

# FOREST HABITAT RESTORATION ON SPARTA MOUNTAIN WMA

A presentation to the NJ Fish and Game Council  
by

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NJ Division of Fish and Wildlife's Endangered and  
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April 13, 2021





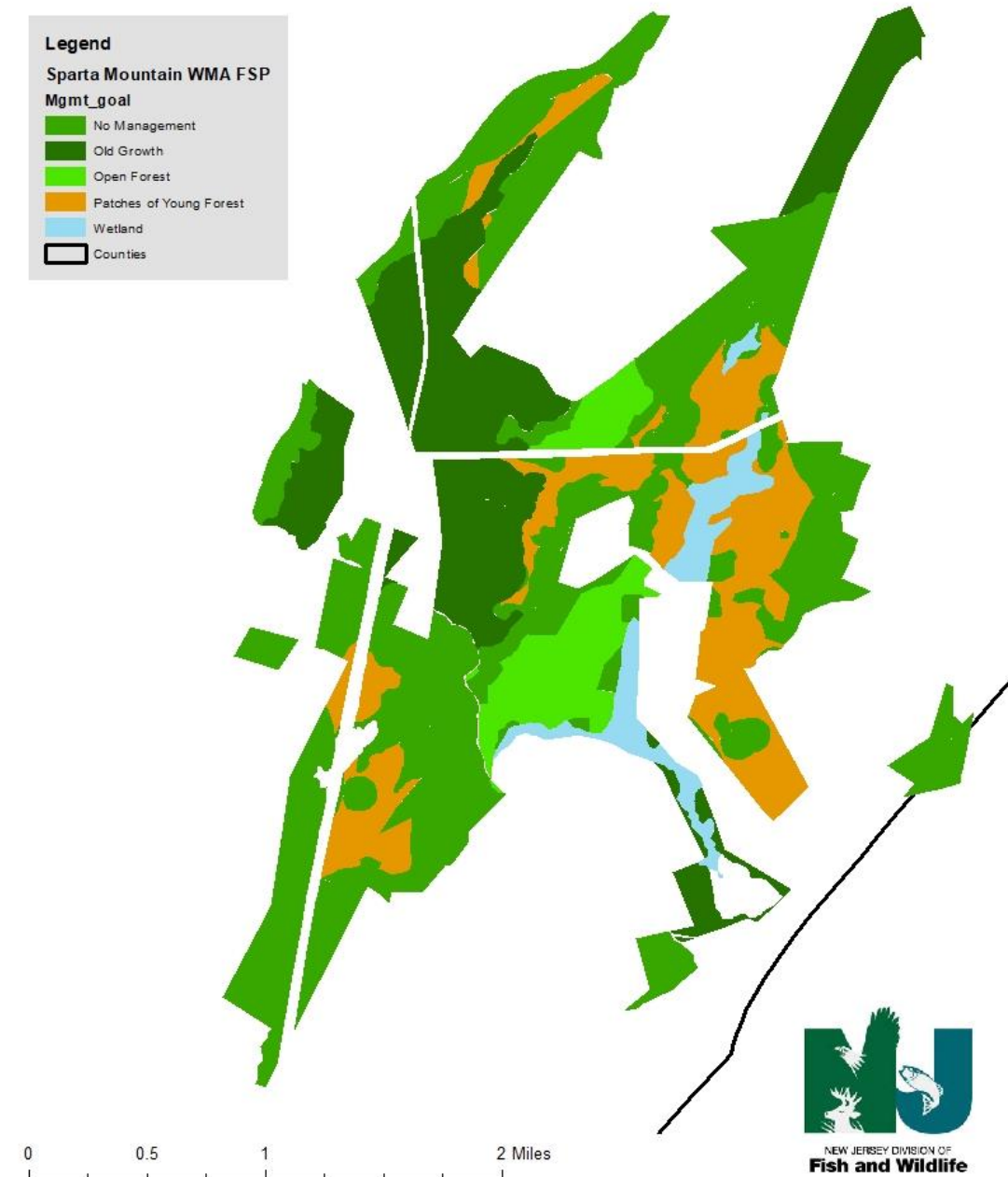
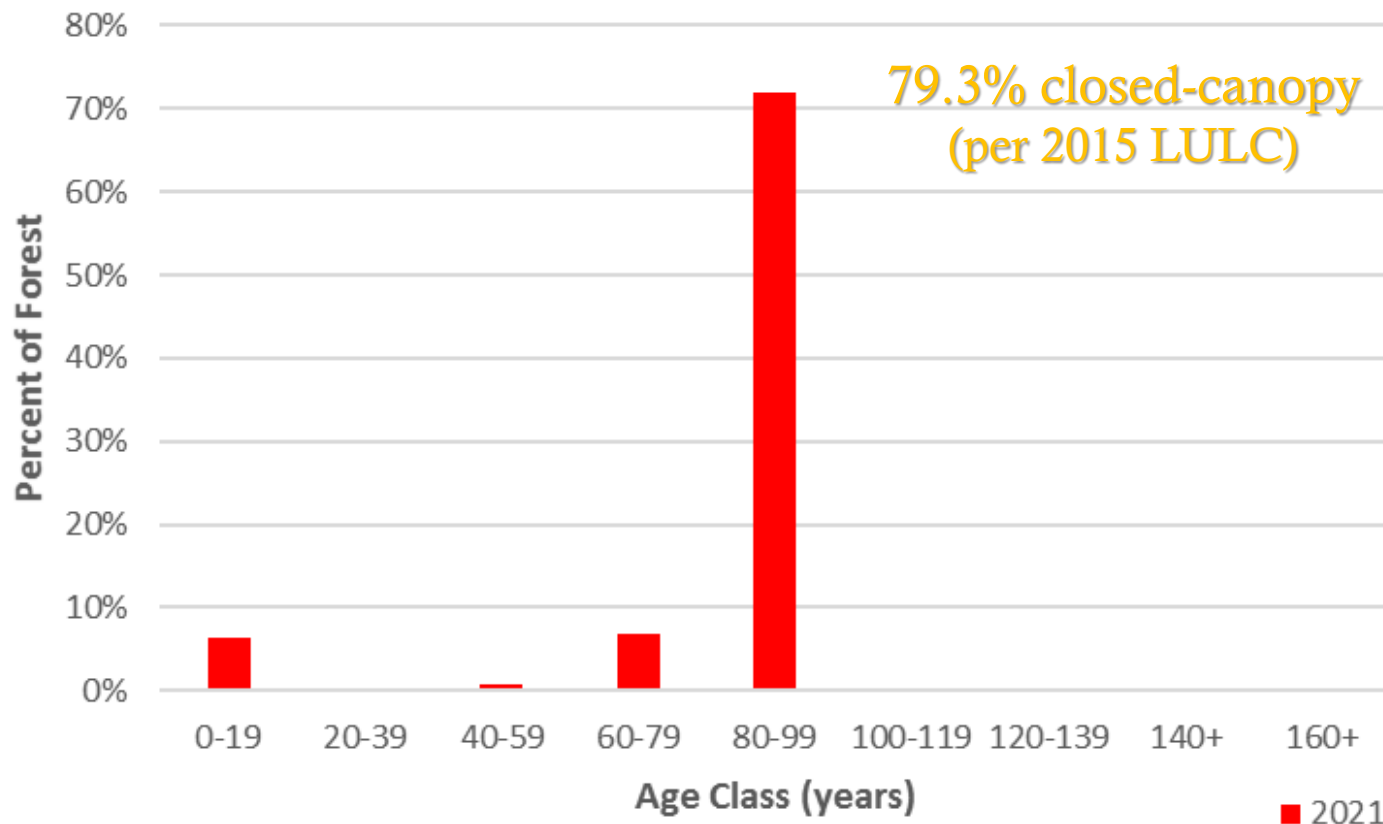
# Sparta Mountain WMA



## Sparta Mountain Wildlife Management Area 2017 Forest Stewardship Plan Goals



## Age Class of Upland Forests in 2021 (2,972 acres)

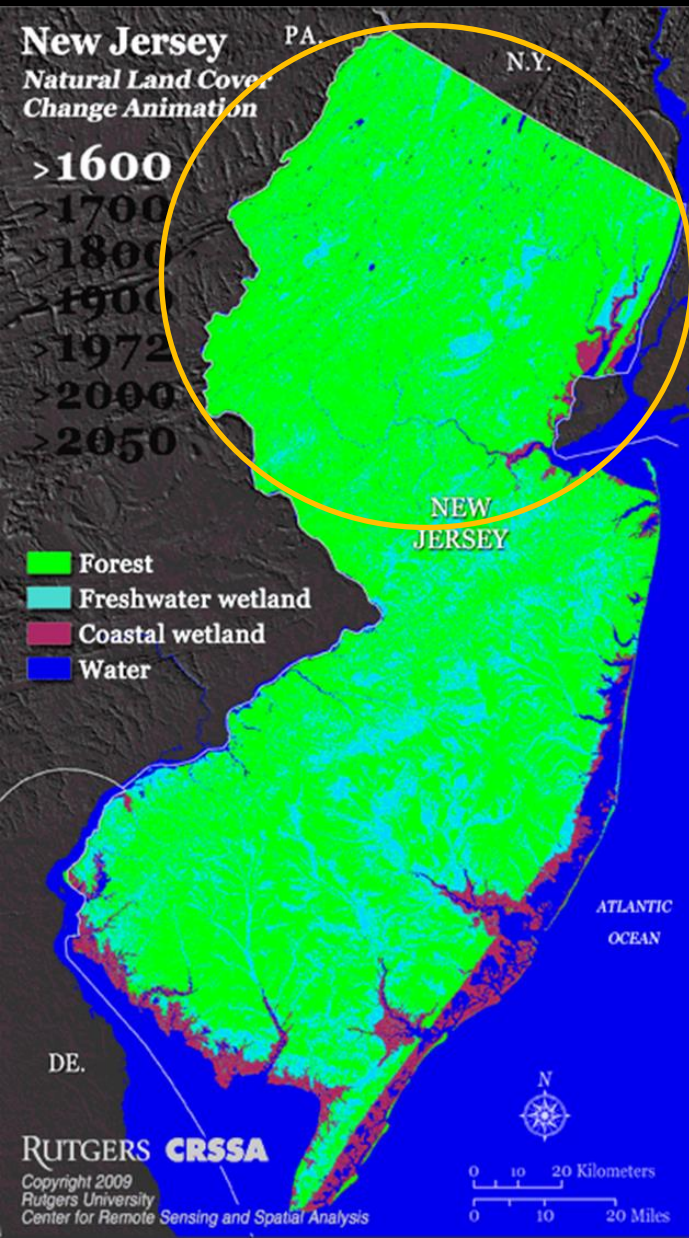




Young Forest



# Northern NJ Forests: Pre-European Settlement



<7% old growth  
(hemlock-northern  
hardwoods)



25-40% multi-aged/semi-open oak



10-50% open/young from hurricanes  
?? From fires and beaver flooding



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Forest Ecology and Management 185 (2003) 41–64

Forest Ecology  
and  
Management

[www.elsevier.com/locate/foreco](http://www.elsevier.com/locate/foreco)

Scale and frequency of natural disturbances in the northeastern  
US: implications for early successional forest habitats  
and regional age distributions

Craig G. Lorimer<sup>a,\*</sup>, Alan S. White<sup>b</sup>

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Madison, WI 53706, USA

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**The Myth of Nature's Constancy—  
Preservation,  
Protection and Ecosystem Management**

**Richard M. DeGraaf and William M. Healy**

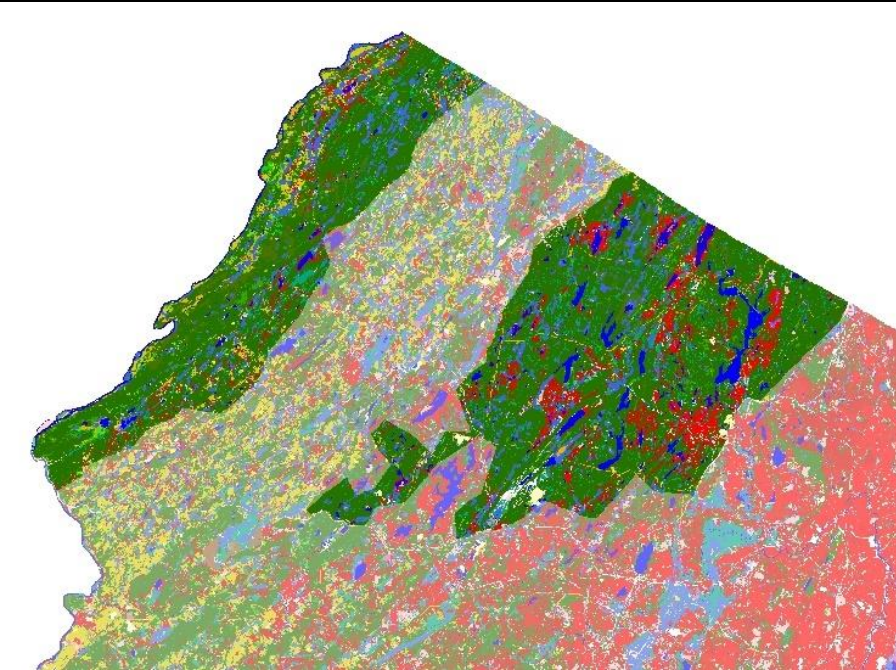
USDA Forest Service

Northeastern Forest Experiment Station

Amherst, Massachusetts



# Northern NJ Forests: Now



<0.8% old growth



<11% multi-age/semi-open oak



8% open/young



>82% closed canopy mature oak with northern hardwoods



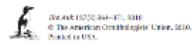
# Variable Vegetation in Forests

## Nesting Habitat



Golden-winged warbler (Sharon Petzinger)

## Post-Fledging Habitat



MOVEMENTS OF FLEDGLING OVENBIRDS (*SEIURUS AUROCAPILLA*)  
AND WORM-EATING WARBLERS (*HELMITHEROS VERMIVORUM*)  
WITHIN AND BEYOND THE NATAL HOME RANGE

ANDREW C. VITZ<sup>1</sup> AND AMANDA D. RODEWALD

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*The Condor* 113(4):817-824  
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USE OF EARLY-SUCCESSIONAL MANAGED NORTHERN FOREST BY MATURE-  
FOREST SPECIES DURING THE POST-FLEDGING PERIOD

HENRY M. STREBY<sup>1,2</sup>, SEAN M. PETERSON<sup>1</sup>, TARA L. MCALLISTER<sup>1</sup>, AND DAVID E. ANDERSEN<sup>2</sup>

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ARTICLE

<https://doi.org/10.1038/s41467-020-19565-4>

OPEN

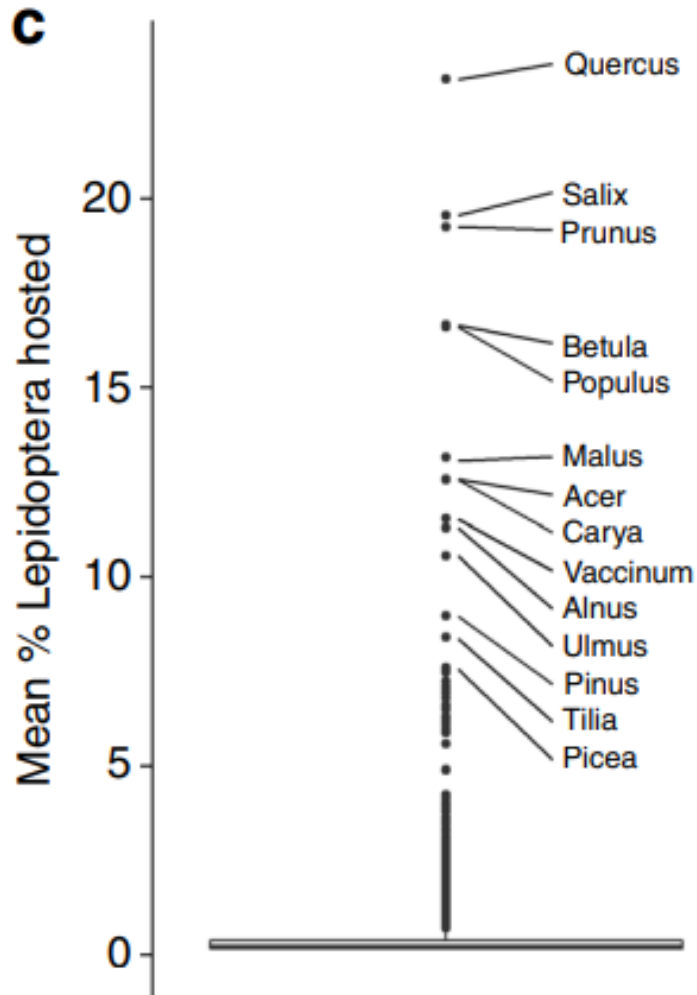
# Few keystone plant genera support the majority of Lepidoptera species

Desiree L. Narango<sup>1,2</sup>, Douglas W. Tallamy<sup>1</sup> & Kimberley J. Shropshire<sup>1</sup>

## Special Species



## Positive Correlation



### CHAPTER SIX

#### Influence of Plant Species Composition on Golden-winged Warbler Foraging Ecology in North-Central Pennsylvania\*

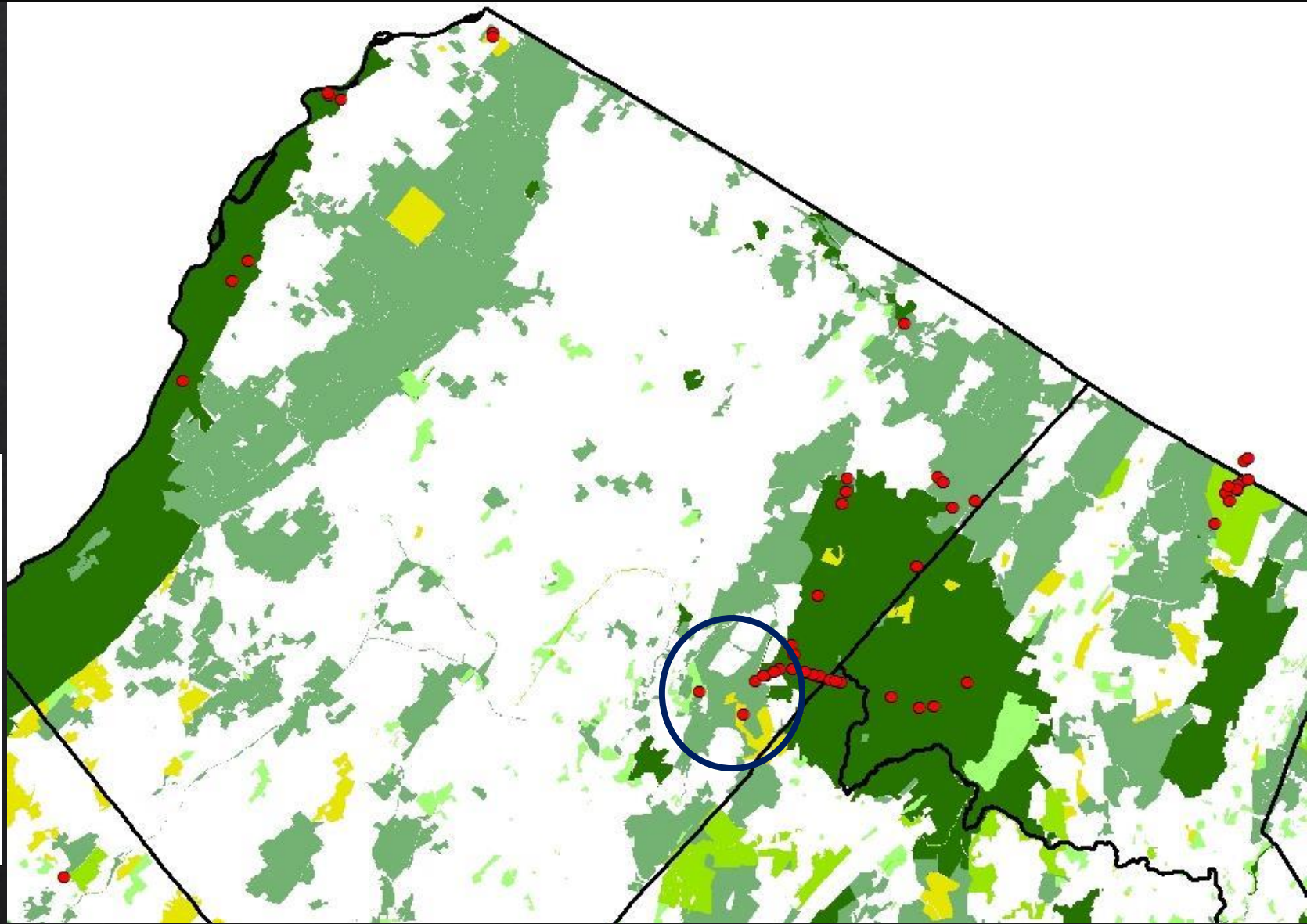
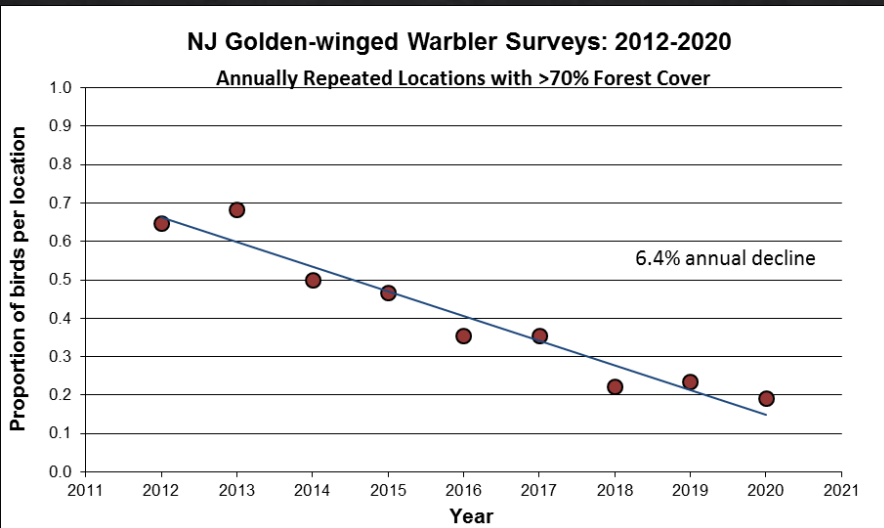
Emily C. Bellush, Joseph Duchamp, John L. Confer, and Jeffery L. Larkin

Species	Shade Tolerance	# Lepidoptera species
White oak ( <i>Quercus</i> )	Intermediate	30
Willow spp. ( <i>Salix</i> )	Intolerant	138
Pin cherry ( <i>Prunus</i> )	Intolerant	5
Aspen spp. ( <i>Populus</i> )	Intolerant	58
Gray birch ( <i>Betula</i> )	Intolerant	10
Speckled Alder ( <i>Alnus</i> )	Intermediate	70

<http://www.nhm.ac.uk/our-science/data/hostplants/>  
<https://plants.usda.gov/>



# Golden-winged Warbler Breeding Population NJ 2012-2020





# Why Sparta Mountain WMA?

72 acres (2.1%) of  
open/young forest  
restored between 2011  
and 2021



As of 2020,  
82 bird species  
observed in post-  
treatment sites

30 SGCN  
14 Priority SGCN  
4 Focal SGCN





Gray Catbird

Rose-breasted Grosbeak

Yellow-throated Vireo

Kristin Mylecraine

Sam Galick

Prairie Warbler

Veery

Blaine Rothausen

Sam Galick

Blair

Field Sparrow

Blaine Rothausen

Dave Kenny

Kristin Mylecraine

Dave Kenny

Blaine Rothausen

Eastern Towhee



Veery



**Special Concern**  
Blaine Rothauser

Eastern Wood-pewee



**SGCN**



Great Crested Flycatcher

**SGCN**

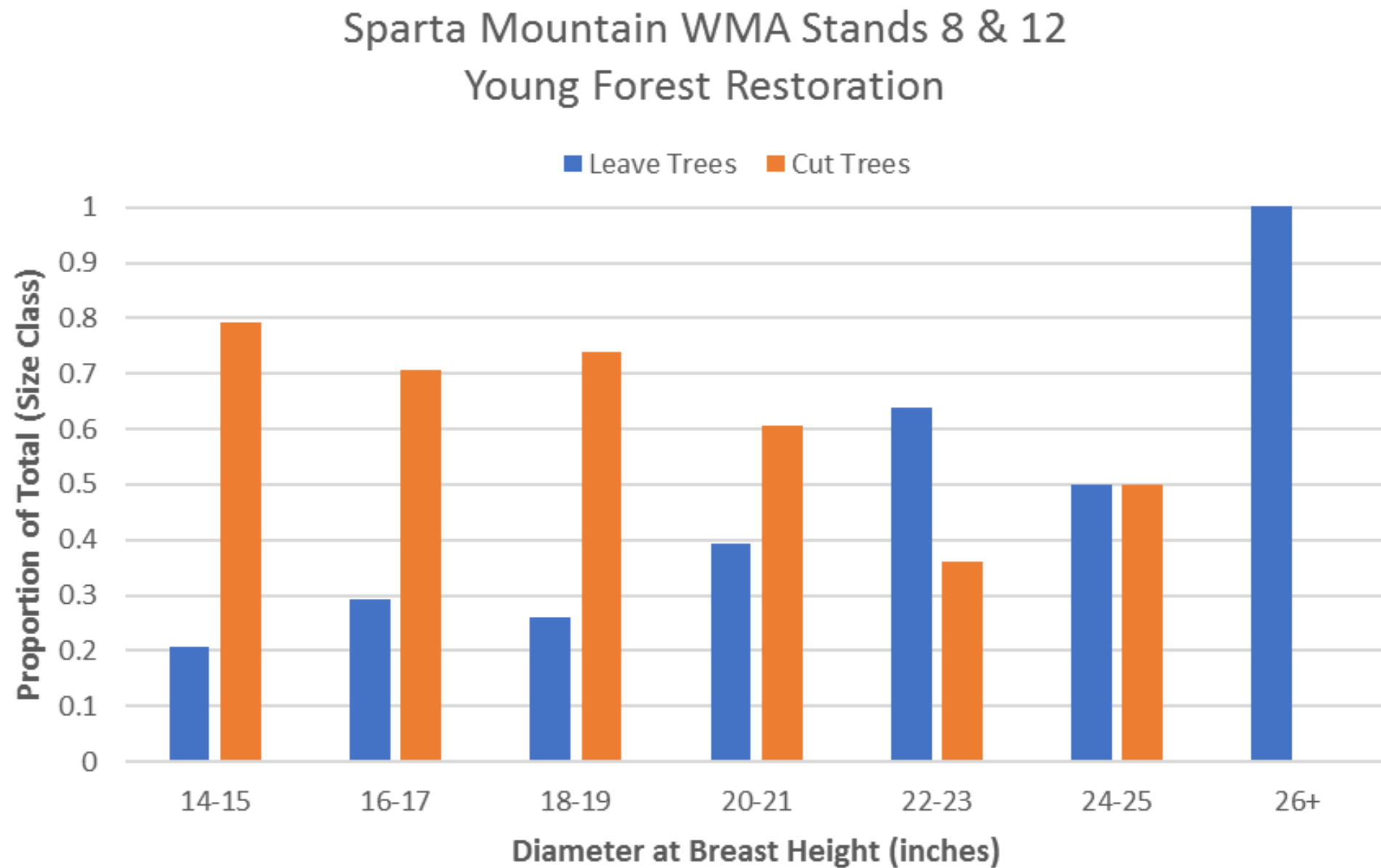
Scarlet Tanager



**SGCN**

Total # Birds: Range 4 - 13 (mean = 11.2)  
Total # Birds of Concern: Range 2 - 7 (mean = 4.4)















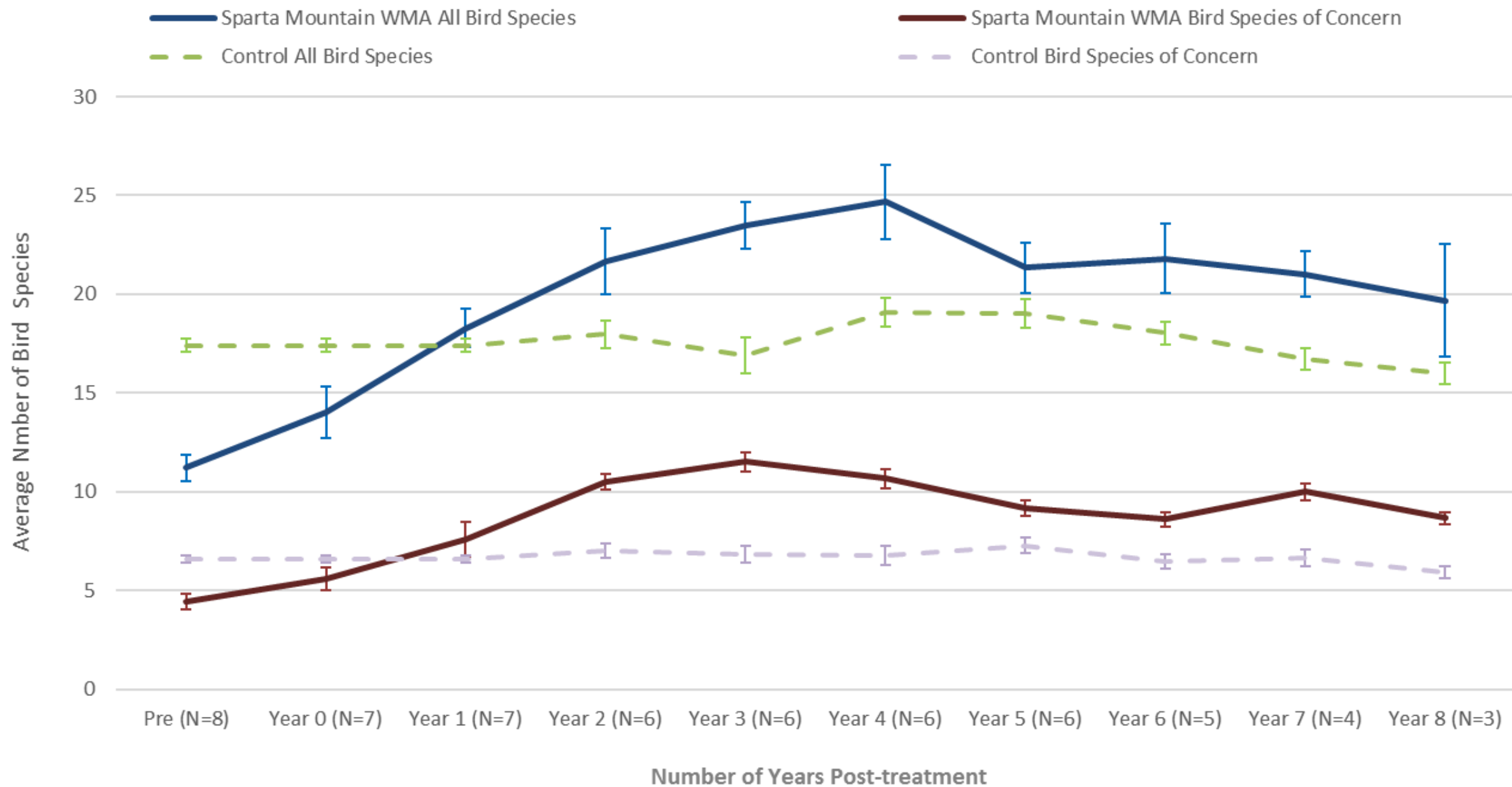


3 months later...

Total # Birds: Range 7 - 18 (mean = 14)  
Total # Birds of Concern: Range 3 - 7 (mean = 5.6)



## Bird Survey Results on Sparta Mountain WMA (1st survey only)





# Sparta Mountain WMA Stand 18



Bird photos represent bird species commonly observed in sites at this stage of management



## After 4 Full Growing Seasons

Total # Birds: Range 17 - 31 (mean = 25)

Total # Birds of Concern: Range 7 - 14 (mean = 11)