



Kunjamuk Young Forest Demonstration Project Breeding Bird Surveys
Preliminary Report
16 December 2016

Background

In June 2016, Audubon New York staff members surveyed breeding birds at 60 points in randomly selected stands located within the Lyme Adirondack Forest Company's Kunjamuk Young Forest Demonstration Project site near Speculator, NY, in the Adirondack Mountains. Breeding birds were surveyed using point count methodology within seven different forest strata that were identified according to forest structure (based on management history), age (time since harvest), and forest type. Mature, Semi-open, and Young refer to overall structure of the stand, i.e. Mature stands have experienced no recent harvest, Semi-open stands were created by relatively recent partial harvests, and Young stands were created by relatively recent clearcuts or clearcuts with reserves. For Semi-open and Young stands, "older" means that 6-9 growing seasons have been completed since the most recent harvest and "young" means that 1-5 growing seasons have been completed since the most recent harvest. Mixed and Hardwood refer to forest type. The seven strata were: 1) Mature mixed forest, 2) Semi-open older mixed forest, 3) Semi-open young mixed forest, 4) Semi-open older hardwood forest, 5) Semi-open young hardwood forest, 6) Young older mixed forest, and 7) Young young mixed forest.

Bird Species Summary

A total of 47 bird species were detected during the breeding bird surveys within 50 m of the count's center point (see Table 1 for a complete species list). Red-eyed Vireos were the most abundant species detected (70 individuals), followed by Chestnut-sided Warblers (43 individuals), and Ovenbirds (31 individuals). The Semi-open young Mixed forest stratum yielded the highest species richness (34 species), followed closely by the Semi-open older Mixed forest stratum with 29 species (see Table 2 for species richness data).

Red-eyed Vireos and Ovenbirds were among the most abundant species across the Mature Mixed and Semi-open strata (including both Mixed and Hardwood forest types and older and young ages) (see Table 3 for species with the highest relative abundance in each stratum). For the Young forest strata, Chestnut-sided Warblers had the highest relative abundance in both the older and young strata, although White-throated Sparrows were equally abundant in the Young older Mixed forest stratum.

These results show how forest strata with different overall structures, times since harvest, and forest types support different breeding bird species at different relative abundances within the same forested landscape. No one stratum supports all breeding species. The diversity of forest types and age classes complement each other to support the full diversity of the breeding bird community.

Next Steps

Audubon New York staff will conduct statistical analyses of the data collected during the breeding bird surveys to examine trends between species and structural characteristics within each stratum, and model species diversity and abundance across the different forest strata at the Kunjamuk site and how the breeding bird community may change in response to different management scenarios.

Table 1. Birds detected during breeding bird surveys at Kunjamuk Young Forest Demonstration Project.

| | | |
|------------------------------|--------------------------|---------------------------|
| Alder Flycatcher | Common Yellowthroat | Pileated Woodpecker |
| American Bittern | Chestnut-sided Warbler | Purple Finch |
| American Goldfinch | Dark-eyed Junco | Rose-breasted Grosbeak |
| American Redstart | Eastern Kingbird | Red-breasted Nuthatch |
| American Robin | Great-crested Flycatcher | Red-eyed Vireo |
| Black-and-White Warbler | Golden-crowned Kinglet | Ruby-throated Hummingbird |
| Black-capped Chickadee | Hairy Woodpecker | Ruffed Grouse |
| Blackburnian Warbler | Hermit Thrush | Scarlet Tanager |
| Blue Jay | Indigo Bunting | Song Sparrow |
| Brown Creeper | Least Flycatcher | Swainson's Thrush |
| Black-throated Blue Warbler | Magnolia Warbler | Veery |
| Black-throated Green Warbler | Mourning Dove | Winter Wren |
| Broad-winged Hawk | Mourning Warbler | Wood Thrush |
| Canada Warbler | Nashville Warbler | White-throated Sparrow |
| Cedar Waxwing | Northern Parula | Yellow-bellied Sapsucker |
| Common Raven | Northern Waterthrush | Yellow-rumped Warbler |
| | Ovenbird | |

Table 2. Species richness data organized by strata.

| Strata | Species Richness |
|--------------------------|-------------------------|
| Mature Mixed forest | 12 |
| Semi-open older Mixed | 29 |
| Semi-open young Mixed | 34 |
| Semi-open older Hardwood | 14 |
| Semi-open young Hardwood | 17 |
| Young older Mixed | 14 |
| Young young Mixed | 23 |

Table 3. Ten most abundant species for each forest stratum, in descending order of most to least abundant.

| Mature Mixed forest | Semi-open older Mixed | Semi-open young Mixed | Semi-open older Hardwood | Semi-open young Hardwood | Young older Mixed | Young young Mixed |
|------------------------------|------------------------------|------------------------------|---------------------------------|---------------------------------|---------------------------|-----------------------------|
| Ovenbird | Red-eyed Vireo | Red-eyed Vireo | Red-eyed Vireo | Red-eyed Vireo | Chestnut-sided Warbler | Chestnut-sided Warbler |
| Red-eyed Vireo | Blackburnian Warbler | Black-throated Blue Warbler | Ovenbird | American Redstart | White-throated Sparrow | White-throated Sparrow |
| Blackburnian Warbler | Black-throated Blue Warbler | Ovenbird | Black-throated Blue Warbler | Black-throated Blue Warbler | Magnolia Warbler | Cedar Waxwing |
| Black-throated Blue Warbler | Chestnut-sided Warbler | Red-Breasted Nuthatch | Scarlet Tanager | Chestnut-sided Warbler | Common Yellowthroat | Red-eyed Vireo |
| Canada Warbler | Black-capped Chickadee | American Redstart | American Redstart | Ovenbird | Alder Flycatcher | Alder Flycatcher |
| Magnolia Warbler | Ovenbird | Black-capped Chickadee | Black-and-white Warbler | Dark-eyed Junco | Black-and-white Warbler | Black-capped Chickadee |
| Black-capped Chickadee | American Redstart | Chestnut-sided Warbler | Veery | Mourning Warbler | Red-eyed Vireo | Black-throated Blue Warbler |
| Brown Creeper | Common Yellowthroat | Black-and-white Warbler | Yellow-rumped Warbler | Veery | Ruby-throated Hummingbird | Red-Breasted Nuthatch |
| Black-throated Green Warbler | Magnolia Warbler | Hairy Woodpecker | American Robin | Black-capped Chickadee | Swainson's Thrush | Swainson's Thrush |
| Broad-winged Hawk | Veery | White-throated Sparrow | Black-throated Green Warbler | Blackburnian Warbler | Black-capped Chickadee | Common Yellowthroat |