FoRests Among Managed Ecosystems of the Megalopolis

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Megalopolis
Pop. Density:
359/km^2
931/mile^2

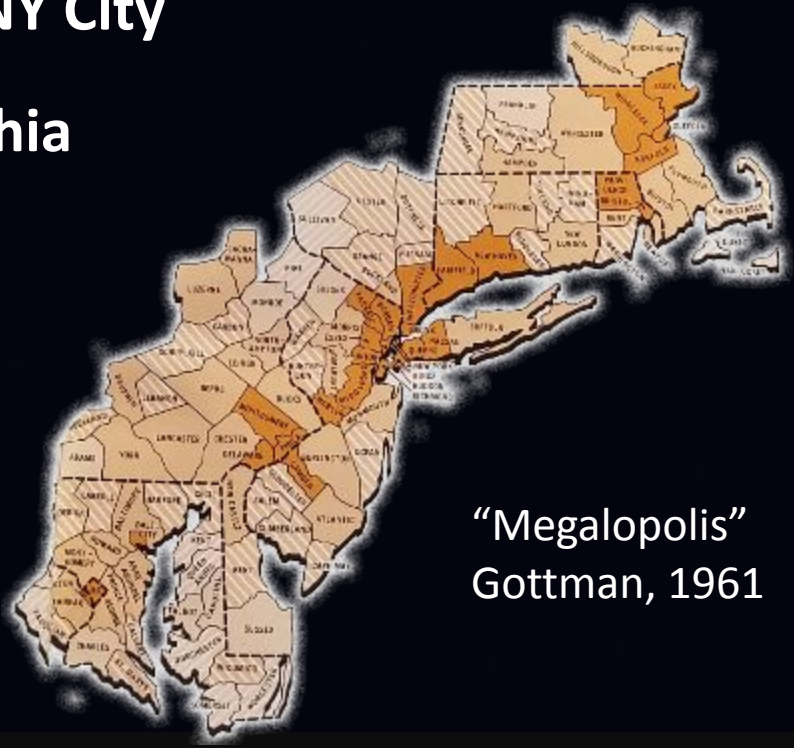
Boston

NY City

Philadelphia

Baltimore

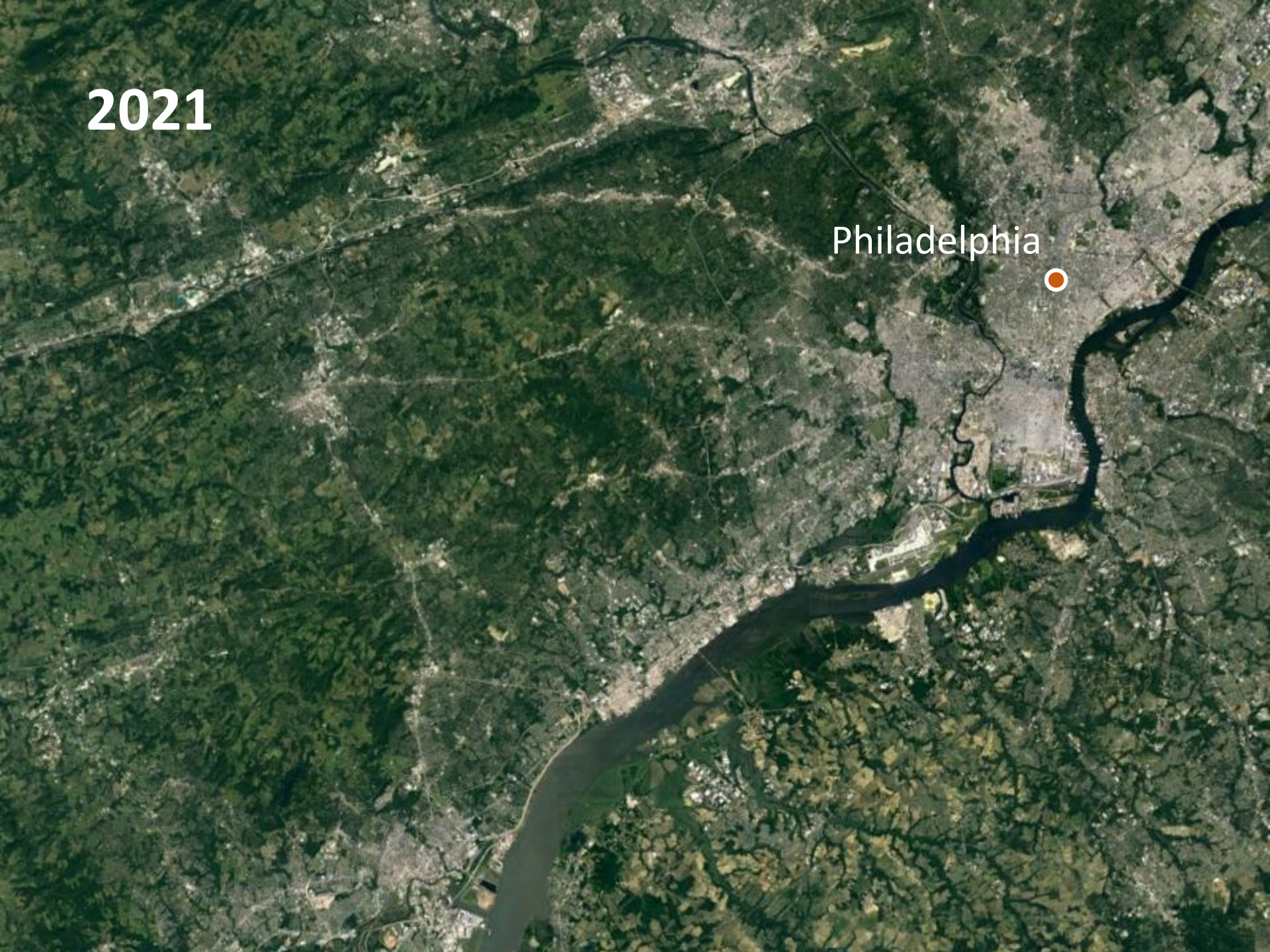
Washington DC

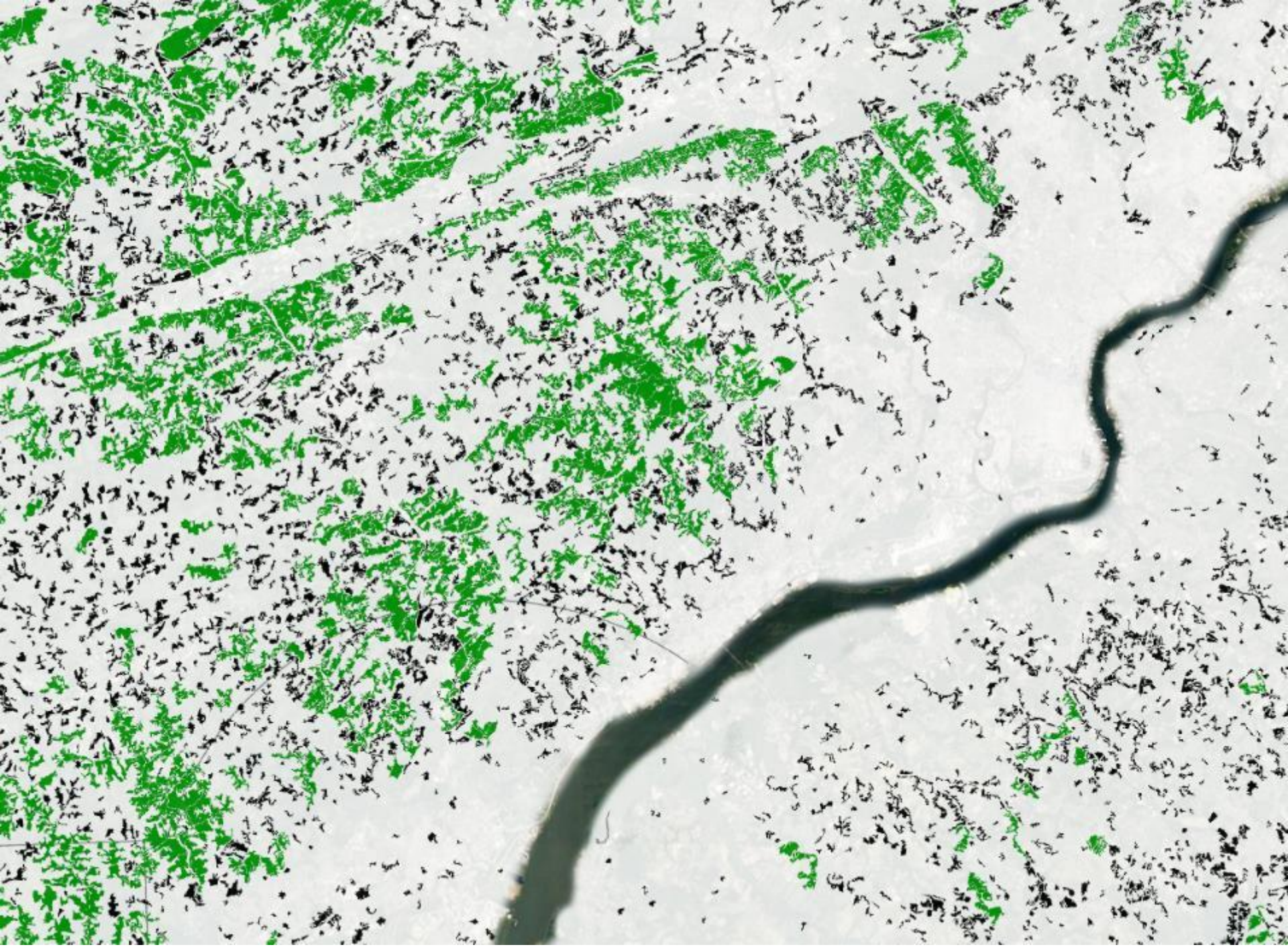


"Megalopolis"
Gottman, 1961

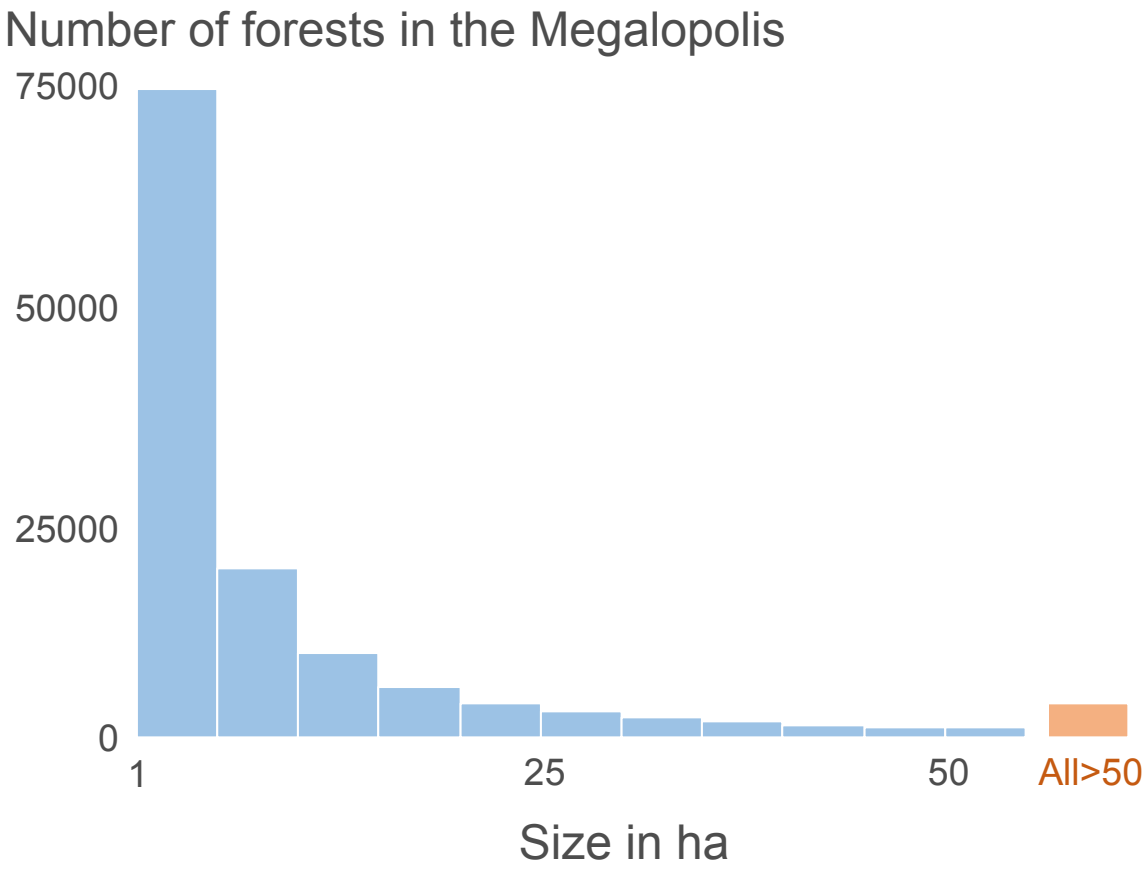
A Brief History of Forests in the Megalopolis


Megalopolitan
Landscape of
the past
Future site of
Philadelphia
Area shown = 129,000 ha

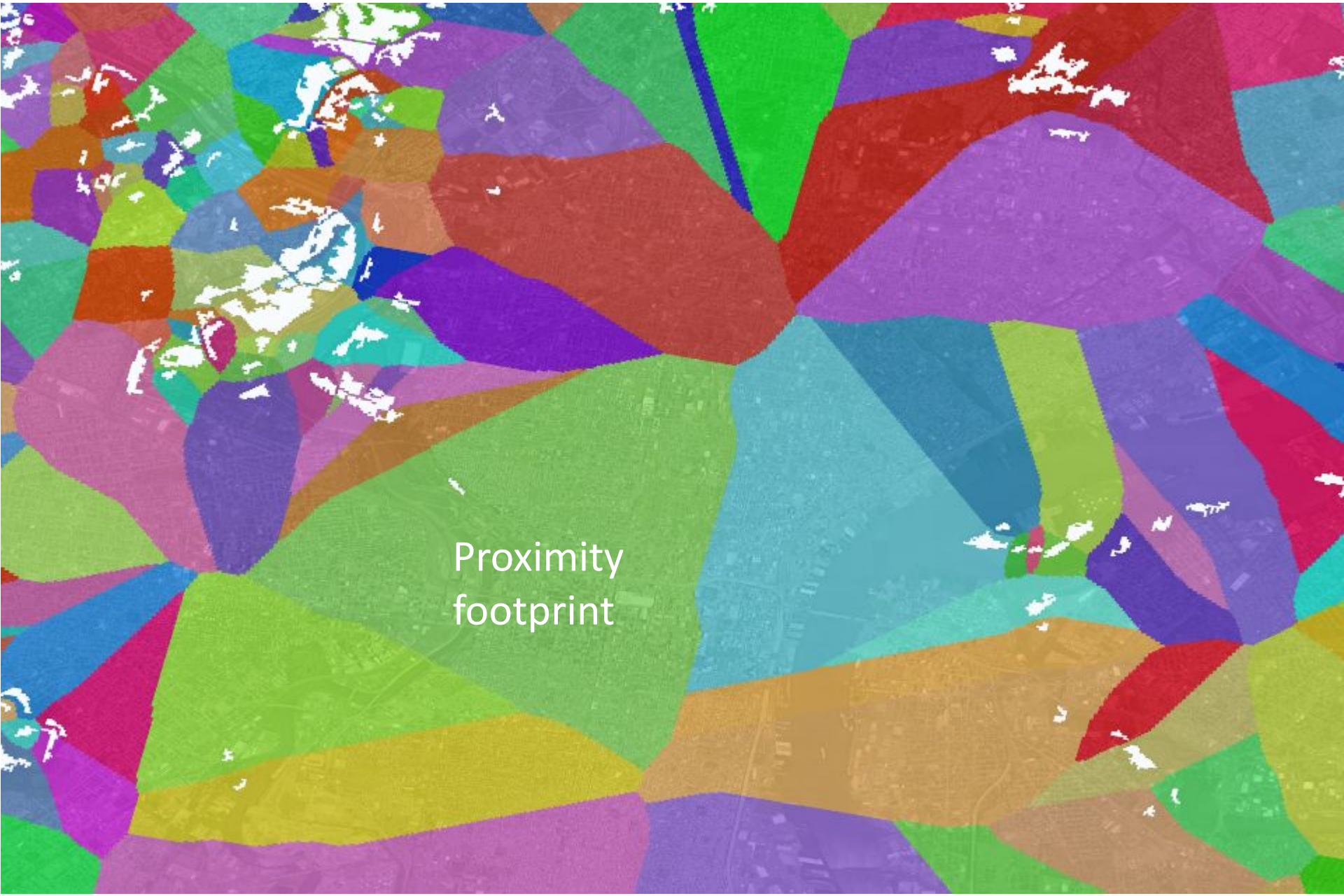

2021
Philadelphia



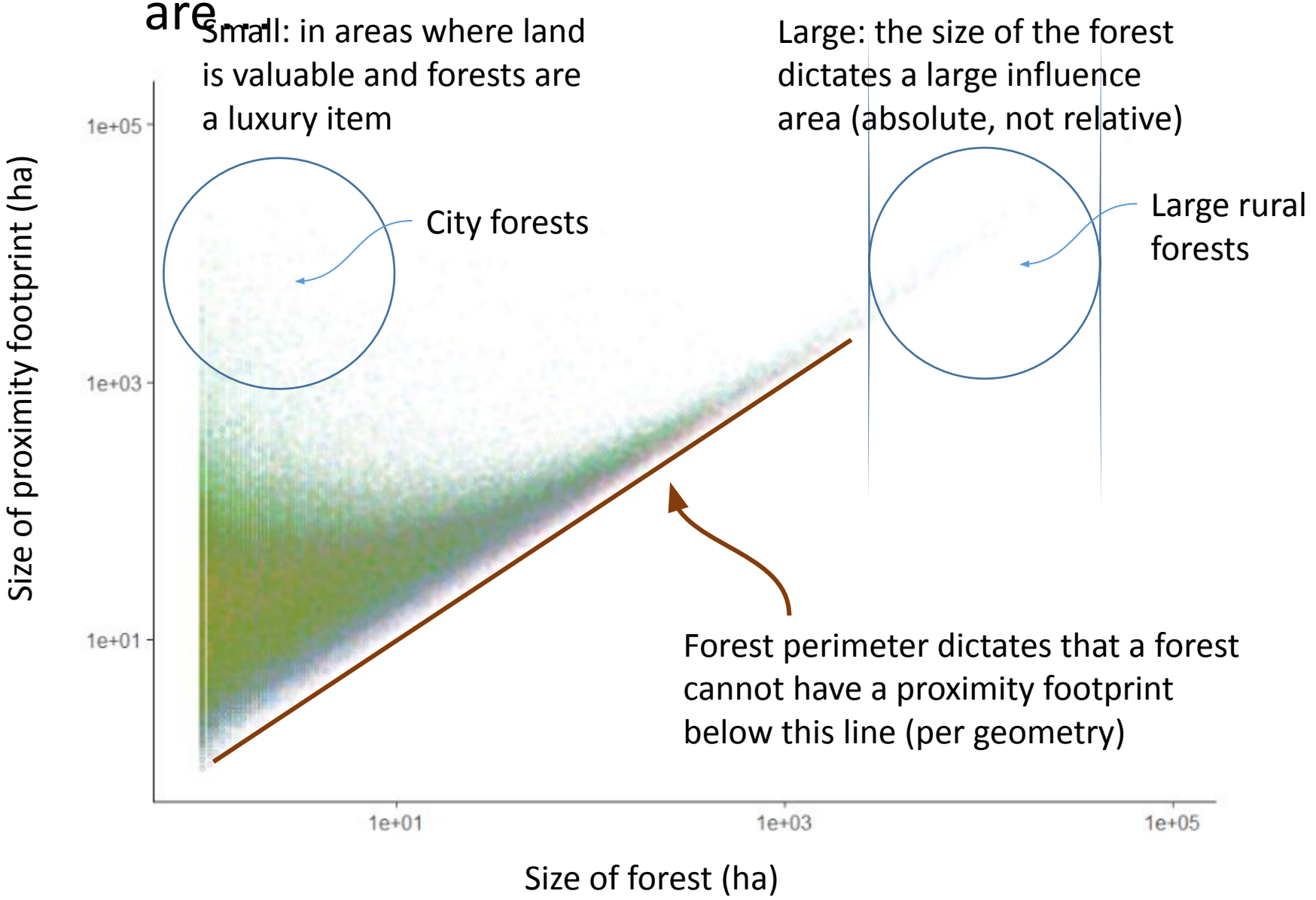
Most temperate deciduous forests are under 20 ha: this is true worldwide.



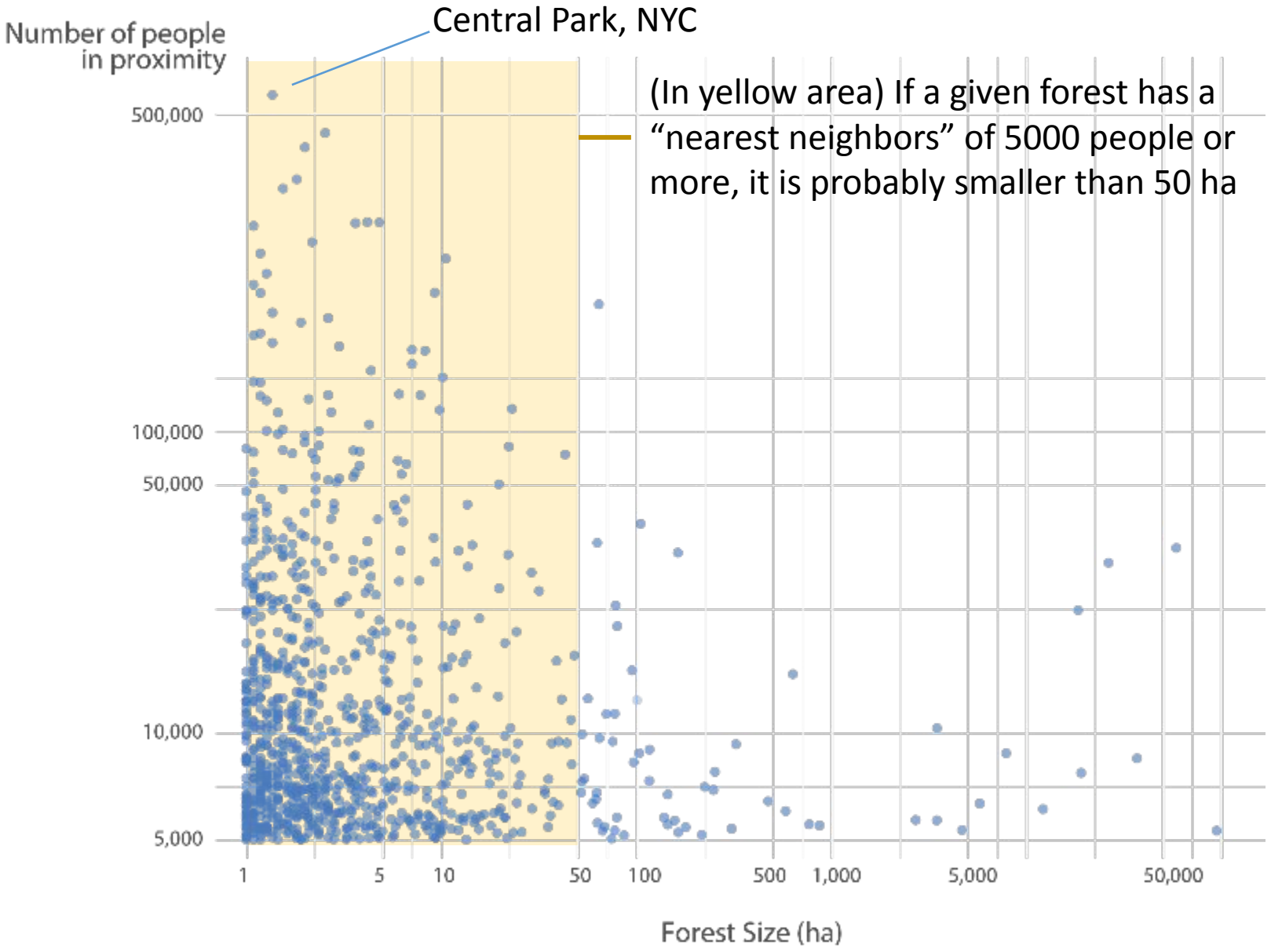
Which forest is “my forest”?


Proximity
footprint

Forests with large proximity footprints are…

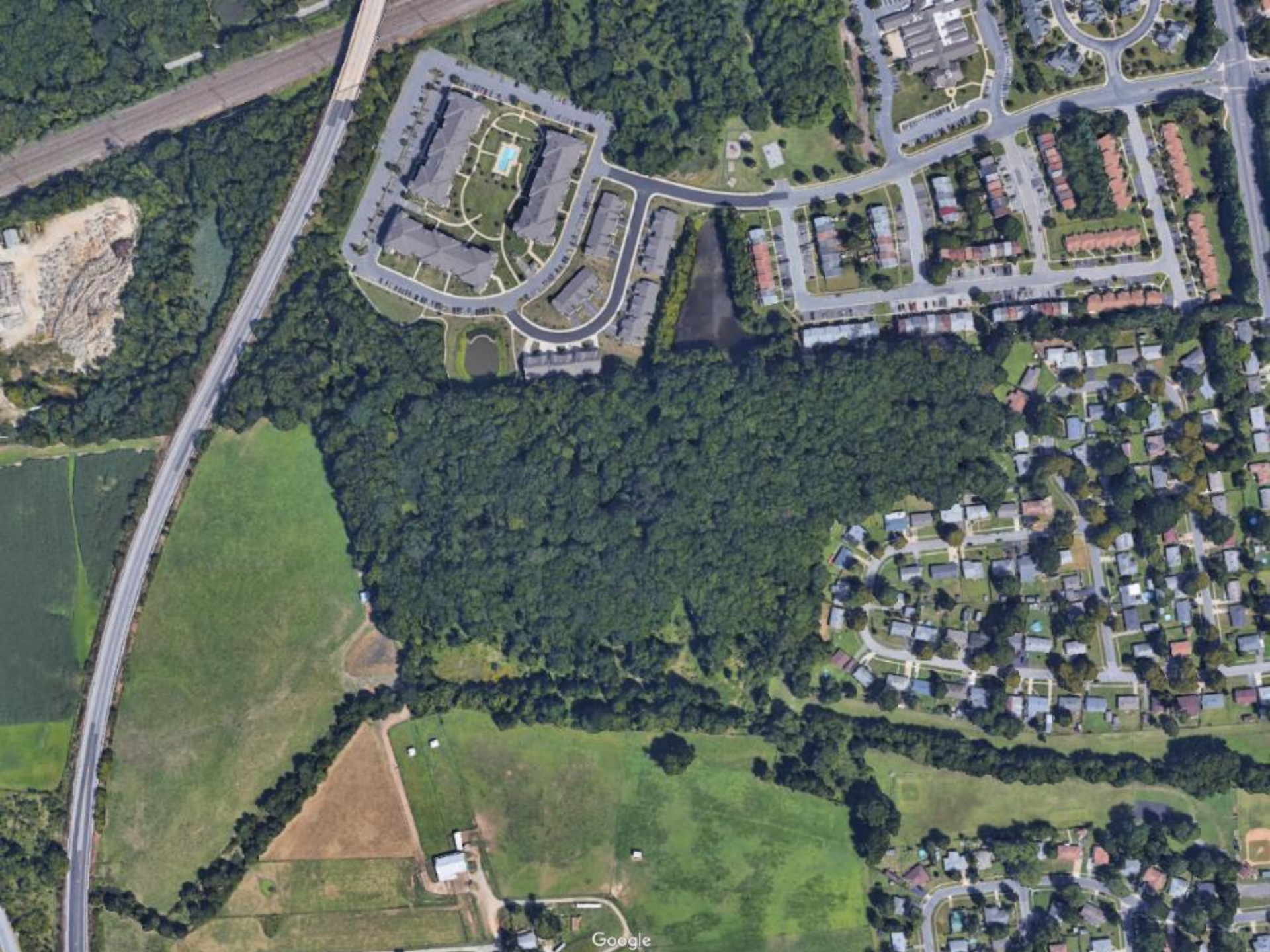


Most people live near small forests

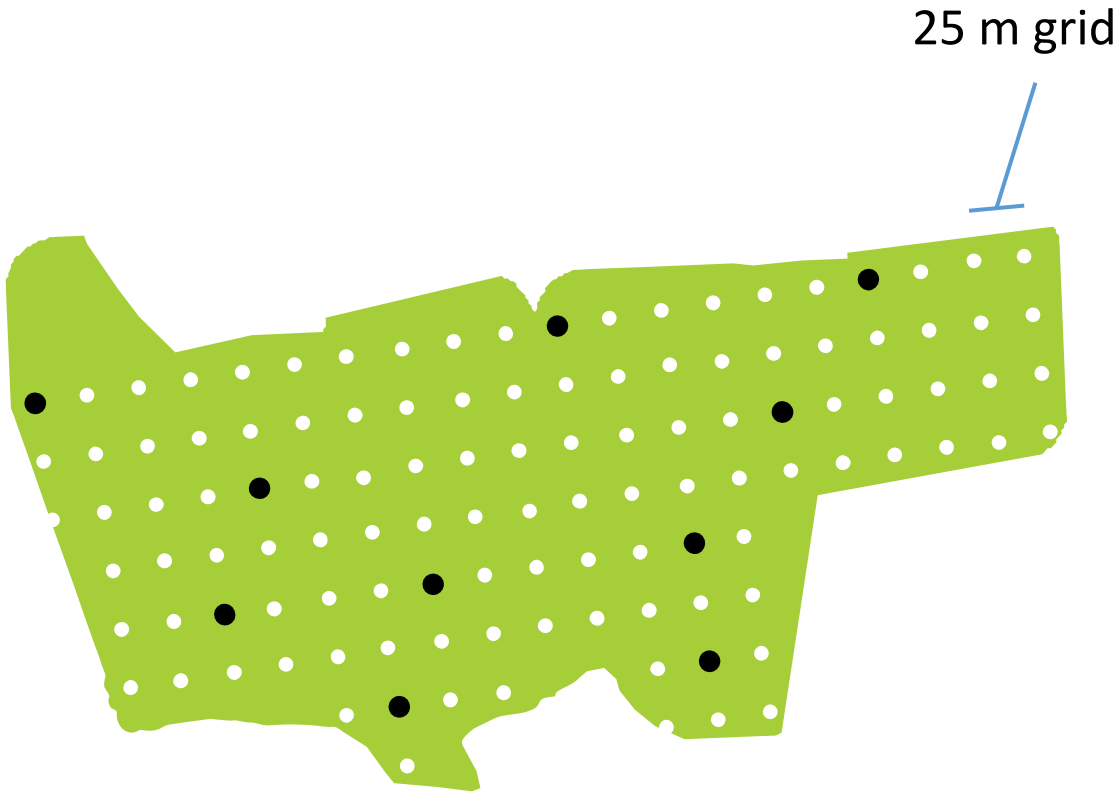


Creating the FRAME network

FRAME long-term sites in the Megalopolis


Google

WEBB FARM: 8.73 ha
perimeter:area = 0.026791

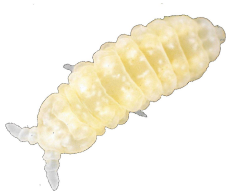


Landscape variables

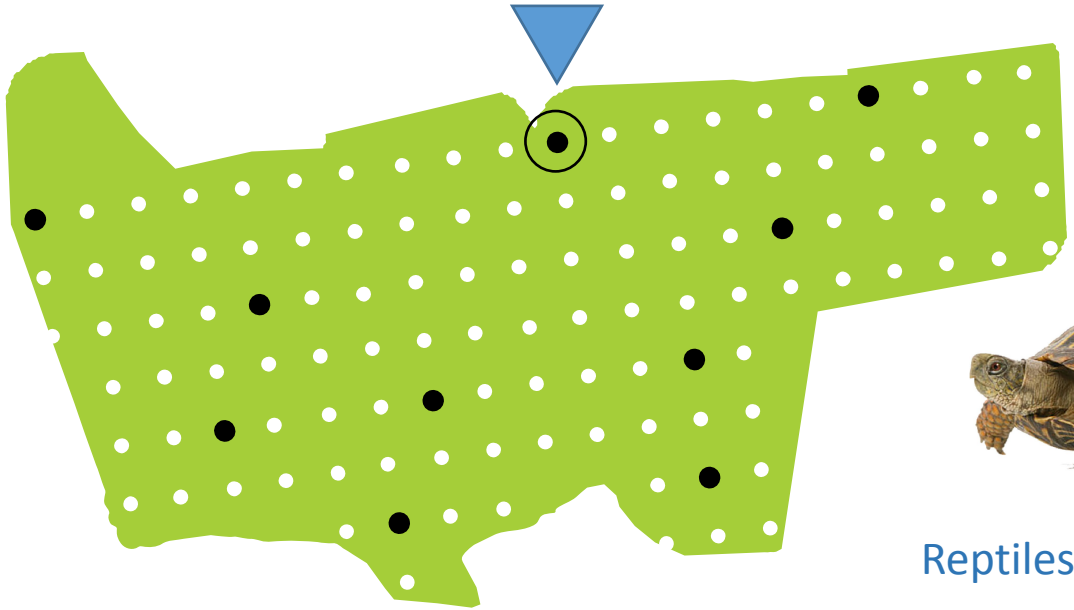
Canopy

Understory

Soil chemistry



Arthropods

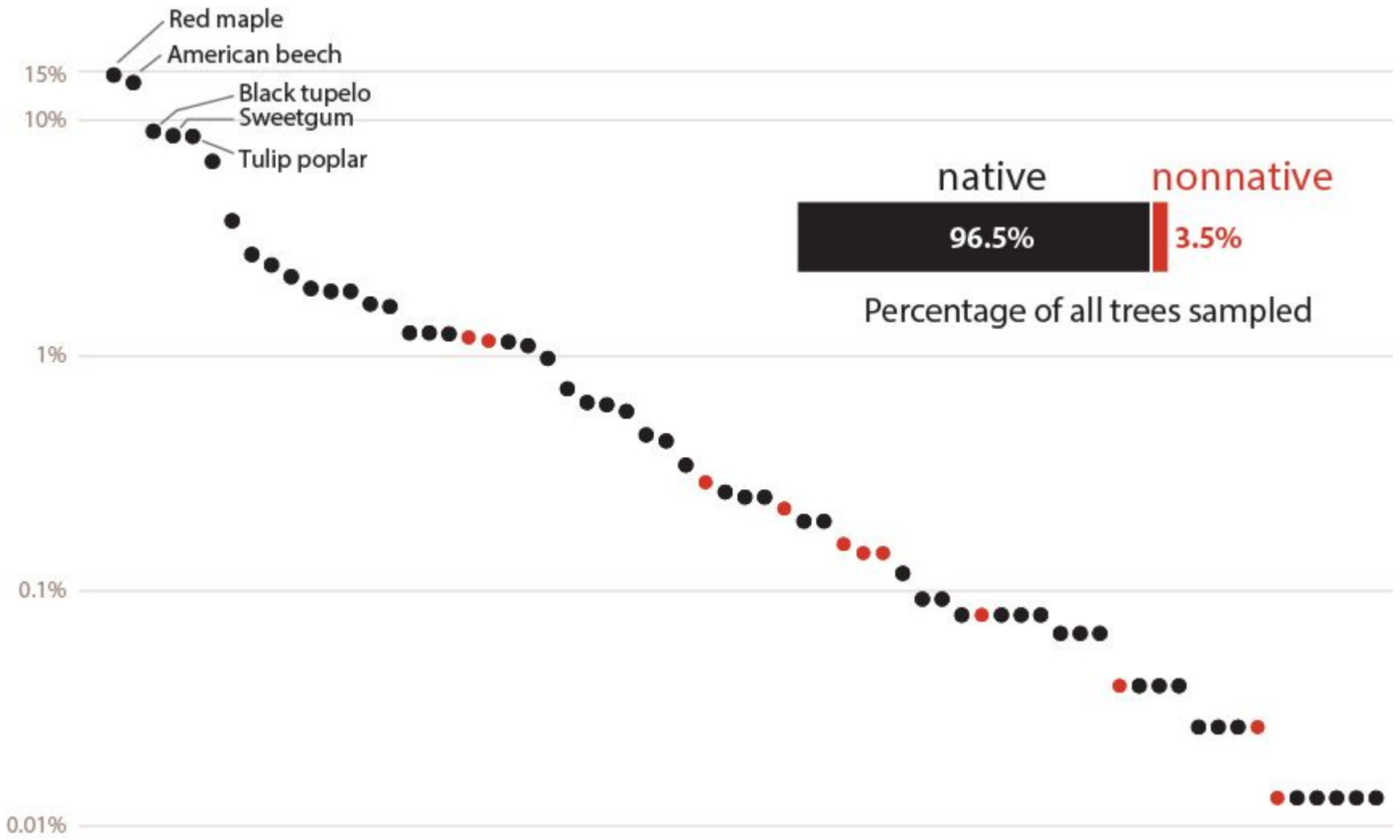


Molluscs

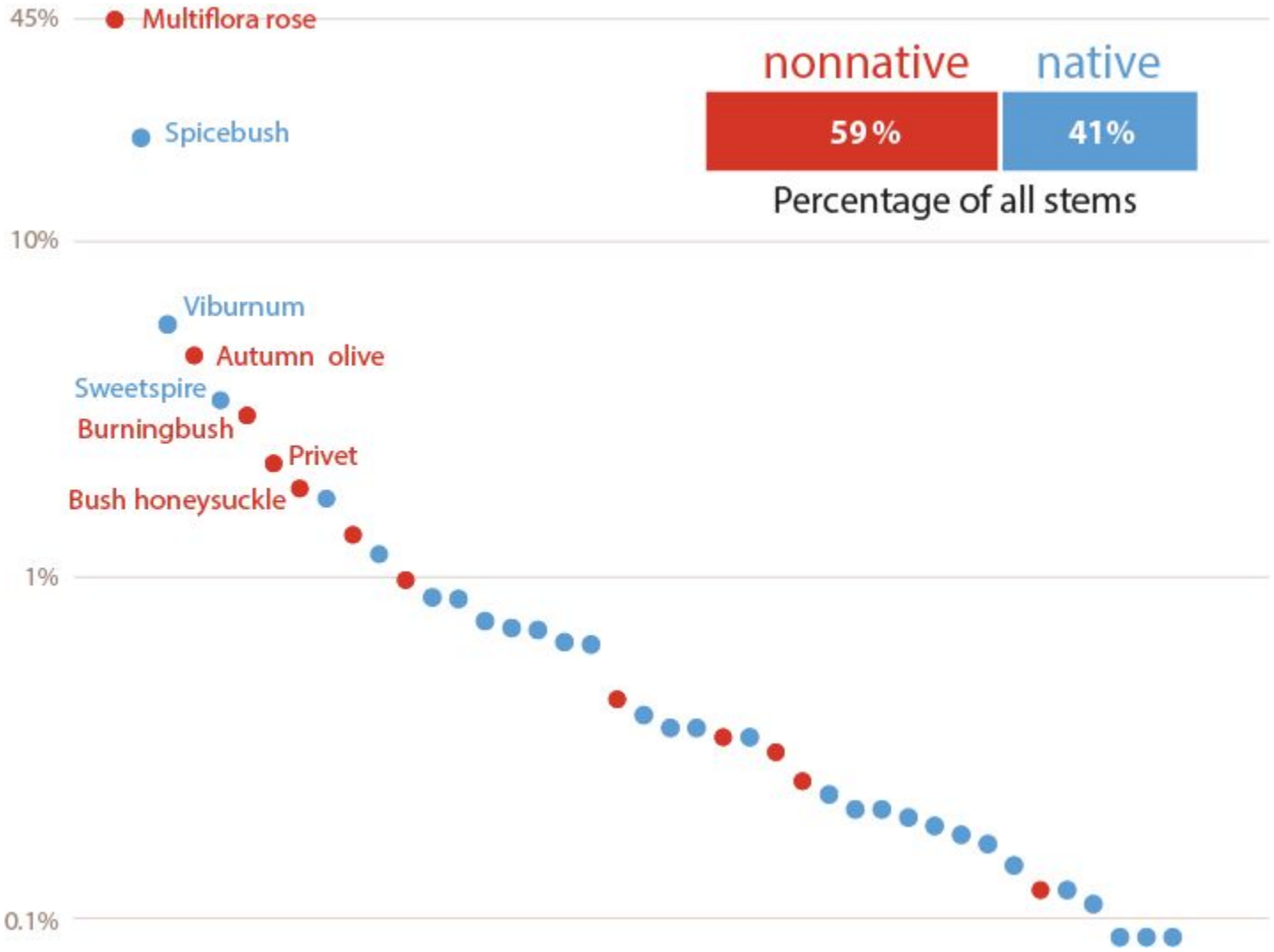
Reptiles and Amphibians

Base Layer Results
from
US FRAME Sites

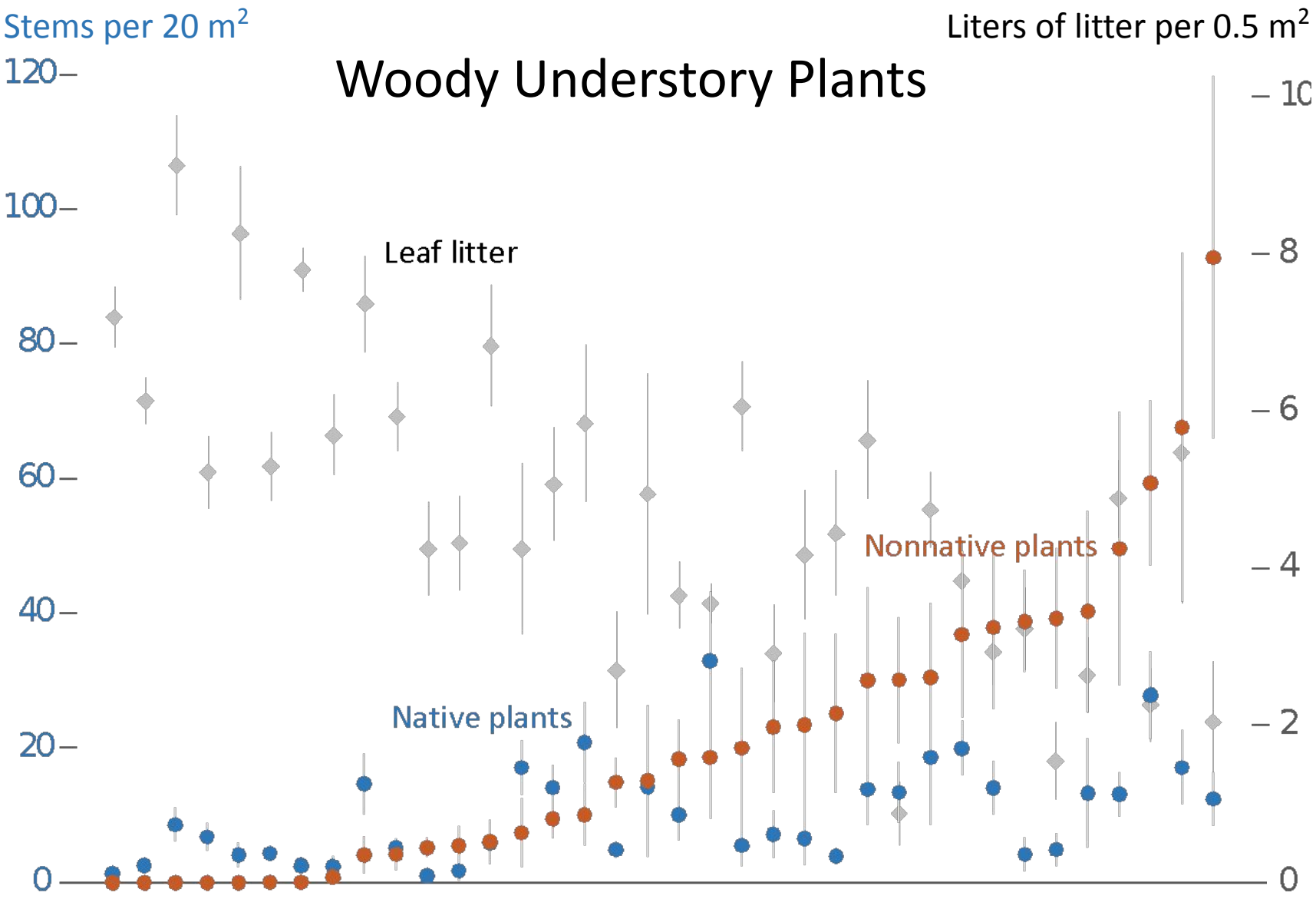
CANOPY (~10,000 trees)



UNDERSTORY


45%
Multiflora rose
Spicebush
10%
Viburnum
Autumn olive
Sweetspire
Burningbush
Privet
Bush honeysuckle
1%
0.1%
nonnative
native
59%
41%
Percentage of all stems

Woody Understory Plants



Each point represents the mean of sample points in a single FRAME site
(n = 10-20 sample points depending on area of FRAME site)

Sites that are close to each other have very different histories and ages