

Wildlife Biodiversity
Inventory
Interim Results

White Sands
Village



EcoVest
Conservation
Property
North Myrtle
Beach,
Horry County, SC
October 2020



CONSERVATION
ECOLOGY

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Interim Wildlife Inventory Report
WHITE SANDS VILLAGE
EcoVest Conservation Property
North Myrtle Beach, Horry County, SC

Wednesday, October 7, 2020

This report provides an interim update of findings for an ongoing wildlife inventory of the 181 acre White Sands Village conservation property located near the town of North Myrtle Beach in Horry County, SC. The property is one of 4 mostly contiguous conservation properties (Azalea Bay, Magnolia Bay, Ocean Grove Resort, & White Sands Village) totaling 827 acres, which are held under easement by North American Land Trust and managed by EcoVest Capital Inc. Because the wildlife found on any one property are likely to occur on the neighboring properties, and for practical reasons, the wildlife survey results for all 4 properties are presented together here.

The properties lie in the Southeastern Coastal Plain and are characterized by very low elevations and flat topography. Vegetation types are described in the Baseline Documentation Reports produced by NALT. General habitats include xeric sandhill scrub, planted loblolly stands with closed canopies and thick shrub layers, recently thinned loblolly stands that have a more open woodland structure, mature hardwood swamps, Carolina Bays, and depression pools and ponds.

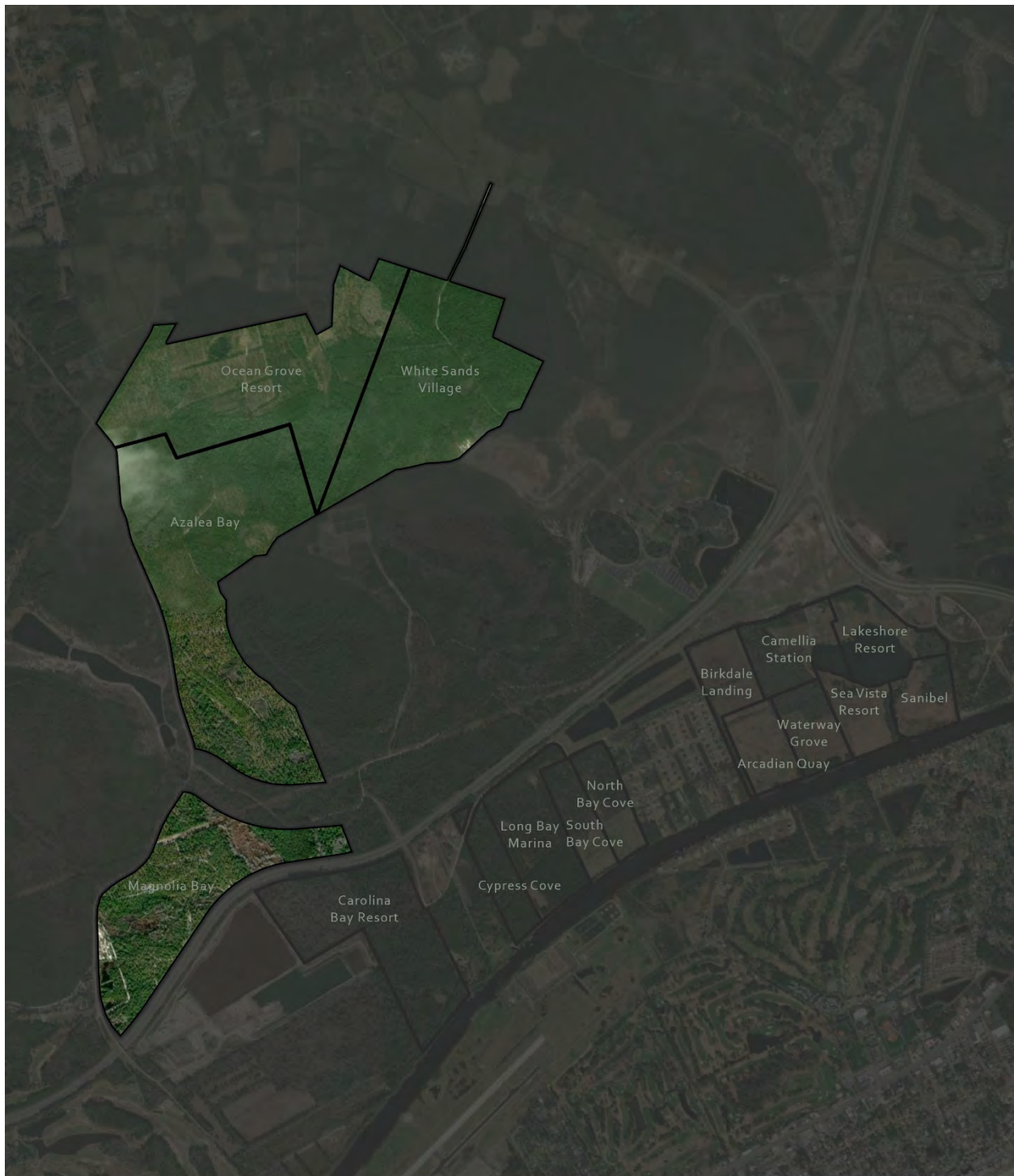
Wildlife surveys were conducted on multiple occasions between spring of 2016 and September of 2020. The Priority Species (or Species of Greatest Conservation Need) listed in South Carolina's 2015 Comprehensive Wildlife Conservation Strategy (also referred to as State Wildlife Action Plan, SWAP) was used to determine conservation significance of wildlife species found on the properties. A total of 133 species were observed, including 49 listed as priority species under the SC SWAP.

Birds –

Bird surveys were conducted across the properties between spring of 2016 and 2020. Casual observations of birds were recorded year-round during fieldwork activities and were photographed when possible. In order to gauge the relative abundance and distribution of breeding birds, spring-time bird surveys were conducted at 56 point locations throughout the properties, where all birds seen or heard were identified and counted, during early morning hours, over a roughly 5-minute period. Survey point locations were sampled once and were generally spaced >250 meters apart each season to avoid counting the same birds.

A total of 74 bird species were observed. Other than 3 spring migrants (Solitary Sandpiper, Chestnut-sided Warbler, Blackpoll Warbler) most species observed likely breed on, or near the properties. Spring point counts recorded 70 species, including 34 listed as conservation priority species by the SC SWAP which ranged between 2 and 10 species per point, with a median of 5. The 10 most abundant SC SWAP Priority species were Eastern Towhee, Pine Warbler, Brown-headed Nuthatch, Carolina Wren, Summer Tanager, Indigo Bunting, Red-bellied Woodpecker, Carolina Chickadee, Purple Martin, and Red-headed Woodpecker.

Other notable observations – A flock of Mottled Duck (SC-SWAP Moderate Priority) with young were observed in the pond at the southern tip of Magnolia Bay during the spring of 2017. A small flock of Wood Ducks (SC-SWAP High Priority) were observed in the pond on Ocean Grove during September 2020. A young male Painted Bunting (SC-SWAP Highest Priority) was photographed singing and foraging at the southwest corner of the Azalea property.



AZALEA BAY, MAGNOLIA BAY, OCEAN GROVE, & WHITE SANDS PROPERTIES 2016-2020

ECOVEST CONSERVATION PROPERTIES
NORTH MYRTLE BEACH, HORRY COUNTY, SC



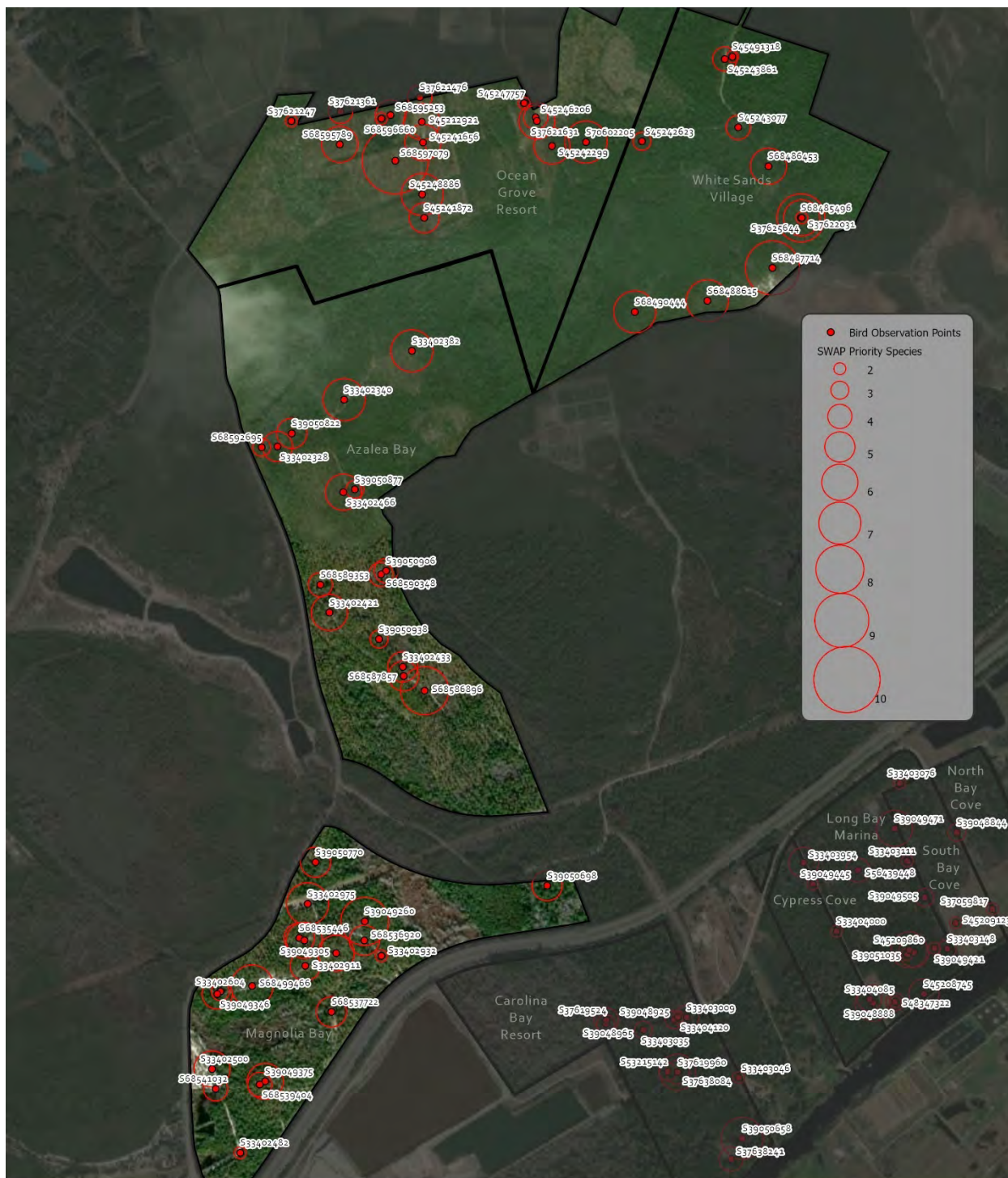
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This map is for informational purposes
and does not represent a legal property
survey.

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Observed Priority Bird Species 2016-2020

Common Name	Azalea Bay	Magnolia Bay	Ocean Grove Resort	White Sands Village
Acadian Flycatcher		x		
Bald Eagle				x
Blue Grosbeak	x	x	x	
Brown Thrasher	x	x	x	
Brown-headed Nuthatch	x	x	x	x
Carolina Chickadee	x	x		x
Carolina Wren	x	x	x	x
Chimney Swift		x		
Chuck-will's-widow		x		
Eastern Kingbird		x	x	
Eastern Towhee	x	x	x	x
Eastern Wood-Pewee	x			
Great Egret		x		
Hooded Warbler	x			x
Indigo Bunting		x	x	
Kentucky Warbler		x		
Louisiana Waterthrush				x
Painted Bunting	X			
Pileated Woodpecker	x		x	x
Pine Warbler	x	x	x	x
Prairie Warbler	x	x		x
Prothonotary Warbler	x	x		x
Purple Martin	x	x	x	x
Red-bellied Woodpecker	x	x	x	x
Red-headed Woodpecker	x		x	x
Red-shouldered Hawk			x	x
Snowy Egret	X			
Summer Tanager	x	x	x	x
Swainson's Warbler		x	x	x
White Ibis		x		
White-eyed Vireo	x	x		
Wood Duck				x
Worm-eating Warbler	x			
Yellow-billed Cuckoo	x	x	x	x
Yellow-breasted Chat		x		
TOTAL	21	24	16	19



DIVERSITY OF SC-SWAP PRIORITY BIRD SPECIES AT SURVEY POINT LOCATIONS 2016-2020

ECOVEST CONSERVATION PROPERTIES
NORTH MYRTLE BEACH, HORRY COUNTY, SC



0 0.5 Miles

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SC State Wildlife Action Plan (2015) Priority Bird Species
Observed at Spring / Breeding Season Bird Survey Point Locations

Azalea Bay
S33402328
High
Brown Thrasher
Eastern Towhee
Moderate
Pine Warbler
Red-bellied Woodpecker
Summer Tanager
S33402340
High
Brown Thrasher
Eastern Towhee
Moderate
Blue Grosbeak
Pine Warbler
Red-bellied Woodpecker
Summer Tanager
White-eyed Vireo
S33402382
High
Eastern Towhee
Moderate
Brown-headed Nuthatch
Hooded Warbler
Pine Warbler
Summer Tanager
White-eyed Vireo
Worm-eating Warbler
S33402421
High
Eastern Towhee
Moderate
Blue Grosbeak
Brown-headed Nuthatch
Pine Warbler
Red-bellied Woodpecker
Red-headed Woodpecker
S33402433
High

Eastern Towhee
Moderate
Brown-headed Nuthatch
Carolina Chickadee
Pine Warbler
Prothonotary Warbler
S39050822
High
Purple Martin
Moderate
Brown-headed Nuthatch
Carolina Chickadee
Red-bellied Woodpecker
Summer Tanager
S39050877
High
Eastern Towhee
Moderate
Pine Warbler
Summer Tanager
S39050906
High
Purple Martin
Moderate
Brown-headed Nuthatch
Carolina Chickadee
Summer Tanager
S39050938
High
Purple Martin
Moderate
Carolina Chickadee
Pine Warbler
S68586896
High
Eastern Towhee
Prairie Warbler
Moderate
Brown-headed Nuthatch
Carolina Chickadee
Carolina Wren
Pileated Woodpecker

Pine Warbler
Red-bellied Woodpecker
S68589353
High
Eastern Towhee
Yellow-billed Cuckoo
Moderate
Brown-headed Nuthatch
Pine Warbler
S68590348
High
Eastern Towhee
Eastern Wood-Pewee
Yellow-billed Cuckoo
Moderate
Pine Warbler
S68592695
Moderate
Pine Warbler
Prothonotary Warbler
Summer Tanager
Magnolia Bay
S33402482
High
Eastern Towhee
Moderate
Carolina Wren
S33402500
High
Eastern Kingbird
Highest
White Ibis
Moderate
Carolina Wren
Indigo Bunting
Pine Warbler
White-eyed Vireo
S33402604
High
Eastern Towhee
Moderate
Brown-headed Nuthatch

White-eyed Vireo
S33402911
High
Eastern Towhee
Moderate
Carolina Wren
Indigo Bunting
Pine Warbler
Red-bellied Woodpecker
S33402932
Moderate
Carolina Wren
Indigo Bunting
S33402975
High
Eastern Towhee
Prairie Warbler
Purple Martin
Moderate
Brown-headed Nuthatch
Carolina Wren
Indigo Bunting
Pine Warbler
S39049047
High
Eastern Towhee
Moderate
Blue Grosbeak
Brown-headed Nuthatch
Indigo Bunting
Pine Warbler
Red-bellied Woodpecker
S39049260
High
Acadian Flycatcher
Eastern Towhee
Yellow-billed Cuckoo
Moderate
Brown-headed Nuthatch
Carolina Wren
Indigo Bunting
Pine Warbler

Summer Tanager
S39049305
High
Eastern Towhee
Swainson's Warbler
Moderate
Carolina Wren
Indigo Bunting
Pine Warbler
Summer Tanager
S39049346
High
Brown Thrasher
Prairie Warbler
Moderate
Brown-headed Nuthatch
Indigo Bunting
Prothonotary Warbler
S39049375
High
Brown Thrasher
Eastern Kingbird
Eastern Towhee
Kentucky Warbler
Moderate
Brown-headed Nuthatch
Carolina Chickadee
S39050698
High
Eastern Towhee
Moderate
Brown-headed Nuthatch
Carolina Wren
Pine Warbler
Summer Tanager
S39050770
High
Eastern Towhee
Moderate
Blue Grosbeak
Brown-headed Nuthatch
Carolina Chickadee

Carolina Wren
S68499466
High
Chimney Swift
Eastern Towhee
Purple Martin
Yellow-billed Cuckoo
Moderate
Brown-headed Nuthatch
Carolina Wren
Pine Warbler
S68535446
High
Brown Thrasher
Eastern Towhee
Swainson's Warbler
Moderate
Brown-headed Nuthatch
Summer Tanager
S68536920
High
Eastern Towhee
Moderate
Brown-headed Nuthatch
Carolina Chickadee
Pine Warbler
Summer Tanager
S68537722
High
Eastern Towhee
Great Egret
Yellow-billed Cuckoo
Yellow-breasted Chat
S68539404
Moderate
Brown-headed Nuthatch
Carolina Wren
Pine Warbler
Red-bellied Woodpecker
S68541032
High
Chuck-will's-widow

Moderate
Carolina Wren
Pine Warbler
Summer Tanager
Ocean Grove Resort
S37621247
Moderate
Pine Warbler
Summer Tanager
S37621361
High
Eastern Towhee
Moderate
Indigo Bunting
Pileated Woodpecker
Pine Warbler
S37621476
High
Eastern Towhee
Moderate
Brown-headed Nuthatch
Indigo Bunting
Summer Tanager
S37621631
High
Eastern Towhee
Moderate
Carolina Wren
Indigo Bunting
Pine Warbler
Red-bellied Woodpecker
Summer Tanager
S45212921
High
Purple Martin
Moderate
Carolina Wren
Indigo Bunting
Pine Warbler
Red-bellied Woodpecker
Red-headed Woodpecker
S45241656

High
Eastern Kingbird
Moderate
Indigo Bunting
Pine Warbler
Red-bellied Woodpecker
Red-headed Woodpecker
Summer Tanager
S45241872
High
Eastern Towhee
Swainson's Warbler
Moderate
Carolina Wren
Red-headed Woodpecker
Summer Tanager
S45242299
High
Eastern Towhee
Moderate
Carolina Wren
Red-bellied Woodpecker
Red-headed Woodpecker
Red-shouldered Hawk
Summer Tanager
S45246206
Moderate
Brown-headed Nuthatch
Carolina Wren
Indigo Bunting
Pine Warbler
S45248886
High
Purple Martin
Swainson's Warbler
Yellow-billed Cuckoo
Moderate
Brown-headed Nuthatch
Indigo Bunting
Pine Warbler
Summer Tanager
S68595253

High
Brown Thrasher
Eastern Towhee
Moderate
Blue Grosbeak
Pine Warbler
Red-headed Woodpecker
S68595789
High
Eastern Towhee
Moderate
Blue Grosbeak
Carolina Wren
Pine Warbler
Red-bellied Woodpecker
Summer Tanager
S68597079
High
Brown Thrasher
Eastern Kingbird
Eastern Towhee
Yellow-billed Cuckoo
Moderate
Blue Grosbeak
Brown-headed Nuthatch
Indigo Bunting
Pileated Woodpecker
Pine Warbler
Red-shouldered Hawk
S70602205
Moderate
Brown-headed Nuthatch
Carolina Wren
Indigo Bunting
Pileated Woodpecker
Pine Warbler
Red-bellied Woodpecker
Summer Tanager
White Sands Village
S37622031
Moderate
Carolina Wren

Red-bellied Woodpecker
S37625644
High
Purple Martin
Moderate
Carolina Chickadee
Carolina Wren
Hooded Warbler
Pine Warbler
Summer Tanager
S45242623
Moderate
Carolina Wren
Pine Warbler
Red-headed Woodpecker
S45243077
High
Purple Martin
Moderate
Carolina Chickadee
Carolina Wren
Pine Warbler
S45243861
Moderate
Carolina Chickadee
Carolina Wren
Pine Warbler
Red-bellied Woodpecker
S68485496
High
Eastern Towhee
Louisiana Waterthrush
Swainson's Warbler
Moderate
Carolina Chickadee
Hooded Warbler
Pileated Woodpecker
Pine Warbler
Summer Tanager
S68486453
High
Eastern Towhee

Yellow-billed Cuckoo
Moderate
Carolina Wren
Hooded Warbler
Pine Warbler
Summer Tanager
S68487714
High
Eastern Towhee
Moderate
Carolina Chickadee
Carolina Wren
Pileated Woodpecker
Pine Warbler
Prothonotary Warbler
Red-bellied Woodpecker
Summer Tanager
S68488615
High
Bald Eagle
Moderate
Brown-headed Nuthatch
Carolina Wren
Pine Warbler
Red-headed Woodpecker
Red-shouldered Hawk
Summer Tanager
S68490444
High
Prairie Warbler
Yellow-billed Cuckoo
Moderate
Carolina Wren
Pine Warbler
Red-bellied Woodpecker
Red-headed Woodpecker
Summer Tanager

Bats-

Bats were surveyed using mist nets in July 2018 and May 2019. Those methods and findings are detailed in previous reports. Automated acoustic surveys were conducted between May and September of 2016 through 2020 and used both Wildlife Acoustics SM2BAT+ detectors coupled with SMX-UT omnidirectional microphones, and SM4BAT detectors coupled with SMM-U1 omnidirectional microphones. The units were deployed at 26 locations (detector-sites) across the properties for a total of 79 detector-nights of sampling effort. In nearly all cases, microphones were mounted on 12-foot-high poles. On two occasions microphones were mounted on 24' high poles to increase detection of higher-flying species (detector unit 8748).

The detectors were placed along suspected flyways in open areas near the edge of forests, along forest roads, and near pools and waterways to intercept the most bats and maximize the number of recordings. The detectors were programmed to record bat calls from local sunset to sunrise. The Sonobat 4.3.0 software suite (Sonobat, Inc., Humboldt, CA) was used to scrub the full-spectrum WAV file recordings and remove non-bat or noise files, and automatically identify each bat recording (or "pass"). The software also provided a probabilistic statement (a Maximum Likelihood Estimate, or MLE) about the certainty of the pooled identifications from recordings for each detector site-night based on the quality of the recordings and overlap with similar sounding species using default software settings and the Southeastern-Southeast set of classifiers. A probability of false identification value (or p-value) of <0.05 was chosen as a threshold for accepting the species identification and assuming presence on the property. Final species ID determinations were made manually for the combined project area by pooling the recordings from the four properties and inspecting the highest quality recordings flagged by the software.

Mist net surveys captured 3 species (Evening bat, Seminole Bat, and Southeastern myotis) on the properties. One additional species (Eastern red bat) was captured on other EcoVest properties nearby.

Acoustic surveys on the combined Azalea Bay, Magnolia Bay, Ocean Grove Resort, & White Sands Village properties produced 7,545 individual recordings of bats after scrubbing and 5 species were automatically identified by the software with an MLE<0.05. Manual vetting identified 8 species, with one species, the Silver-haired bat, considered probable. Together, the mist net and acoustic surveys reveal a total of 9 bat species in the study area: Big Brown Bat, Brazilian Free-tailed Bat, Eastern Red Bat, Evening Bat, Northern Yellow Bat, Seminole Bat, Silver-haired Bat, Southeastern Bat, and Tricolored Bat. Eastern Red Bat and Seminole Bat are indistinguishable acoustically, explaining the discrepancy between acoustic and mist netting results.

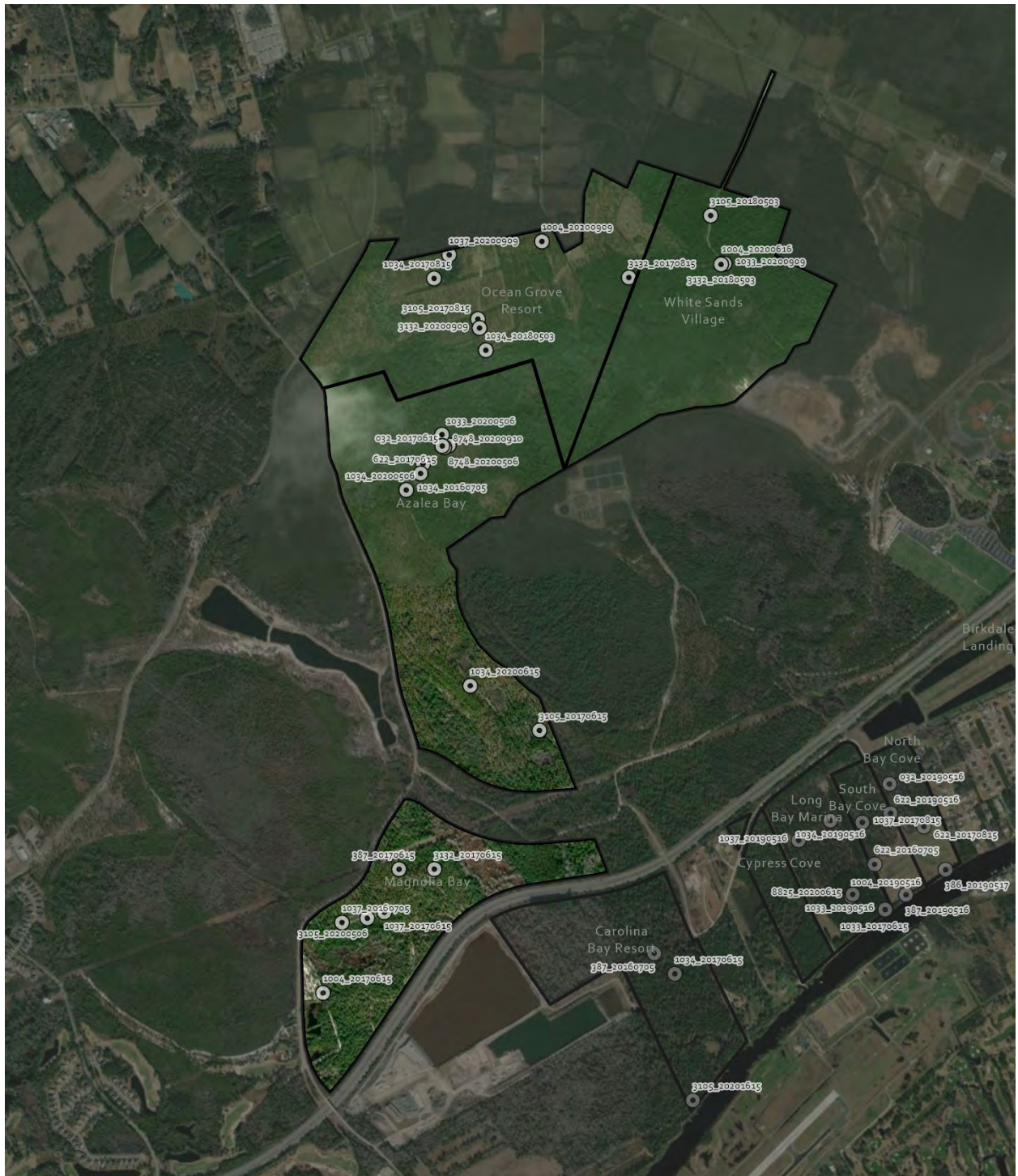
All detected species except the Evening Bat and Brazilian Free-tailed Bat are designated as *Highest Priority - Species of Greatest Conservation Need under the SC State Wildlife Action Plan (2015)*. The Southeastern myotis is ranked S1/S2 – Imperiled in South Carolina. The Tricolored Bat is currently under review by the USFWS for listing under the Endangered Species Act (Federal Register / Vol. 82, No. 243 / Wednesday, December 20, 2017 / Proposed Rules).

Mist Net Captures – North Myrtle Beach Properties (all 16 properties combined) - July 2018 & May 2019

Species	Total Captured	% of Total
Evening Bat	48	73%
Seminole Bat	12	18%
Eastern Red Bat	5	8%
Southeastern Bat	1	2%
Grand Total	66	100%

Bat Species Detected on the Azalea Bay, Magnolia Bay, Ocean Grove Resort, & White Sands Village properties 2016-2020

COMMON NAME	SCIENTIFIC NAME	4-LETTER CODE	6-LETTER CODE
Big brown bat	<i>Eptesicus fuscus</i>	EPFU	EPTFUS
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>	TABR	TADBRA
Eastern red bat	<i>Lasiurus borealis</i>	LABO	LASBOR
Evening bat	<i>Nycticeius humeralis</i>	NYHU	NYCHUM
Northern yellow bat	<i>Lasiurus intermedius</i>	LAIN	LASINT
Seminole bat	<i>Lasiurus seminolus</i>	LASE	LASSEM
Silver-haired bat	<i>Lasionycteris noctivagans</i>	LANO	LASNOC
Southeastern myotis	<i>Myotis austroriparius</i>	MYAU	MYOAUS
Tri-colored bat	<i>Perimyotis subflavus</i>	PESU	PERSUB



ACOUSTIC BAT DETECTOR SITES
2016-2020
 ECOVEST CONSERVATION PROPERTIES
 NORTH MYRTLE BEACH, HORRY COUNTY, SC



0 0.5 Miles

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Sonobat and Manual Vetting Site-Night Results

Azalea Bay, Magnolia Bay, Ocean Grove Resort, & White Sands Village properties 2016-2020

			Maximum Likelihood (MLE<0.05 = assume spp presence)										#Files Recorded													
Site	Date	Project	Myau	Pesu	Nyhu	Labo	Epfu	Lano	Cora	Lain	Tabr	Laci	#Myau	#Pesu	#Nyhu	#Labo	#Epfu	#Lano	#Cora	#Lain	#Tabr	#Laci	HIF passes	LoF passes	total passes	
032_20170615	20170615	Azalea Bay	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	11	0	11	
032_20170615	20170616	Azalea Bay	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	26	0	26	
1033_20200506	20200506	Azalea Bay	1	0.96	1	0	1	1	1	1	1	1	0	1	2	40	0	0	0	0	0	0	82	0	82	
1034_20160705	20160705	Azalea Bay	0.97	0.06	1	0	1	1	1	1	0.16	1	1	17	8	147	0	0	0	0	0	8	500	49	549	
1034_20160705	20160706	Azalea Bay	0.97	0	0.93	0	0.49	1	1	1	0	1	1	29	16	115	6	0	0	3	26	0	366	67	433	
1034_20180503	20180503	Azalea Bay	1	0.9	0.56	0.13	0.93	1	1	1	0.16	1	0	1	5	8	1	0	0	0	8	0	49	12	61	
1034_20180503	20180504	Azalea Bay	1	0.61	0.82	0.08	0.87	1	1	1	0.4	1	0	2	3	9	1	0	0	0	4	0	43	11	54	
1034_20180503	20180505	Azalea Bay	1	1	0.97	0.23	1	1	1	1	0.4	1	0	0	1	5	0	0	0	0	4	0	24	7	31	
1034_20180503	20180506	Azalea Bay	1	0.87	0.29	0.47	1	1	1	1	0.63	1	0	1	7	4	0	0	0	0	2	0	50	7	57	
1034_20180503	20180507	Azalea Bay	1	1	0.95	0.31	1	1	1	1	0.5	1	0	0	1	4	0	0	0	0	3	0	18	5	23	
1034_20180503	20180508	Azalea Bay	1	0.73	1	0.3	1	1	1	1	1	1	0	1	0	4	0	0	0	0	0	0	10	1	11	
1034_20200506	20200506	Azalea Bay	1	1	0.71	0.27	1	1	1	1	1	1	0	0	3	5	0	0	0	0	0	0	19	0	19	
1034_20200506	20200507	Azalea Bay	1	1	1	0.53	1	1	1	1	1	1	0	0	0	2	0	0	0	0	0	0	3	0	3	
1034_20200615	20200615	Azalea Bay	1	1	0.06	0.99	1	1	1	1	1	1	0	0	13	1	0	0	0	0	0	0	25	1	26	
1034_20200615	20200616	Azalea Bay	1	1	0.32	1	1	1	1	1	1	1	0	0	5	0	0	0	0	0	0	0	10	1	11	
1034_20200615	20200617	Azalea Bay	1	0.96	0	0.16	1	0.97	1	0.99	0.11	1	0	1	54	15	0	1	0	1	10	0	144	16	160	
1034_20200615	20200618	Azalea Bay	1	0.84	0.01	0.5	1	1	1	1	0.1	1	0	2	23	6	0	0	0	0	10	0	80	14	94	
3105_20170615	20170615	Azalea Bay	0.69	0.93	0.05	1	1	1	1	0.98	0.41	1	1	1	14	1	0	0	0	1	4	0	58	16	74	
3105_20170615	20170616	Azalea Bay	1	0.97	0.01	0.98	1	1	1	1	0.32	1	0	1	21	1	0	0	0	0	5	0	59	15	74	
622_20170615	20170607	Azalea Bay	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	2	0	2	
622_20170615	20170608	Azalea Bay	1	1	1	0.53	0.77	1	1	1	1	1	0	0	0	2	1	0	0	0	0	0	6	3	9	
622_20170615	20170609	Azalea Bay	1	1	1	1	0.77	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	2	1	3	
622_20170615	20170610	Azalea Bay	1	1	1	1	0.77	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	3	3	6	
622_20170615	20170611	Azalea Bay	1	1	1	0.73	0.45	1	1	1	1	1	0	0	0	1	3	0	0	0	0	0	7	3	10	
622_20170615	20170612	Azalea Bay	1	1	1	1	0.77	1	1	1	1	1	0	0	0	0	1	0	0	0	0	0	3	1	4	
622_20170615	20170615	Azalea Bay	1	0.13	0.64	0.02	1	1	1	1	1	1	0	6	6	15	0	0	0	0	0	0	128	0	128	
622_20170615	20170616	Azalea Bay	1	0.96	0.6	0	1	1	1	1	0.79	1	0	1	9	31	0	0	0	0	1	0	201	3	204	
8748_20200506	20200506	Azalea Bay	1	1	1	0.01	1	1	1	1	1	1	0	0	0	16	0	0	0	0	0	0	32	0	32	
8748_20200506	20200507	Azalea Bay	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	
8748_20200910	20200910	Azalea Bay	0.83	0.05	0.29	0.44	1	1	1	1	0.79	1	1	7	8	5	0	0	0	0	1	0	94	3	97	
8748_20200910	20200911	Azalea Bay	1	0.05	0.48	0.22	1	1	1	1	0.79	1	0	7	6	7	0	0	0	0	1	0	106	6	112	
1004_20170615	20170615	Magnolia Bay	0.62	1	0.01	0.41	1	1	1	1	0.43	0.75	2	0	23	7	0	0	0	0	0	4	2	123	12	135
1004_20170615	20170616	Magnolia Bay	1	0	0.02	0.35	1	1	1	1	0.25	1	0	22	24	9	0	0	0	0	6	0	162	14	176	
1037_20160705	20160705	Magnolia Bay	1	0.76	0.22	0.09	1	1	1	1	0.58	0	1	0	2	11	11	0	0	0	7	44	0	105	87	192
1037_20160705	20160706	Magnolia Bay	1	0.78	0	0.38	0.48	0.98	1	0.99	0	0.99	0	3	36	9	8	1	0	1	49	2	150	84	234	
1037_20170615	20170615	Magnolia Bay	1	1	0.42	0.55	1	1	1	1	0.2	1	0	0	5	3	0	0	0	0	7	0	31	13	44	
1037_20170615	20170616	Magnolia Bay	1	0.46	0.03	0.98	1	0.9	1	1	0.33	1	0	3	16	1	0	1	0	0	5	0	51	9	60	
3105_20200506	20200506	Magnolia Bay	1	0.99	0.84	0	1	1	1	1	0.5	1	0	1	5	23	0	0	0	0	3	0	35	9	44	
3105_20200506	20200507	Magnolia Bay	1	1	0.86	0.79	1	1	1	1	0.79	1	0	0	1	1	0	0	0	0	1	0	6	1	7	
3132_20170615	20170615	Magnolia Bay	1	0.97	0.33	0.04	1	0.89	1	0.99	0.43	1	0	1	9	13	0	1	0	1	4	0	91	18	109	
3132_20170615	20170616	Magnolia Bay	1	1	0	0.09	1	1	1	1	0.99	0.17	1	0	0	36	15	0	0	0	2	8	0	180	29	209
387_20170615	20170615	Magnolia Bay	1	1	0.79	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	12	0	12	
387_20170615	20170616	Magnolia Bay	1	1	0.5	1	1	1	1	1	1	1	0	0	3	0	0	0	0	0	0	0	37	0	37	
1004_20200909	20200909	Ocean Grove Resort	1	0.11	0.92	0.88	1	1	1	0.85	0.82	1	0	4	1	1	0	0	0	0	1	1	0	22	7	29
1004_20200909	20200910	Ocean Grove Resort	1	0.55	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	3	1	4	
1004_20200909	20200911	Ocean Grove Resort	1	1	0.69	0.83	1	1	1	1	1	1	0	0	2	1	0	0	0	0	0	0	14	1	15	
1034_20170815	20170815	Ocean Grove Resort	1	0.31	0.73	0.02	1	1	1	0.72	0.44	1	0	4	5	14	0	0	0	3	4	0	81	13	94	
1034_20170815	20170816	Ocean Grove Resort	1	1	1	0.41	1	0.99	1	0.85	0.04	1	0	0	0	3	0	1	0	2	14	0	29	40	69	
1034_20170815	20170817	Ocean Grove Resort	1	1	0.9	0.58	1	0.82	1	1	0.09	1	0	0	0	1	2	0	2	0	0	11	0	22	36	58
1037_20200909	20200909	Ocean Grove Resort	0.91	0.53	0.15	0.16	0.95	0.75	1	1	0.29	1	1	3	12	9	1	2	0	1	6	0	88	13	101	
1037_20200909	20200910	Ocean Grove Resort	1	0.04	1	0.37	1	1	1	1	0.79	1	0	6	0	4	0	0	0	0	1	0	25	1	26	
1037_20200909	20200911	Ocean Grove Resort	1	0.78	0.65	0.51	1	1	1	1	0.79	1	0	1	3	3	0	0	0	0	1	0	65	6	71	
3105_20170815	20170815	Ocean Grove Resort	1	0.98	1	0	0.45	1	1	0.04	0.75	1	0	2	3	97	6	0	0	22	3	0	255	45	300	
3105_20170815	20170816	Ocean Grove Resort	1	0.61	0.76	0.16	1	0.95	1	0.09																

Other species –

The American Black Bear, a SWAP Priority species, was observed directly on the Azalea property, photographed on the White Sands property with a camera trap, and tracks were found throughout the properties. Several Southern Fox Squirrel individuals were observed on the Azalea property. Unconfirmed tracks that appear to be bobcat and mink were observed on the Magnolia property.

Fifteen amphibian species and 12 reptile species were observed, including the Striped Mud Turtle, a SC SWAP Priority species. The state rare Spotted Turtle, Southern Hognose Snake, Eastern Diamondback Rattlesnake, Pygmy Rattlesnake, and Pine snake have strong potential to occur and future surveys should target these reptiles. Preliminary eDNA results suggest the Four-toed Salamander occurs on the Azalea property, which would be a new record for the county. Future surveys should target this and other rare pool breeding amphibians.

Observed Species 2016-2020
Azalea Bay, Magnolia Bay, Ocean Grove Resort, & White Sands Village

GROUP	COMMON	SCIENTIFIC	FED STATUS	SC STATUS	SC SWAP PRIORITY
Actinopterygii	American Pickerel	<i>Esox americanus</i>			
Actinopterygii	Eastern Mudminnow	<i>Umbra pygmaea</i>			
Amphibia	Broken-striped Newt	<i>Notophthalmus viridescens dorsalis</i>			
Amphibia	Carpenter Frog	<i>Lithobates virgatipes</i>			
Amphibia	Cope's Gray Tree Frog	<i>Hyla chrysocelis</i>			
Amphibia	Eastern Narrow-mouthed Toad	<i>Gastrophryne carolinensis</i>			
Amphibia	Eastern Spadefoot	<i>Scaphiopus holbrookii</i>			
Amphibia	Green Frog	<i>Lithobates clamitans</i>			
Amphibia	Green Tree Frog	<i>Hyla cinerea</i>			
Amphibia	Little Grass Frog	<i>Pseudacris ocularis</i>			
Amphibia	Oak Toad	<i>Anaxyrus quercicus</i>			
Amphibia	Pine Woods Tree Frog	<i>Hyla femoralis</i>			
Amphibia	Southern Cricket Frog	<i>Acris gryllus</i>			
Amphibia	Southern Leopard Frog	<i>Lithobates sphenoccephalus</i>			
Amphibia	Southern Toad	<i>Anaxyrus terrestris</i>			
Amphibia	Spring Peeper	<i>Pseudacris crucifer</i>			
Amphibia	Squirrel Tree Frog	<i>Hyla squirella</i>			
Arachnida	Widow Spiders	<i>Latrodectus</i>			
Aves	Acadian Flycatcher	<i>Empidonax virens</i>			High
Aves	American Crow	<i>Corvus brachyrhynchos</i>			
Aves	American Redstart	<i>Setophaga ruticilla</i>			
Aves	Bald Eagle	<i>Haliaeetus leucocephalus</i>	--	State Endangered	High
Aves	Barn Swallow	<i>Hirundo rustica</i>			
Aves	Barred Owl	<i>Strix varia</i>			
Aves	Black Vulture	<i>Coragyps atratus</i>			
Aves	Blackpoll Warbler	<i>Setophaga striata</i>			
Aves	Blue Grosbeak	<i>Passerina caerulea</i>			Moderate
Aves	Blue Jay	<i>Cyanocitta cristata</i>			
Aves	Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>			
Aves	Boat-tailed Grackle	<i>Quiscalus major</i>			
Aves	Brown Thrasher	<i>Toxostoma rufum</i>			High
Aves	Brown-headed Cowbird	<i>Molothrus ater</i>			
Aves	Brown-headed Nuthatch	<i>Sitta pusilla</i>			Moderate
Aves	Canada Goose	<i>Branta canadensis</i>			
Aves	Carolina Chickadee	<i>Poecile carolinensis</i>			Moderate
Aves	Carolina Wren	<i>Thryothorus ludovicianus</i>			Moderate
Aves	Cedar Waxwing	<i>Bombycilla cedrorum</i>			
Aves	Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>			Moderate
Aves	Chimney Swift	<i>Chaetura pelagica</i>			High
Aves	Chuck-will's-widow	<i>Antrostomus carolinensis</i>			High
Aves	Cliff Swallow	<i>Petrochelidon pyrrhonota</i>			
Aves	Common Grackle	<i>Quiscalus quiscula</i>			
Aves	Common Nighthawk	<i>Chordeiles minor</i>			
Aves	Common Yellowthroat	<i>Geothlypis trichas</i>			
Aves	Common_Nam	<i>Scientific</i>			
Aves	Cooper's Hawk	<i>Accipiter cooperii</i>			
Aves	Eastern Bluebird	<i>Sialia sialis</i>			
Aves	Eastern Kingbird	<i>Tyrannus tyrannus</i>			High
Aves	Eastern Towhee	<i>Pipilo erythrophthalmus</i>			High

Aves	Eastern Wood-Pewee	<i>Contopus virens</i>			High
Aves	Fish Crow	<i>Corvus ossifragus</i>			
Aves	Gray Catbird	<i>Dumetella carolinensis</i>			
Aves	Great Crested Flycatcher	<i>Myiarchus crinitus</i>			
Aves	Great Egret	<i>Ardea alba</i>			High
Aves	Hairy Woodpecker	<i>Dryobates villosus</i>			
Aves	Hooded Warbler	<i>Setophaga citrina</i>			Moderate
Aves	House Finch	<i>Haemorhous mexicanus</i>			
Aves	Indigo Bunting	<i>Passerina cyanea</i>			Moderate
Aves	Kentucky Warbler	<i>Geothlypis formosa</i>			High
Aves	Laughing Gull	<i>Leucophaeus atricilla</i>			
Aves	Louisiana Waterthrush	<i>Parkesia motacilla</i>			High
Aves	Mottled duck	<i>Anas fulvigula</i>			Moderate
Aves	Mourning Dove	<i>Zenaidura macroura</i>			
Aves	Northern Cardinal	<i>Cardinalis cardinalis</i>			
Aves	Northern Flicker	<i>Colaptes auratus</i>			
Aves	Northern Mockingbird	<i>Mimus polyglottos</i>			
Aves	Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>			
Aves	Ovenbird	<i>Seiurus aurocapilla</i>			
Aves	Painted Bunting	<i>Passerina ciris</i>	--		Highest
Aves	Pileated Woodpecker	<i>Dryocopus pileatus</i>			Moderate
Aves	Pine Warbler	<i>Setophaga pinus</i>			Moderate
Aves	Prairie Warbler	<i>Setophaga discolor</i>			High
Aves	Prothonotary Warbler	<i>Protonotaria citrea</i>			Moderate
Aves	Purple Martin	<i>Progne subis</i>			High
Aves	Red-bellied Woodpecker	<i>Melanerpes carolinus</i>			Moderate
Aves	Red-eyed Vireo	<i>Vireo olivaceus</i>			
Aves	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	--		Moderate
Aves	Red-shouldered Hawk	<i>Buteo lineatus</i>			Moderate
Aves	Red-tailed Hawk	<i>Buteo jamaicensis</i>			
Aves	Red-winged Blackbird	<i>Agelaius phoeniceus</i>			
Aves	Ruby-throated Hummingbird	<i>Archilochus colubris</i>			
Aves	Snowy Egret	<i>Egretta thula</i>			Moderate
Aves	Solitary Sandpiper	<i>Tringa solitaria</i>			Highest
Aves	Summer Tanager	<i>Piranga rubra</i>			Moderate
Aves	Swainson's Warbler	<i>Limnithlypis swainsonii</i>	--		High
Aves	Tufted Titmouse	<i>Baeolophus bicolor</i>			
Aves	Turkey Vulture	<i>Cathartes aura</i>			
Aves	White Ibis	<i>Eudocimus albus</i>	--		Highest
Aves	White-eyed Vireo	<i>Vireo griseus</i>			Moderate
Aves	Wood Duck	<i>Aix sponsa</i>			High
Aves	Worm-eating Warbler	<i>Helmitheros vermivorum</i>			Moderate
Aves	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>			High
Aves	Yellow-breasted Chat	<i>Icteria virens</i>			High
Insecta	American Lady	<i>Vanessa virginiensis</i>			
Insecta	Bar-winged Skimmer	<i>Libellula axilena</i>			
Insecta	Bee Flies	<i>Bombyliidae</i>			
Insecta	Blue Dasher	<i>Pachydiplax longipennis</i>			
Insecta	Carolina Saddlebags	<i>Tramea carolina</i>			
Insecta	Common Buckeye	<i>Junonia coenia</i>			
Insecta	Eastern Pondhawk	<i>Erythemis simplicicollis</i>			
Insecta	Great Blue Skimmer	<i>Libellula vibrans</i>			
Insecta	Palamedes Swallowtail	<i>Papilio palamedes</i>			
Insecta	wasp	<i>Limonethe maurator</i>			
Mammalia	Big brown bat	<i>Eptesicus fuscus</i>	--		Highest
Mammalia	Black Bear	<i>Ursus americanus</i>	--	Of concern, State	Moderate

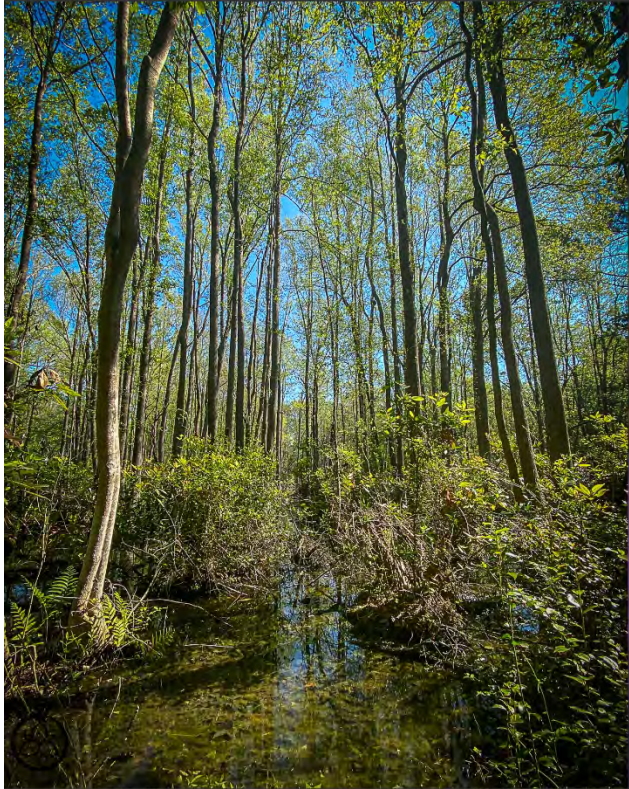
Mammalia	Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>	--		
Mammalia	Common Raccoon	<i>Procyon lotor</i>			
Mammalia	Coyote	<i>Canis latrans</i>			
Mammalia	Eastern Raccoon	<i>Procyon lotor lotor</i>			
Mammalia	Eastern red bat	<i>Lasiurus borealis</i>	--		Highest
Mammalia	Evening Bat	<i>Nycticeius humeralis</i>	--		
Mammalia	Gray Fox	<i>Urocyon cinereoargenteus</i>			
Mammalia	Northern yellow bat	<i>Lasiurus intermedius</i>	--	Of concern, State	Highest
Mammalia	Seminole Bat	<i>Lasiurus seminolus</i>	--		Highest
Mammalia	Silver-haired bat	<i>Lasionycteris noctivagans</i>	--		Highest
Mammalia	Southeastern Bat	<i>Myotis austroriparius</i>	--	State Threatened	Highest
Mammalia	Southeastern Fox Squirrel	<i>Sciurus niger niger</i>		Of concern, State	Moderate
Mammalia	Southern Flying Squirrel	<i>Glaucomys volans</i>			
Mammalia	Tricolored Bat	<i>Perimyotis subflavus</i>	ARS*: Risk, priority	ARS*: Risk, priority	Highest
Mammalia	Virginia opossum	<i>Didelphis virginiana</i>			
Mammalia	White-tailed Deer	<i>Odocoileus virginianus</i>			
Reptilia	Eastern Garter Snake	<i>Thamnophis sirtalis sirtalis</i>			
Reptilia	Eastern Hognose Snake	<i>Heterodon platirhinos</i>			
Reptilia	Green anole	<i>Anolis carolinensis</i>			
Reptilia	North American Racer	<i>Coluber constrictor</i>			
Reptilia	Northern Black Racer	<i>Coluber constrictor constrictor</i>			
Reptilia	Northern Cottonmouth	<i>Agkistrodon piscivorus</i>			
Reptilia	Rough Greensnake	<i>Opheodrys aestivus</i>			
Reptilia	Six-lined racerunner	<i>Aspidoscelis sexlineata</i>			
Reptilia	Southeastern Crowned Snake	<i>Tantilla coronata</i>			
Reptilia	Southeastern Five-lined Skink	<i>Plestiodon inexpectatus</i>			
Reptilia	Striped Mud Turtle	<i>Kinosternon baurii</i>	--	Of Concern, State	Moderate
Reptilia	Yellow-bellied slider	<i>Trachemys scripta scripta</i>			High



1. Thinned Pine Plantation. Ocean Grove. May 04, 2018. IMG_1556



2. Xeric Sandhill Scrub. Azalea. May 08, 2020. IMG_2892



3. Hardwood Swamp. Azalea. May 08, 2020. IMG_2897



4. Broken-striped Newt. Azalea. May 05, 2016. IMG_6582



5. Southern Leopard Frog
Azalea. May 05, 2016. IMG_6601



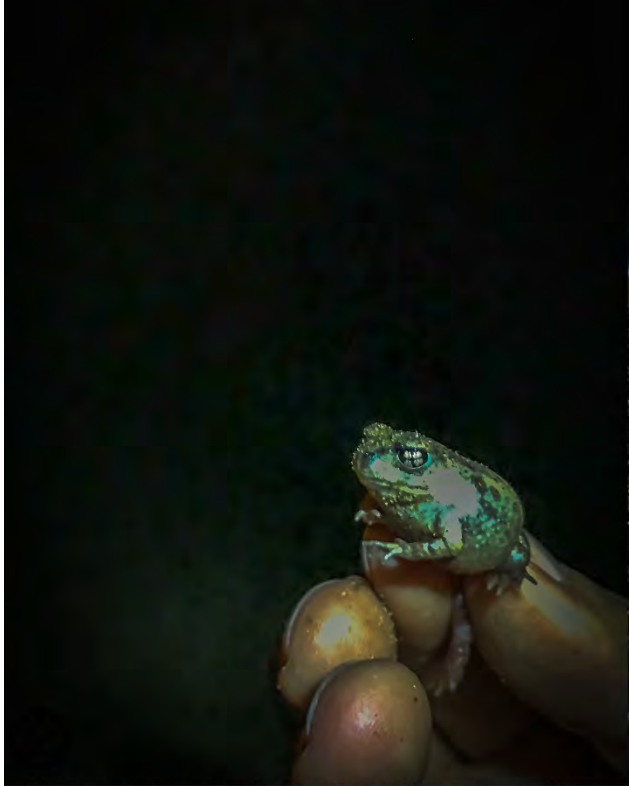
6. Eastern Narrow-mouthed Toad
Ocean Grove. May 08, 2020. IMG_2914



7. Pine woods tree frog. White Sands. May 06, 2020. IMG_2827



8. Oak Toad. Azalea. June 15, 2020. IMG_3208



9. Eastern Spadefoot Toad. Azalea. May 28, 2019. Eastern spadefoot



10. Green treefrog. Azalea. May 28, 2019. Green tree frog



11. Little Grass Frog. Azalea. May 29, 2019. little grass frog



12. Southern Toad. Ocean Grove. June 02, 2019. Southern toad-3



13. Green frog. Magnolia. May 24, 2017. DSCN0239



14. Five lined Skink. Azalea. May 04, 2016. DSC00174



15. Six-lined racerunner. Magnolia. May 23, 2017. DSCN0218



16. Green anole. Azalea. May 08, 2020. DSC_6067



17. Southeastern Crowned Snake. Azalea. May 04, 2016. 37



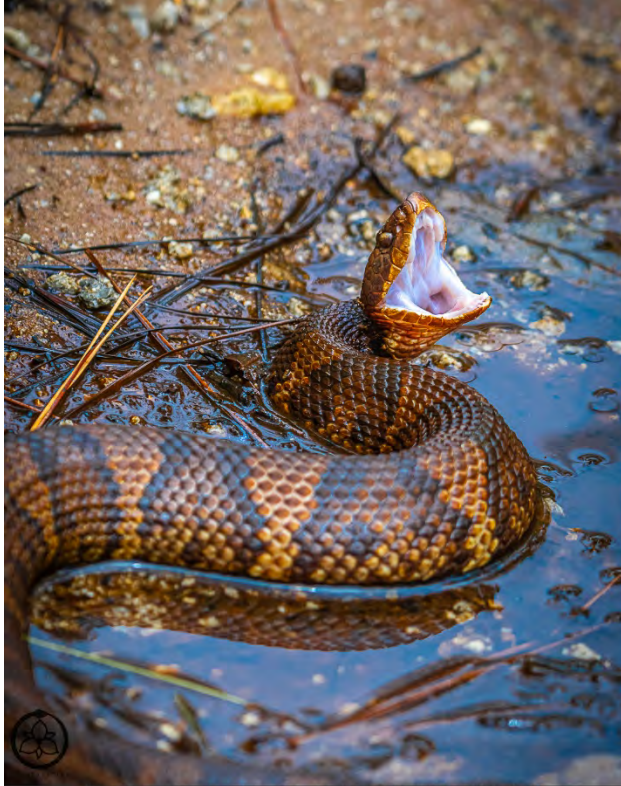
18. Eastern Garter Snake. Azalea. May 28, 2019. Eastern garter snake



19. Rough Green Snake. Ocean Grove. May 30, 2019. rough green snake



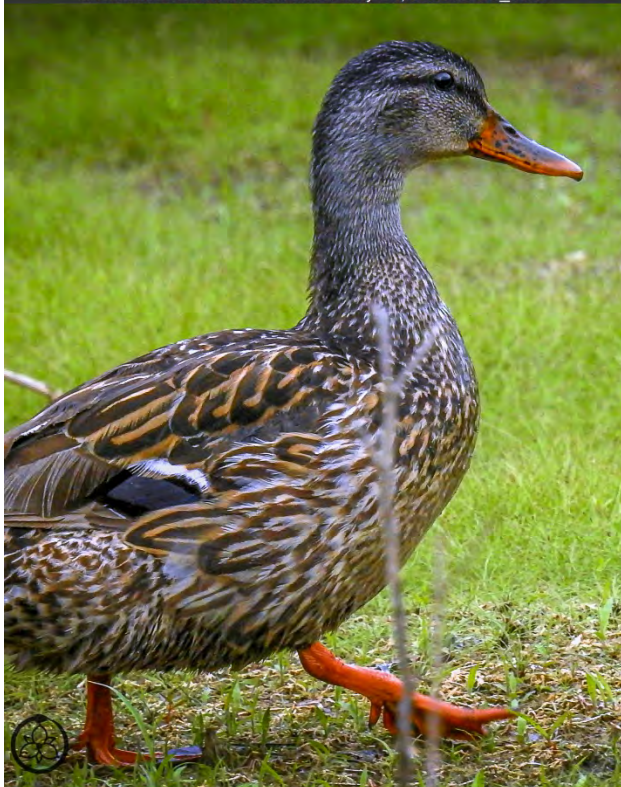
20. Eastern Hog Nose Snake. Magnolia. May 24, 2017. PUFFAD~1



21. Cottonmouth. White Sands. May 08, 2020. DSC_6157



22. Cottonmouth. White Sands. June 16, 2020. DSC_8452



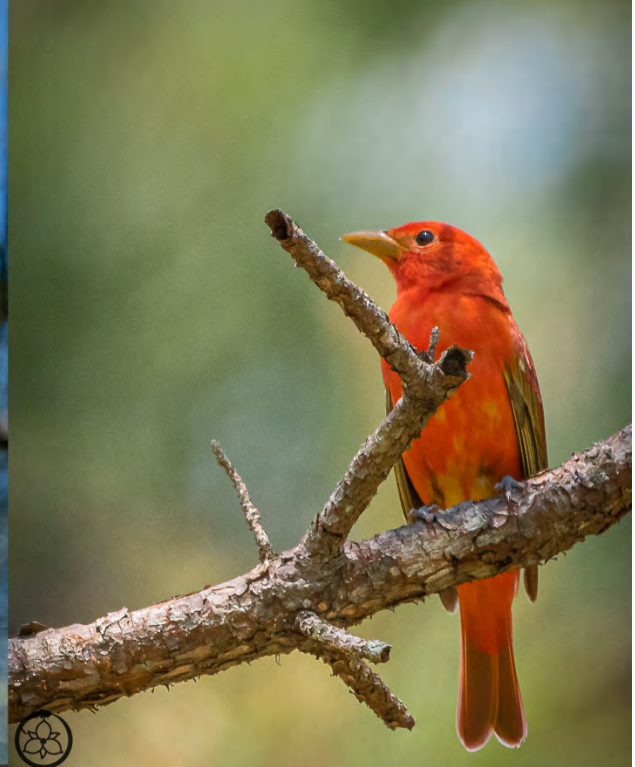
23. Mottled Duck. Magnolia. May 24, 2017. DSCN0323



24. Pileated Woodpecker. Ocean Grove. June 19, 2020. DSC_8581



25. Red-headed Woodpecker. Ocean Grove. May 03, 2018. 20180503-DSC_0580



26. Summer Tanager. Azalea. May 06, 2020. DSC_5414



27. Summer Tanager. Ocean Grove. May 03, 2018. 20180503-DSC_0504



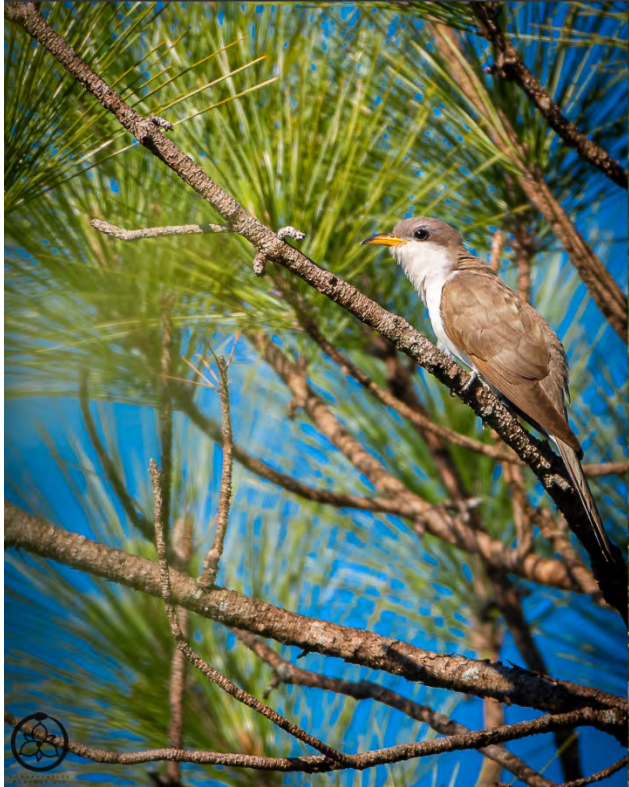
28. Brown-headed Nuthatch. Azalea. May 08, 2020. DSC_5768



29. Pine Warbler. Azalea. May 08, 2020. DSC_5821



30. Yellow-billed cuckoo. Azalea. May 08, 2020. DSC_6087



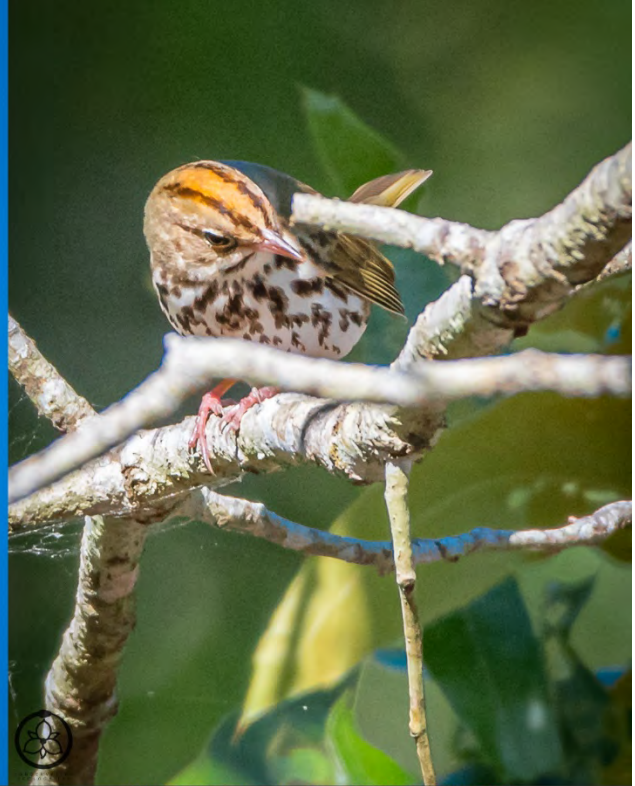
31. Yellow-billed cuckoo. Azalea. May 08, 2020. DSC_5886



32. Eastern Towhee. Azalea. May 08, 2020. DSC_5926



33. Eastern Towhee. Azalea. May 08, 2020. DSC_5936



34. Ovenbird. Azalea. May 08, 2020. DSC_5973



35. Ovenbird. Azalea. May 08, 2020. DSC_5975



36. Prothonotary warbler. Azalea. May 08, 2020. DSC_6047



37. Great-crested Flycatcher. Azalea. May 08, 2020. DSC_6091



38. Great-crested Flycatcher. Azalea. May 08, 2020. DSC_6096



39. Broad-winged hawk. Ocean Grove. May 08, 2020. DSC_6123



40. Red-shouldered Hawk. Azalea. May 08, 2020. DSC_6025



41. Chuck-wills-widow. Azalea. May 28, 2019. Photo May 28, 20 40 45



42. Chuck-wills-widow. Azalea. May 28, 2019. Photo May 28, 20 44 07



43. Evening Bat. Azalea. May 29, 2019. Photo May 29, 21 26 50



44. Seminole Bat. Azalea. May 29, 2019. Photo May 29, 21 40 49



45. Gray Fox. Azalea. January 27, 2017. IMG_0264



46. American Black Bear. White Sands. August 16, 2017. IMG_0095



47. American Black Bear
Azalea. July 07, 2016. DSC00375