Assessing the Quality of Ruffed Grouse Habitat in a Managed Early-Successional Mixed Hardwood Forest

Lake Alice Wildlife Management Area
Chazy, NY

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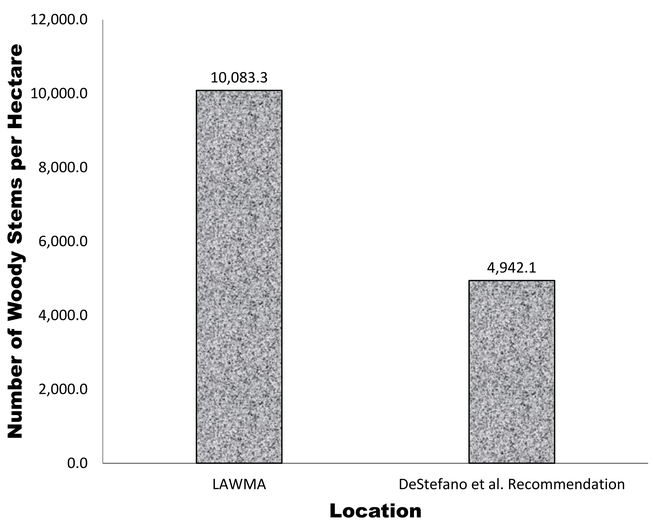
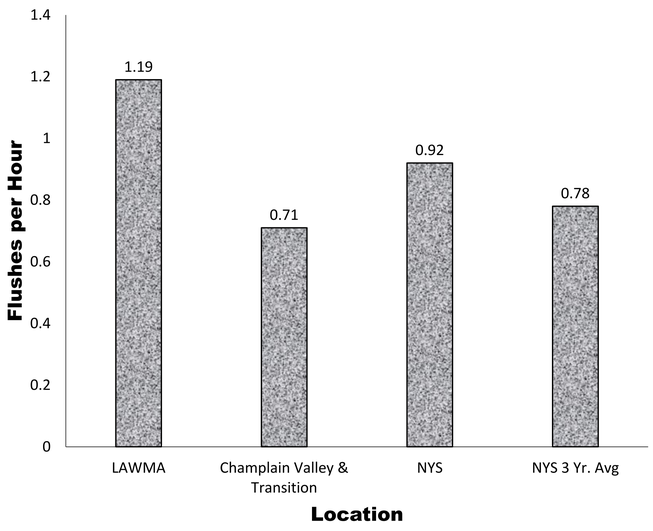
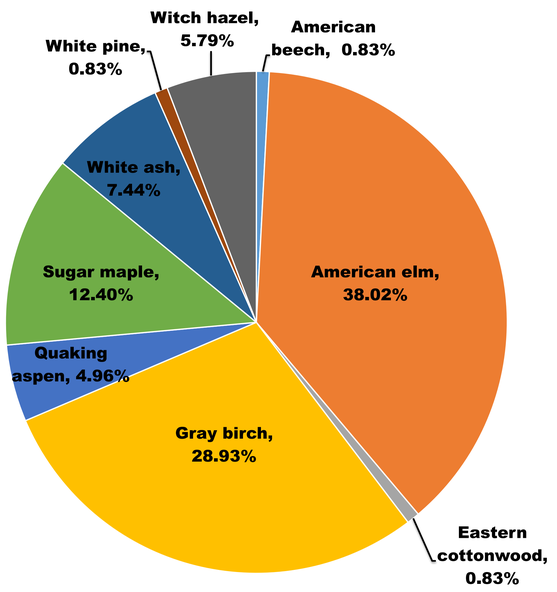






Background: Ruffed grouse *Bonasa umbellus* are medium-sized upland game birds that are heavily dependent on dense, early-successional mixed hardwood forests dominated by aspen *Populus spp.* They feed primarily on tree leaves, buds, catkins, berries, and insects, and utilize cryptic coloration and explosive flushing to avoid predators such as the northern goshawk *Accipiter gentilis.*

Study Site:

Five one-hectare clear-cut stands, cut in the late 2000s at Lake Alice Wildlife Management Area (LAWMA), Chazy, New York, Clinton County

Objectives:

- Evaluate the growth of grouse-preferred woody plant species at the clear-cuts
- Assess the prevalence of the ruffed grouse population at the clear-cuts and compare it to state average data from previous hunting seasons

Hypotheses:

- Clear-cut site would be considered "ideal grouse habitat", based on literature parameters (sapling density, woody species composition, forest structure, etc.)
- Clear-cut site would produce flush rate that was higher than state averages

Methods:

- Clear-cut woody vegetation density/composition/basal area survey via three .004 hectare circular fixed plots. Conducted on September 6th, 2016
- Hunter flush counts, following protocol for NYSDEC Cooperator Grouse and Woodcock Hunting Log. I hunted the clear-cut area and counted every grouse I flushed, and determined flush rate (# flushes per whole hour). Conducted over nine weeks from October 18th, 2016- February 28th, 2017

Results:

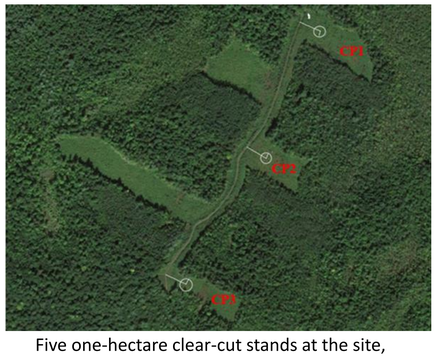
- Vegetation dominated by American elm *Ulmus americana*, with very little quaking aspen *Populus tremuloides*
- Sapling density adequate for grouse cover (at least 4,942 stems per hectare)
- Flush rate exceeded all comparison data (New York averages from NYSDEC Citizen Science Data)

Conclusions:

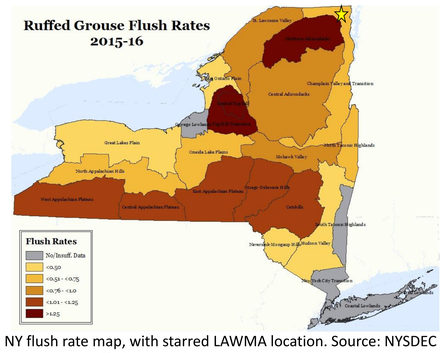
- Healthy grouse population on the property
- Natural forest succession providing adequate habitat
- Less than ideal young aspen abundance

Management Suggestions/Future Study Ideas:

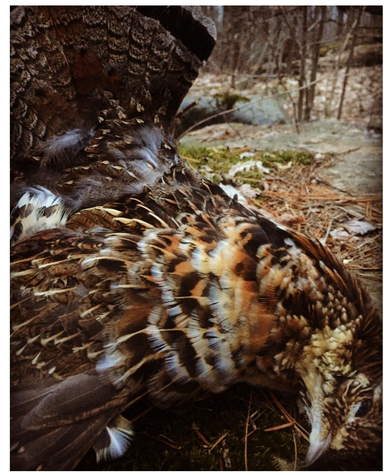
- Further flush count data collection
- Annual woody vegetation growth analysis
- Perimeter trail for improved hunter access
- Rotational clear-cutting of plots every ten years
- Spring grouse drumming survey
- Spring nest/egg counts



Five one-hectare clear-cut stands at the site, with circular fixed plot locations: CP1, CP2, CP3.



NY flush rate map, with starred LAWMA location. Source: NYSDEC Cooperator Ruffed Grouse & American Woodcock Hunting Log Results



Bonasa umbellus harvested at the site.

Dense saplings found in the clear-cuts provide optimal grouse cover.

Older growth aspens surround the clear-cuts.

Grouse tracks in the snow at the site.