



CONSERVE WILDLIFE

FOUNDATION OF NEW JERSEY

Interim Report and Species Inventory for D&R Greenway Point Breeze Property, Bordentown: 2 February 2023

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Introduction

Conserve Wildlife Foundation of New Jersey (CWF) has partnered with D&R Greenway to conduct wildlife inventory surveys at the Point Breeze/Divine Word Missionaries site located in Bordentown, NJ. In performing these surveys, CWF plans to gather information on wildlife inhabiting the site, how those species are utilizing the resources in the area and provide a picture of the health and biodiversity of the property. Surveys are performed visually (either in-person or through images captured on trail cameras), audibly, and by acoustic detection. Multiple biologists from CWF have been tasked with investigating the Point Breeze property for wildlife activity and have been surveying since spring of 2021. Repeating surveys seasonally will allow CWF to obtain as near to a complete census as possible this site. This report addresses findings obtained from surveys for birds, mammals, reptiles, and amphibians.

Avian Inventory

During avian surveys on site, birds spotted visually with binoculars were recorded and songs unaccompanied by visual identification were assessed and recorded with confidence. Most species observed were common inhabitants in New Jersey.

An initial summer avian survey was conducted through visual and audible observation on 14 June 2021. A full site walkthrough yielded a variety of bird species engaged in typical activities, such as foraging, calling, preening, and roosting. The survey covered most of the different terrain found on the property, extending from the open fields into the forested walking paths and weaving through the assortment of human architecture. No species of interest were noted on that day. A second summer survey was conducted on 15 June 2022. This survey followed a similar route as the previous summer survey. During the survey, Wood Thrush (*Hylocichla mustelina*), a species of Special Concern for breeding populations in NJ, was audibly identified in the succeeded field just southwest of the recreational ballfields. Multiple Chimney Swifts (*Chaetura pelagica*) were observed flying over, entering, and exiting buildings on site and a Rose-breasted Grosbeak (*Pheucticus ludovicianus*) was spotted perching in a small, sparse grove of trees. Rose-breasted Grosbeaks are considered a rare species to observe in the area. While both Chimney Swifts and Rose-breasted Grosbeaks are not currently listed or proposed to be

assigned a conservation status, they were included in the most recent (2020) species status review by NJDEP ENSP for indigenous land birds that may be of conservation concern. Table 1 lists the species observed on the Point Breeze property during the two summer avian surveys.

Table 1. Avian diversity observed during summer surveys.

Species	# of Observed Individuals
American Robin	50+
Black Vulture	1
Blue Jay	5+
Carolina Chickadee	3+
Chimney Swift	10+
Chipping Sparrow	10+
Downy Woodpecker	2
Eastern Wood-Pewee	1
European Starling	5+
Gray Catbird	5+
House Finch	2
Killdeer	1
Northern Cardinal	3+
Northern Flicker	1
Northern Mockingbird	2
Red-bellied Woodpecker	1
Red-tailed Hawk	1
Red-winged Blackbird	5+
Rose-breasted Grosbeak	1
Song Sparrow	3+
Tufted Titmouse	1
Turkey Vulture	5
White-breasted Nuthatch	5+
Wood Thrush	1
Unidentified Warbler	1

An autumn avian survey was conducted on 19 October 2021. This survey was conducted to document species that are present on the Point Breeze property during the fall season. Most species observed during this survey are year-round residents. However, multiple Golden-crowned Kinglets (*Regulus satrapa*), a migratory warbler that travels

south from northern North America, were spotted on the property. Table 2 below lists the birds that were documented during the fall survey.

Table 2. Avian diversity observed during the fall survey.

Species	# of Observed Individuals
American Robin	25+
Blue Jay	5+
Cedar Waxwing	1
Common Grackle	2
European Starling	5+
Golden-crowned Kinglet	5
Northern Flicker	4
Red-bellied Woodpecker	2
Red-tailed Hawk	2
Song Sparrow	5+
Turkey Vulture	1
Unidentified Raptor	1

Two winter bird surveys were conducted on the Point Breeze property: the first performed on 15 February 2022 and the second on 26 January 2023. During the two surveys, no species of conservation concern were observed. Pileated Woodpecker (*Dryocopus pileatus*), Dark-eyed Junco (*Junco hyemalis*), and Red-breasted Nuthatch (*Sitta canadensis*) were seen utilizing the site. All three species were on the recent species status review mentioned earlier, but populations are considered stable. Table 3 below lists the birds that were documented during the two winter surveys.

Table 3 Avian diversity observed during winter surveys.

Species	# of Observed Individuals
American Robin	25+
Black Vulture	7
Canada Goose	3+
Carolina Wren	3
Common Grackle	2
Dark-eyed Junco	5
European Starling	5+

Mourning Dove	2
Northern Cardinal	3+
Pileated Woodpecker	1
Red-bellied Woodpecker	3
Red-breasted Nuthatch	3
Red-tailed Hawk	2
Unidentified gull	50+

One spring survey was conducted on 20 May 2022. The survey was cut short due to thunderstorms, but multiple species were observed on site before the weather changed. No species of conservation concern were recorded. Gray Catbirds (*Dumetella carolinensis*), whose populations were also reassessed on the most recent NJDEP species status report, were recorded on site. Table 4 below lists the birds that were documented during the spring survey.

Table 4. Avian diversity observed during the spring survey.

Species	# of Observed Individuals
American Robin	50+
Carolina Chickadee	5+
Cedar Waxwing	1
Chipping Sparrow	5+
Common Grackle	2
Common Yellowthroat	3+
Downy Woodpecker	1
European Starling	5+
Gray Catbird	2
Northern Cardinal	2+
Red-bellied Woodpecker	1
Song Sparrow	3+

Three additional species were captured by trail camera and will be discussed in the following section. Avian surveys at Point Breeze are ongoing during the 2023 field season. A full inventory of bird species present on site will require additional winter, spring, summer and

fall surveys to complete. Access to different areas of the site may be requested to set up game cameras and conduct surveys for birds that utilize the marshes and waterways on and around the property.

Camera Trapping

Camera traps were installed at three locations on the Point Breeze property for the purpose of detecting activity patterns of mammals and birds utilizing key resources. Camera 1 (Reconyx Hyperfire 2 Covert IR) was fixed to a crabapple tree in the front field, a location which is impacted by periodic mowing (40.15678, -74.70613). Because the shutter is triggered by body heat, this model would have been insufficient for capturing ectothermic species (e.g., Eastern box turtle (*Terrapene carolina carolina*)), but may have provided secondary evidence of ground-nesting birds reliant on tall grass for cover. This camera was active between 8 June and 29 July 2021, which overlaps with the nesting and brooding seasons of most grassland birds breeding in New Jersey including savannah sparrow (*Passerculus sandwichensis*) and bobolink (*Dolichonyx oryzivorus*), both of which have been recorded at nearby Abbott Marshlands.

While this camera recorded America robin (*Turdus migratorius*), Northern flicker (*Colaptes auratus*), and common grackle (*Quiscalus quiscula*), the proportion of avian species captured was low and they tended to occupy space at a distance from the camera, which made identification difficult. The overwhelming majority of images (Fig. 1) depicted white-tailed deer (*Odocoileus virginianus*) which commonly fed from the crabapple tree. Additional behaviors exhibited by the deer included grazing, tending to fawns, grooming, playing, and investigating the camera.

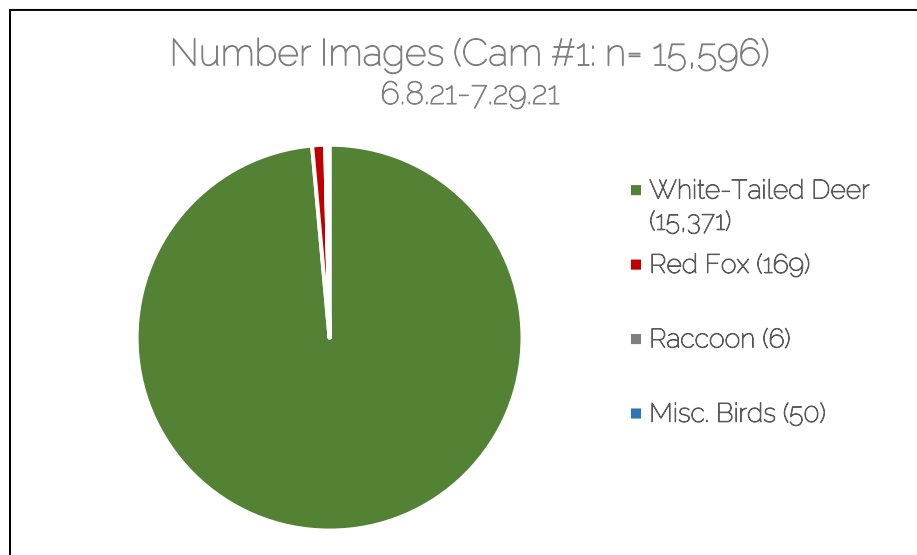


Fig. 1. Proportion of images by species for Camera #1, first deployment.

The low diversity prompted an early removal of the camera from the preliminary location. It was redeployed alongside an unnamed tributary of Crosswicks Creek (40.15981, -74.70615), where it was active between 29 July 2021 and 15 February 2022.

Species diversity continued to largely feature white-tailed deer with low to isolated occurrences of raccoon (*Procyon lotor*), great blue heron (*Ardea herodias*), and American beaver (*Castor canadensis*) (Fig. 2).

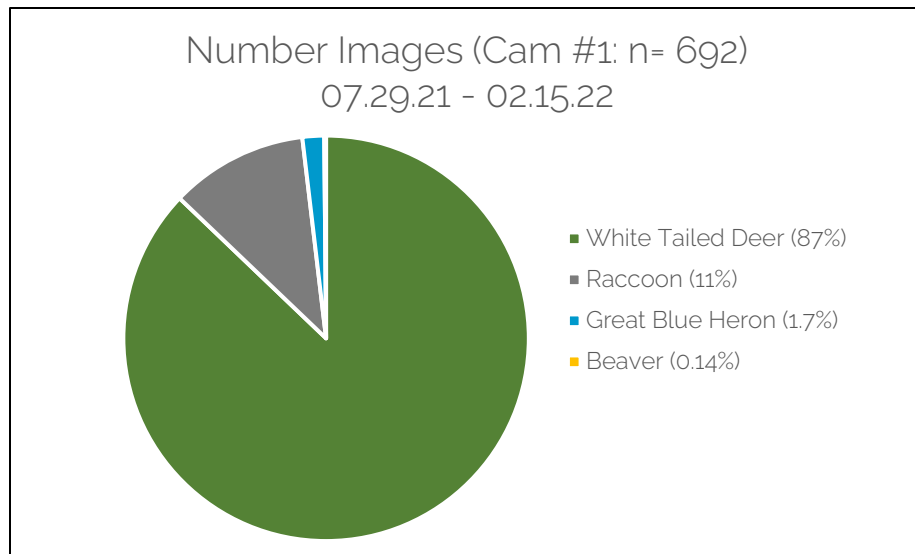


Fig. 2. Proportion of images by species for Camera #1, second deployment.

A second camera (Wosports Mini Trail Camera) was deployed on Thornton Creek (40.15144, -74.70963) between 8 June 2021 and 15 June 2022. The creek flows under County Route 662 near this point and may be influenced by the surrounding development. A total of > 16 species were captured by this camera, representing 7 mammals and 9+ birds (identification of some birds was not possible due to motion and position relative to the camera). White-tailed deer and great blue heron were the dominant members of their respective classes; however, raccoon and red fox (*Vulpes vulpes*) were also common (Fig. 3).

Mammal Inventory

Visual surveys were conducted once per season during late spring (14 June 2021), fall (19 October 2021), and winter (26 January 2022). During the 11-hours of combined survey effort, eight species of terrestrial mammals were recorded. The fall survey was the most productive with sightings or scat located for seven species while no mammals were visible during our winter inventory. Mammal surveys were conducted using presence-absence rather than abundance metrics. See Table 5 for a complete list of terrestrial mammals recorded at Point Breeze.

The activity patterns of bats precluded them from being identified during our visual survey efforts as they primarily occurred during daylight hours. To effectively census species utilizing Point Breeze, we deployed two acoustic detectors, one along Thornton Creek and the other mounted to a tree in the northern field. These devices were active between 14 and 17 August 2021. Bats were identified by their call using a combination of auto-classification in the software SonoBat and manual interpretation by a qualified bat expert.

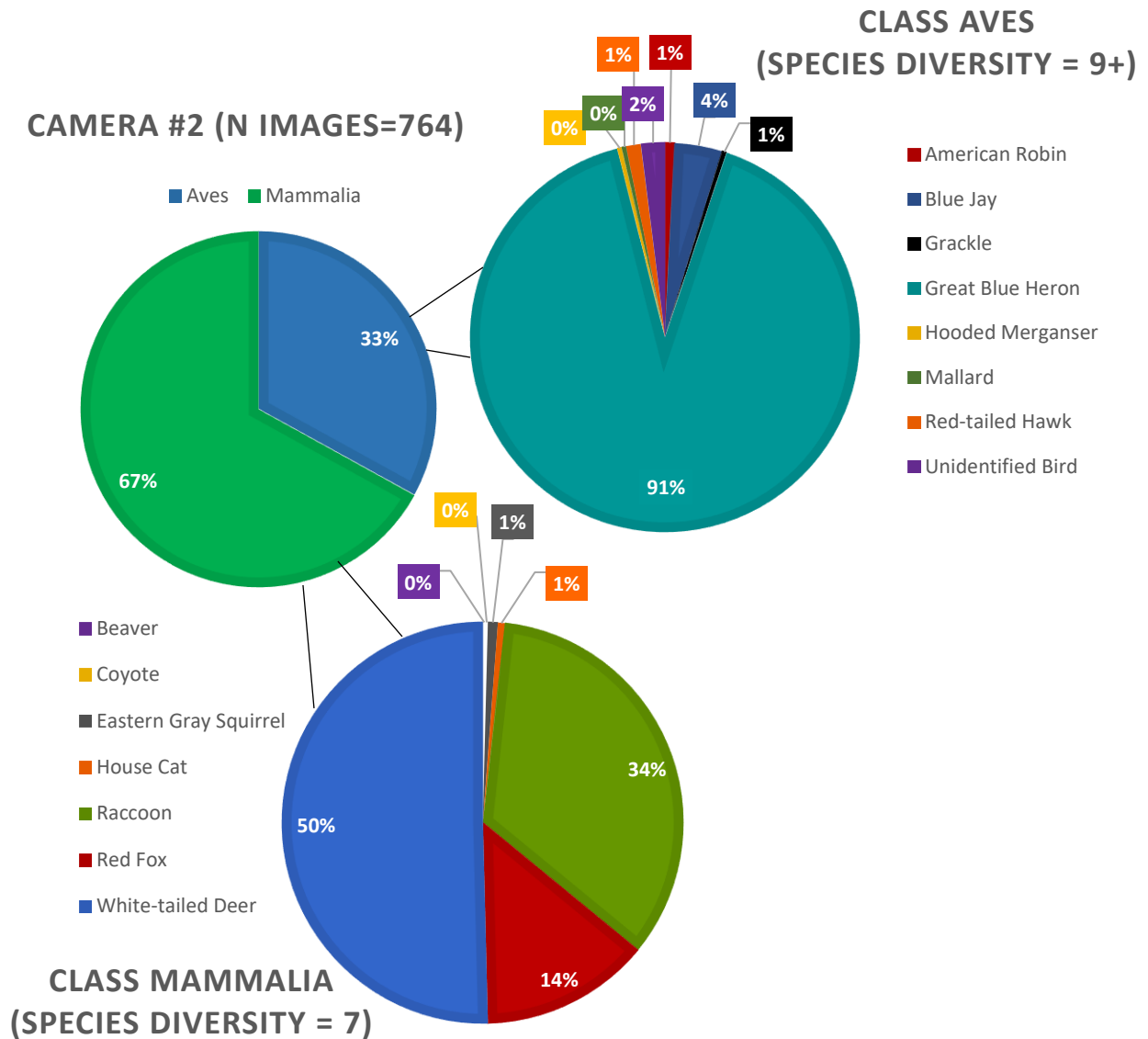


Fig. 3. Proportion of images recorded by Trail Camera #2 that fall into class Aves and class Mammalia. Classes are further divided by species.

Most of the bat activity present at Point Breeze is accounted for by big brown bats (*Eptesicus fuscus*), though four additional species were confidently detected (Table 6). The software also identified little brown (*Myotis lucifugus*) and Indiana bats (*Myotis sodalis*), though it is likely that these detections are inaccurate. *Myotis* species have been decimated due to White-nose Syndrome and Bordentown is outside of the expected range of Indiana bats. See Table 6 for SonoBat recording data.

Table 5. Terrestrial Mammal Inventory for Point Breeze.

Terrestrial Mammal Species
American Beaver
Coyote
Eastern Chipmunk
Eastern Cottontail
Eastern Gray Squirrel
Eastern Mole
House Cat
Raccoon
Red Fox
White-footed Mouse
White-tailed Deer

Table 6. Bat diversity recorded at Point Breeze.

Point Name	Big Brown	Eastern Red	Hoary	Silver-haired	Little/Indiana	Small-footed	Little Brown	Indiana	Tricolored	Evening	Total by Site
C01-Thornton Creek	3124	176	8	223	1	0	1	1	0	2	3536
C02- DWM Field North	1257	209	42	238	16	0	1	0	0	10	1773
Total by Species	4381	385	50	461	17	0	2	1	0	12	5309

Herptile Inventory

Visual surveys were conducted for reptiles and amphibians on 14 June and 19 October 2021. On 14 June a single female box turtle was located at the bottom of an old well off the forested walking path. She was retrieved, measured, notched with a unique code, and safely released. No other reptiles or amphibians were located during visual surveys.

Coverboards were arranged in 4 transects across the Point Breeze property in late summer 2021. They were allowed to weather, undisturbed, for a period of two months prior to the commencement of surveys. This allows them to develop as appropriate refugia for snakes and salamanders. The coverboards were checked by CWF biologists and interns on 19 October and 11 November 2021 and 14 April and 15 June 2022. No surveys occurred during the winter months as target species were in brumation. Coverboard checks have consistently yielded red-backed salamanders (*Plethodon*

cinereus) and one garter snake (*Thamnophis sirtalis sirtalis*) was discovered during the meander between boards on 14 April. It is common for herptiles to colonize coverboards in waves with red-backed salamanders and garter snakes occurring first and other snake species moving in as the boards continue to weather. Small mammals were located under one of the boards which demonstrates one reason that this method is effective for inventorying snakes.

Conclusion

According to the summer and fall surveys conducted by CWF, the Point Breeze site hosts a healthy assortment of avian and mammalian life. It is encouraging to note the possible presence of an endangered species (little brown bat) utilizing the property, as well as a plethora of other native and migratory species that bring diversity to the landscape. Future surveys will focus on developing a more complete inventory including more reptiles, amphibians and birds/mammals that inhabit the property during the winter and spring months. It's exciting to consider the potential of the Point Breeze property, as it's proving to be a haven for wildlife nestled amongst the suburbs of New Jersey.