

## Summary of the 2019 Howard County Fall Count

by Mike McClure and Chuck Stirrat

The twenty sixth annual Howard County Fall Count was conducted on Sept. 21<sup>st</sup>, 2019 with the count data shown in the table below. This count has turned out to be better than expected Countywide for the total number of bird species while the total number of individuals was again below average thus continuing the decline since the beginning of the Fall Count in 1994. For the warblers, the species count was above the average while the number of individual warblers continued their slow but sure decline.

The number of participants, parties, and the overall effort as measured by the hours and miles continues to remain strong in spite of the occasional difficult season with few birds in the field, as was the case this year.

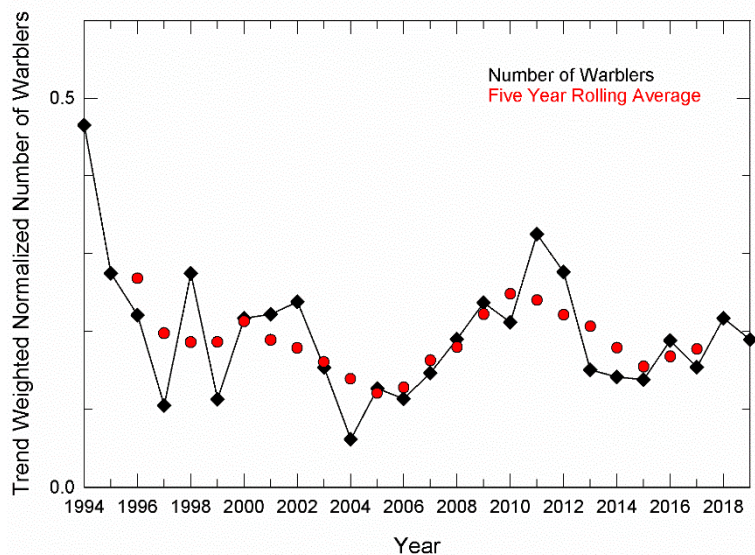
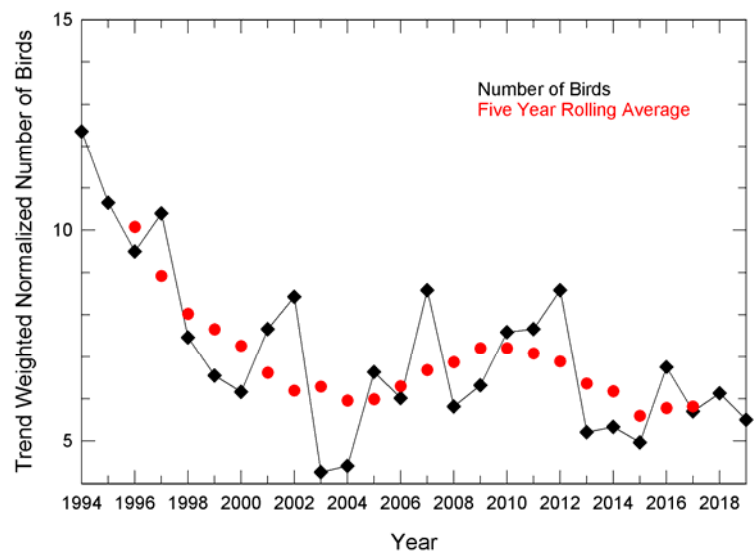
	Observed Birds Countywide		Observed Warblers Countywide		Statistics
	Species	Birds	Species	Birds	
2019 Numbers	124	10,115	26	348	
Historical High : Low	140 : 108	26,651 : 9,293	30 : 13	1,004 : 130	
Year 's of High : Low	2010 : 2004	1994 : 2004	1994 : 2004	1994 : 2004	
Averages for Birds & Species	124.81	15,317.15	23.54	427.04	
2019 Counters : Parties					52 : 44
Counters : Parties Averages					54.6 : 33.3
2019 Counters Hours : Miles					190.4 : 411.8
Counters Hours : Miles Averages					195.4 : 404.9

Saturday's temperature started at 51 degrees [dew point 49] at 6:00AM with scattered clouds, rising to 86 degrees [dew point 65] in late afternoon. Winds were light during the early morning but slowly changed to intermittent 3-5 mph with the afternoon.

Counters continue to complain about the lack of birds. This problem is reflected in the data from 26 years of Fall Counts. The graphics for the total number of individual birds and warblers observed countywide is represented by their Rolling Five Year Average [RFYA] data. The RFYA's seems to support that the numbers had reached their lows during the mid 2000's, began to rise, and now seem to be in decline. It is worth noting that the RFYA is by design slow to change direction and requires several years of sighting increases or decreases to respond.

There were 16 species for which there was only one bird sighted countywide and 20 species for which there were only two birds sighted countywide. Species showing moderately high numbers (>500) are: European Starling, 1,277; Canada Goose, 1,183; Crows [American+Fish+species], 568; and Blue Jay, 656.

Birds count participants are: Karan Blum, Jim & Marilyn Brinkley, Mary Lou Clark, Dennis Coskren, Jeff & Karen Culler, Ralph Cullison III, Susan & **Wes Earp (Area 1 Coordinator)**, Lynn Greg, Joe Hanfman, Nick & **John Harris (Area 6 Compiler)**, Karen & **Kevin Heffernan (Area 3 Co-coordinators)**, Bill & Gayle Hill, David Holmes, Clayton Koonce, Mike Leumas, **Allen Lewis (Area 7 Coordinator)**, Kathie Lillie, Felicia Lovelett, Rosa Lubitz, Brigitte Lund, Janet Lydon, **Mike McClure (County Co-coordinator & Areas 4 Coordinator)**, **John McKitterick (Area 7 Compiler)**, Barry Miller, Sue Muller, Sue Neri, Ben Newton, Cyndy & Steve Parr, Howard Patterson, Suzanne Probst, Mary Prowell,



Russ Ruffing, **Kurt Schwarz (Area 5 Coordinator)**, Jay Sheppard, Jo Solem, Michelle Stewart, **Chuck Stirrat (County Co-coordinator)**, Tom Strikwerda, Tim Thompson, Eric & Kristin Trouton, Anthony VanSchoor, Mark Wallace, Kelsey Wellons, Michele Wright, and Lilly Zuberi. **Lastly, a very special thanks to Mary Lou Clark, who hosted the evening tally.#**

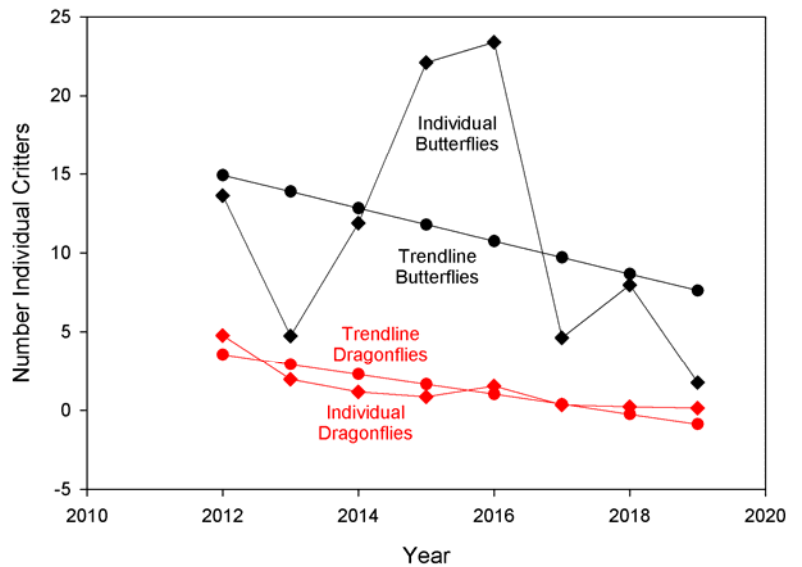
For the eighth year counters were given the option to list the species of butterflies, dragonflies and damselflies seen as they were counting birds. A total of 16 people turned in a list: John & Meg Harris; Karen & Kevin Heffernan; Bill & Gayle Hill; David Holmes; Clayton Koones; Grazina & Mike McClure; Sue Muller ; Suzanne Probst; Jo Solem. See the table for greater detail.

	Obs. Butterflies Countywide		Obs. Dragonflies Countywide		Statistics
	Species	Individuals	Species	Individuals	
2019 Numbers	27	395	4	32	
Historical High : Low	43 : 22	2,285 : 305	16 : 4	150 : 32	
Year 's of High : Low	2016 : 2013	2016 : 2013	2016 : 2019	2016 : 2019	
Averages for Ind. & Species	32.88	1,044.50	11.383	92.75	
2019 Counters : Parties					14 : 9
Counters : Parties : Averages					15.5 : 10.0
2019 Counters Hours : Miles					30.5 : 89.5
Counters Hours : Miles Averages					56.8 : 136.6

The Butterfly Count was below normal for both the number of species and individuals, respectively. There were no species of butterflies with >100 individuals sighted. This year's total sighted individuals, 395, was the second lowest recorded. This decrease is probably due to a combination of fewer counters and parties but also less countywide coverage with 6 areas reporting results. Also of note is the butterfly trendline which is decreasing.

The Dragonfly Count was equally disappointing with only one field sheet received thus setting new lows for both the number of species and individuals critters. For dragonflies, the only species [>10] was: Halloween Pennant at 11. Similar to the butterflies, the dragonfly trendline is decreasing.

. Complete bird, butterfly, and dragonfly results are posted on the HCBC's website at <http://howardbirds.org/howard/counts.htm>.



Plan now to join us on a future seasonal count and if possible attend the tally as well. Next year the 2020 Fall Count will be held on the 3<sup>rd</sup> Saturday of September which will be the 19<sup>th</sup>.

### Howard 2019 Web Table County Totals

BIRD COUNT - HOWARD CO. Species / Area No.:	Season:		Type:		Area:		Howard		Date:
	Fall	Regular	Howard	Area	Howard	Date:	9/21/2019		
	1	2	3	4	5	6	7	Totals	
Canada Goose	434	83	77	116	90	230	151	1,181	
Wood Duck	28		4		2			34	
Mallard			5	19	24	14	13	75	
Wild Turkey	1							1	
Pied-billed Grebe					1	1		2	
Rock Pigeon	50			26		65	9	150	
Mourning Dove	138	67	19	20	19	32	36	331	
Yellow-billed Cuckoo	6	5	2	1	2	4	5	25	
Black-billed Cuckoo		1				1		2	
Common Nighthawk			6			4		10	
Chimney Swift	36	55	106	39	3	30	37	306	
Ruby-throated Hummingbird	3	1	2	3	1	7	4	21	
Killdeer	7		15	5			1	28	
Spotted Sandpiper			1					1	
Solitary Sandpiper	1			1				2	
Ring-billed Gull						2		2	
Double-crested Cormorant	1			2	3	3	5	14	
Great Blue Heron	2	1	4	3	6	6	7	29	
Great Egret				2		1	2	5	
Green Heron	1		2	2	2	5	5	17	
Black-crowned Night-Heron					1		1	2	
Black Vulture	46	68	80	29	7	41	7	278	
Turkey Vulture	93	28	59	8	18	19	63	288	
Osprey					2	1		3	
Northern Harrier	1	1				1		3	
Sharp-shinned Hawk	1		4		1	1		7	
Cooper's Hawk	4	1	2			3		10	
Bald Eagle [ad/im/unk]	3	2			1	1		7	
Red-shouldered Hawk	15	6	12	6	5	8	8	60	
Broad-winged Hawk	5	25	99			8	6	143	
Red-tailed Hawk	5	3	1	3		3	2	17	
Eastern Screech-Owl	4		2					6	
Great Horned Owl						1		1	
Barred Owl						3		3	
Belted Kingfisher	7	3	3	2	3	1	5	24	
Red-headed Woodpecker	3	1						4	
Red-bellied Woodpecker	54	18	19	19	32	43	37	222	
Downy Woodpecker	28	10	8	13	18	19	27	123	
Hairy Woodpecker	5	4	3		2	4	5	23	
Northern Flicker	18	7	18	2	10	29	23	107	
Pileated Woodpecker	23	16	1	1	2	5	10	58	
American Kestrel	13	3		2				18	
Merlin	1							1	
Peregrine Falcon	1							1	
Eastern Kingbird	1					5		6	
Olive-sided Flycatcher						1		1	
Eastern Wood-Pewee	8	7	6		6	4	9	40	
Least Flycatcher						1		1	
<i>Empidonax species</i>	7							7	

### Howard 2019 Web Table County Totals

BIRD COUNT - HOWARD CO. Species / Area No.:	Season:		Type:	Area:		Howard		Date:
	Fall	Regular	Howard	Date:		9/21/2019		
	1	2	3	4	5	6	7	Totals
Eastern Phoebe	11	4	9	8	1	2	6	41
White-eyed Vireo		1	8			6	1	16
Yellow-throated Vireo					1			1
Red-eyed Vireo	2	4	10	5	3	11	9	44
Blue Jay	135	73	76	52	61	144	115	656
American Crow	72	27	32	14	17	44	59	265
Fish Crow	92		40		4		9	145
<i>crow species</i>	47		50	31		14	16	158
Common Raven	10							10
Horned Lark	5							5
Tree Swallow				8			3	11
Barn Swallow				11				11
Carolina Chickadee	16	5	8	10	15	30	46	130
Tufted Titmouse	19	9	6	4	10	20	23	91
White-breasted Nuthatch	30	15	8	9	15	10	18	105
House Wren	5	3	5		8	9	15	45
Carolina Wren	85	40	38	32	51	48	75	369
Blue-gray Gnatcatcher		2	4			8	3	17
Ruby-crowned Kinglet						3		3
Eastern Bluebird	77	18	29	28	14	32	13	211
Veery	1	1	X-NFC					2
Swainson's Thrush			2					2
Wood Thrush	2				1	4		7
American Robin	89	55	39	8	13	29	89	322
Gray Catbird	73	31	104	63	48	83	76	478
Brown Thrasher	4	1	4			3	3	15
Northern Mockingbird	18	3	27	2	2	19	13	84
European Starling	352	85	532	23	103	17	165	1,277
Cedar Waxwing	15	6	1	31		17	13	83
House Sparrow	68			14	3	25	213	323
House Finch	42		16	7	4	50	11	130
American Goldfinch	24	4	15	18	25	30	53	169
Eastern Towhee	13	7	12		5	8	4	49
Chipping Sparrow	61	3	25		1	15	1	106
Field Sparrow	1		2			2		5
Savannah Sparrow			8					8
Grasshopper Sparrow			1					1
Song Sparrow	10	7	12	22	1	8	10	70
Lincoln's Sparrow			1		1			2
White-throated Sparrow						2		2
<i>unidentified sparrow</i>	9					1		10
Yellow-breasted Chat						1		1
Bobolink			1			4		5
Eastern Meadowlark	1		1					2
Baltimore Oriole						2		2
Red-winged Blackbird	2		12	4		2	16	36
Brown-headed Cowbird	13					2	4	19
Common Grackle							1	1
Ovenbird	1		1					2

### Howard 2019 Web Table County Totals

BIRD COUNT - HOWARD CO.	Season: Fall		Type: Regular		Area: Howard		Date: 9/21/2019	
Species / Area No.:	1	2	3	4	5	6	7	Totals
Worm-eating Warbler							2	2
Northern Waterthrush	1							1
Blue-winged Warbler						2		2
Black-&-white Warbler	5	4	4	1	2	7	16	39
Tennessee Warbler		1						1
Nashville Warbler		1					1	2
Connecticut Warbler						1		1
Mourning Warbler	1					1		2
Common Yellowthroat	23	10	16	1	15	8	8	81
Hooded Warbler						1	1	2
American Redstart	6	13	12	4	4	13	23	75
Northern Parula		3	12			6	5	26
Magnolia Warbler	7	3	7		2	4	6	29
Bay-breasted Warbler			1					1
Blackburnian Warbler					1			1
Yellow Warbler							2	2
Chestnut-sided Warbler		1	4			2	1	8
Blk.-thrt'd. Blue Warbler	5	1	2		1	2		11
Pine Warbler	1						2	3
Yel.-rump'd (Myrtle) Warbler	1	1					3	5
Prairie Warbler	1					1		2
Blk.-thrt'd. Green Warbler	1					3	3	7
Canada Warbler		2		1		1		4
Wilson's Warbler		1				1		2
<i>warbler species</i>	18			6	2	1	10	37
Scarlet Tanager	1				3	3	1	8
Northern Cardinal	103	29	43	64	36	73	90	438
Rose-breasted Grosbeak			4			1		5
Blue Grosbeak			7			1		8
Indigo Bunting	42	9			5	7		63
Dickcissel			X-NFC					X-NFC
<b>Area Total Birds:</b>	2,675	899	1,811	805	739	1,451	1,735	10,115
<b>Area Total Species:</b>	81	61	71	49	57	90	69	124
<b>Area No.:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Totals</b>
<b>Supplemental Data on Page 4</b>								

### Howard 2019 Web Table County Totals

BIRD COUNT - HOWARD CO.		Season: Fall		Type: Regular		Area: Howard		Date: 9/21/2019	
Species / Area No.:	1	2	3	4	5	6	7	Totals	
<b>Supplemental Data</b>									
<b>Time Start:</b>	6:30 a	6:30 a	12:01 a	7:30 a	6:54 a	12:01 a	6:45 a	12:01 a	
<b>Time Stop:</b>	8:00 p	12:20 p	2:30 p	6:30 p	5:15 p	11:30 p	4:50 p	11:30 p	
<b>Hours on Foot:</b>	37.0	10.3	13.6	9.5	16.6	23.6	25.3	135.9	
<b>Hours by Car:</b>	17.8	1.8	3.5	.6	1.3	3.8	11.7	40.5	
<b>Hours by Boat:</b>									
<b>Hours Other:</b>									
<b>Miles on Foot:</b>	14.5	12.1	12.9	10.1	14.1	20.1	29.0	111.6	
<b>Miles by Car:</b>	156.2	47.0	22.5	14.8	22.8	32.2	115.5	396.7	
<b>Miles by Boat:</b>									
<b>Miles Other:</b>									
<b>Hours Feeder Watching:</b>	1.0			1.4			.5	2.9	
<b>Hours Stationary:</b>	6.0	3.4	.6					10.0	
<b>Hours "Owling":</b>	.6					.5		1.1	
<b>Miles "Owling":</b>	.3					.1		.4	
<b>County Weather</b>	<b>Temperature</b>		<b>%Clouds</b>		<b>Wind (Speed &amp; Dir.)</b>		<b>Precip.(Type &amp; Amt.)</b>		
<b>Dawn</b>	51 ° F		clear		1.0 W		None		
<b>AM</b>	60.1 ° F		5%		1.0 WNW		None		
<b>Noon</b>	81.8 ° F		5%		3.0 N		None		
<b>PM</b>	86.1 ° F		15%		5.0 WSW		None		
<b>Dusk</b>	80.9 ° F		5%		4.0 ENE		None		
<b>Comments on Weather:</b> (.e.g amount of ice, fog, etc.)	Cool in am [Dewpoint 49.4], warm with pm [Dewpoint: high 65.5] None								
<b>Area No.:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Totals</b>	
<b>Deer Seen:</b>	25	3	19		5	11	20	83	
<b>Total Observers in Area:</b>	10	6	8	2	4	11	11	52	
<b>Total Parties in Area:</b>	8	8	6	3	5	7	7	44	
<b>Total Party-Hours (Reg.):</b>	54.8	12.1	17.1	10.1	17.9	27.4	37.0	176.4	
<b>Tot. Party Hours (Feeder Watch):</b>	1.0			1.4			.5	2.9	
<b>Total Party-Hours (Station'y):</b>	6.0	3.4	.6					10.0	
<b>Total Party-Hours (Owling):</b>	.6					.5		1.1	
<b>Total Party-Hours:</b>	62.4	15.5	17.7	11.5	17.9	27.9	37.5	190.4	
<b>Total Party-Miles:</b>	171.0	59.1	35.4	24.9	36.9	52.4	144.5	524.2	
<b>Area No.:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Totals</b>	

Fall Count Results, September 21, 2019

Butterflies & Moths*	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Totals
Admiral, Red				1				1
Azure, Summer				1				1
Buckeye, Common	1			31	2	8	3	45
Checkered-Skipper, Common								
Checkerspot, Silvery								
Cloak, Mourning			1	1				2
Comma, Eastern						1		1
Copper, American								
Crescent, Pearl			1	16			2	19
Duskywing, Horace's								
Duskywing, Wild Indigo								
Fritillary, Great Spangled								
Fritillary, Meadow								
Fritillary, Variegated	1		1	19		1		22
Geometer, Chickweed						1		1
Glassywing, Little								
Hairstreak, Gray								
Hairstreak, Red-banded								
Hairstreak, White M								
Lady, American								
Lady, Painted	1			2				3
Mark, Question					1			1
Monarch	2			1		1	5	9
Moth, Ailanthus Webworm								
Moth, Fall Webworm [Caterpillar]								
Moth, Henry's Marsh [Caterpillar]								
Moth, Salt Marsh [Caterpillar]								
Moth, Yellow-striped Armyworm								
Orange, Sleepy				9				9
Pearly-eye, Northern								
Purple, Red-spotted					1			1
Sachem	3			20		1		24
Skipper, Clouded								
Skipper, Dun								
Skipper, Fiery						2		2
Skipper, Least				20				20
Skipper, Long-tailed								
Skipper, Ocola								
Skipper, Peck's								
Skipper, Silver-spotted				1				1
Skipper, Swarthy								
Skipper, Tawny-edged				1				1
Skipper, Zabulon						1		1
Snout, American								
Sulphur, Clouded	1		8	21				30
Sulphur, Cloudless				1				1
Sulphur, Orange			5	1		1	4	11
Swallowtail, Black					1	1		2
Swallowtail, Eastern Tiger	1			20	6	3	2	32
Swallowtail, Giant								
Swallowtail, Pipeline								
Swallowtail, Spicebush				2	2			4
Swallowtail, Zebra								
Tailed-Blue, Eastern	2		1	46			3	52
Viceroy								
White, Cabbage	3		2	53	3	10	9	80
Wood-Nymph, Common								
<b>unidentified species</b>				18	1			19
<b>Total Individuals</b>	<b>15</b>	<b>0</b>	<b>19</b>	<b>285</b>	<b>17</b>	<b>31</b>	<b>28</b>	<b>395</b>
<b>Total Species</b>	<b>9</b>	<b>0</b>	<b>7</b>	<b>20</b>	<b>7</b>	<b>12</b>	<b>7</b>	<b>27</b>

<b>Dragonflies &amp; Damselflies*</b>	<b>Area 1</b>	<b>Area 2</b>	<b>Area 3</b>	<b>Area 4</b>	<b>Area 5</b>	<b>Area 6</b>	<b>Area 7</b>	<b>Totals</b>
Amberwing, Eastern								
Bluet, Familiar								
Bluet, Skimming								
Dancer, Blue-fronted								
Dancer, Seepage								
Darner, Common Green				10				10
Darner, Shadow								
Darner, Fawn								
Dasher, Blue								
Forktail, Eastern								
Forktail, Fragile								
Glider, Spot-winged								
Glider, Wandering								
Meadowhawk, Autumn								
Meadowhawk, Blue-faced								
Pennant, Halloween				11				11
Pondhawk, Eastern								
Saddlebags, Black				7				7
Saddlebags, Carolina								
Skimmer, Twelve-spotted				4				4
Skimmer, Slaty								
Skimmer, Widow								
Whitetail, Common								
<b><i>unidentified species</i></b>								
<b><i>Total Individuals</i></b>				<b>32</b>				<b>32</b>
<b><i>Total Species</i></b>				<b>4</b>				<b>4</b>

<b>Information [Required]</b>	<b>Area 1</b>	<b>Area 2</b>	<b>Area 3</b>	<b>Area 4</b>	<b>Area 5</b>	<b>Area 6</b>	<b>Area 7</b>	<b>Totals</b>
Hours by Foot	4.8	0.0	0.5	4.7	5.3	5.5	2.0	<b>22.8</b>
Hours by Car	0.2	0.0	0.4	0.5	1.2	0.9	4.5	<b>7.7</b>
Miles by Foot	2.3	0.0	0.9	4.6	5.9	2.8	2.0	<b>18.5</b>
Miles by Car	1.2	0.0	2.3	13.8	22.3	3.4	28.0	<b>71.0</b>
<b>Total Observers in Area</b>	<b>2</b>		<b>2</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>14</b>
<b>Total Parties in Area</b>	<b>1</b>		<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>9</b>



Fall Count, Cumulative Results

Butterflies & Moths*	2012	2013	2014	2015	2016	2017	2018	2019	Sum	Max	Min	Misses	Average
Admiral, Red	6			2	2		3	1	14	6	1	3	1.8
Azure, Summer	2			6	11	5	18	1	43	18	1	2	5.4
Buckeye, Common	18	3	96	98	140	17	64	45	481	140	3	None	60.1
Checkered-Skipper, Common	4	1	1	12	5				23	12	1	3	2.9
Checkerspot, Silvery	2								2	2	2	7	.3
Cloak, Mourning			2					2	4	2	2	6	.5
Comma, Eastern	1	9	1	2	2		1	1	17	9	1	1	2.1
Copper, American				1	1		4		6	4	1	5	.8
Crescent, Pearl	69	10	70	114	395	30	158	19	865	395	10	None	108.1
Duskywing, Horace's	1			1	2		1		5	2	1	5	.6
Duskywing, Wild Indigo		1	13	5	18		2		39	18	1	4	4.9
Fritillary, Great Spangled	2		4	8	1	1	2		18	8	1	3	2.3
Fritillary, Meadow	3		2	21	3				29	21	2	5	3.6
Fritillary, Variegated	14	14	26	92	59	4	45	22	276	92	4	1	34.5
Geometer, Chickweed	1		4	1				1	7	4	1	5	.9
Glassywing, Little					1	1			2	1	1	7	.3
Hairstreak, Gray	2		3	4	5	5	11		30	11	2	3	3.8
Hairstreak, Red-banded	5		2		5				12	5	2	6	1.5
Hairstreak, White M	2	1			2				5	2	1	6	.6
Lady, American			3	2	3	2			10	3	2	5	1.3
Lady, Painted	6		4	1	1	6		3	21	6	1	3	2.6
Mark, Question			1				5	1	7	5	1	6	.9
Monarch	47	7	67	49	75	12	61	9	327	75	7	1	40.9
Moth, Ailanthus Webworm	1		1	2	1				5	2	1	5	.6
Moth, Fall Webworm [Caterpillar]		7							7	7	7	8	.9
Moth, Henry's Marsh [Caterpillar]		2				2			4	2	2	7	.5
Moth, Salt Marsh [Catapillar]		8							8	8	8	8	1.0
Moth, Yellow-striped Armyworm	1				30				31	30	1	7	3.9
Orange, Sleepy				1	4	1	29	9	44	29	1	4	5.5
Pearly-eye, Northern	1	2		1	2				6	2	1	5	.8
Purple, Red-spotted	8		2	4	13	1	14	1	43	14	1	2	5.4
Sachem	11	21	216	210	240	798	322	24	1,842	798	11	1	230.3
Skipper, Clouded	2			1					3	2	1	7	.4
Skipper, Dun			1				1		2	1	1	7	.3
Skipper, Fiery	5			7	5	1		2	20	7	1	4	2.5
Skipper, Least	11	28	103	30	152	50	19	20	413	152	11	1	51.6
Skipper, Long-tailed	1						1		2	1	1	7	.3
Skipper, Ocola				7	3		5		15	7	3	6	1.9
Skipper, Peck's	4		4	111	82	23	43		267	111	4	3	33.4
Skipper, Silver-spotted	2		8	20	13	5	4	1	53	20	1	2	6.6
Skipper, Swarthy					1				1	1	1	8	.1
Skipper, Tawny-edged			1	9			1	1	12	9	1	5	1.5
Skipper, Zabulon			4	2			1	1	8	4	1	5	1.0
Snout, American					2				2	2	2	8	.3
Sulphur, Clouded	21	47	38	134	47	8	6	30	331	134	6	1	41.4
Sulphur, Cloudless	2		5	3	10	1	1	1	23	10	1	2	2.9
Sulphur, Orange	12	33	113	68	60	10	17	11	324	113	10	1	40.5
Swallowtail, Black			1	1	2	1	3	2	10	3	1	3	1.3
Swallowtail, Eastern Tiger	15	4	4	23	22	4	10	32	114	32	4	1	14.3
Swallowtail, Giant			1						1	1	1	8	.1
Swallowtail, Pipeline													
Swallowtail, Spicebush	2	2	3	1	13	13	1	4	39	13	1	1	4.9
Swallowtail, Zebra					1				1	1	1	8	.1
Tailed-Blue, Eastern	11	12	111	56	469	13	211	52	935	469	11	1	116.9
Viceroy	3	3	8	6	1	2	1		24	8	1	2	3.0
White, Cabbage	100	89	164	119	378	75	296	80	1,301	378	75	1	162.6
Wood-Nymph, Common	1	1			1				3	1	1	6	.4
<b>unidentified species</b>	8		124	50	2	15	1	19	219	124	1	2	27.4
<b>Total Individuals</b>	<b>407</b>	<b>305</b>	<b>1,211</b>	<b>1,285</b>	<b>2,285</b>	<b>1,106</b>	<b>1,362</b>	<b>395</b>	<b>8,356</b>	<b>2,285</b>	<b>305</b>	<b>None</b>	<b>1,044.50</b>
<b>Total Species</b>	<b>37</b>	<b>22</b>	<b>35</b>	<b>39</b>	<b>43</b>	<b>27</b>	<b>33</b>	<b>27</b>	<b>263</b>	<b>43</b>	<b>22</b>	<b>None</b>	<b>32.88</b>

<b>Dragonflies &amp; Damselflies*</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Sum</b>	<b>Max</b>	<b>Min</b>	<b>Misses</b>	<b>Average</b>
Amberwing, Eastern				1	23	3			27	23	1	5	3.4
Bluet, Familiar		1	5		1	3	8		18	8	1	3	2.3
Bluet, Skimming		2		1		1			4	2	1	5	.5
Dancer, Blue-fronted					1				1	1	1	7	.1
Dancer, Seepage		12							12	12	12	7	1.5
Darner, Common Green	35	79	62	19	19	15	6	10	245	79	6	None	30.6
Darner, Shadow				1	1				2	1	1	6	.3
Darner, Fawn	2	3	1	1					7	3	1	4	.9
Dasher, Blue	3	6	1	1	35	15	5		66	35	1	1	8.3
Forktail, Eastern					20				20	20	20	7	2.5
Forktail, Fragile	10	2	2	1	3				18	10	1	3	2.3
Glider, Spot-winged					5				5	5	5	7	.6
Glider, Wandering	4	1	4	4	2				15	4	1	3	1.9
Meadowhawk, Autumn	15	1	1	1		4	14		36	15	1	2	4.5
Meadowhawk, Blue-faced		1							1	1	1	7	.1
Pennant, Halloween	1							11	12	11	1	6	1.5
Pondhawk, Eastern	21	2	8	3	5	8	3		50	21	2	1	6.3
Saddlebags, Black	20	9	12	6	27	6	3	7	90	27	3	None	11.3
Saddlebags, Carolina	1								1	1	1	7	.1
Skimmer, Twelve-spotted	4	1	8	7	1	11		4	36	11	1	1	4.5
Skimmer, Slaty					1	1			2	1	1	6	.3
Skimmer, Widow	10	2	1	1	1				15	10	1	3	1.9
Whitetail, Common	16	4	15	3	5	16			59	16	3	2	7.4
<b>unidentified species</b>												8	.0
<b>Total Individuals</b>	<b>142</b>	<b>126</b>	<b>120</b>	<b>50</b>	<b>150</b>	<b>83</b>	<b>39</b>	<b>32</b>	<b>742</b>	<b>150</b>	<b>32</b>	<b>None</b>	<b>92.75</b>
<b>Total Species</b>	<b>13</b>	<b>15</b>	<b>12</b>	<b>14</b>	<b>16</b>	<b>11</b>	<b>6</b>	<b>4</b>	<b>91</b>	<b>16</b>	<b>4</b>	<b>None</b>	<b>11.38</b>

<b>Information [Required]</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Sum</b>	<b>Max</b>	<b>Min</b>	<b>Misses</b>	<b>Average</b>
Hours by Foot	54.7	46.7	39.1	54.4	84.4	33.5	38.1	22.8	373.6	84.4	22.8	None	46.7
Hours by Car	24.8	5.9	17.2	10.3	6.0	4.1	4.6	7.7	80.6	24.8	4.1	None	10.1
Miles by Foot	75.5	31.7	42.0	34.5	52.8	18.8	21.9	18.5	295.7	75.5	18.5	None	37.0
Miles by Car	211.5	129.8	100.5	110.2	62.8	49.5	62.2	71.0	797.5	211.5	49.5	None	99.7
<b>Total Hours</b>	<b>79.5</b>	<b>52.6</b>	<b>56.3</b>	<b>64.7</b>	<b>90.4</b>	<b>37.6</b>	<b>42.7</b>	<b>30.5</b>	<b>454.2</b>	<b>90.4</b>	<b>30.5</b>	<b>None</b>	<b>56.8</b>
<b>Total Miles</b>	<b>287.0</b>	<b>161.5</b>	<b>142.5</b>	<b>144.7</b>	<b>115.6</b>	<b>68.3</b>	<b>84.1</b>	<b>89.5</b>	<b>1,093.2</b>	<b>287.0</b>	<b>68.3</b>	<b>None</b>	<b>136.6</b>
<b>Total Observers in Area</b>	<b>13</b>	<b>14</b>	<b>23</b>	<b>13</b>	<b>20</b>	<b>11</b>	<b>16</b>	<b>14</b>	<b>124</b>	<b>23</b>	<b>11</b>	<b>None</b>	<b>15.5</b>
<b>Total Parties in Area</b>	<b>10</b>	<b>8</b>	<b>12</b>	<b>8</b>	<b>15</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>80</b>	<b>15</b>	<b>8</b>	<b>None</b>	<b>10.0</b>