



2016 RI BUTTERFLY COUNT REPORT



Photo 1: Pearl Crescent at Trustom Pond, Charlestown, 2010 (David Mozzoni)

For 13 years Audubon has led the Rhode Island Butterfly count. Volunteers covered five survey circles, one in each county of the state. A total of 2,022 butterflies representing 58 species were recorded. Bristol and Newport counts were held on June 25, 2016. Kent, Providence and Washington counts were held on July 23, 2016.

A total of 44 observers spent 104 hours surveying over 56 miles of habitat. Audubon thanks these tireless volunteers for their valuable contribution to the 2016 Rhode Island Butterfly count.

About the Annual Audubon RI Butterfly Count

The North American Butterfly Association (NABA) collects data from butterfly counts across the continent. Volunteers visit sites within five survey areas (Fig. 1) on a single day and record butterfly species seen.

The Audubon Society of Rhode Island has been leading NABA Butterfly Counts in Rhode Island since 2004. Beginning with one survey circle in Providence County, we have expanded the event to include five, 15-mile survey circles; one centered in each county of Rhode Island. Participants may survey on their own, with other participants, or at a "teaching site" led by an Audubon naturalist.

The goals of the Rhode Island Butterfly Count are:

- To raise awareness of butterfly ecology and provide an opportunity to learn about and observe butterflies
- To provide Rhode Island data to NABA's butterfly monitoring efforts
- To increase our knowledge of butterfly populations in Rhode Island and record the changes over time

For information on participating in the Butterfly Count contact Jon Scoones at jscoones@asri.org or 401-245-7500.

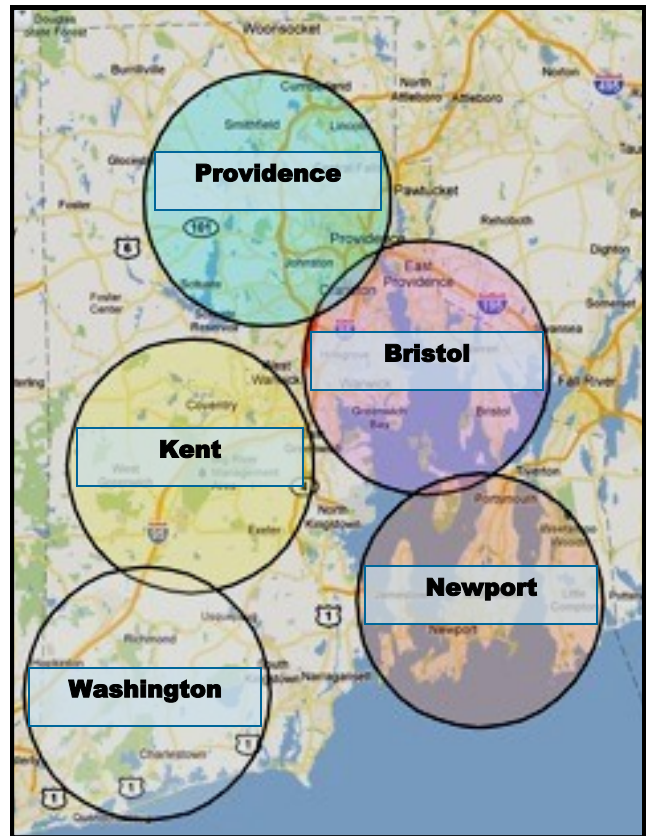


Fig. 1: Survey Circles for Butterfly Count

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Photo 2: Great Spangled Fritillary at Cumberland Monastery, Cumberland, 2008 (Walter Bosse)

2016 Audubon RI Butterfly Count Results

Following are the results of Audubon Society of Rhode Island's 2016 Butterfly Count. The June subtotal column includes observations from Bristol and Newport county circles while the July subtotal column includes observations from the Kent, Providence and Washington county circles.

Table 1: Summary of 2016 Rhode Island Butterfly Count Results

	GRAND TOTALS	Bristol	Newport	June 25 Totals	Kent	Providence	Washington	July 23 Totals
Species Observed:	55	26	25	35	31	34	37	49
Individuals Counted:	2,022	402	312	714	340	535	433	1,308
Number of Observers:	44	20	21	37	11	11	17	39
Party Hours:	104	23	12	35	9	19	42	69
Party Miles:	56	17	11	28	5	12	11	28

Table 2: 2016 Rhode Island Butterfly Count Results

SPECIES	GRAND TOTALS	Bristol	Newport	June 25 Totals	Kent	Providence	Washington	July 23 Totals
Hesperiidae								
Silver-spotted Skipper (<i>Epargyreus clarus</i>)	16	2	5	7	2	5	2	9
Northern Cloudwing (<i>Thorybes pylades</i>)	3	1	0	1	0	0	2	2
Duskywing sp. (<i>Erynnis</i> sp.)	2	0	0	0	0	1	1	2
Horace's Duskywing (<i>Erynnis horatius</i>)	1	0	0	0	0	0	1	1
Wild Indigo Duskywing (<i>Erynnis baptisiae</i>)	5	0	0	0	0	5	0	5
Least Skipper (<i>Ancyloxypha numitor</i>)	23	5	17	22	0	0	1	1
European Skipper (<i>Thymelicus lineola</i>)	33	16	5	21	5	2	5	12
Peck's Skipper (<i>Polites peckius</i>)	18	0	17	17	1	0	0	1
Tawny-edged Skipper (<i>Polites themistocles</i>)	2	0	0	0	2	0	0	2
Crossline Skipper (<i>Polites origenes</i>)	2	0	0	0	1	0	1	2
Long Dash (<i>Polites mystic</i>)	2	0	0	0	1	0	1	2
Northern Broken-Dash (<i>Pompeius verna</i>)	7	0	0	0	3	1	3	7
Little Glassywing (<i>Pompeius verna</i>)	18	0	0	0	9	2	7	18
Delaware Skipper (<i>Anatrytone logan</i>)	2	1	0	1	0	0	1	1
Hobomok Skipper (<i>Poanes hobomok</i>)	3	0	0	0	2	0	1	3
Zabulon Skipper (<i>Poanes Zabulon</i>)	2	1	0	1	0	0	1	1
Mulberry Wing (<i>Poanes massasoit</i>)	4	0	0	0	1	0	3	4
Broad-winged Skipper (<i>Poanes viator</i>)	2	0	0	0	0	1	1	2
Dun Skipper (<i>Euphyes vestris</i>)	14	0	1	1	4	2	7	13
Sachem (<i>Atalopedes campestris</i>)	1	0	0	0	0	0	1	1

2016 Audubon RI Butterfly Count Results

SPECIES	TOTAL	Bristol	Newport	June Totals	Kent	Providence	Washington	July Totals
Lycaenidae								
American Copper (<i>Lycaena phlaeas</i>)	164	35	8	43	17	71	33	121
Coral Hairstreak (<i>Satyrrium titus</i>)	2	0	0	0	0	0	2	2
Striped Hairstreak (<i>Satyrrium calanus</i>)	1	0	0	0	0	0	1	1
Olive (Juniper) Hairstreak (<i>Callophrys gryneus</i>)	2	0	2	2	0	0	0	0
Red-banded Hairstreak (<i>Calycopis cecrops</i>)	1	1	0	1	0	0	0	0
Gray Hairstreak (<i>Strymon melinus</i>)	3	1	0	1	0	1	1	2
Eastern Tailed-Blue (<i>Cupido comyntas</i>)	33	18	0	18	3	4	8	15
Summer Azure (<i>Celastrina neglecta</i>)	12	1	4	5	2	0	5	7

Nymphalidae								
Great Spangled Fritillary (<i>Speyeria cybele</i>)	50	2	3	5	21	11	13	45
Silver-bordered Fritillary (<i>Boloria selene</i>)	2	0	0	0	0	2	0	2
Meadow Fritillary (<i>Boloria bellona</i>)	1	0	1	1	0	0	0	0
Harris' Checkerspot (<i>Chlosyne harrisii</i>)	1	0	1	1	0	0	0	0
Pearl Crescent (<i>Phyciodes tharos</i>)	374	1	15	16	80	188	90	358
Baltimore Checkerspot (<i>Euphydryas phaeton</i>)	17	9	8	17	0	0	0	0
Question Mark (<i>Polygonia interrogationis</i>)	3	1	0	1	1	1	0	2
Eastern Comma (<i>Polygonia comma</i>)	5	0	0	0	1	4	0	5
Mourning Cloak (<i>Nymphalis antiopa</i>)	1	0	1	1	0	0	0	0
Red Admiral (<i>Vanessa atalanta</i>)	51	12	25	37	2	10	2	14
Painted Lady (<i>Vanessa virginiensis</i>)	7	2	3	5	0	1	1	2
American Lady (<i>Vanessa cardui</i>)	14	2	0	2	2	3	7	12
Red-spotted Purple (<i>Limenitis arthemis</i>)	8	0	6	6	0	2	0	2
Viceroy (<i>Limenitis archippus</i>)	9	0	6	6	2	1	0	3
Northern Pearly-eye (<i>Enodia anthedon</i>)	4	0	0	0	0	4	0	4
Appalachian Brown (<i>Satyrodes appalachia</i>)	7	1	0	1	2	4	0	6
Little Wood Satyr (<i>Megisto cymela</i>)	54	10	0	10	22	6	16	44
Common Ringlet (<i>Coenonympha tullia</i>)	18	0	0	0	0	18	0	18
Common Wood Nymph (<i>Cercyonis pegala</i>)	147	0	0	0	72	19	56	147
Monarch (<i>Danaus plexippus</i>)	29	0	8	8	2	2	17	21

Table 2: 2016 Audubon RI Butterfly Count Results, continued from page 2

2016 Audubon RI Butterfly Count Results, Continued

SPECIES	GRAND TOTALS	Bristol	Newport	June 25 Totals	Kent	Providence	Washington	July 23 Totals
Papilionidae								
Black Swallowtail (<i>Papilio polyxenes</i>)	39	4	8	12	0	27	0	27
Eastern Tiger Swallowtail (<i>Papilio glaucus</i>)	30	2	2	4	4	14	8	26
Spicebush Swallowtail (<i>Papilio troilus</i>)	32	2	2	4	4	20	4	28
Pieridae								
Cabbage White (<i>Pieris brassicae</i>)	638	256	133	389	52	83	114	249
Little Yellow (<i>Pyrisitia lisa</i>)	1	0	0	0	0	1	0	1
Clouded Sulphur (<i>Colias philodice</i>)	68	15	24	39	8	10	11	29
Orange Sulphur (<i>Colias eurytheme</i>)	34	1	7	8	12	9	5	26

Table 2: 2016 Audubon RI Butterfly Count Results, continued from page 3

Survey Factors

Accurate surveys rely on factors such as the number of observers, time in the field and miles traveled. Not to mention the experience level of the observers, the weather, time of day, etc. By holding the counts during a consistent time of year, time of day and repeated locations we try to mitigate the factors over time. However, influential factors must be kept in mind when interpreting the data.

Weather: This year the temperature for the East Bay counts (June 25) was approximately 83 degrees at noon, which is 3 degrees hotter than average. The humidity was 36% and it was partly cloudy with almost no wind from the South. During the West Bay counts (July 23) the temperature was approximately 88 degrees at noon, which was average. The humidity was 45% and there were scattered clouds with the wind from the West at nearly 14 mph.

Observers: The number of observers in 2016 was 44. This was a slight decrease from last year (48). We have a dedicated team of observers and would welcome new people to the program!



Miles: The number of miles surveyed increased by 21.25 over last year, and was 5 miles over the average distance walked for the past 12 years.

Photo 3: Eastern-tailed Blue at Woonasquatucket River Bike Path, Olneyville, 2008 (Lisa Maloney)



Photo 4: White Admiral Intergrade, location unknown, 2009 (Frank Model)



Photo 5: Orange Sulphur at Powder Mill Ledges, Smithfield, 2006 (Sandra Gaumont)

Audubon RI Butterfly Count Trends: 2004-2016

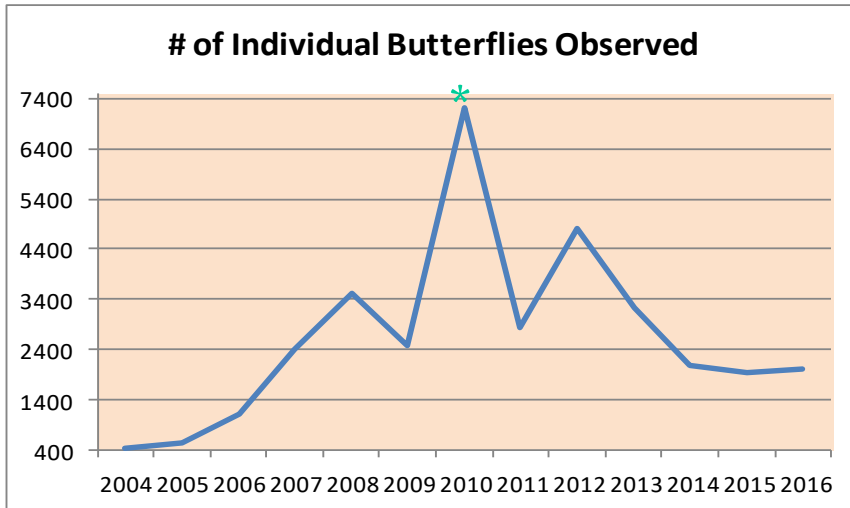


Photo 6: Baltimore Checkerspot in Bristol, 2009 (Debra Stiffel)

Figure 2: Individual Butterflies Observed in Rhode Island Circles 2004-2016

*In 2010 the increased number of individual butterflies was due to the sighting of 3,282 Baltimore Checkerspots at a single field on Brown University property. During the 2004-2006 surveys only three circles were surveyed as opposed to the five circles that have been surveyed since 2007.



Photo 7: American Copper at Alton Jones, Exeter, 2011 (Neal Rowe)

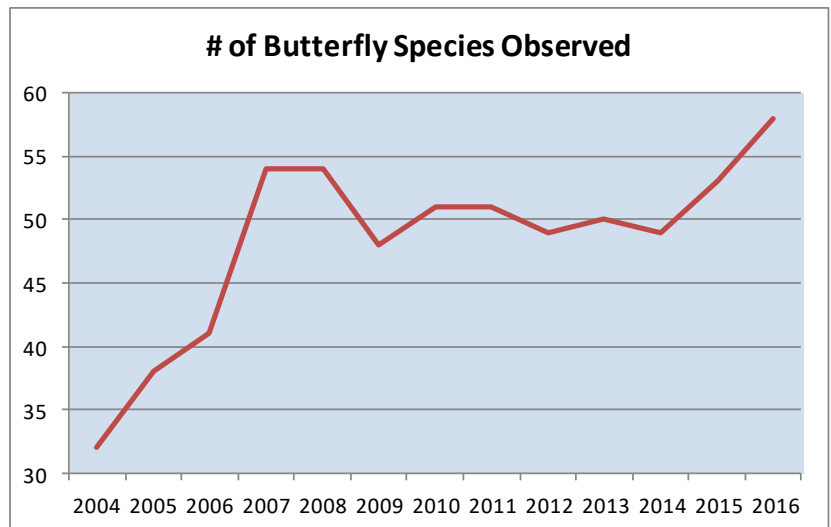


Figure 3: Species Observed in Rhode Island Circles 2004-2016

Look Closely!

In addition to the dedicated volunteers who carefully observe and record butterflies, we also have the help of Harry Pavulaan, an experienced lepidopterist who reviews our observations and presents us with helpful comments. While most of our observations are spot-on, there is the occasional question when the species are so similar at first glance. Following are some species to keep a close eye on next year. To see side-by-side photos of these similar species visit Audubon Society of Rhode Island's Butterfly Count Website: www.butterflyingwithaudubon.blogspot.

- Cloudless Sulphur (*Phoebis sennae*) versus Clouded Sulphur (*Colius philodice*)
- Spring (*Celastrina ladon*) versus Summer Azures (*Celastrina neglecta*)
- Eyed Brown (*Satyrodes Eurydice*) versus Appalachian Brown (*Satyrodes applachia*)
- Duskywing (*S. hayhurstii*) versus Common Sootywing (*Pholosoria catuluss*)

Audubon RI Butterfly Count Results: The Last Five Years

Data from butterfly counts conducted during the last five years is shown in the table below . The number of species observed has remained fairly constant, reaching a high of 55 in 2016. The number of individual butterflies observed has increased slightly from 2015, but remains below average.

More species were observed in the Kent, Providence and Washington circles. A greater number of individual butterflies were observed in the Providence, Bristol and Washington circles.

Audubon's Rhode Island Butterfly Count: The Last Six Years in Numbers							
Year	2011	2012	2013	2014	2015	2016	AVG
# of Observers	54	58	66	48	71	44	57
# of Group Hours	102.4	92	84.55	79.3	64.7	104	88
# of Group Miles	59.2	64.75	47.1	43.25	34.25	56	51
Bristol Species	31	36	36	28	23	26	30
Bristol Individuals	757	868	882	307	298	402	586
Newport Species	18	27	28	24	29	25	25
Newport Individuals	295	2,044	993	712	340	312	783
Kent Species	38	36	37	28	31	31	34
Kent Individuals	852	797	571	630	531	340	620
Providence Species	36	33	28	28	25	34	31
Providence Individuals	439	434	571	280	314	535	429
Washington Species	37	31	28	26	34	37	32
Washington Individuals	486	682	415	150	406	433	429
Total # of Species	51	49	50	48	53	55	52
Total # of Individuals	2,829	4,825	3,216	2,079	1,889	2,022	2,810

Table 3: Summary of butterfly count information from Rhode Island, 2011-2016.



Photo 8: Silver Spotted Skipper at Squantum Park in Riverside, 2007 (Sandra Gaumont)

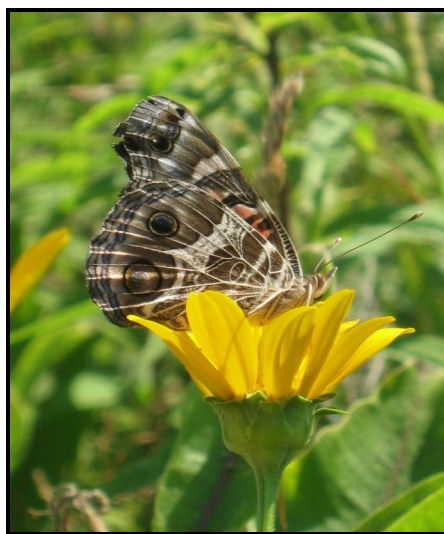


Photo 9: American Lady at Ninigret Park in Charlestown, 2007 (Caryn Daly)

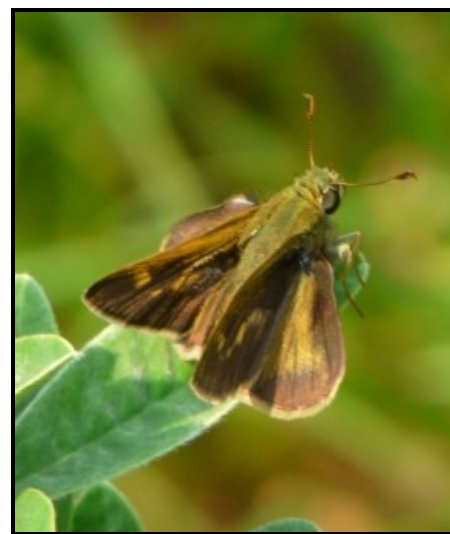


Photo 10: Northern Broken-dash at Neutaconkanut Park in Providence, 2008 (Lisa Maloney)

Audubon RI Butterfly Count

The Value of an Annual Census

By Scott Ruhren

Although it is only a glimpse, once-a-year counts of any biota are valuable.

Certainly there are gaps in our butterfly data and the sampling is not repeated within a year. True, this is not an exhaustive tabulation of all butterflies in a season and we may miss species because we happen to be too early or too late. The weather may be too windy, too wet or too cold on the day we choose to record sightings. Some spots may not get visited year to year, even in the smallest state in the union.

However, like the popular *World Series of Birding* or *Christmas Backyard Bird Count*, long-term trends can be revealed with our annual search for butterflies. Rare species have been detected. Some hotspots continue to support an abundance of butterflies, while others blink on and off year to year. Many common species are still more easily found, while sadly some historic species may have disappeared.

With the uncertainty that the impacts of climate change will bring, it is vital that we continue to record species and keep a careful eye on the data.



Photo 11: Tiger Swallowtail in Wakefield, 2016 (Scott Ruhren)

Butterfly Count Locations Surveyed in 2016

BRISTOL COUNTY CIRCLE

Audubon Environmental Education Center, Bristol
Haffenreffer Museum, SW field, Bristol
Audubon Touisset Wildlife Refuge, Warren
Nockum Hill, Barrington
Mt. Hope Farm, Bristol
Squantum State Park, Riverside
Osamequin Wildlife Sanctuary, Barrington
Roger Williams Park, Providence
Rocky Point Park, Warwick
Prudence Island (North), Narragansett Bay
Field's Point, Providence
Pawtuxet Oxbows Park, Cranston
Taylor Farm, Warwick

NEWPORT COUNTY CIRCLE

Norman Bird Sanctuary, Newport
Jepson Lane, Newport
Audubon Emilie Ruecker Wildlife Refuge, Tiverton
Simmons Mill Pond, Little Compton
Wilbour Woods, Little Compton
Weetamoo Woods, Tiverton

PROVIDENCE COUNTY CIRCLE

Audubon Powder Mill Ledges Wildlife Refuge, Smithfield
Audubon Fort Wildlife Refuge, Smithfield
Audubon Ethel Newman Wildlife Refuge, Smithfield
Stillwater Trail/Smith Appleby House, Smithfield
Cumberland Monastery, Cumberland
Lonsdale Marsh, Blackstone Bike Path, Lincoln
Neutaconkanut Park, Providence
Phillips Farm/Steere Hill Farm, Gloucester
Chase Farm, Lincoln
157 Simmonsville Ave, Johnston

WASHINGTON COUNTY CIRCLE

Audubon Marion Eppley Wildlife Refuge, West Kingston
Great Swamp, Charlestown
Ninigret NWR, Airstrips, Charlestown
Trustom Pond National Wildlife Refuge, Charlestown
Farmer's Daughter Farm, South Kingstown
Canochet, Hopkinton

KENT COUNTY CIRCLE

Audubon Fisherville Brook Wildlife Refuge, Exeter
Big River Management Area, West Greenwich
Audubon Maxwell Mays Wildlife Refuge, Coventry
Phelps Pond, West Greenwich

Audubon RI Butterfly Count: Thank You to Volunteers

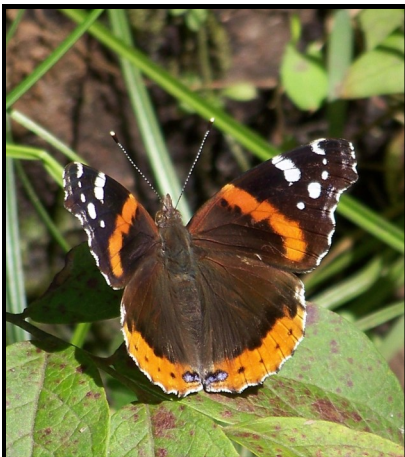


Photo 13: Red Admiral in Exeter, 2009
(Bryan Glembowski)

Audubon Society of Rhode Island would like to recognize those who volunteered at this year's count. Volunteering your time and talents made Audubon's 13th annual Butterfly Count possible!

Many thanks to the following individuals:

Allison Barrett, Brenda Bibb, Robert Bird, Mary-Beth Burnham, Catherine Cryan, Maureen Dewire, Faye Dvorchak, David Dvorchak, Ambar Espinoza, Sandra Gaumont, Lisa Giacchi, Gayle Giammarco, Joan Gorman, Don Heitzmann, Emily Langlais, Scott Langlais, July Lewis, Maija Lutz, Mark Mello, Lauren Miller-Donnelly, Pat Molloy, David Mozzoni, Melissa Nickerson, Mark Pagliarini, Phyllis Rizzi, Scott Ruhren, Lisa Ryan, Emily Schmidt, John Stachelhaus, Peter Tassia, Mary Jane Verdier, Kira Wencek, Marty Wencek, Bethany Whitmarsh, Bradley Whitmarsh and Susan Whitmarsh.

We would also like to extend a special thanks to the walk leaders who counted butterflies, trained observers, answered questions, took pictures, completed paperwork and made sure everyone had fun and learned something! **Kim Calcagno, Laura Carberry, Joe Koger, Lisa Maloney, Eugenia Marks, and Jim Van Cleve.** (If you would like to lead a public count next year, please contact Jon at jscoones@asri.org)

The Audubon Society of Rhode Island was founded in 1897. Today, with 17,000 members and supporters, the Audubon Society of Rhode Island is dedicated to education, land conservation and advocacy. Audubon independently protects or owns almost 9,500 acres of woodlands and coastal property embracing diverse natural habitats. More than 33,000 students from area schools participate annually in our educational programs. A voice in statewide ecological issues, the Society actively fulfills its environmental stewardship through preservation and protection of Rhode Island's natural heritage.

Audubon is a donor-supported organization. Everything we do is made possible by the generosity of donors like you. If you value programs such as osprey monitoring, the conservation of wildlife habitat, good environmental policy, and school programs that teach kids about the amazing natural world around them, then please join us and become a member today.

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AUDUBON SOCIETY OF RHODE ISLAND

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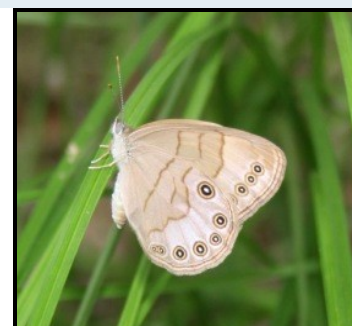


Photo 14: Appalachian Brown at Audubon's Newman Wildlife Refuge in Smithfield, 2008 (Mike Kieron)