

BETTER



FOR PEOPLE AND THE PLANET

FARM BILL IN FOCUS

THE FUTURE OF FORESTRY IN THE FARM BILL



EESI

Environmental and Energy
Study Institute



US Nature
4Climate

LAUREN T. COOPER

Chief Conservation Officer
Sustainable Forestry Initiative



Founder

Forest Carbon and Climate Program Michigan State University



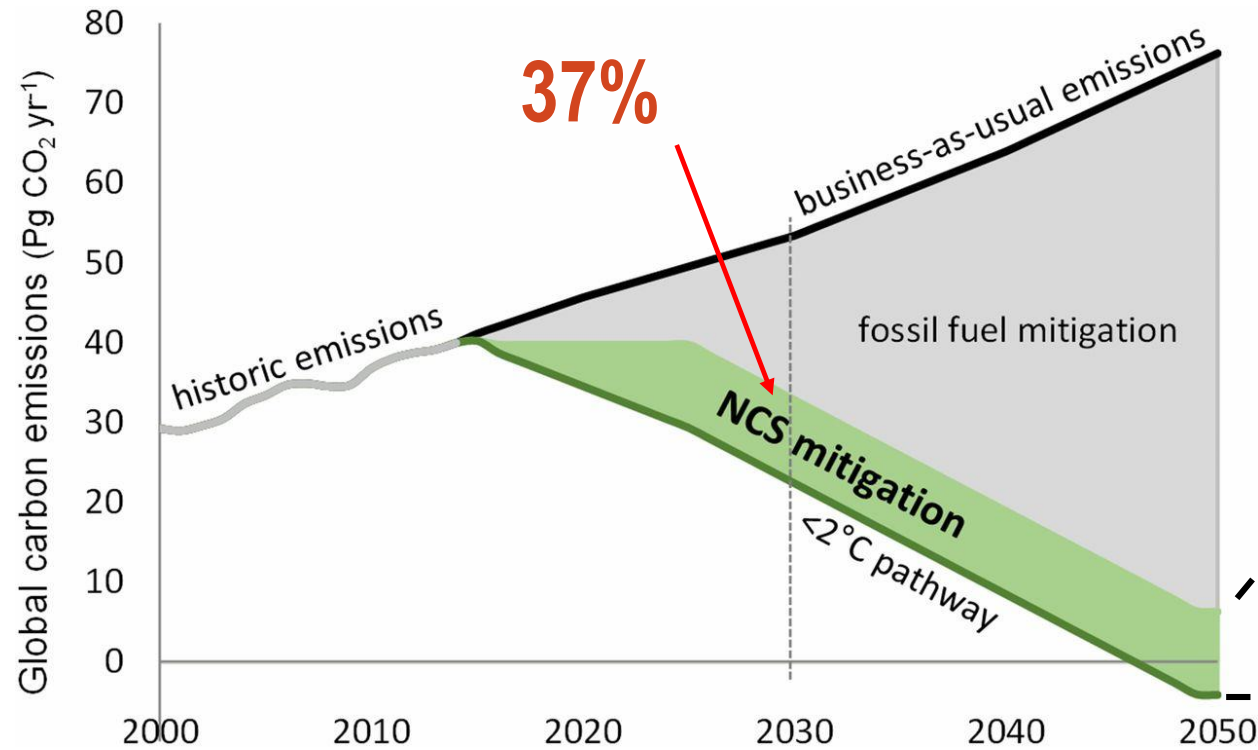
Forest Carbon and Climate Program
Department of Forestry
MICHIGAN STATE UNIVERSITY

JUNE 7, 2023

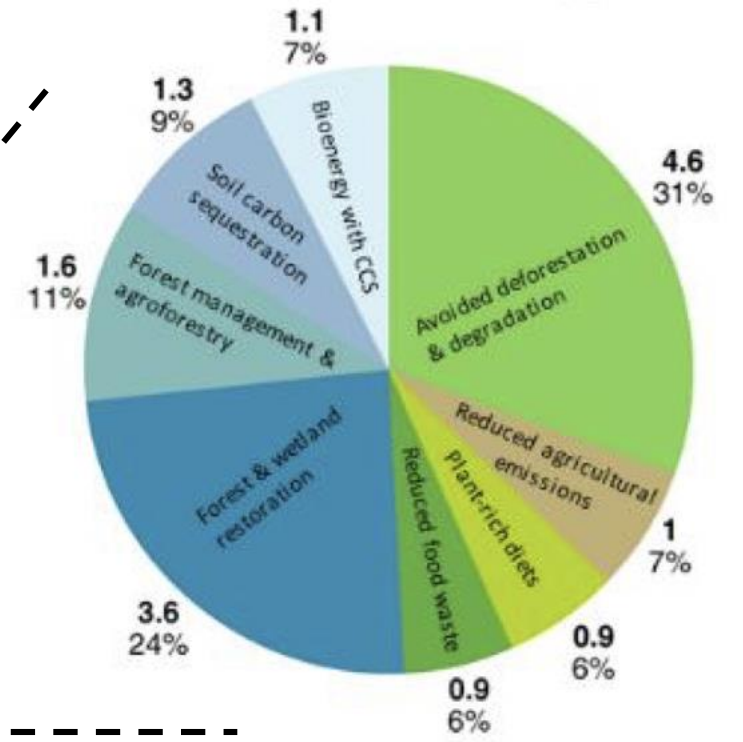
CARBON AND CLIMATE AND FORESTS

SCIENCE INTRO

CONTRIBUTION OF NATURAL CLIMATE SOLUTIONS TO BELOW 2°C

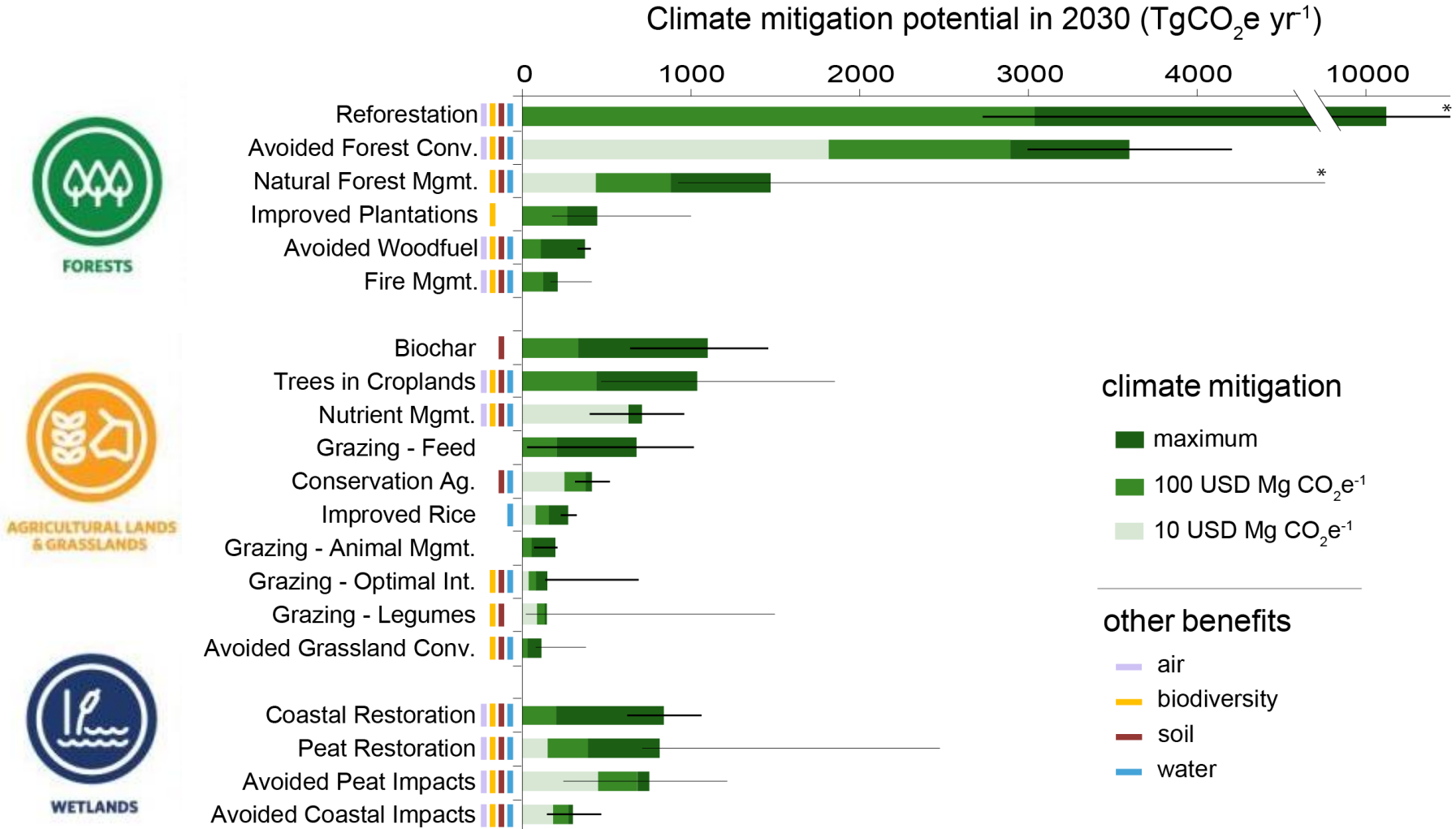


Land sector in 2050 (wedges in GtCO₂e yr⁻¹)



(Fargione et al. 2018, Griscolm et al. 2017, Roe et al. 2019)

NATURE-BASED SOLUTIONS



(Griscoll et al. 2017)

SOLUTIONS

ADVANCING ON FORESTS + CLIMATE

FOREST-BASED STRATEGIES FOR CLIMATE CHANGE

(MSU FCCP, 2022)



**INCREASE OR MAINTAIN
FORESTLAND**

**Avoiding Deforestation and
increasing Reforestation**



**MAINTAIN OR INCREASE
CARBON STOCKS**

**Changing Management Plan;
Adapting to Climate Change**



**INCREASE SUSTAINBLE
WOOD USE**

**Substituting Wood for Energy-
intensive Building Materials**

CONCERN

- Total forest area in the United States is projected to decrease by approximately 23 million acres by 2050, a 3% reduction from the 1997 forest area (USDA)
- Projected slow net decline in U.S. forestland area, private timberland area is likewise projected to decline
- Abundant restoration opportunity

OPPORTUNITY

- Public, private, tribal, and urban lands

TACTICS

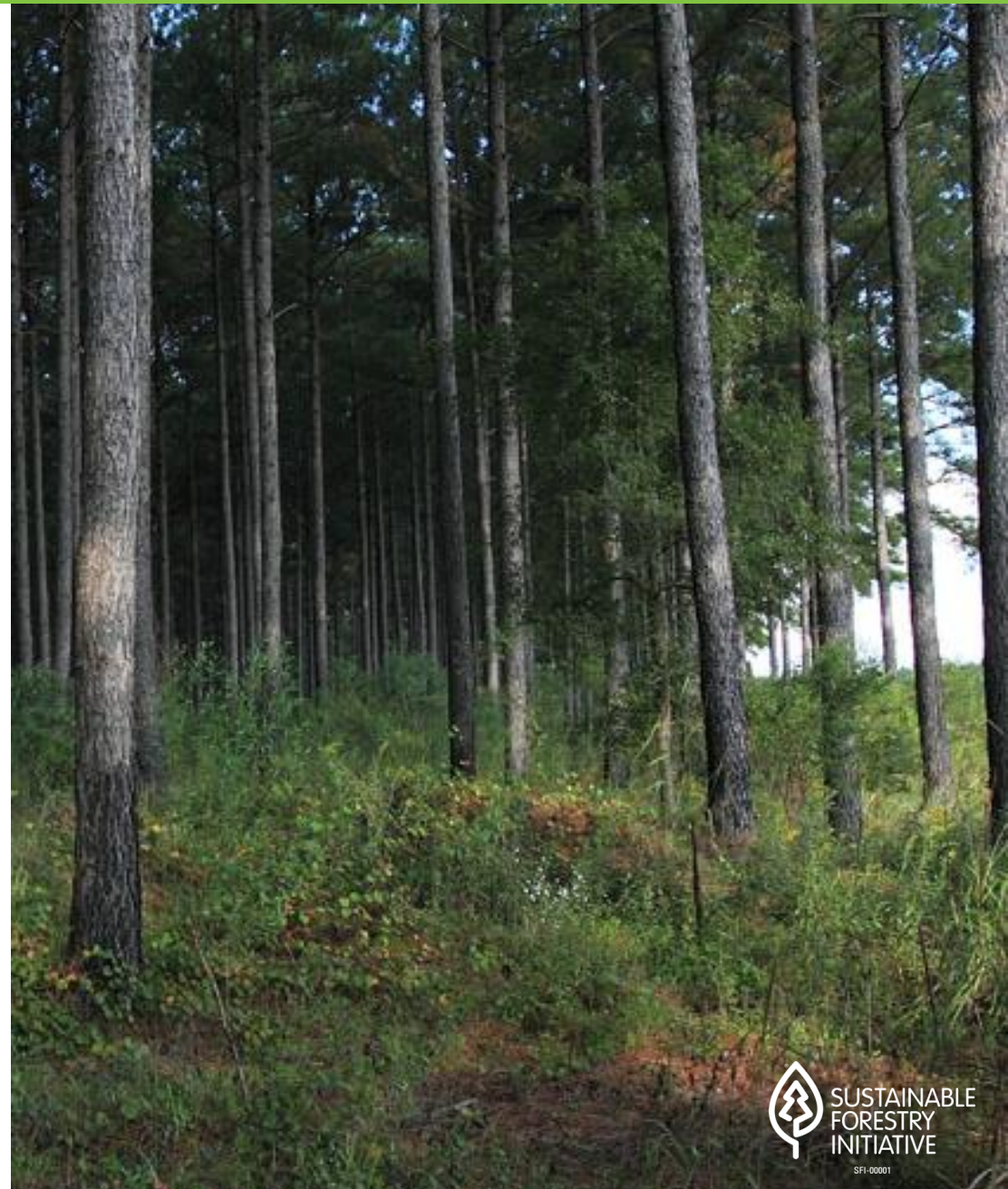
Avoided conversion
(deforestation)
Reforestation
Afforestation



BOLSTERING DEMAND FOR WORKING FORESTS

ECONOMICS DRIVE LAND USE DECISIONS

- Keeping working forests as forests – minimizing incentives to develop and convert or agricultural
- Make restocking and reforestation more attractive to landowners



- Large and cost-effective mitigation opportunities
 - Improve resilience (avoid carbon loss)
 - Increase trees and tree age (future adapted trees, older trees and forests)
- Many can be implemented rapidly by working with current landowners
- Activities Include
 - Restoration
 - Improved forest management
 - Agroforestry & Urban forestry
 - Avoiding degradation
 - Climate change adaptation



CLIMATE CHANGE AS A “THREAT MULTIPLIER”

DROUGHT

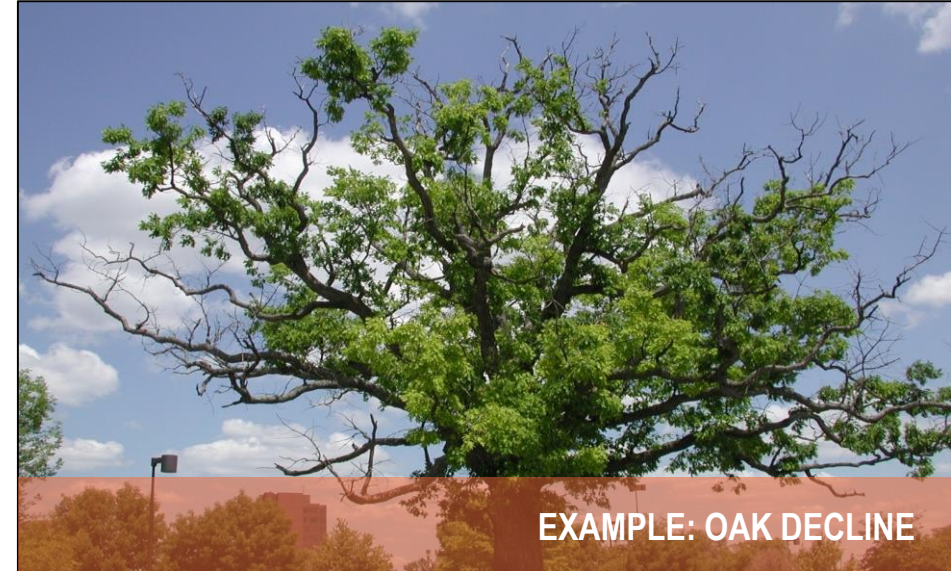
- Moisture stress in trees and reduces their resistance to other disturbances (i.e., pests & diseases)

PESTS

- Warming winters provide better conditions for insect outbreaks
- Forests with high levels of insect-induced mortality have increased wildfire risk

FIRE

- Burned stands loss carbon immediately and over time



EXAMPLE: OAK DECLINE



EXAMPLE: CATASTROPHIC FIRE (USFS)

PRIMARY APPROACHES

1. Harvested Wood Products (HWPs)
 - Stores carbon in woody material
2. Materials substitution
 - Using less emission-intensive materials (steel, plastics, concrete)
3. Energy production
 - Co-firing
4. Efficiency improvements
 - Waste material, recycling



EXAMPLE: MSU STEM MASS TIMBER

Two structures with glulam columns and beams, CLT floors to former power plant

CARBON STORAGE

- Stores ~1856 metric tons of CO₂
- = 4.5 million vehicle miles OR
- = 394 cars driven for 1 year

ADDITIONAL CLIMATE BENEFITS

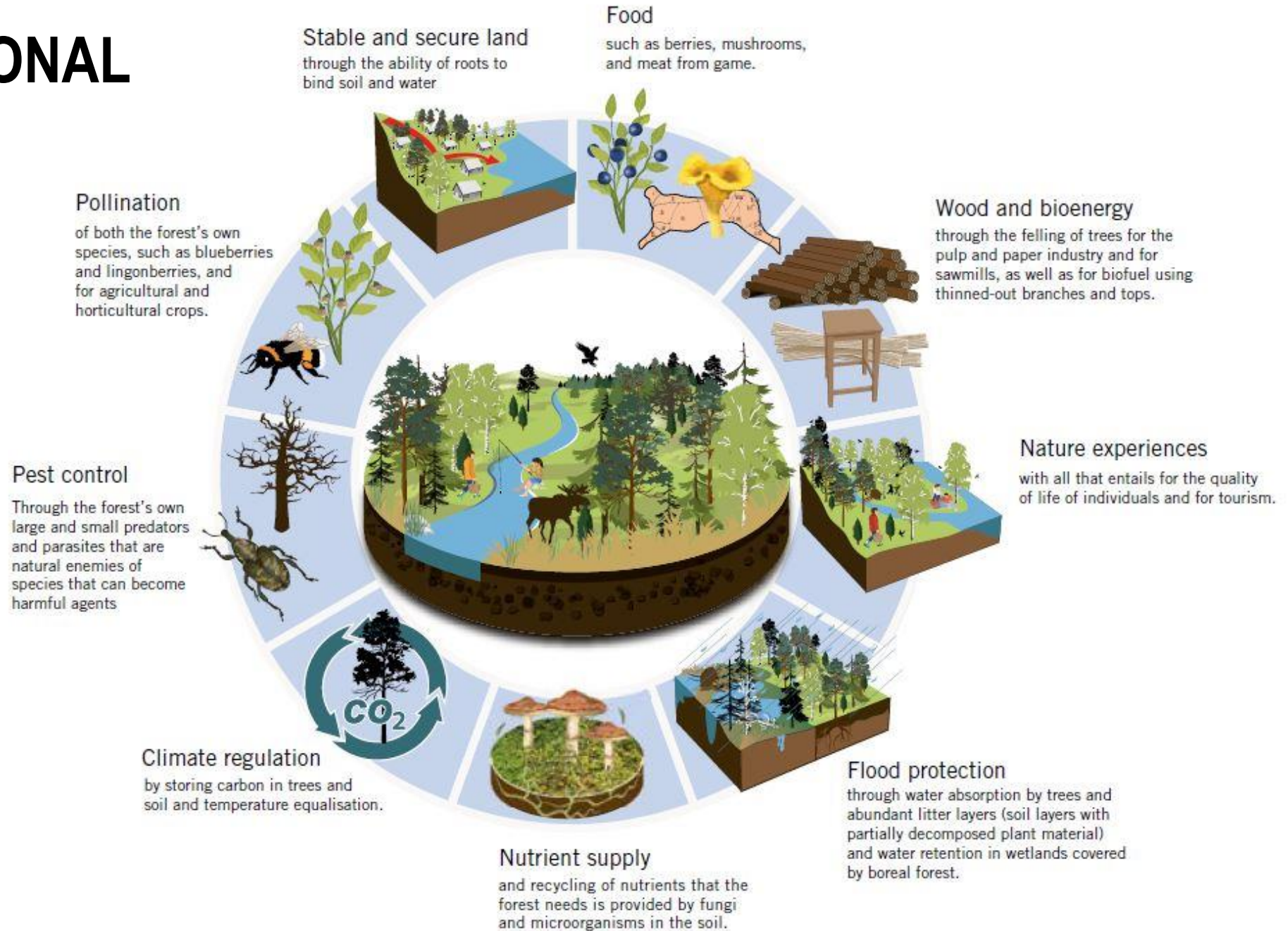
- Avoids emissions of steel & concrete
- Efficient construction times
- Potential for greater performance efficiency (e.g., energy use over time)



TAKING ACTION

AMBITIOUS POLICY AGENDA WITH SAFEGAURDS

TRANSFORMATIONAL BIOECONOMY



STRATEGIES FOR THE FARM BILL

- **Expert organization and coalitions provide focused recommendations**
 - Forest-Climate Working Group (FCWG)
 - Forests in the Farm Bill Coalition (FIBC) – recently released detailed recommendations for 2023
- **Forest Management**
 - Restoration, reducing fire risk (e.g., via controlled burning), adaptation strategies
 - Partnerships across jurisdictions (Good Neighbor Authority)
 - Protect forestlands from conversion
- **Forestry Research – federal, private, and academia**
 - Supporting Forestry Inventory and Analysis program
 - Funding for collaborative, impactful, and interdisciplinary research
- **Advance Markets for Forests and products**
 - Traditional (wood and fiber) and non-traditional (carbon, biodiversity, water credits, non-timber forest products))
 - Wood innovation – facilities, processing, market development, regional hubs and strategies
 - Increasing efficiency and reducing waste
- **Workforce development**
 - Skilled Labor, Diversity in jobs and professionals
- **Urban and community forestry**
 - Equity and social justice
 - Climate resilience



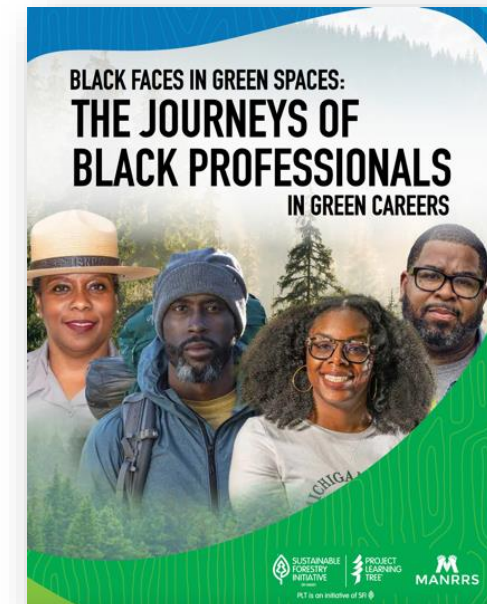
FIFB RECOMMENDATIONS AND POLICY SOLUTIONS

The purpose of this document is to provide justification for recommendations and proposed solutions to be considered in the Farm Bill. Recommendations below correspond with the summarized recommendations document to provide details of the need for public policy changes and proposed solutions to address the gap in legislation.

FORESTRY

Incentivize ways to have USDA use the tools and funds Congress previously provided to increase the pace and scale of forest restoration, and to work across boundaries to reduce risks posed by wildfire.

JUSTIFICATION: The 2018 Farm Bill amended section 103 of the Healthy Forests Restoration Act (16 U.S.C. § 6513), providing a new authority (8401 Promoting Cross Boundary Wildfire Mitigation) for the Forest Service to spend up to \$20 million on grants to state foresters for hazardous fuel reduction projects that cross land ownership boundaries, particularly in priority landscapes or identified in state Forest Action Plans (FAPs). While the new authority is working



BEST PRACTICES AND TRADEOFFS

Forests are complex – and interventions have impacts

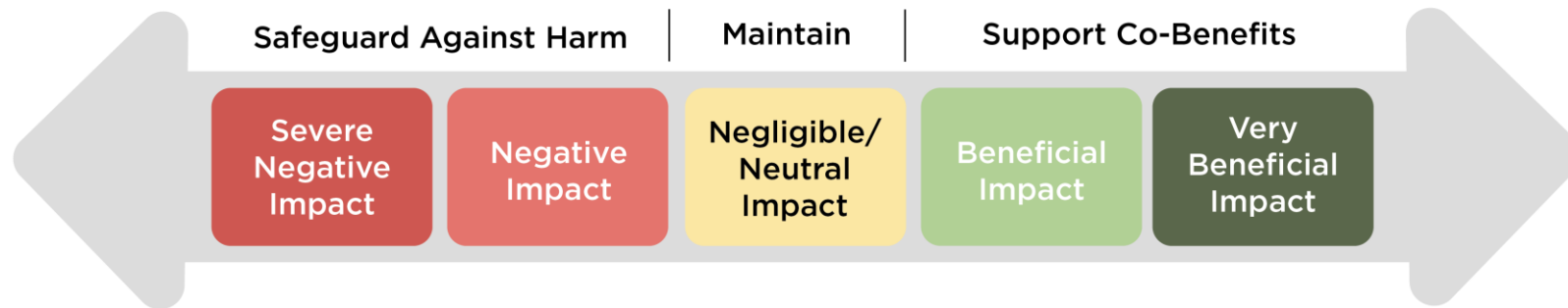
Co-occurring global biodiversity crisis (!)

Safeguards limit harm and unintended consequences and nurture best outcomes

Key is identifying indicators and metrics

Example:

Michigan has a recovering Elk population (MI DNR 2020)



SAFEGUARD TOOLS: CERTIFICATION

THE SFI URBAN AND COMMUNITY FOREST SUSTAINABILITY STANDARD



SFI recognizes the importance of access to green spaces and improving public health and wellness through our standards, initiatives, and partnerships.

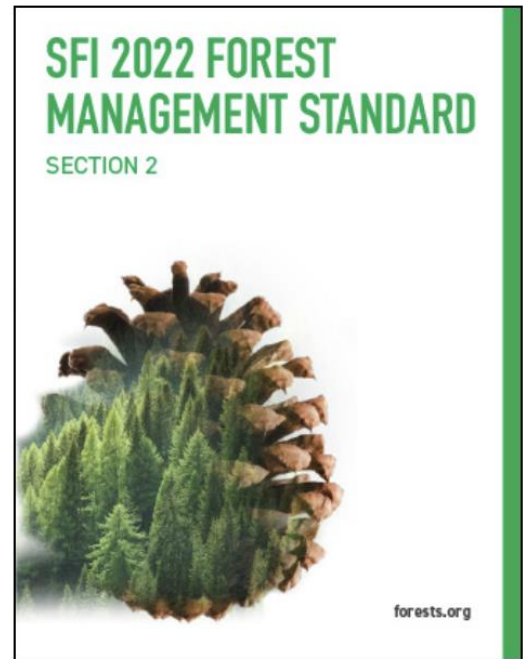
APPROVED MAY 2023



SAFEGUARD TOOLS: CERTIFICATION

SFI STANDARDS SUPPORT CLIMATE-SMART FORESTRY

The SFI 2022 Forest Management Standard contains new climate-smart forestry objective that requires forest managers to identify climate change risks and tackle them through reducing emissions from their operations or increasing carbon capture.

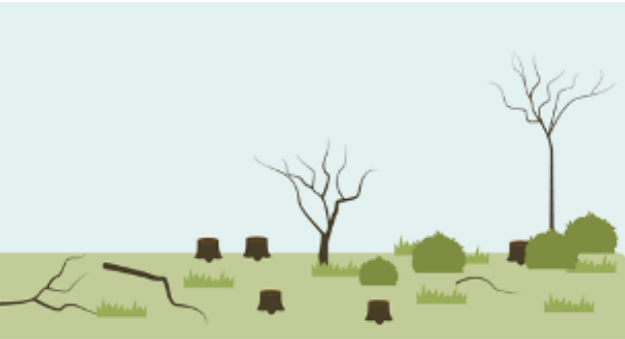
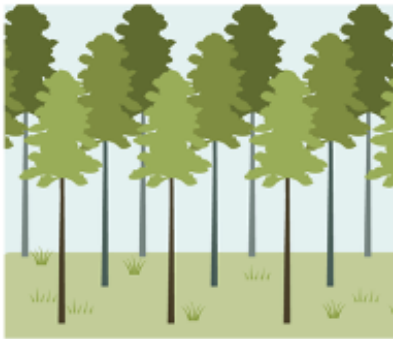




Identify and address climate change risks to forest and forest operations and the development of adaptation objectives and strategies.

Identify and address opportunities to mitigate effects associated with its forest operations on climate change.



ADVANCING STRATEGIES WITH POLICIES

				
Starting condition	Deforested Degraded	High Intensity management Low Intensity management	Minimal to no interventions	
Carbon potential	Low storage, Low Sequestration	Low storage, med/high sequestration Medium storage, med/high sequestration	High storage, Medium/low sequestration	
Potential strategy	Afforestation / Reforestation	Improved Forest Management Reduced Impact Logging	Avoided Conversion	

published today!

COOPER AND MACFARLANE, 2023. CLIMATE-SMART FORESTRY: PROMISE AND RISKS FOR FORESTS, SOCIETY, AND CLIMATE. *PLOS CLIMATE*.

THANK YOU

Lauren.cooper@forests.org



SUSTAINABLE
FORESTRY
INITIATIVE

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