

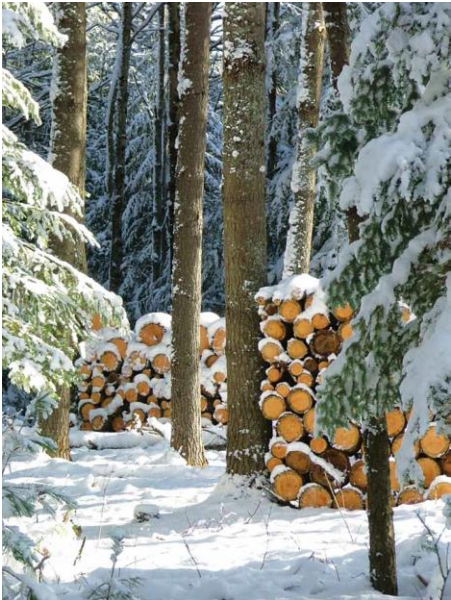
Wildland forests– the ecological benefits of letting nature take its course

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RCP Gathering 2019



Definitions

- **Wildland forest** – protected forest in which natural processes predominate with minimal human impact; timber harvesting prohibited.
- **Woodland forest** – protected forest with a focus on wood products, habitat management, and higher impact recreation



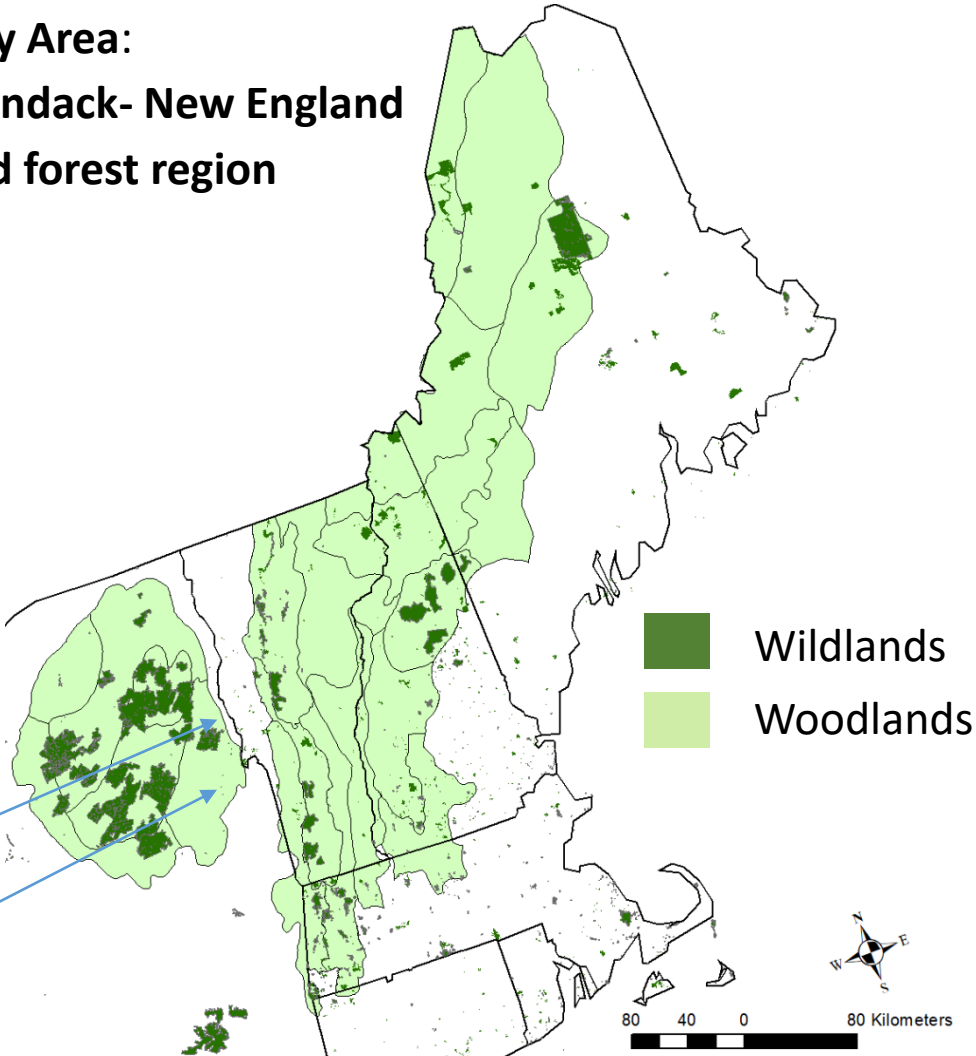
Have wildland forests diverged from woodlands in terms of structure, carbon storage, and condition?



timber harvesting accounts for 49% of annual tree mortality in woodlands

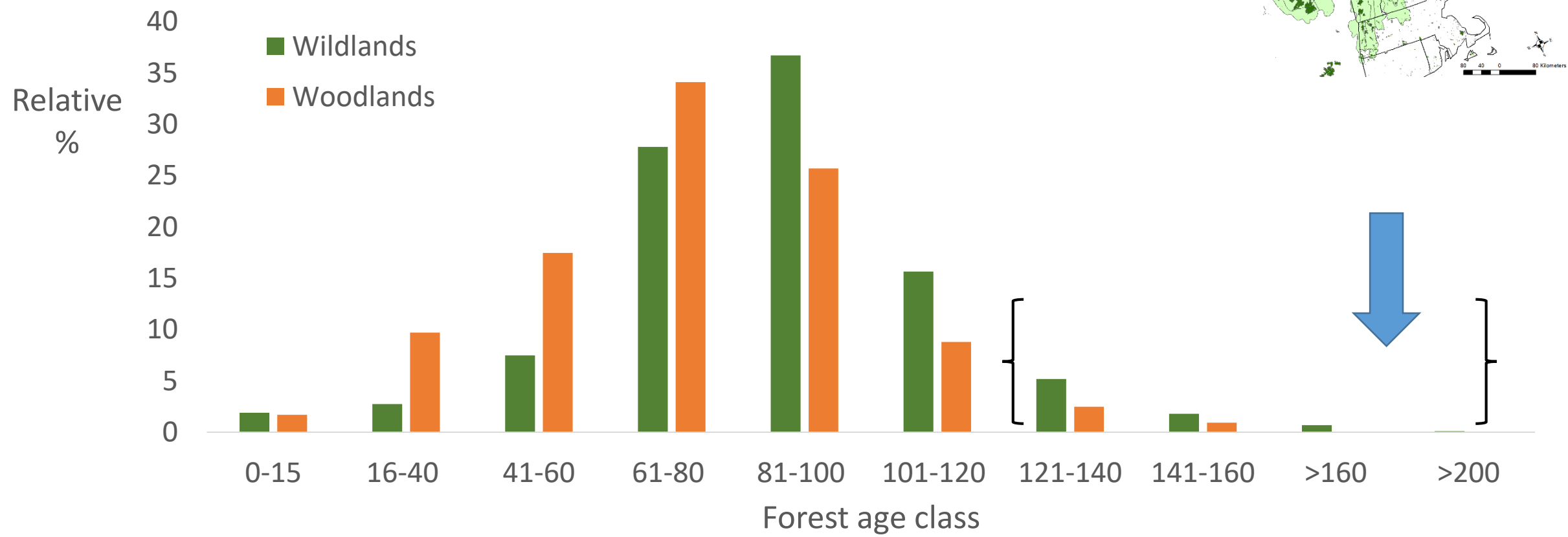


Study Area:
Adirondack- New England
mixed forest region



Compare wildlands vs. woodlands.
Control for elevation, physiography, soils

Wildlands support older forest than do woodlands

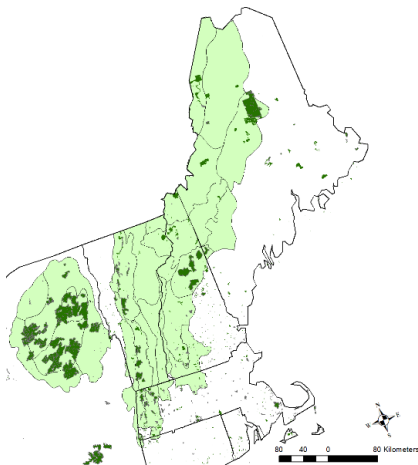
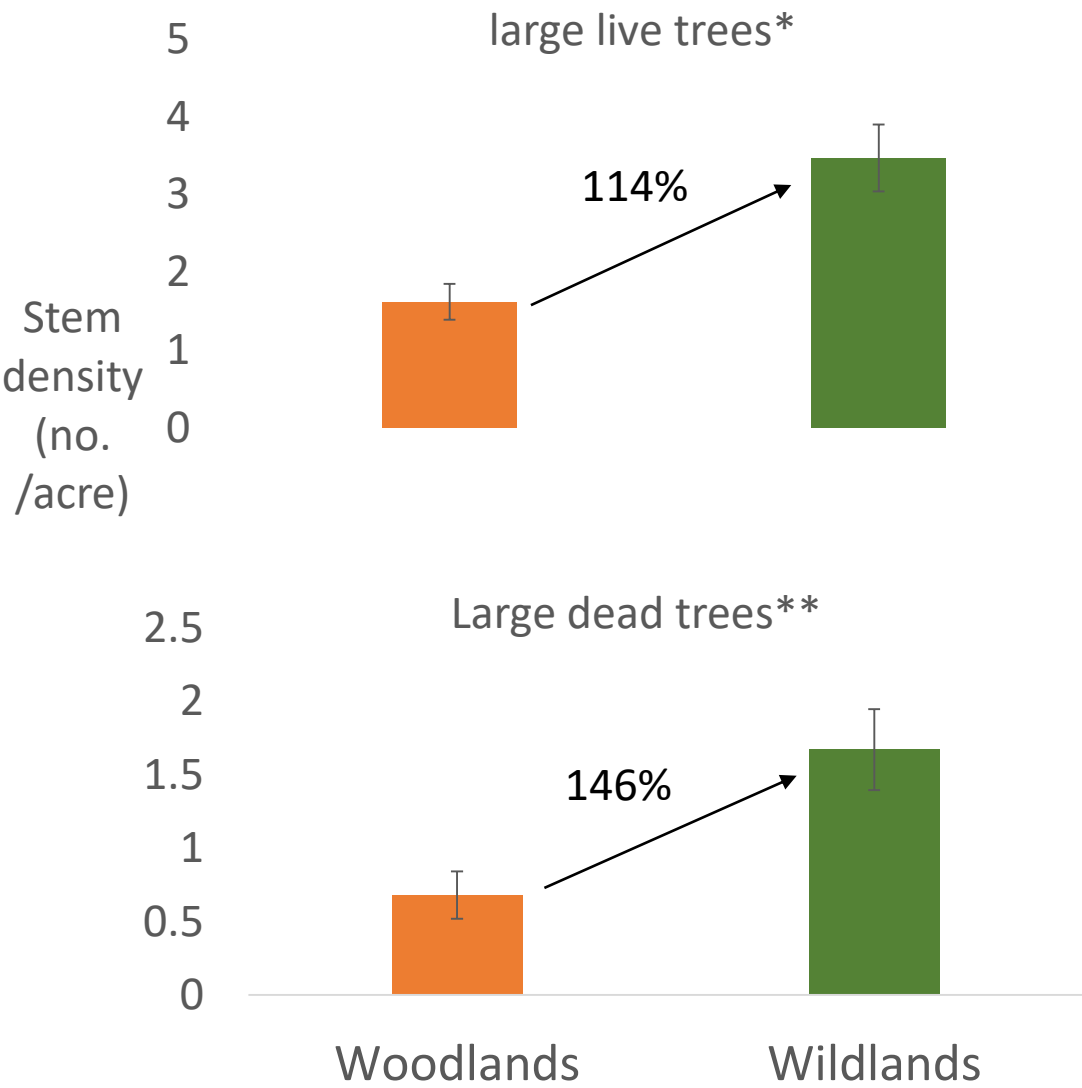


Data from USDA
Forest Inventory and
Analysis. 2019

Large live and dead trees are much more abundant in wildlands



Data from USDA
Forest Inventory and
Analysis. 2019



* ≥56 cm DBH
** ≥45 cm DBH

A greater amount of coarse woody debris occurred in wildlands (in eastern US national parks)

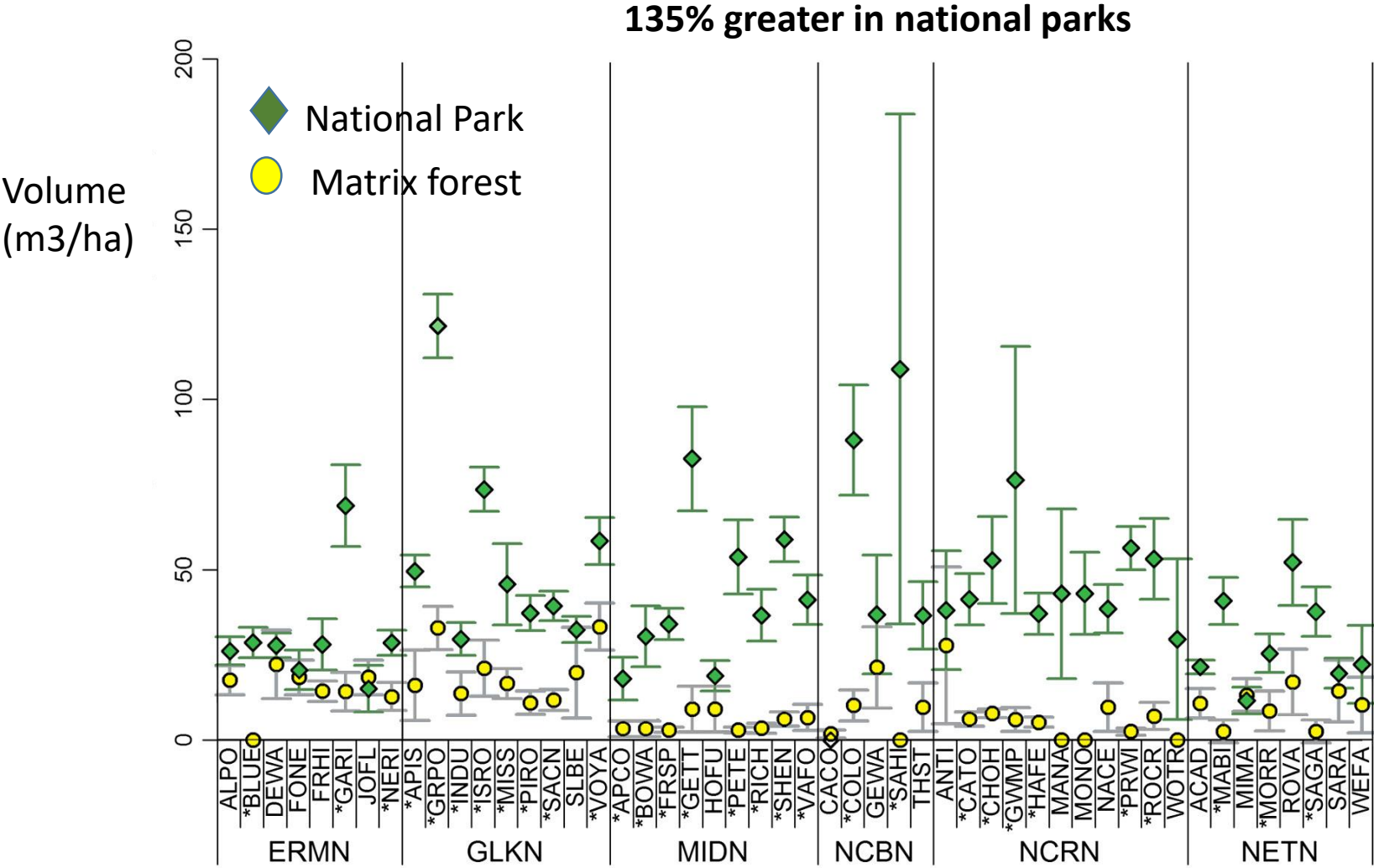
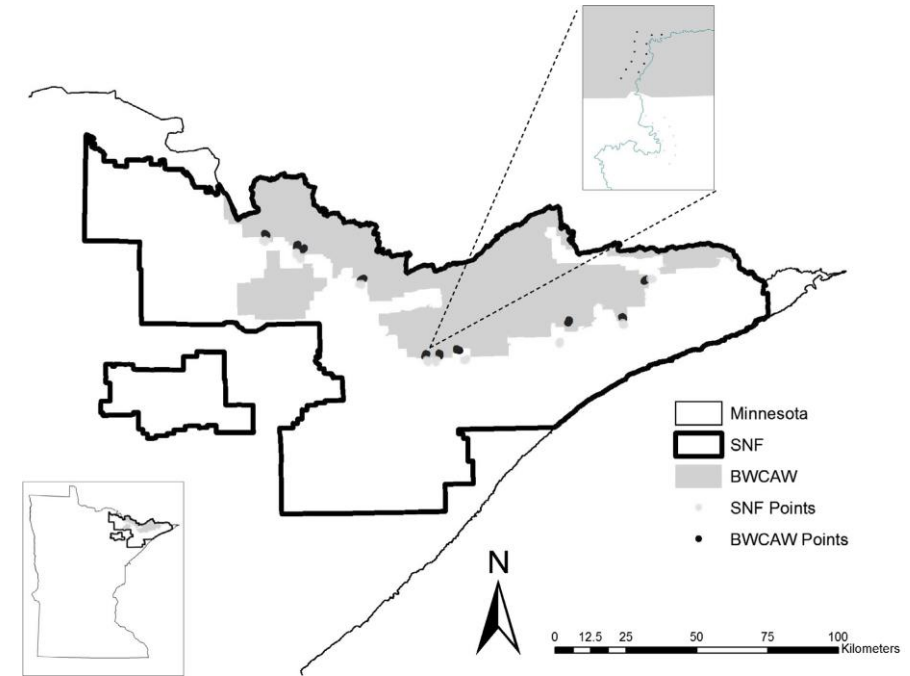


Figure from Miller et al. 2016. Ecosphere

A greater density and diversity of forest birds occurred in wildlands than in managed forests (in Minnesota)

- Total density of birds
- Total number of bird species
- Abundance of individual species

Wildland
forest



Zlonis and Niemi 2014. *Forest Ecology and Management*



David Turgeon



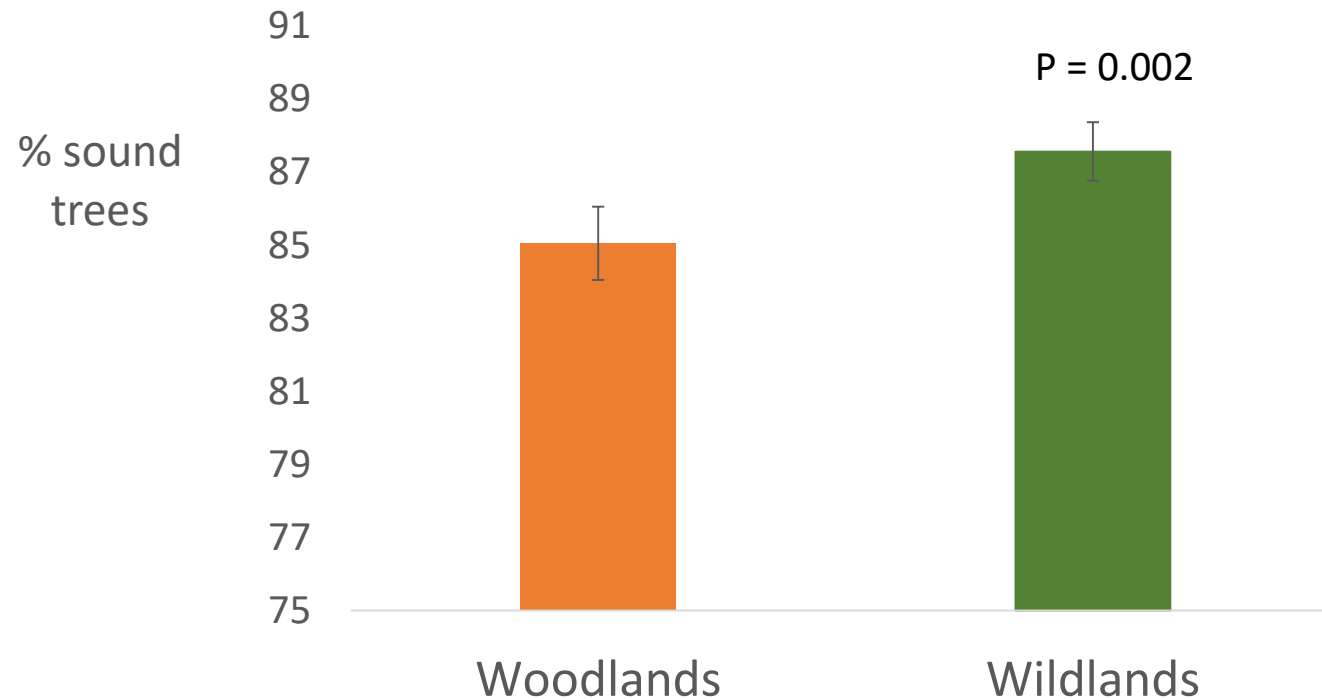
“the richness of **early-successional forest species** did not vary between wilderness and managed forest...likely because of the presence of natural openings [in the wilderness sites]...that provided appropriate open, shrubby habitat (Zlonis and Niemi 2014)

Carbon storage is significantly greater in wildland than in woodland forests

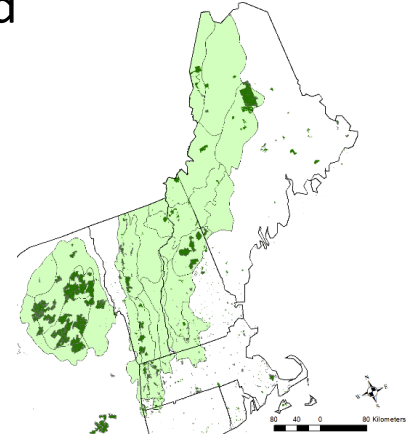


Wildland forests maintain healthy trees in the absence of forest management

“sound forest management encourages the periodic harvesting of trees to weed out diseased or deformed trees to make room for the healthiest trees to grow. A healthy, vigorous forest is better able to ward off diseases, defoliating insects and the effects of natural disasters such as fires and hurricanes.” <https://www.ct.gov/deep/cwp/view.asp?A=2697&Q=322878>



Data from USDA
Forest Inventory and
Analysis. 2019



Wildlands differ fundamentally in characteristics and condition from woodlands

