



Tin Mountain

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CONSERVATION CENTER

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This report pertains to approximately 111 acres of the Mudd Family Partnership property in Albany, NH and includes the second of four years of data collected in fulfillment of the Forest Songbird Habitat Maintenance enhancement practice through the Conservation Stewardship Program (CSP). The 111 acres of this report encompass eight out of 35 total point count locations. The Mudd Family Partnership (MFP) land is a 600-acre forested tract located in Albany and Madison, NH., which was placed under conservation easements in 2018 with The Nature Conservancy.

This second year of avian and forest vegetation monitoring followed the protocols established in the first year, and included three monthly avian surveys in May, June, and July of 2023. The TMCC research team surveyed 35 established point count locations once each month, with each point count lasting 10 minutes. The avian species listed in this report at each point are the total of all species observed over all three surveys.

Vegetation characteristics were measured in three subplots each located 30 meters from every permanent point count location, located at 60, 180, and 300 degrees from the point count. At each vegetation plot, habitat characteristics were measured at two spatial scales. Overstory, midstory and coarse woody material measurements were taken within an 11.75 meter radius circle that is centered on the vegetation plot. Understory and ground cover measurements were taken within a 5-meter radius circle that is centered within the 11.75-meter radius circle.

Overstory measurements included canopy height using visual estimation, canopy cover using a spherical densitometer, basal area using a factor-10 prism, and diameter at breast height (DBH) and species of every tree and sapling that falls within the factor-10 prism. Midstory measurements included percent cover and species of all shrub and sapling species in the midstory. Fine woody material percent cover was measured using visual estimation. Understory measurements involved visual estimation of percent cover of leaf litter and tree seedlings.

Percent cover was estimated using categories to more easily visualize cover. The categories are as follows:

- 1: <1%
- 2: 1-5%
- 3: 6-15%
- 4: 16-25%
- 5: 26-50%
- 6: 51-75%
- 7: 76-100%

During the 2023 field season, we detected 54 bird species over the course of surveying all 35 point count locations in May, June, and July. Of those 54 species, 18 were designated as Responsibility Bird Species by Audubon Vermont and The North American Bird Conservation Initiative. These responsibility bird species are designated as such because their species have up to 90% of their population breeding in the forests of Vermont, New Hampshire, Maine, and New

York, and are also experiencing long term population declines. The TMCC research team detected 36 species on the eight point count locations referred to in this report. Of those 36 species, 14 species are responsibility bird species, including American redstart, blue-headed vireo, Blackburnian warbler, black-throated blue warbler, black-throated green warbler, eastern-wood pewee, magnolia warbler, Nashville warbler, northern Parula, ovenbird, purple finch, scarlet tanager, wood thrush, and yellow-bellied sapsucker.

Similar to the first year of data collection, the majority of vegetation plots included in this report had canopy cover over 80%, uniform distributions of midstory sapling and shrub species, no invasive woody plant species, understory cover that consisted of hardwood or mixed woody species, and had adequate leaf litter according to the criteria established in the Bird Habitat Inventory Field Procedures by Audubon Vermont. Additionally, most points in this report had at least 1-5% cover of fine woody material, and at least 1 large piece of large coarse woody material. Soft mast was present largely in the form of hobblebush, Vaccinium, and Rubus species.

The following is a report of the data we collected within the 2023 treatment area on the Mudd Family Partnership Lands. Bird species observed over the breeding season are listed at each point count location. Vegetation data was averaged over each of the three subplots associated with each point count, except for the number of large woody material and the number of snags for each point which were summed over the three subplots. See attached map for bird and vegetation monitoring locations included in this report.

Point: Ch17

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Hardwood

Leaf Litter: Adequate; Percent Cover: 51-75%

Seedling Species	Percent Cover
American beech	1-5%
Red oak	<1%
Striped maple	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Hardwood

Soft Mast: Hobblebush, Vaccinium Spp.

Present as groundcover

Sapling/ Shrub Species	Percent Cover
American beech	16-25%
Eastern hemlock	1-5%
Hobblebush	6-15%
Red maple	<1%
Red spruce	<1%
Striped maple	<1%

Overstory:

Canopy Height: 15 Meters

Canopy Cover: 93.5

Overstory Distribution: Uniform

Tree Species Present:

Eastern hemlock

Red oak

Red maple

American beech

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 12

Percent cover of fine woody material: 26-50%

Number of snags: 4

Responsibility Bird Species Observed:

Blue-headed vireo

Black-throated blue warbler

Black-throated green warbler

Nashville warbler

Ovenbird

Scarlet tanager

Other Bird Species Observed:

Black-and-white warbler

Blue jay

Chipping sparrow

Great crested flycatcher

Point: Ch23

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Mixed

Leaf Litter: Adequate; Percent Cover: 51-75%

Seedling Species	Percent Cover
American beech	<1%
Eastern hemlock	<1%
Red maple	<1%
Red oak	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Mixed

Soft Mast: Vaccinium Spp

Sapling/ Shrub Species	Percent Cover
American beech	<1%
Black cherry	<1%
Eastern hemlock	1-5%
Red maple	<1%
Red oak	<1%
Red spruce	<1%
Striped maple	<1%
Vaccinium spp	1-5%
Yellow birch	<1%

Overstory:

Canopy Height: 16 Meters

Canopy Cover: 92.6

Overstory Distribution: Uniform

Tree Species Present:

Eastern hemlock

Red maple

Red oak

Red spruce

White ash

White pine

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 13

Percent cover of fine woody material: 1-5%

Number of snags: 10

Responsibility Bird Species Observed:

Blue-headed vireo

Blackburnian warbler

Black-throated green warbler

Ovenbird

Scarlet tanager

Other Bird Species Observed:

American goldfinch

Black-capped chickadee

Cedar waxwing

Dark-eyed junco

Downy woodpecker

Hermit thrush

Pine warbler

Red-breasted nuthatch

Red-eyed vireo

Yellow-rumped warbler

Point: Ch24

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Mixed

Leaf Litter: Adequate; Percent Cover: 76-100%

Seedling Species	Percent Cover
American beech	<1%
Eastern hemlock	<1%
Red maple	<1%
Striped maple	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Hardwood

Soft Mast: Absent

Sapling/ Shrub Species	Percent Cover
American beech	6-15%
Red spruce	<1%
Striped maple	1-5%
White pine	<1%

Overstory:

Canopy Height: 17 Meters

Canopy Cover: 95.4

Overstory Distribution: Uniform

Tree Species Present:

American beech

Eastern hemlock

Red maple

Red oak

Striped maple

Sugar maple

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 20

Percent cover of fine woody material: 6-15%

Number of snags: 5

Responsibility Bird Species Observed:

Ovenbird

Scarlet tanager

Other Bird Species Observed:

Black-and-white warbler

Blue jay

Great-crested flycatcher

Hairy woodpecker

Hermit thrush

Red-eyed vireo

Point: Ch28

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Mixed

Leaf Litter: Adequate; Percent Cover: 76-100%

Seedling Species	Percent Cover
American beech	<1%
Eastern hemlock	<1%
Striped maple	<1%
White birch	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Hardwood

Soft Mast: Vaccinium Spp

Sapling/ Shrub Species	Percent Cover
American beech	16-25%
Eastern hemlock	1-5%
Vaccinium	1-5%
Red maple	<1%
Red spruce	<1%
Striped maple	1-5%

Overstory:

Canopy Height: 17 Meters

Canopy Cover: 89.2

Overstory Distribution: Uniform

Tree Species Present:

American beech

Eastern hemlock

Red maple

Red oak

Red pine

Red spruce

White pine

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 6

Percent cover of fine woody material: 6-15%

Number of snags: 8

Responsibility Bird Species Observed:

Blue-headed vireo

Black-throated blue warbler

Magnolia warbler

Ovenbird

Scarlet tanager

Other Bird Species Observed:

Hermit thrush

Mourning dove

Pine warbler

Red-eyed vireo

White-breasted nuthatch

Yellow-rumped warbler

Point: Ch29

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Hardwood

Leaf Litter: Adequate; Percent Cover: 76-100%

Seedling Species	Percent Cover
American beech	6-15%
Red maple	<1%
Red oak	<1%
Striped maple	1-5%
White pine	<1%

Midstory:

Midstory Distribution: Uniform

Dominant Type: Hardwood

Soft Mast: Vaccinium Spp. Present at groundcover

Sapling/ Shrub Species	Percent Cover
American beech	26-50%
Eastern hemlock	<1%
Striped maple	1-5%

Overstory:

Canopy Height: 15 Meters

Canopy Cover: 93.1

Overstory Distribution: Uniform

Tree Species Present:

American beech

Red maple

Red oak

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 11

Percent cover of fine woody material: 6-15%

Number of snags: 8

Responsibility Bird Species Observed:

American redstart

Black-throated green warbler

Yellow-bellied sapsucker

Other Bird Species Observed:

Black-capped chickadee

Blue jay

Chipping sparrow

Pine warbler

Red-eyed vireo

Point: Ch33

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Hardwood

Leaf Litter: Adequate; Percent Cover: 76-100%

Seedling Species	Percent Cover
American beech	<1%
Red maple	<1%
Red spruce	<1%
White birch	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Mixed

Soft Mast: Hobblebush

Sapling/ Shrub Species	Percent Cover
American beech	1-5%
Eastern hemlock	1-5%
Hobblebush	<1%
Red maple	<1%
Red spruce	1-5%
Striped maple	<1%

Overstory:

Canopy Height: 18 Meters

Canopy Cover: 88

Overstory Distribution: Uniform

Tree Species Present:

American beech

Eastern hemlock

Red maple

Red oak

Red spruce

Sugar maple

White birch

White pine

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 9

Percent cover of fine woody material: 6-15%

Number of snags: 3

Responsibility Bird Species Observed:

Blue-headed vireo

Blackburnian warbler

Black-throated blue warbler

Northern Parula

Purple finch

Yellow-bellied sapsucker

Other Bird Species Observed:

Black-capped chickadee

Blue jay

Brown creeper

Cedar waxwing

Chipping sparrow

Eastern phoebe

Great-crested flycatcher

Gray catbird

Hermit thrush

Mourning dove

Pine warbler

Red-breasted nuthatch

Red-eyed vireo

Song sparrow

Winter wren

Yellow-rumped warbler

Point: Ch34

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Mixed

Leaf Litter: Adequate; Percent Cover: 51-75%

Seedling Species	Percent Cover
American beech	<1%
Eastern hemlock	<1%
Red maple	<1%
Red spruce	<1%
Striped maple	<1%
White birch	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Hardwood

Soft Mast: Vaccinium Spp. Present at groundcover

Sapling/ Shrub Species	Percent Cover
American beech	1-5%
Eastern hemlock	<1%
Red spruce	<1%
Striped maple	<1%

Overstory:

Canopy Height: 17 Meters

Canopy Cover: 93

Overstory Distribution: Uniform

Tree Species Present:

American beech

Eastern hemlock

Red maple

Red oak

Red pine

White pine

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 12

Percent cover of fine woody material: 1-5%

Number of snags: 12

Responsibility Bird Species Observed:

Blue-headed vireo

Black-throated blue warbler

Eastern wood-pewee

Ovenbird

Yellow-bellied sapsucker

Other Bird Species Observed:

Black-capped chickadee

Brown creeper

Hermit thrush

Pine warbler

Red-breasted nuthatch

White-breasted nuthatch

Winter wren

Point: Ch35

Understory:

Understory Seedling Distribution: Patchy

Dominant type: Hardwood

Leaf Litter: Adequate; Percent Cover: 76-100%

Seedling Species	Percent Cover
American beech	1-5%
Eastern hemlock	<1%
Red spruce	<1%
Striped maple	<1%
White pine	<1%

Midstory:

Midstory Distribution: Patchy

Dominant Type: Hardwood

Soft Mast: Vaccinium Spp. Present at groundcover

Sapling/ Shrub Species	Percent Cover
American beech	6-15%
Eastern hemlock	1-5%
Red spruce	<1%
Striped maple	1-5%

Overstory:

Canopy Height: 14 Meters

Canopy Cover: 96.1

Overstory Distribution: Uniform

Tree Species Present:

American beech

Bigtooth aspen

Eastern hemlock

Red maple

Red oak

Red spruce

White ash

White birch

Non-native Invasive Woody Plants: N/A

Coarse Woody Material:

Number of large pieces: 15

Percent cover of fine woody material: 6-15%

Number of snags: 3

Responsibility Bird Species Observed:

Blue-headed vireo

Blackburnian warbler

Black-throated blue warbler

Black-throated green warbler

Ovenbird

Scarlet tanager

Wood thrush

Yellow-bellied sapsucker

Other Bird Species Observed:

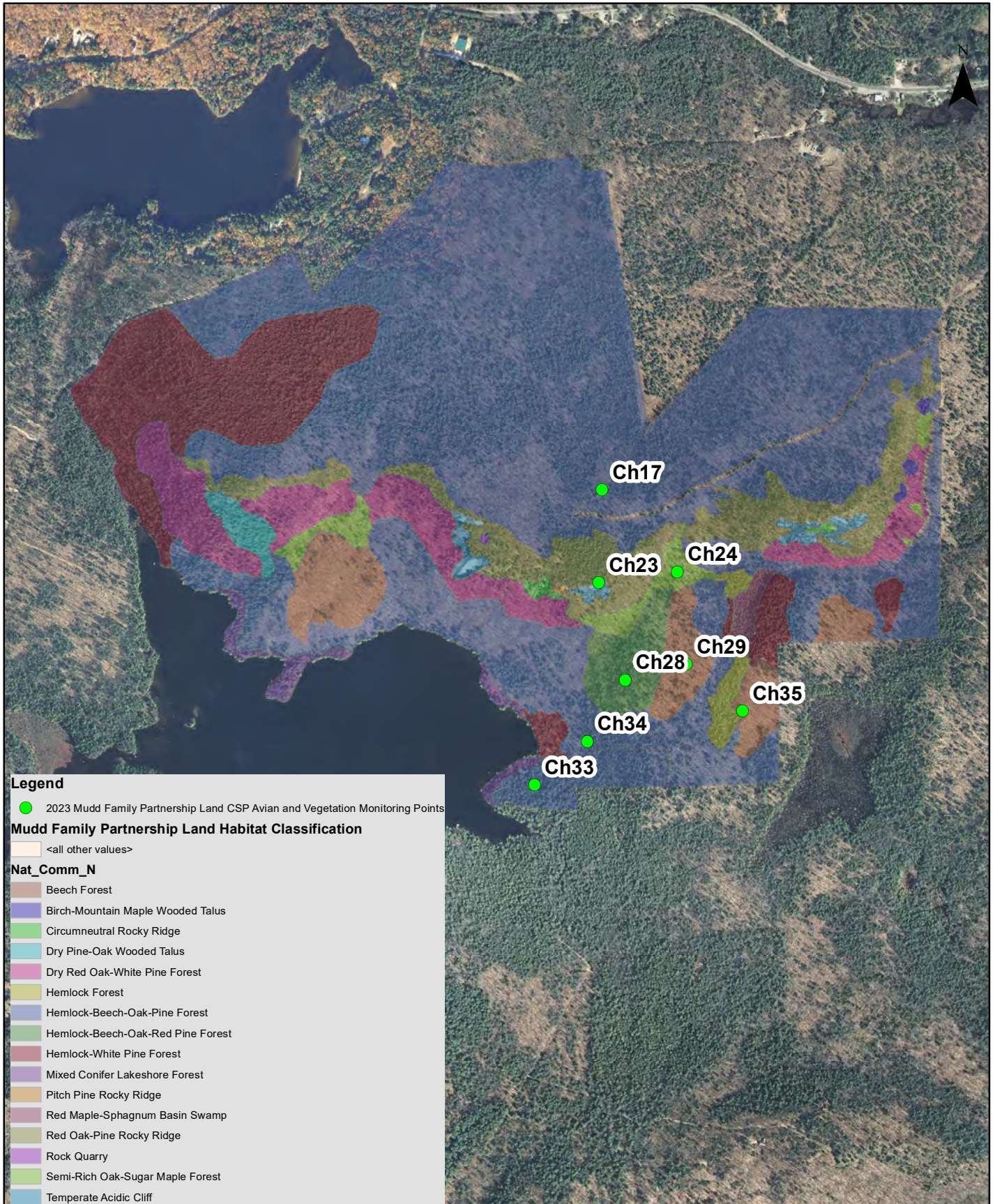
Blue jay

Downy woodpecker

Great-crested flycatcher

Red-eyed vireo

2023 Tin Mountain Conservation Center Mudd Family Partnership Land Avian and Forest Monitoring Map



560 280 0 560 Meters

