

Geauga Park District Annual Swine Creek Park Butterfly Count

Introduction

Each year I conduct a public program in the wet meadow at Swine Creek Park. It is usually held in the first two weeks of July each year, depending on available dates for programs. Usually myself, a naturalist and a volunteer conduct the program. We hand each participant a butterfly net and show them how to catch a butterfly. We then turn the children and adults loose in the park and have them bring back captured butterflies for identification and release. Our count is largely based on what is captured and released. The majority of the captures are from the wet meadow and around the pond. I usually walk around the park and identify some skippers later in the afternoon. I also usually walk the old railroad right-of-way in the park along Swine Creek in late afternoon after the public program has ended. In 2005, 2007 and 2008, we also caught and released dragonflies and damselflies along with butterflies.

From a pure scientific standpoint, the count provides little information because it is a one-afternoon snapshot of what was flying that day. There is a natural bias towards collecting larger butterflies, and few skippers are caught. Depending on the season of bloom, available rain and temperature, one year a butterfly may be common because it was caught when the brood was at its peak, and another year the same butterfly may be absent or rare. Weather conditions may be unfavorable the day of the count. The annual counts do, however, demonstrate the incredible diversity and substantial butterfly population supported by this wonderful meadow.

Mark S. Rzeszotarski, Ph.D., July 14, 2008

Geauga Park District Annual Swine Creek Park Butterfly Count Years 1993 - 2002

Butterfly	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Swallowtails (Family Papilionidae) Swallowtails (Subfamily Papilioninae)										
Pipevine Swallowtail -- (<i>Battus philenor</i>)										
Zebra Swallowtail -- (<i>Eurytides marcellus</i>)										
Black Swallowtail -- (<i>Papilio polyxenes</i>)	2	3			1			1		
Giant Swallowtail -- (<i>Papilio cressphontes</i>)										
Eastern Tiger Swallowtail -- (<i>Papilio glaucus</i>)	10	7	7	4	3	4	4	9	4	8
Spicebush Swallowtail -- (<i>Papilio troilus</i>)		2	3			1	1			
Whites and Sulphurs (Family Pieridae) Whites (Subfamily Pierinae)										
Checkered White -- (<i>Pontia protodice</i>)										
West Virginia White -- (<i>Pieris virginiensis</i>)										
Cabbage White -- (<i>Pieris rapae</i>)	8	9	4	3	13	21	22	10	6	9
Sulphurs (Subfamily Coliadinae)										
Clouded Sulphur -- (<i>Colias philodice</i>)	29	4	6		1		13	3	7	19
Orange Sulphur -- (<i>Colias eurytheme</i>)	18	28	9	7	9	1	3	4	3	5
Cloudless Sulphur -- (<i>Phoebis sennae</i>)										
Little Yellow -- (<i>Eurema lisa</i>)										
Gossamer-wing Butterflies (Family Lycaenidae) Coppers (Subfamily Lycaeninae)										
American Copper -- (<i>Lycaena phlaeas</i>)	1	1				1	6	2		3
Bronze Copper -- (<i>Lycaena hyllus</i>)							1			
Hairstreaks (Subfamily Theclinae)										
Coral Hairstreak -- (<i>Satyrrium titus</i>)				2						
Acadian Hairstreak -- (<i>Satyrrium acadica</i>)	21	25	2	1						
Banded Hairstreak -- (<i>Satyrrium calanus</i>)				3		1	1			1
Hickory Hairstreak -- (<i>Satyrrium caryaevorum</i>)										
Striped Hairstreak -- (<i>Satyrrium liparops</i>)	11						1			

Butterfly	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Gray Hairstreak -- (Strymon melinus)										
White-M Hairstreak -- (Parrhasius m-album)							1			
Blues (Subfamily Polyommatae)										
Eastern Tailed-Blue -- (Everes comyntas)	8	3	5	1	1		5	1		1
Spring Azure -- (Celastrina "ladon")										
Summer Azure -- (Celastrina neglecta)	9			2						
Brush-footed Butterflies (Family Nymphalidae) Heliconians and Fritillaries (Subfamily Heliconiinae)										
Great Spangled Fritillary -- (Speyeria cybele)	49	43	52	53	60	45	70	47	43	37
Aphrodite Fritillary -- (Speyeria aphrodite)							3			
Regal Fritillary -- (Speyeria idalia)										
Meadow Fritillary -- (Boloria bellona)		1								
True Brush-foots (Subfamily Nymphalinae)										
Silvery Checkerspot -- (Chlosyne nycteis)										
Harris' Checkerspot -- (Chlosyne harrisii)										
Pearl Crescent -- (Phyciodes tharos)	15	172	54	1	1	131	50	8	1	10
Baltimore -- (Euphydryas phaeton)										
Question Mark -- (Polygonia interrogationis)		2					1	2	1	
Eastern Comma -- (Polygonia comma)	4	10	1	3	2			7	1	1
Gray Comma -- (Polygonia progne)										
Compton Tortoiseshell -- (Nymphalis vaualbum)										
Mourning Cloak -- (Nymphalis antiopa)	4	6	4				1		1	
Milbert's Tortoiseshell -- (Nymphalis [Aglais] milberti)										
American Lady -- (Vanessa virginiensis)								1		1
Painted Lady -- (Vanessa cardui)			1			1			1	
Red Admiral -- (Vanessa atalanta)							1	1	82	
Admirals and Relatives (Subfamily Limenitidinae)										
Red-spotted Purple -- (Limenitis arthemis)	1	4				1				
'Astyanax' Red-spotted Purple -- (Limenitis arthemis astyanax (incl. arizonensis))										

Butterfly	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
White Admiral -- (<i>Limenitis arthemis arthemis</i> (white-banded))										
Viceroy -- (<i>Limenitis archippus</i>)	1	2		1		2				
Satyr (Subfamily Satyrinae)										
Northern Pearly Eye -- (<i>Enodia anthedon</i>)		7				1		1		
Eyed Brown -- (<i>Satyrodes eurydice</i>)		1								
Appalachian Brown -- (<i>Satyrodes appalachia</i>)								1		
Little Wood Satyr -- (<i>Megisto cymela</i>)										
Common Wood Nymph -- (<i>Cercyonis pegala</i>)	69	85	119	98	74	94	40	37	70	137
Monarchs (Subfamily Danainae)										
Monarch -- (<i>Danaus plexippus</i>)	1	7	5	5	5	4	3		1	
Skippers (Family Hesperidae) Spread-wing Skippers (Subfamily Pyrginae)										
Silver-spotted Skipper -- (<i>Epargyreus clarus</i> (incl. huachuca))	1	1		3			1	1		6
Southern Cloudywing -- (<i>Thorybes bathyllus</i> (=daunus))										
Northern Cloudywing -- (<i>Thorybes pylades</i>)										
Dreamy Duskywing -- (<i>Erynnis icelus</i>)										
Sleepy Duskywing -- (<i>Erynnis brizo</i>)										
Horace's Duskywing -- (<i>Erynnis horatius</i>)										
Juvenal's Duskywing -- (<i>Erynnis juvenalis</i>)										
Mottled Duskywing -- (<i>Erynnis martialis</i>)										
Common Checkered-Skipper -- (<i>Pyrgus communis</i>)										
Common Sootywing -- (<i>Pholisora catullus</i>)		2					2			
Grass Skippers (Subfamily Hesperinae)										
Least Skipper -- (<i>Ancyloxypha numitor</i>)									3	
European Skipper -- (<i>Thymelicus lineola</i>)	8	4		2	22				1	12
Indian Skipper -- (<i>Hesperia sassacus</i>)										
Peck's Skipper -- (<i>Polites peckius</i> (=coras))					2				2	
Tawny-edged Skipper -- (<i>Polites themistocles</i>)					1				3	
Crossline Skipper -- (<i>Polites origenes</i>)			3							

Butterfly	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Long Dash -- (Polites mystic)										
Northern Broken-Dash -- (Wallengrenia egeremet)	5	3	1	4				1		3
Little Glassywing -- (Pompeius verna)	1	2		1	4	1				
Delaware Skipper -- (Anatrytone logan (=delaware))	6	6	14	3	4			2		
Hobomok Skipper -- (Poanes hobomok)										
Zabulon Skipper -- (Poanes zabulon)										
Broad-winged Skipper -- (Poanes viator)										
Dion Skipper -- (Euphyes dion)										
Black Dash -- (Euphyes conspicua)		1					2			1
Dun Skipper -- (Euphyes vestris (=ruricola, =metacomet))						1	5	1	6	15
Ocola Skipper -- (Panoquina ocola)		1								
Number of Species Observed	22	29	17	19	16	16	23	20	18	17
Total Number of Butterflies Counted	282	442	290	196	203	310	237	113	236	269
Start Time (A.M.)	11:30	11:00	11:00	11:00	11:15	11:30	11:00	11:00	11:15	11:00
End Time (P.M.)	5:30	5:30	4:45	4:47	5:00	4:29	4:45	5:20	3:30	3:30
Start Temperature (F)	86	80	83	82	87	85	74	84	77	81
End Temperature (F)	90	80	92	83	90	80	76	84	82	84
Number of Attendees + Volunteers	45	78	17	19	29	23	44	32	23	34
Wind Speed (MPH)	10-15	10-15	1-3	4-7	1-3	4-7	4-7	20	10-15	5-10
Wind Direction	SW	NE	SW	SW	SW	SW	N	SW	NW	N
Skies (S=sunny, MS=mostly sunny, C=cloudy, R=rain)	MS	MS	C	S	S	MS/R	S	MS	C	S
Date	7/11	7/17	7/16	7/14	7/13	7/19	7/11	7/9	7/8	7/7

Geauga Park District Annual Swine Creek Park Butterfly Count Years 2003 - 2008

Butterfly	2003	2004	2005	2006	2007	2008				
Swallowtails (Family Papilionidae) Swallowtails (Subfamily Papilioninae)										
Pipevine Swallowtail -- (<i>Battus philenor</i>)										
Zebra Swallowtail -- (<i>Eurytides marcellus</i>)										
Black Swallowtail -- (<i>Papilio polyxenes</i>)	2	7	1	1	2	1				
Giant Swallowtail -- (<i>Papilio cresphontes</i>)										
Eastern Tiger Swallowtail -- (<i>Papilio glaucus</i>)	7	2	2	5	9	3				
Spicebush Swallowtail -- (<i>Papilio troilus</i>)	2		1		1					
Whites and Sulphurs (Family Pieridae) Whites (Subfamily Pierinae)										
Checkered White -- (<i>Pontia protodice</i>)										
West Virginia White -- (<i>Pieris virginiensis</i>)										
Cabbage White -- (<i>Pieris rapae</i>)	18	2	18	10	12	11				
Sulphurs (Subfamily Coliadinae)										
Clouded Sulphur -- (<i>Colias philodice</i>)	6	2	2	3	3	5				
Orange Sulphur -- (<i>Colias eurytheme</i>)	2	20	1	1	1	3				
Cloudless Sulphur -- (<i>Phoebis sennae</i>)										
Little Yellow -- (<i>Eurema lisa</i>)										
Gossamer-wing Butterflies (Family Lycaenidae) Coppers (Subfamily Lycaeninae)										
American Copper -- (<i>Lycaena phlaeas</i>)	4									
Bronze Copper -- (<i>Lycaena hyllus</i>)										
Hairstreaks (Subfamily Theclinae)										
Coral Hairstreak -- (<i>Satyrium titus</i>)										
Acadian Hairstreak -- (<i>Satyrium acadica</i>)										
Banded Hairstreak -- (<i>Satyrium calanus</i>)										
Hickory Hairstreak -- (<i>Satyrium caryaevorum</i>)										
Striped Hairstreak -- (<i>Satyrium liparops</i>)										

Butterfly	2003	2004	2005	2006	2007	2008				
Gray Hairstreak -- (Strymon melinus)										
White-M Hairstreak -- (Parrhasius m-album)										
Blues (Subfamily Polyommatae)										
Eastern Tailed-Blue -- (Everes comyntas)	2		1	2		3				
Spring Azure -- (Celastrina "ladon")	1	2	1	1	1					
Summer Azure -- (Celastrina neglecta)										
Brush-footed Butterflies (Family Nymphalidae) Heliconians and Fritillaries (Subfamily Heliconiinae)										
Great Spangled Fritillary -- (Speyeria cybele)	30	32	14	51	21	15				
Aphrodite Fritillary -- (Speyeria aphrodite)			1							
Regal Fritillary -- (Speyeria idalia)										
Meadow Fritillary -- (Boloria bellona)										
True Brush-foots (Subfamily Nymphalinae)										
Silvery Checkerspot -- (Chlosyne nycteis)										
Harris' Checkerspot -- (Chlosyne harrisii)										
Pearl Crescent -- (Phyciodes tharos)		17	17	33	33	19				
Baltimore -- (Euphydryas phaeton)										
Question Mark -- (Polygonia interrogationis)	2	3			2					
Eastern Comma -- (Polygonia comma)	3			1		1				
Gray Comma -- (Polygonia progne)										
Compton Tortoiseshell -- (Nymphalis vaualbum)										
Mourning Cloak -- (Nymphalis antiopa)		2		4		2				
Milbert's Tortoiseshell -- (Nymphalis [Aglais] milberti)										
American Lady -- (Vanessa virginiensis)						1				
Painted Lady -- (Vanessa cardui)			6							
Red Admiral -- (Vanessa atalanta)	2	1	1							
Admirals and Relatives (Subfamily Limenitidinae)										
Red-spotted Purple -- (Limenitis arthemis)					1					
'Astyanax' Red-spotted Purple -- (Limenitis arthemis astyanax (incl. arizonensis))										

Butterfly	2003	2004	2005	2006	2007	2008				
White Admiral -- (<i>Limenitis arthemis arthemis</i> (white-banded))										
Viceroy -- (<i>Limenitis archippus</i>)		1		3	2					
Satyrs (Subfamily Satyrinae)										
Northern Pearly Eye -- (<i>Enodia anthedon</i>)										
Eyed Brown -- (<i>Satyrodes eurydice</i>)	5				2					
Appalachian Brown -- (<i>Satyrodes appalachia</i>)	4		8		3					
Little Wood Satyr -- (<i>Megisto cymela</i>)										
Common Wood Nymph -- (<i>Cercyonis pegala</i>)	59	208	225	44	54	46				
Monarchs (Subfamily Danainae)										
Monarch -- (<i>Danaus plexippus</i>)		1	4	5	10	2				
Skippers (Family Hesperidae) Spread-wing Skippers (Subfamily Pyrginae)										
Silver-spotted Skipper -- (<i>Epargyreus clarus</i> (incl. huachuca))	5	2	3	4	9	2				
Southern Cloudywing -- (<i>Thorybes bathyllus</i> (=daunus))										
Northern Cloudywing -- (<i>Thorybes pylades</i>)										
Dreamy Duskywing -- (<i>Erynnis icelus</i>)										
Sleepy Duskywing -- (<i>Erynnis brizo</i>)										
Horace's Duskywing -- (<i>Erynnis horatius</i>)				2						
Juvenal's Duskywing -- (<i>Erynnis juvenalis</i>)										
Mottled Duskywing -- (<i>Erynnis martialis</i>)										
Common Checkered-Skipper -- (<i>Pyrgus communis</i>)										
Common Sootywing -- (<i>Pholisora catullus</i>)										
Grass Skippers (Subfamily Hesperinae)										
Least Skipper -- (<i>Ancyloxypha numitor</i>)			1							
European Skipper -- (<i>Thymelicus lineola</i>)	4	1	1							
Indian Skipper -- (<i>Hesperia sassacus</i>)										
Peck's Skipper -- (<i>Polites peckius</i> (=coras))			1							
Tawny-edged Skipper -- (<i>Polites themistocles</i>)			1							
Crossline Skipper -- (<i>Polites origenes</i>)										

Butterfly	2003	2004	2005	2006	2007	2008				
Long Dash -- (Polites mystic)										
Northern Broken-Dash -- (Wallengrenia egeremet)	1		1		4					
Little Glassywing -- (Pompeius verna)			3	1		1				
Delaware Skipper -- (Anatrytone logan (=delaware))										
Hobomok Skipper -- (Poanes hobomok)										
Zabulon Skipper -- (Poanes zabulon)										
Broad-winged Skipper -- (Poanes viator)										
Dion Skipper -- (Euphyes dion)										
Black Dash -- (Euphyes conspicua)		3								
Dun Skipper -- (Euphyes vestris (=ruricola, =metacomet))	3	1	1	5	7	6				
Ocola Skipper -- (Panoquina ocola)										
Number of Species Observed	20	18	24	18	19	16				
Total Number of Butterflies Counted	162	307	315	180	186	127				
Start Time (A.M.)	10:40	10:50	10:20	10:26	11:45	11:00				
End Time (P.M.)	4:55	3:30	4:51	4:24	5:00	4:37				
Start Temperature (F)	77	82	80	83	75	68				
End Temperature (F)	83	85	85	94	77	81				
Number of Attendees + Volunteers	77	86	46	15	23	54				
Wind Speed (MPH)	5-10	5-10	<5	<5	5-10	5-10				
Wind Direction	N	SE	SW	SW	NW	W				
Skies (S=sunny, MS=mostly sunny, C=cloudy, R=rain)	MS	MS	MS	S	MS	MS				
Date	7/14	7/11	7/10	7/16	7/15	7/13				

Comments from each year follow.

1993

Hot and humid, walked the railroad right-of-way after the public program.

1994

Great turn-out by the public, tons of butterflies flying on this humid summer day, walked the railroad right-of-way (ROW) after the public program. I found the acadian hairstreak on shrubby willows and patrolling eastern commas in the ROW and the northern pearly eye along the stream. The Ocola skipper was confirmed by staff at the Carnegie Museum in Pittsburgh, where the specimen was deposited.

We conducted a mark-recapture study of the common wood nymph, using a small dab of water-based white-out placed on the top of the forewing. There were 85 captures, including 11 recaptures. The first recapture was the 25th butterfly caught. The simple Lincoln Index yields a population estimate of 397 butterflies for this area with a standard deviation of 87. - not bad.

1995

Cloudy, humid and very hot. Saw lots of lymantra dispar (Gypsy moth) on oaks during the ROW part of the walk.

1996

Humid day, many lymantra dispar in the woods, walked the railroad right-of-way after the public program.

1997

Very dry, dogbane still blooming, many monarch eggs observed. Very little available nectar, walked the railroad right-of-way after the public program. The lymantra dispar population in the woods has crashed this year - very few seen.

1998

Very humid, steamy. Thunderstorms rolled through about 3:00. Heavy rain. Very little flying afterwards.

1999

Too cool in shade so did not walk the railroad right-of-way. Will Ward, Ohio Lepidopterists member from the Youngstown area, observed a white-M hairstreak. I did not see it but he is an experienced observer. One inch of rain two days ago. Saw a bronze copper for the first time during a count. I have seen them here often, but not at this time of year.

2000

Humid day, has rained every 3-4 days since June 1st so butterfly populations are low. Gave a talk about butterfly gardening and brought a few plants to show. Walked the railroad right-of-way and saw the Appalachian eyed brown and the northern pearly eye.

2001

Initially foggy and overcast, then slow clearing, but very humid after last night's rain. This was the year of the red admiral across Ohio where record numbers were observed. We were not disappointed! Many were migrating at considerable speed to the east and northeast.

2002 - 10th annual event

Very dry for the past three weeks with high temperatures. Mainly large patches of dogbane in bloom, some Canada thistle. Saw two Virginia ctenucha moths and no gypsy moths.

2003

Great public participation on a nice sunny day with low humidity. Butterfly populations are down due to prolonged wet weather and delayed emergence. Pearl crescents have not emerged yet. Common wood nymphs are very fresh. Great spangled fritillaries are small in size this year, probably due to the dry weather last year. Last year's dry weather may also be impacting the number of butterflies seen this year. Walked the razorback trail where both satyroides species were found near Swine Creek. No monarchs were seen this year.

2004

Great public participation on a hot, humid day. Good butterfly populations. Did not walk the railroad right of way due to the high temperatures and high humidity. Wagon rides brought in people.

2005

Good public participation. Good butterfly populations despite little rain in the last several weeks. The vegetation was shoulder high in the meadow. The actual butterfly population was probably under-sampled because many participants instead caught dragonflies, which were also being identified. Overall, the crowd was very enthusiastic and all had a satisfying experience. The dragonfly/butterfly combined program is definitely worth repeating. Walked the lower part of the razorback trail where the Appalachian eyed brown was seen in good numbers. Photographed several for positive identification. Also saw the northern pearly eye butterfly along Swine Creek last weekend. One Gypsy moth was caught.

2006

Poor public participation. Weather was very hot and humid. Good butterfly populations were present, but few people came to count them. The meadow was very wet due to a series of recent heavy thunderstorms. Swine Creek showed evidence of recent flood levels at least ten feet above the river bed. A number of new trees were washed out into the channel and new sand bars were evident in the woods. Walked the Razorback trail but saw no Satyrs - too late this year. Saw and photographed a mating pair of Horace's dusky wing skippers seen for the first time at this park. Several male Gypsy moths were observed.

2007

Combined dragonflies and butterflies count. 14 dragonfly/damselfly species and 19 butterfly species. Very dry with little rain for the past two weeks. Very light rain overnight. Weather was mostly cloudy early, then clearing with increasing northwest winds. There were many more fritillaries and common wood nymphs present than were counted due to few participants, clouds and winds. Most participants went after the dragonflies since they were easier to catch. Almost every swamp milkweed plant had monarch caterpillars on it. One plant had 7 larva, ½" to 1" long. Walked the Razorback trail and saw eyed brown and Appalachian brown. Many more were present but they were difficult to identify. Did not identify any northern pearly eye but they were probably also present. Shadows were getting long. Counted two gypsy moths this year. Did not see any egg cases in the woods yet.

2008 - 16th annual event

Combined dragonflies and butterflies count. Heavy rains on Saturday with moderate rain up to 11:00 A.M. the morning of the event. This was followed by clearing skies. Mostly sunny by 1:00 with falling humidity and increasing winds to 10 MPH from the west by the end of the event. June and July have been very wet with frequent rains. This year, we marketed the program as dogs and dragons, burgers and butterflies and served free food to the attendees. Many families came out to participate and it was a great success. We set up at the Lake Side shelter, which we shared with a northern rough-winged swallow. It was feeding its young in a nest in one of the roof openings under the shelter roof. Recorded one *lymantria dispar* (Gypsy moth) adult and one late instar caterpillar. Also recorded one *Virginia ctenucha* moth and a saw many delicate *cycnia* moths. The total butterfly count was probably decreased as the meadow was very wet and dragonflies were more easily caught around the pond. The dogbane was just starting to bloom. Swamp milkweed was in full bloom as was the Canada thistle. Did not walk the razorback trail this year.