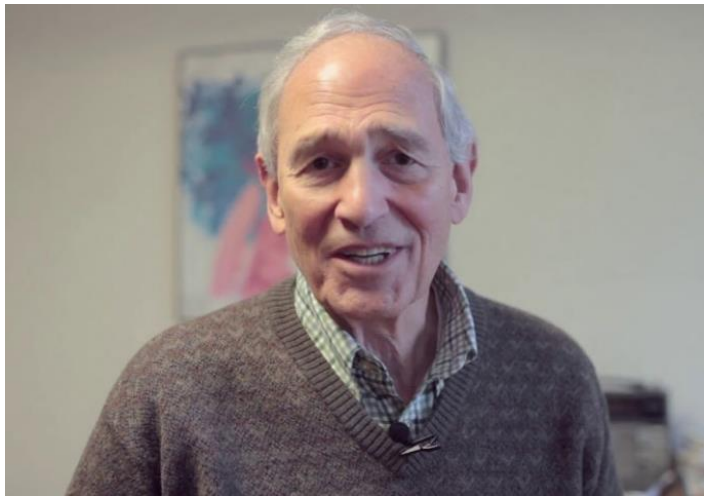
50%

174.26 Mt
BIOMASS CARBON

652.21 Mt
SOIL CARBON

5. Are we managing for carbon sequestration?

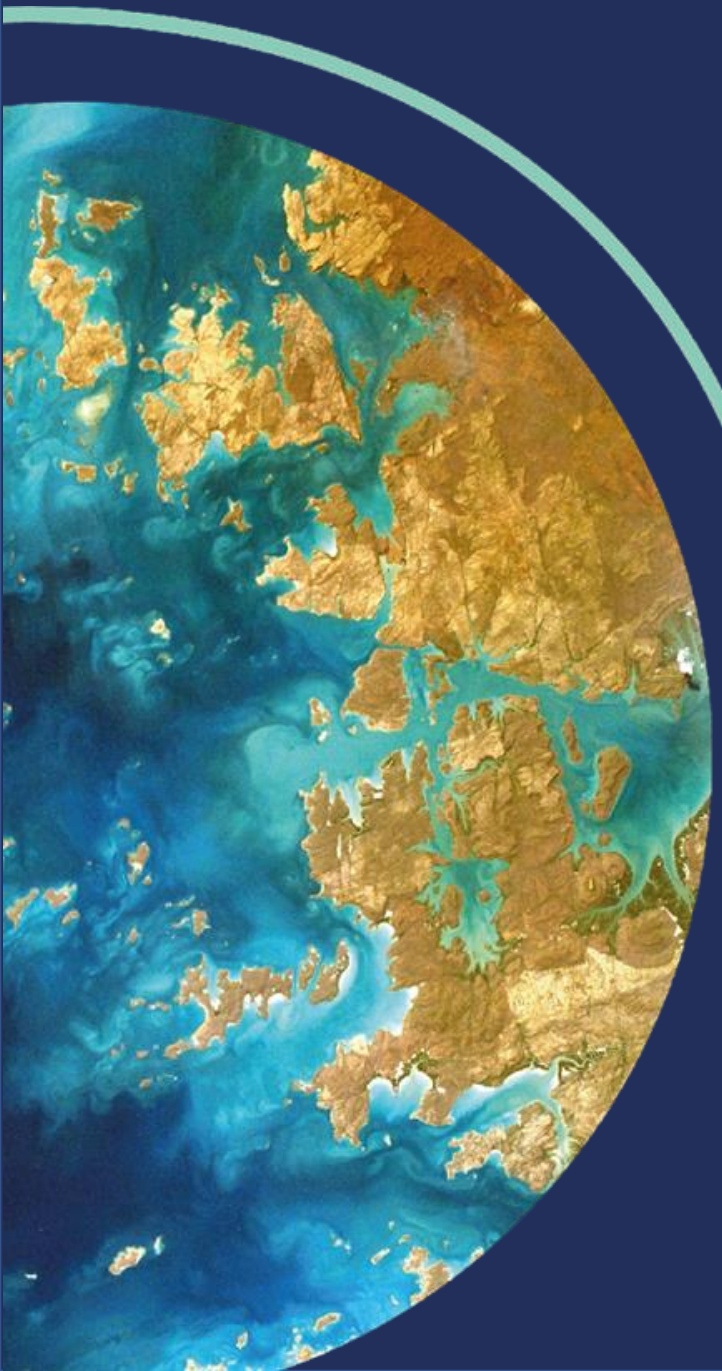
"**Vermont forests** could store 2.3 to 4.2 times more carbon than they currently store – ***if they are allowed to grow old***" Dr. William Keeton



"The most effective thing that we can do (for carbon) is ***allow trees that are already growing to continue growing*** to reach their full ecological potential, to store carbon, and develop a forest that has its full complement of environmental services." Dr. William Moomaw

5. Are we managing for carbon sequestration?

- In the next 8 years, Vermont plans to **triple logging** on public lands
- Vermont's state management plans do not prioritize maintaining mature, intact forests for their **carbon sequestration** value



5 considerations for tackling the biodiversity-climate-wellbeing nexus in Vermont

5 Considerations

- **Formally adopt ambitious protection targets** to create a nature-based ‘safety net’ for Vermont by protecting 30% by 2030

- **Align** Vermont Forest Parks and Recreation and VT Fish and Wildlife plans with **Vermont’s Conservation Design**, **Climate Action Plan** by prioritizing mature forests

- **Reconsider protected area designation** to ensure older forests can contribute to climate mitigation, disaster risk reduction

- **Create incentives** for private landowners to manage for older, mature forests in large blocks (e.g., change Use Valuation Appraisal to include a ‘wildlands’ category)

- Engage in a statewide **integrated spatial planning** exercise that prioritizes carbon sequestration, disaster risk mitigation, forest connectivity, and large, older, intact forests