TNC NY
Forest Carbon Program
Overview

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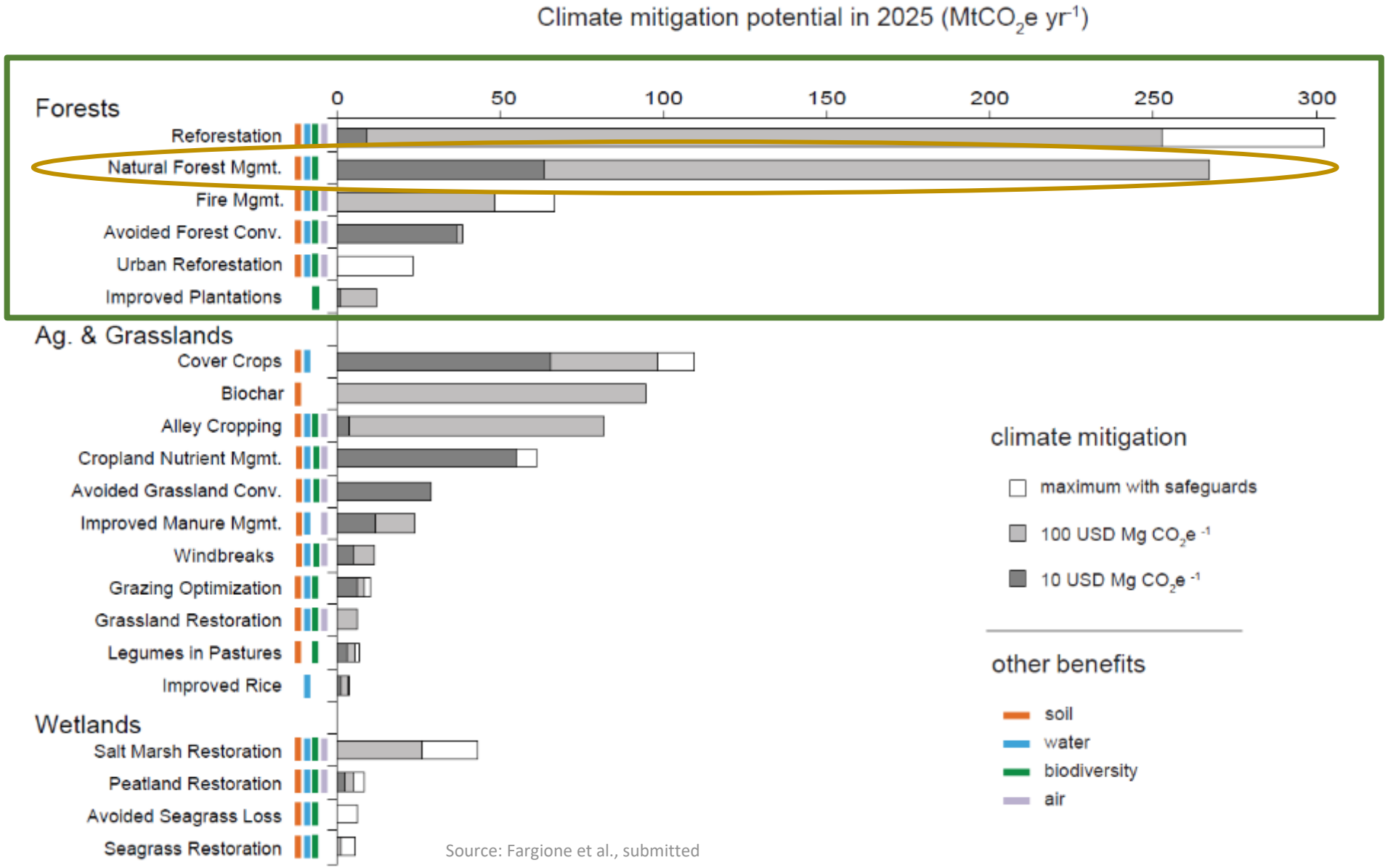
December 2020

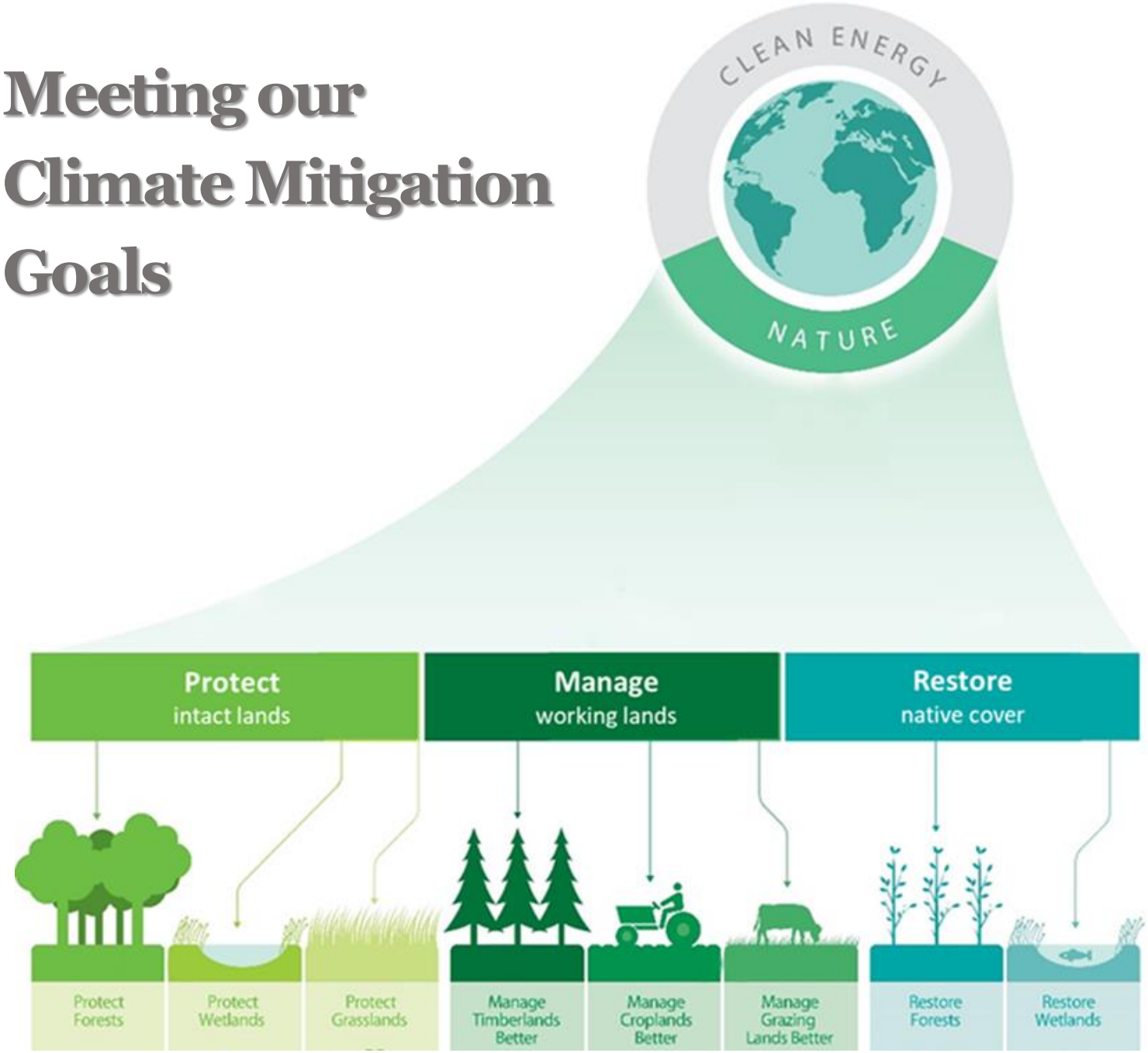
Natural Climate Solutions

The Nature Conservancy

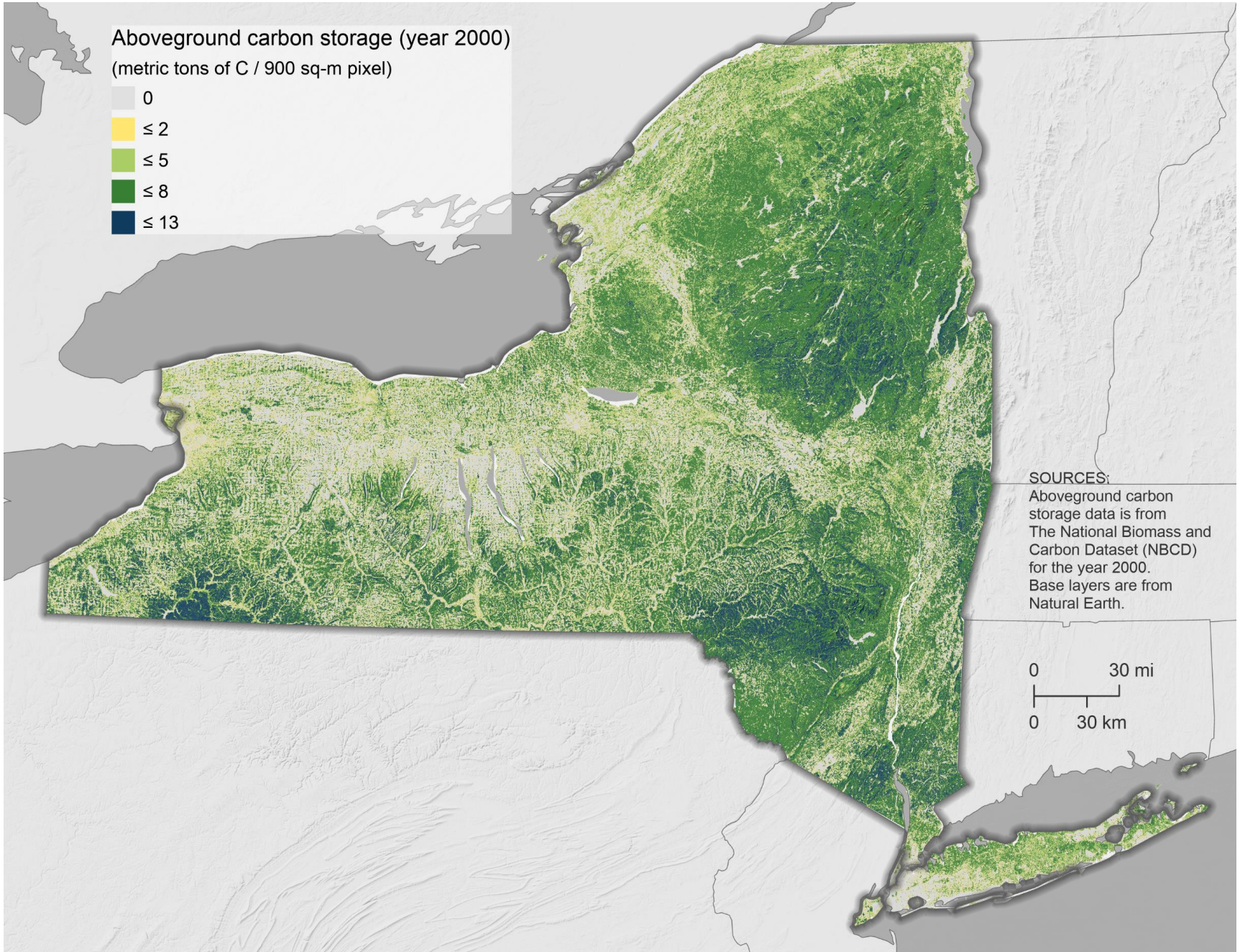


Source: Fargione et al., submitted

Meeting our Climate Mitigation Goals



NY Forest Carbon Storage (2000)



Why Forests? Co-benefits

Water

Jobs

Recreation

Climate

Habitat

Timber

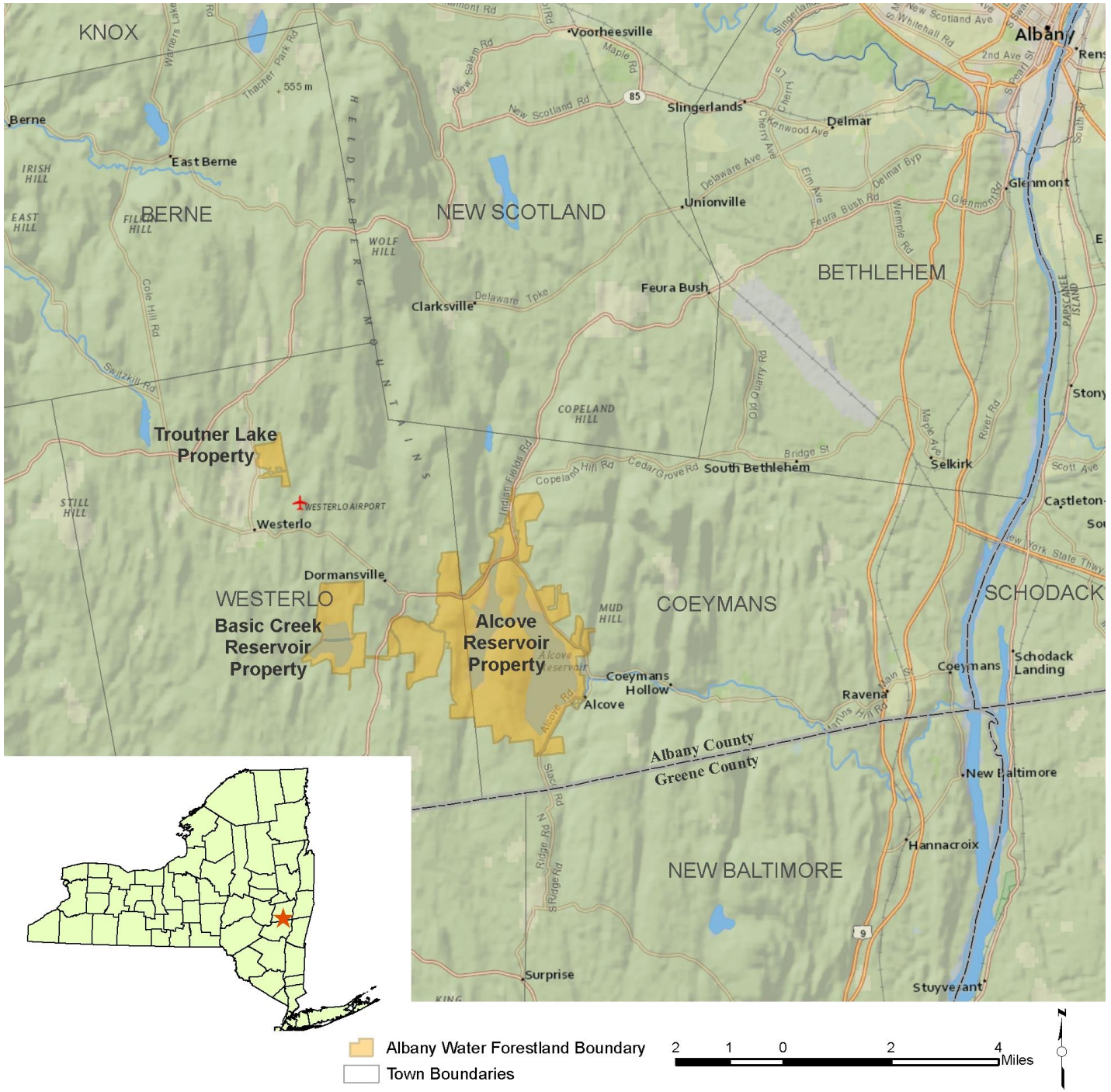
Working Woodlands

Alcove Reservoir Project completed in 2019

Photo by MHLC with Aerial Support Provided by Light Hawk

Alcove Reservoir Working Woodlands Project

- Partnership between
  - The Nature Conservancy
  - Albany Water Department
  - Mohawk Hudson Land Conservancy
- Alcove Reservoir – drinking water source for City of Albany (~120,000 residents)
- 4,500 forest land enrolled



Working Woodlands

Opportunity to generate revenue for landowners, address climate change, and protect the forest legacy

Forest certification

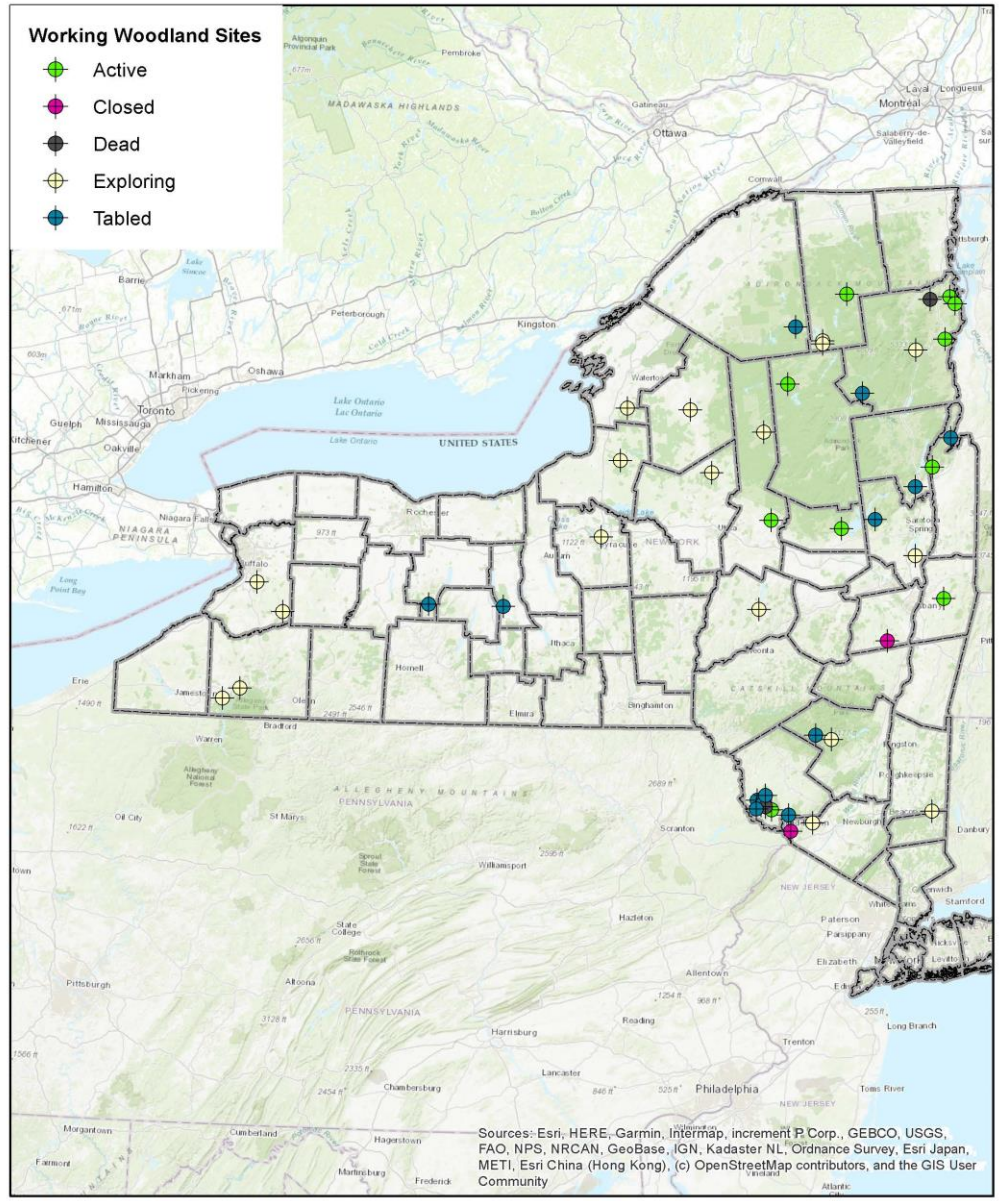
- TNC provided a new forest management plan to support sustainable management
- Certification for the property under our FSC group certificate

Forest carbon

- Developed a 40-year voluntary carbon offset project with ACR
- TNC is currently selling offset credits for the project
- Revenue is directed back to management of the property

Forest protection

- Worked with the Albany Water Board and MHLC to design the working forest conservation easement
- Can meet landowner needs AND keep the forest as forest.



The Nature Conservancy
Protecting nature. Preserving life.

0 15 30 60 90 120
Miles

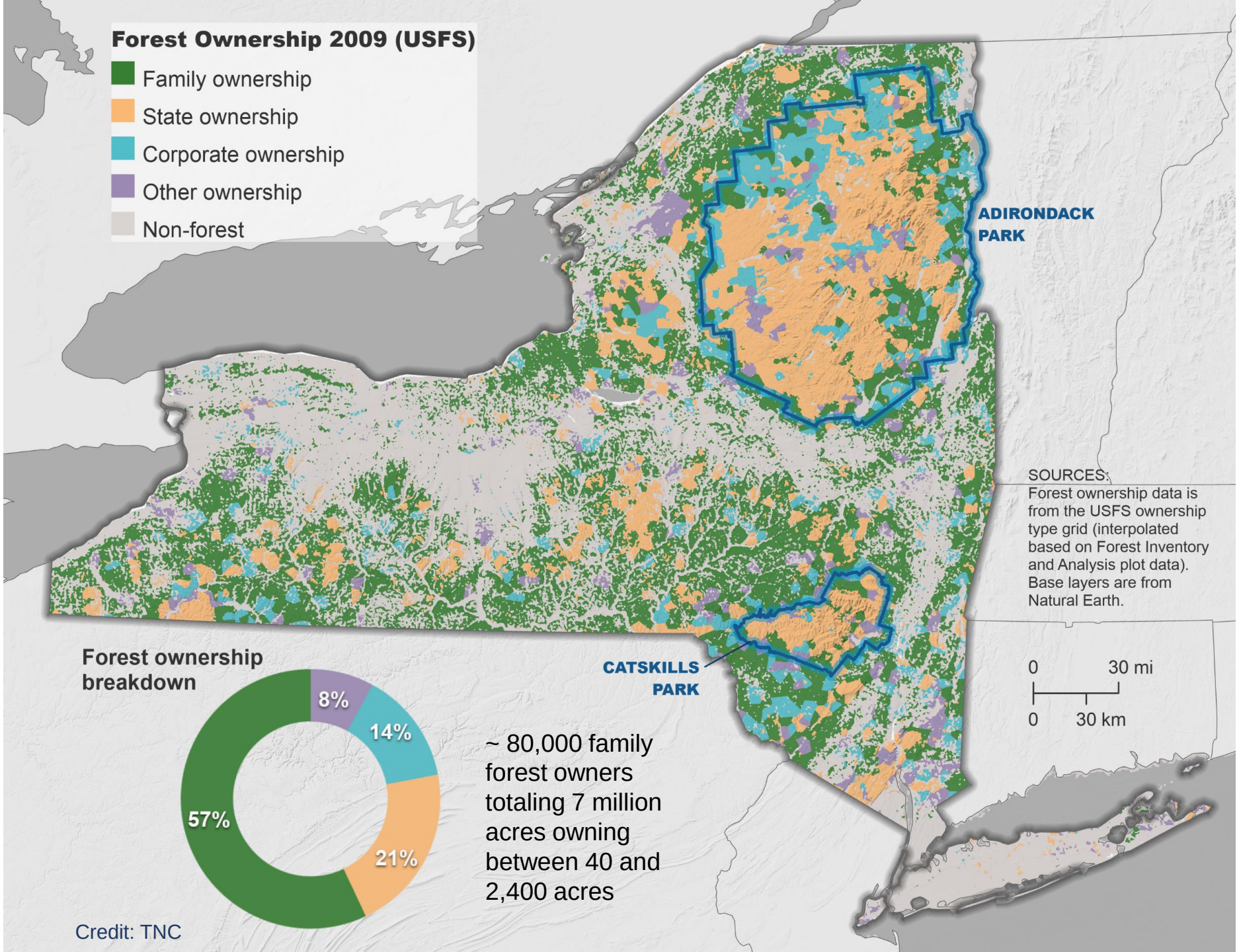
N
W E
S

The Family Forest Carbon Program

An Opportunity to Achieve Climate Mitigation and Other Vital Co-Benefits

The Nature Conservancy
Protecting nature. Preserving life.

American Forest Foundation


Forest Ownership 2009 (USFS)
Family ownership
State ownership
Corporate ownership
Other ownership
Non-forest
ADIRONDACK PARK
CATSKILLS PARK
SOURCES:
Forest ownership data is from the USFS ownership type grid (interpolated based on Forest Inventory and Analysis plot data). Base layers are from Natural Earth.
0 30 mi
0 30 km
Forest ownership breakdown
8%
14%
57%
21%
~ 80,000 family forest owners totaling 7 million acres owning between 40 and 2,400 acres
Credit: TNC

Family Forest Carbon Program

Practices

1. Growing Mature Forest
2. Enhancing the Future Forest Practice

Six Draft Practices

(New England TNC - USFS 2019 Workshop)

1. Retain carbon in commercial thinning
2. Regeneration harvest with complexity
3. Protection regeneration from herbivory (deer fencing or tree shelters)
4. Reforestation
5. Removal of vines
6. Forest reserves

Family Forest Carbon Program - Draft Practices

Regeneration Harvest with Complexity

Eligibility

- 40 to 2,400 acres
- 2,000 board feet/acre within the project area (stocking suitable for commercial harvest)

Practice specifications

- Develop two property-wide, 10-year forest management plans
- Harvests are allowed but restricted:
  - No thinning from above (“high-grading”)
  - Harvest area not to exceed more than 20% of stand
  - Retain > 4 live trees/acre >14 inches DBH and snag and coarse woody debris

Family Forest Carbon Program - Draft Practices

Protect Regeneration from Herbivory

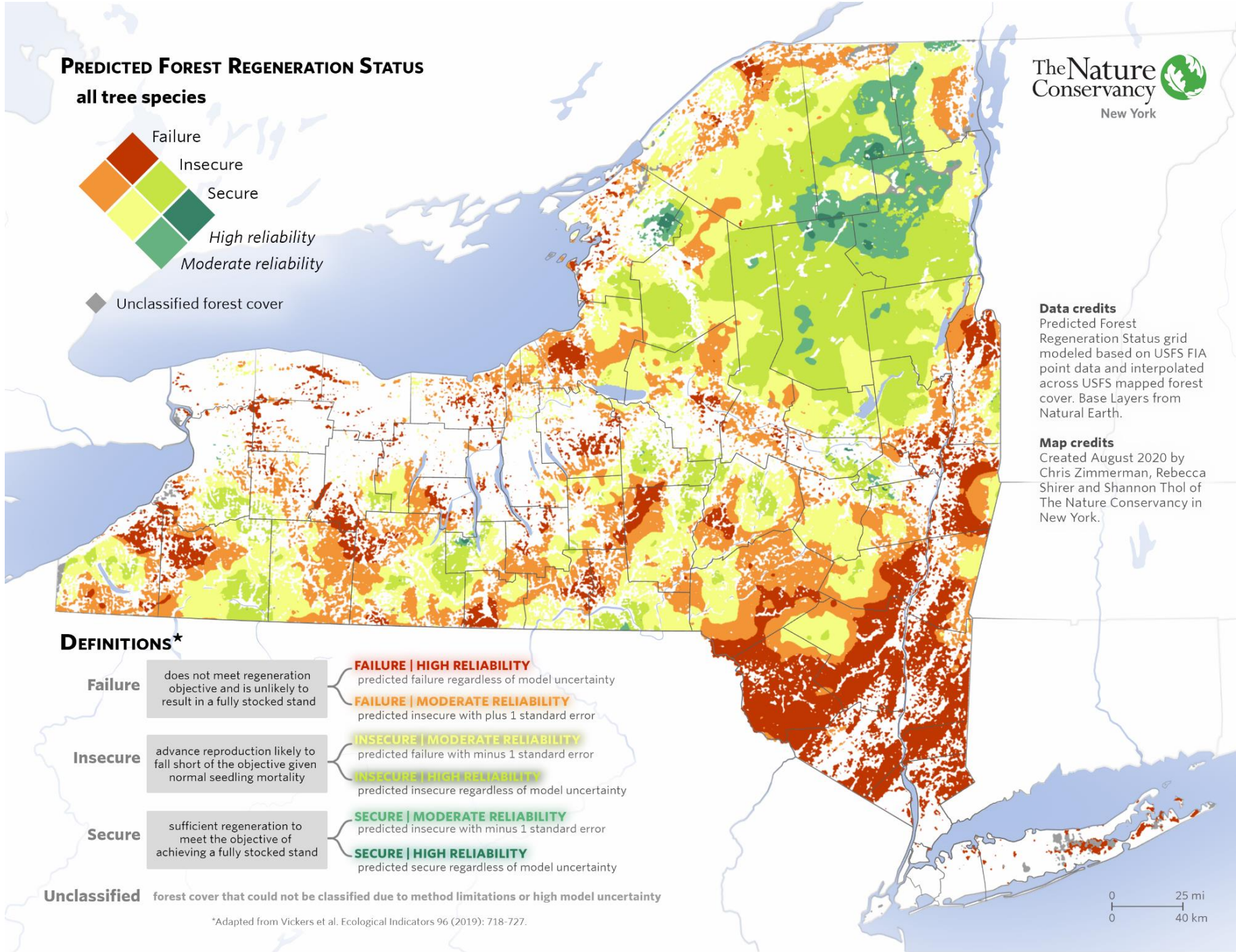
Produces carbon benefit through improving regeneration in stands impacted by herbivory

Eligibility

- 40 to 2,400 acres
- The project area has significant damage from deer
- Landowner must allow hunting on the project area

Practice specifications

- Fences or shelters must be maintained for at least 10 years
- Performance standard
  - Year 5 >350 stems/acre of native tree species
  - Year 10 >350 stems/acre > 6 feet in height


Predicted Forest Regeneration Status
all tree species
Failure
Insecure
Secure
High reliability
Moderate reliability
Unclassified forest cover
The Nature Conservancy
New York
Data credits
Predicted Forest Regeneration Status grid modeled based on USFS FIA point data and interpolated across USFS mapped forest cover. Base Layers from Natural Earth.
Map credits
Created August 2020 by Chris Zimmerman, Rebecca Shirer and Shannon Thol of The Nature Conservancy in New York.
Definitions*
Failure
does not meet regeneration objective and is unlikely to result in a fully stocked stand
FAILURE | HIGH RELIABILITY
predicted failure regardless of model uncertainty
FAILURE | MODERATE RELIABILITY
predicted insecure with plus 1 standard error
Insecure
advance reproduction likely to fall short of the objective given normal seedling mortality
INSECURE | MODERATE RELIABILITY
predicted failure with minus 1 standard error
INSECURE | HIGH RELIABILITY
predicted insecure regardless of model uncertainty
Secure
sufficient regeneration to meet the objective of achieving a fully stocked stand
SECURE | MODERATE RELIABILITY
predicted insecure with minus 1 standard error
SECURE | HIGH RELIABILITY
predicted secure regardless of model uncertainty
Unclassified
forest cover that could not be classified due to method limitations or high model uncertainty
*Adapted from Vickers et al. Ecological Indicators 96 (2019): 718-727.
0 25 mi
0 40 km

Family Forest Carbon Program - Draft Practices

Reforestation

Produces carbon benefits through the reforestation of lands that are not currently forest, but were historically

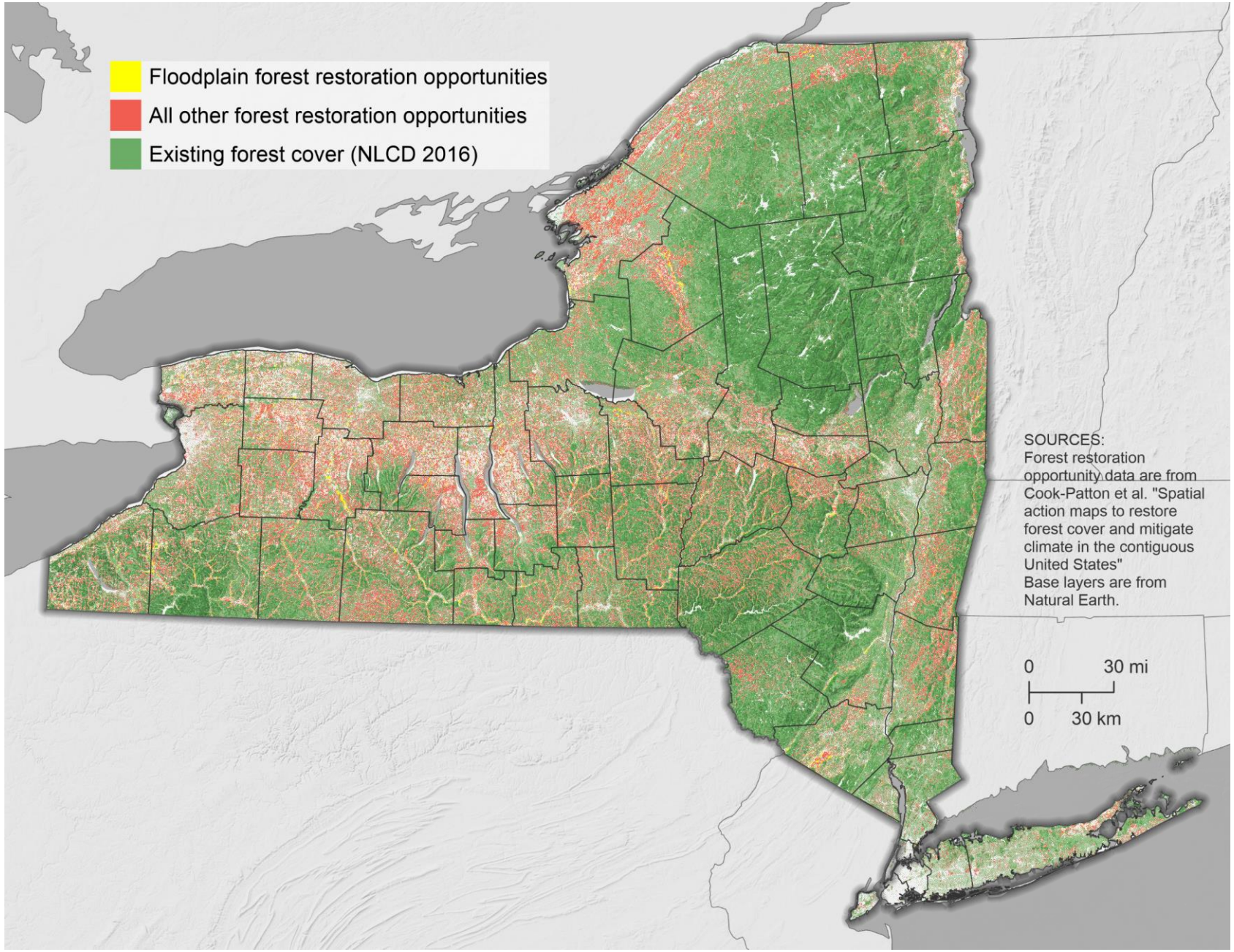
Eligibility

- 40 to 2,400 acres
- Non-forest (<25% tree cover)

Practice specifications

- Fences or shelters must be maintained for at least 10 years
- Performance standard
  - Year 5 >350 stems/acre of native tree species
  - Year 10 >350 stems/acre > 6 feet in height

NY Reforestation Opportunity



NY Reforestation Opportunity

Forest Restoration Opportunity by Land Cover Type

Land Cover Classes (NLCD)	Acres	(MMT CO2/yr)
Unstocked forest & shrub	29,158	0.118
Pasture – poor soils	350,642	1.1833
Other pasture	2,643,035	8.7718
Crop – poor soils	124,047	0.4005
Urban open space	494,457	1.6862
Remaining NLCD classes	11,861	0.0477
Total	3,653,200	12.2075

Forest Restoration Opportunity by Ownership

Ownership	Opportunity (ac)	(MMT CO2/yr)
Private	3,595,872	12.014
Private - NGO	988	0.0038
Federal	7,660	0.0242
State	22,734	0.0771
Public - Other	23,228	0.0789
Tribal	2,965	0.0095

Thank You

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More info:
nature.org/nyworkingwoodlands

The Nature Conservancy