



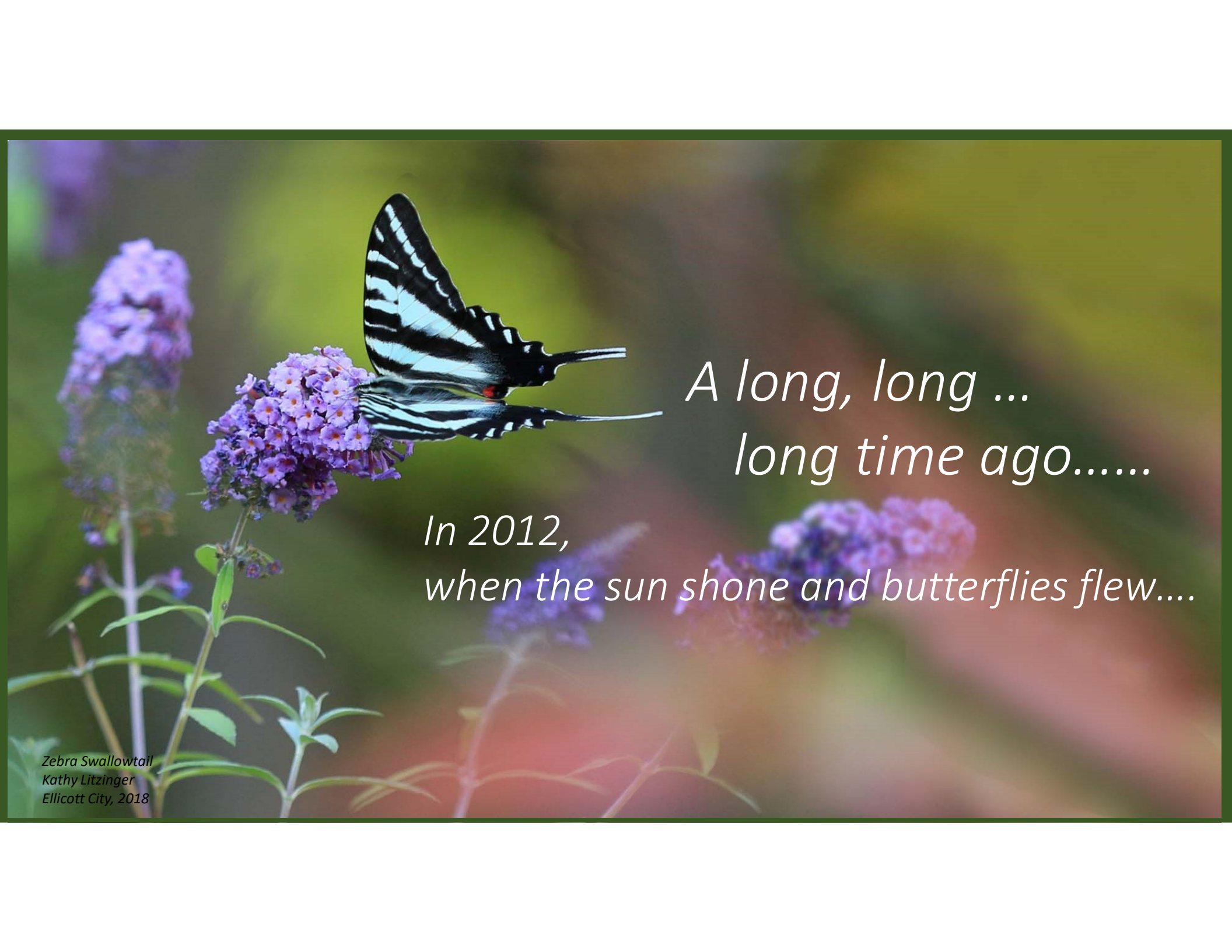
Howard County Butterfly Survey *2013-2018*

Preliminary Summary & Observations



Coordinators: Linda Hunt and Kevin Heffernan
Co-sponsored by the Howard County Bird Club and the Howard County Department of
Recreation and Parks, Originated by Richard H. Smith, Jo Solem, and Sue Muller

White M Hairstreak in flight, Bill Hill 2017; Comma Linda Hunt 2013



*A long, long ...
long time ago.....*

*In 2012,
when the sun shone and butterflies flew....*

*Zebra Swallowtail
Kathy Litzinger
Ellicott City, 2018*

2012 -- An "Amazing Year" for HOCO Butterflies

"very early spring and unusually hot summer"

4 New HOCO Species

Silvery Checkerspot, Long Corner Rd, Robert Schaefer; Broad-winged Skipper, Allen Lewis, Elkhorn; Northern Oak Hairstreak, Kathy Litzinger, home; Southern Broken-Dash, Annette Allor, HOCO Conservancy



AN AMAZING BUTTERFLY YEAR BY RICHARD SMITH

Since the inauguration of the Howard County Bird Club's (HCBC's) on-line butterfly photo guide (see http://www.howardbirds.org/butterflies/HC_Butterfly_photos.htm) in April 2011, the diversity of butterfly life in Howard County, MD has seemed to stage a fabulous improvement. This uptick in diversity is due in part, no doubt, to the interest the county's burgeoning amateur nature photographers have taken in county butterflies with the advent of the photographic website. After all, the site stipulates that all images must be taken in Howard County. However, we cannot also dismiss the recent dramatic range shifts in butterfly species occurring over much of the U.S. and the northern hemisphere as a factor in the diversity's climb. These shifts are very likely due to the cumulative effects of global warming, as suggested by a recently mounting body of evidence. (Excerpt from: 2012 Annual Report <http://www.howardbirds.org/butterflies/AnnualReports/2012AnnualReport.pdf>)



8 Southern Migrants & Strays Appear

Cloudless Sulphur, Solem, Robinson; Sleepy Orange, Annette Allor, Elkhorn; Little Yellow, Annette Allor, Robinson; Dainty Sulphur, Linda Hunt, Patuxent Branch Trail; Snout, Bonnie Ott, Western Regional; Long-tailed Skipper, Kathy Litzinger, Home; Ocola, Nancy Magnusson, UMDCF; Clouded Skipper, Jim Wilkinson, Elkhorn; Giant Swallowtail, John McKitterick, Home



From Upper Left:
Sue Muller, 2015, Richard (Dick) Smith
2009 (R. Orr), Jo Solem 2016; Field trip with
Sue Muleer; Kurt Schwarz photographing
Pearl Crescent; Bob Solem; HOCO Bird Club
Butterfly web page.



The Howard County Bird Club

A Chapter of the Maryland Ornithological Society (MOS)



BUTTERFLIES

We are conducting a multi-year survey of butterflies in Howard County.

[Butterfly Report Form](#)

[Butterfly News](#)

Details on field trips and classes throughout the butterfly season plus tips on what to look for.



Bronze Copper

[Howard Count Butterfly Photos](#)

Photographed in Howard County Includes identification tips.



Baltimore Checkerspot

[BUTTERFLIES OF HOWARD COUNTY, MD](#)

A Biological Summary and Checklist by Dick Smith



Little Yellow (J. Wilkinson)

[Annual Reports](#)

[2018 report](#)
[2017 report](#)
[2016 report](#)
[2015 report](#)
[2014 report](#)
[2013 report](#)
[2012 report](#)



Brazilian Skipper (K. Heffernan)

[Reference Material](#)

[Maryland Butterflies](#) (by Annette Allor)
[Important Nectar Plants](#) (pdf)
[Early Spring Butterflies](#)
[Comparison of Summer Hairstreaks](#) (pdf)
[Grass Skipper Field Marks](#) (pdf)
[Summer Sulphurs](#) (pdf)
[Whites & Sulphurs \(late fall\)](#) (pdf)
[Butterfly Identification](#) (pdf)
[Backyard Butterflies](#) (pdf)



Giant Swallowtail

[In Memoriam](#)

RICHARD H. (DICK) SMITH, Jr.
(1944-2016)

It would be hard to overstate Richard Smith's stature as a lepidopterist in the state or in the Mid-Atlantic region. His accomplishments in these areas will be described by other organizations.

Here we highlight how he affected the knowledge of butterflies in his home county.



Butterfly Survey Goals

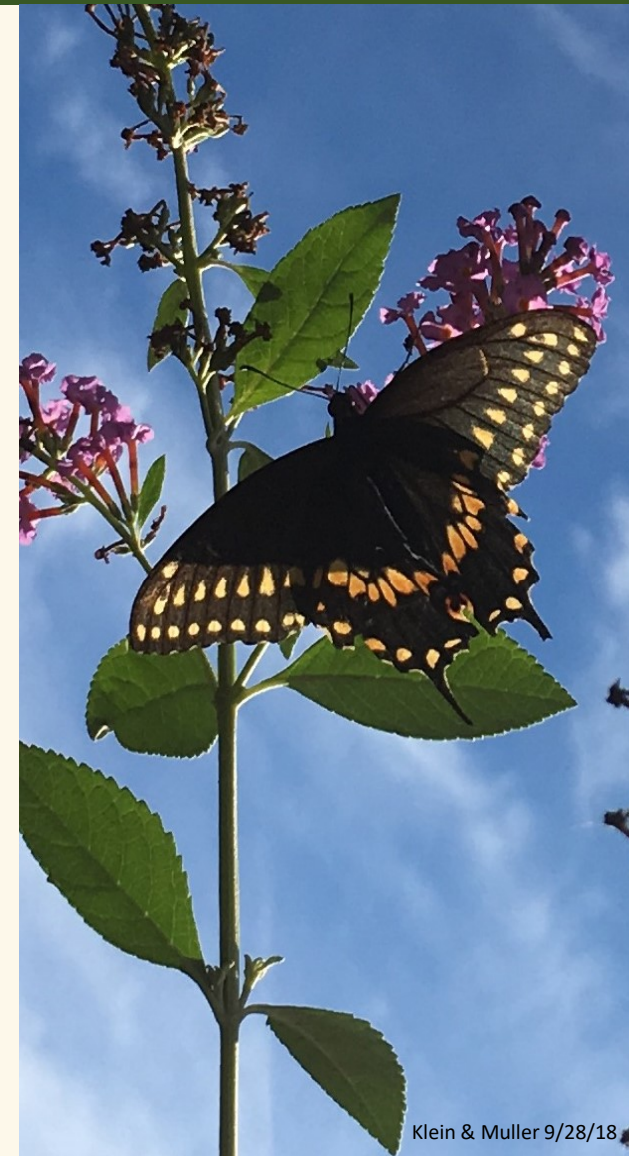
1. To determine the status of butterfly species historic to Howard County over a five year period.
 - Document locations where each species is found and importantly, multiple locations for the rarer species.
 - Document large variations in numbers from year to year.
2. To establish local species brood peaks and gaps.
3. To encourage interest in butterflies and their conservation.



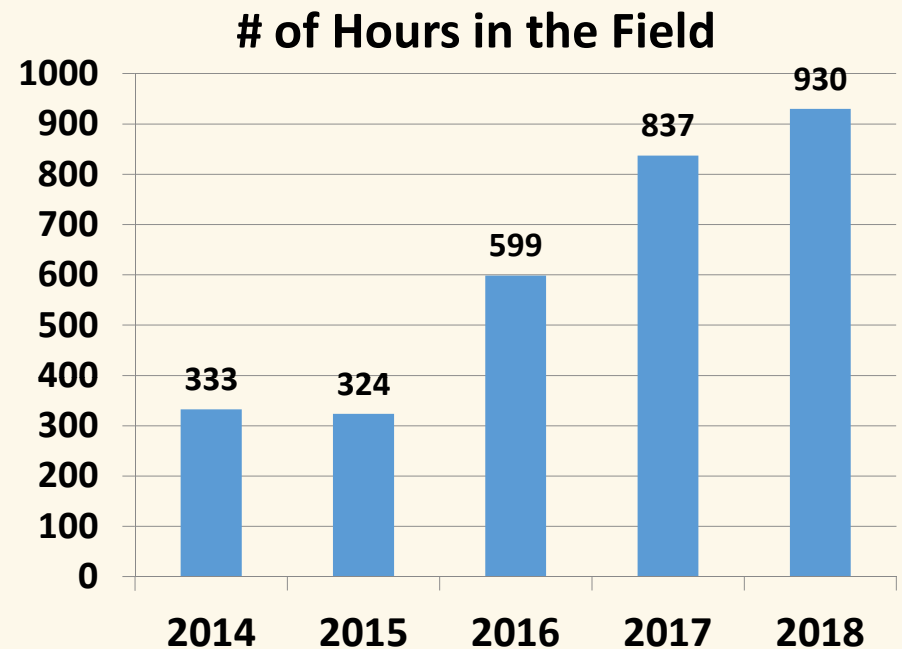
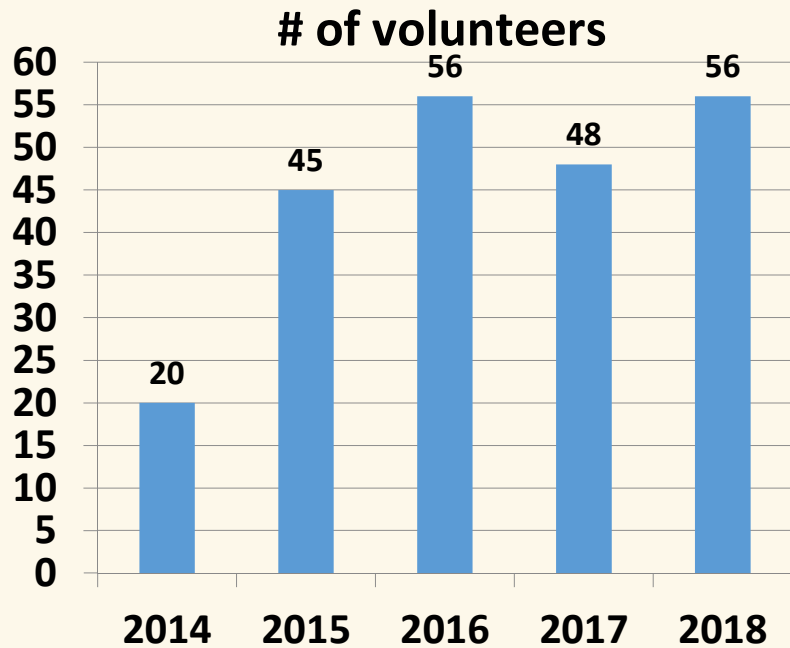
Presentation Outline

1. Volunteer Efforts: You made it happen!
2. Status of butterfly species historic to Howard County: Preliminary Results and Observations
3. Butterfly Conservation: Possible Post Survey Activities

Handouts: Yearly Summaries 2014-2018
Selected Species Numbers & Locations
Selected Presentation Slides

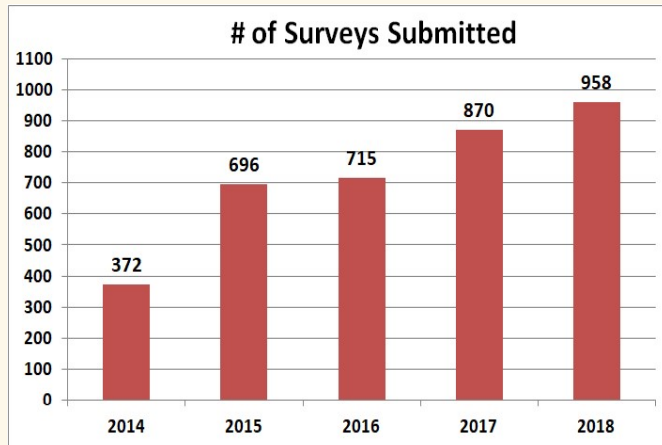


2014 - 2018 Volunteer Efforts



A total of **112** different surveyors spent **3022** hours in the field during the survey. That is equivalent to **378 8-hour days**.

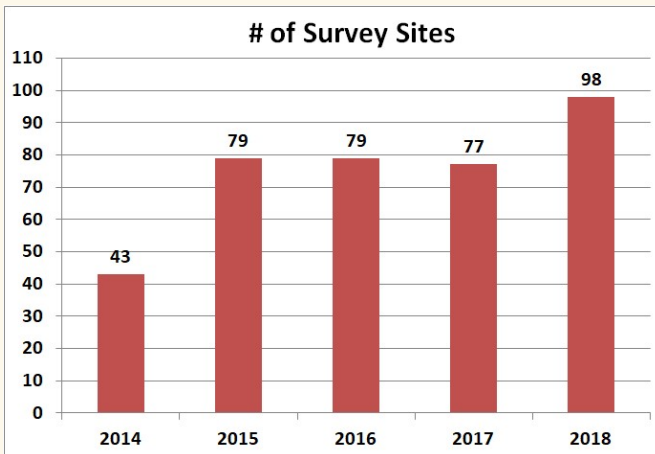
2014 - 2018 Volunteer Efforts (con'd)



Mt. Pleasant Honor's Garden



Emy's Meadow



Surveyors submitted 3465 surveys at 177 locations!

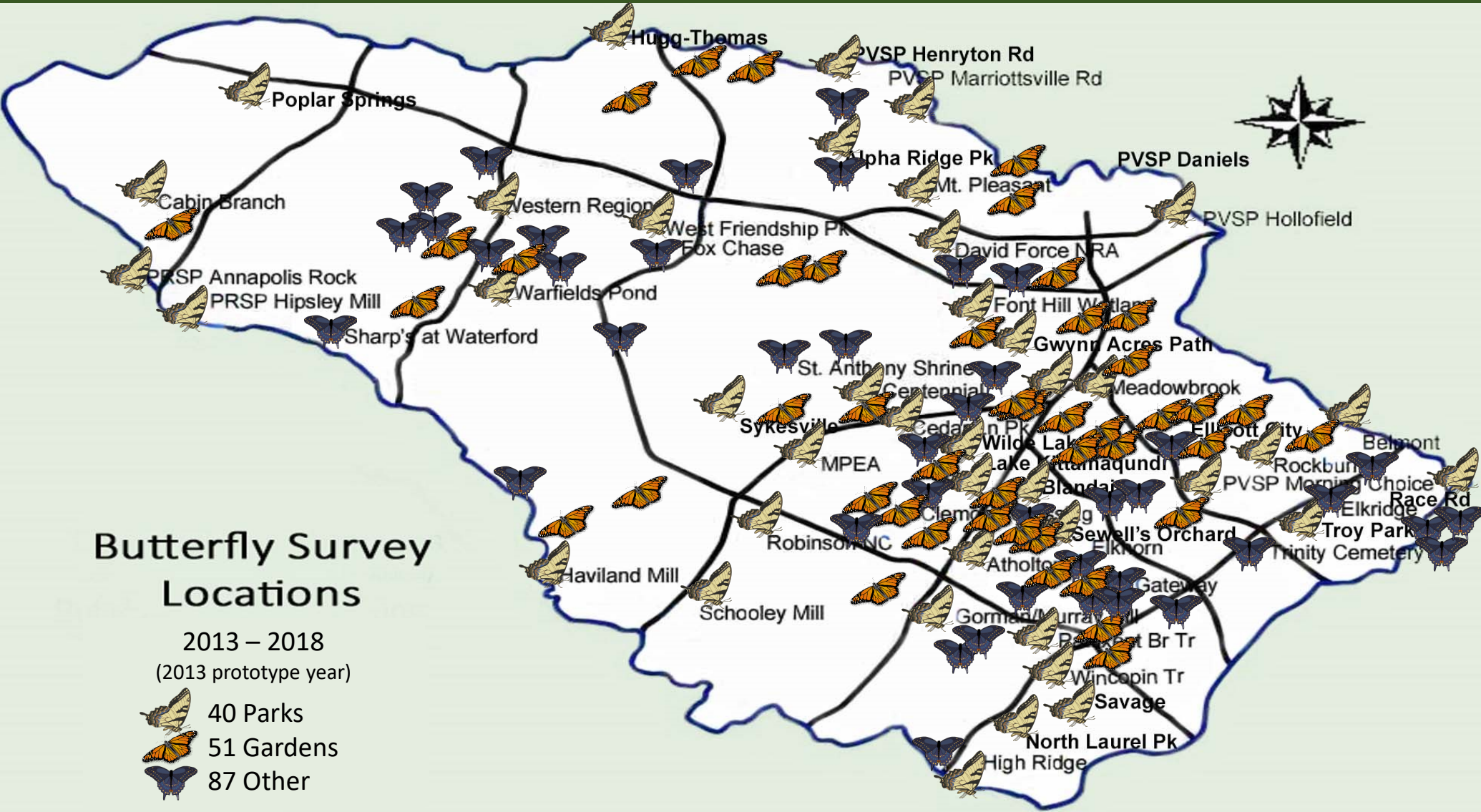


Oxford Square Coastal Plain

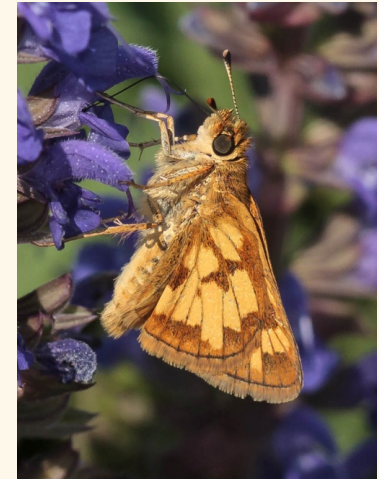
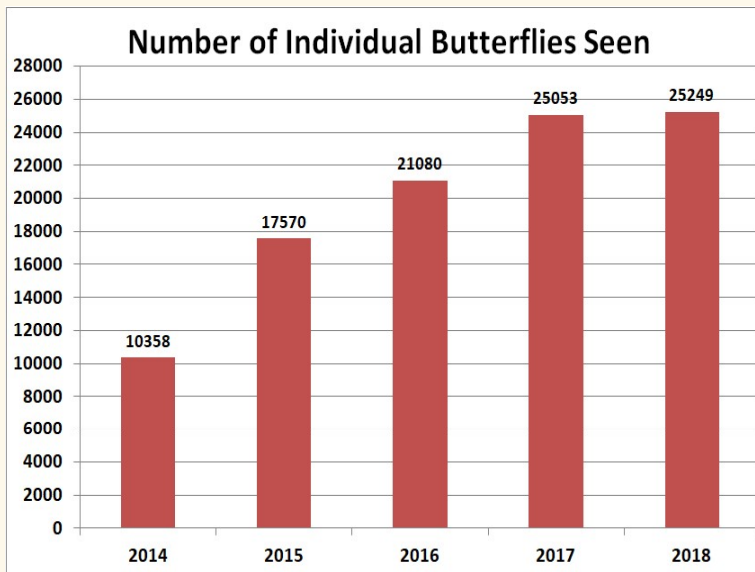
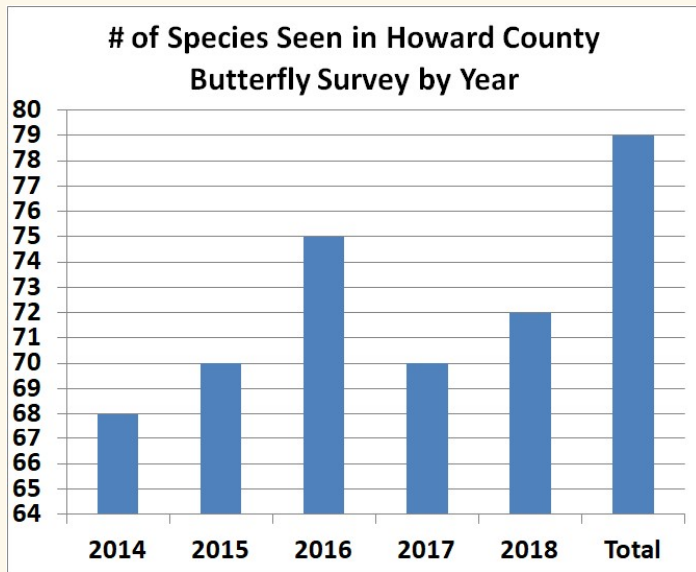
Butterfly Survey Locations

2013 – 2018
(2013 prototype year)

-  40 Parks
-  51 Gardens
-  87 Other



2014 - 2018 Volunteer Efforts Results



*There were **100,041** individual butterflies of **79** species seen during the survey!!*

Thank You Volunteers!

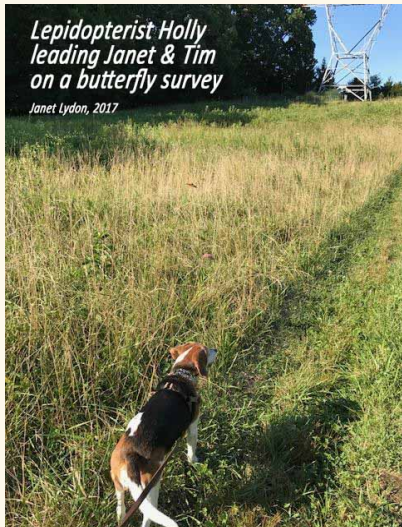
112 volunteers from 2013-2018

Technical Expertise: Bob Solem for creating data collection forms and streamlining the compilation process.

Field Trip Leaders: Karen and Kevin Heffernan, Linda Hunt, Kathy Litzinger, Sue Muller, Woody Merkle for their eagle eyes and enthusiastic leadership.

Full Season Site Surveyors and Gardeners: (prototype year surveyors in bold) Timothy Foard, David Gillum, Karen and Kevin and Heffernan, Bill Gayle Hill, **Linda Hunt**, Clayton Koonce, **Allen Lewis**, **Kathy Litzinger**, Janet Lydon, Woody Merkle, Paul Petkus, **Suzanne Probst**, **Jay Sheppard**, Kate Tufts, and **Jim Wilkinson** who spent so many hours walking parks, searching utility easements, and checking their gardens.

Contributors who took the time to submit reports of random butterfly sightings and garden visitors: Annette Allor, Rene & Paul Bade, Kathy Barylski, Gill Bentley, Scott Berglund, Jonathan Bliithe, Karen Blum, Rick Borchelt, Jan Bowman, Alicia Buxton, Emily Calkins, Mary Lou Clark, David Cummings, Wes Earp, Ward Ebert, Kim Egan, Robyn Evans, Tom Field, Sherry Fisher, John Fisher, Mary Fox, Pam Franks, Jeff Friedhoffer, Ralph Geuder, Linda Giampalmo, Patricia Greenwald, Robert Grossman, Carrie Harlow, Meg and John Harris, John Hayes, Robin Hessey, Pam Henry, Emy Holdridge, Kathy Kaberle, Mike Kerwin, Suzanne Klick, Cathy Lathamran, Jenny Ktz, Asuncion Lavrin, Nancy Lawson, Jill Levin, Kathie Lillie, Emily Loghmani, Anne Looker, Mary Love, Felicia Lovelett, Brigitte Lund, Janet Lydon, Nancy Magnusson, Joe Mankowski, Grazina and Mike McClure, John McKitterick, Amanda Mills, Diane Nagengast, Michael Osborne, Richard Orr, Bonnie Ott, Howard Patterson, Carolyn Parsa, Siobhan Percey, Gregg Petersen, Howard Peterson, Norma Petersen, Ann Phillips, Rondie Reeser, Tim Reichard, Linda Roberts, Sarah Romero, Russ Ruffing, Eugene Scarpulla, Kurt Schwarz, Gloria Smith, Richard Smith, Sara Smith, Sharon Smith, Jo and Bob Solem, Carol Spangler, Jesse Standbridge, Elizabeth Starr, Chuck Stirrat, Barbara Sikorski, Eva Sunell, Tim Thompson, Robin Todd, Kate Tufts, Tony VanSchoor, Mark Wallace, Barbara White, Michele Wright, Jim Wilkinson, Silvester Williams, Katherine Wilson, Carol Zancan, Dave Ziolkowski



Survey Objectives and Activities

What we hoped to do, and what we did:

- Survey and document species and numbers of butterflies every two weeks at as many HOCO locations as possible;
 - *Recruited field and garden “all season” surveyors*
 - *Encouraged “Incidental” survey reports*
 - *Provided paper/Excel/on line forms for an easy way to submit sightings*
- Determine occurrence level and risk status for each species based on single/multiple locations and environmental factors;
 - *Compiled, analyzed and reported data collected yearly and over 5-year period*
- Determine the flight times (brood cycles) of each species and yearly variation;
 - *Developed seasonal brood cycle charts for each species and documented yearly variation*
- Develop opportunities for people to see and learn about butterflies.
 - *Provided 4 to 8 field trips each year*
 - *Provided butterfly identification checklists, 2 HOCO brochures and field guide suggestions*
 - *Provided 12+ presentations on butterfly identification and gardening*
 - *Established a butterfly enthusiast email list that provided information on butterfly related activities, butterfly occurrence updates, and identification tips*
 - *Added brochures and information about butterflies to the HOCO bird club website*

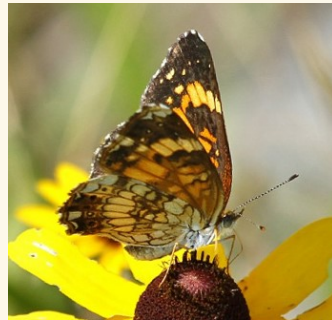
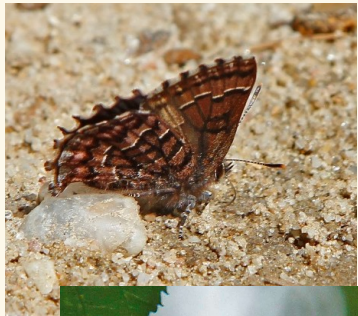
Cabbage Whites on Joe-pye Weed
Kathy Litinger 2018

Survey Results: A Snapshot of Howard County Butterflies



Buckeye, Probst 8/18; Pipevine, Evans 8/18

2013 & 2014



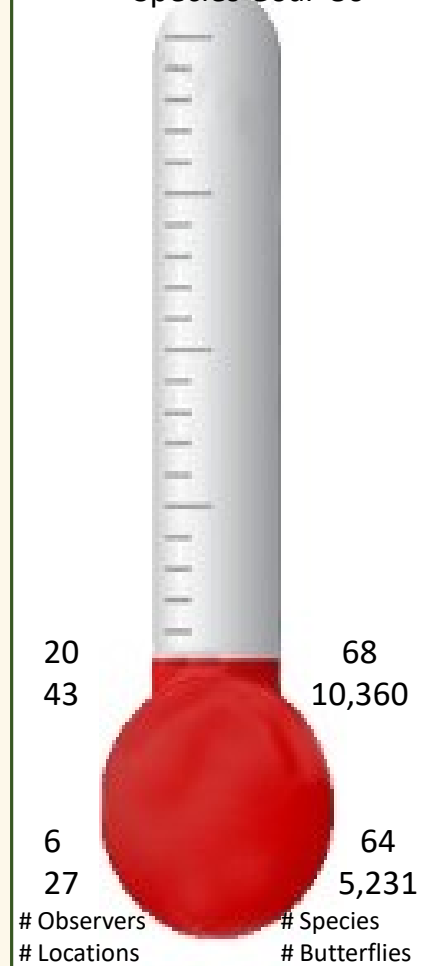
From the beginning Rare and Unusual Species were located!

Year	Counts	Observers	Duration	Locations	Butterflies	Species
2014	372	20	19,970	43	10,360	68
2013**	155	7	6,008	27	5,231	64

*Richard Smith's revised "The Butterflies of Howard County, Maryland, Biological Summary and Checklist lists 93 species, 7 of which he designated as Extirpated. The original HOCO Butterfly survey forms listed 54 of the 86 extant species.

** Many surveys in the "prototype" year did not contain duration or numbers of butterflies.

Species Goal 86*



2015 & 2016

*By 2016 numbers of observers, locations, and butterflies double.
Rare and Unusual Species Appear!*



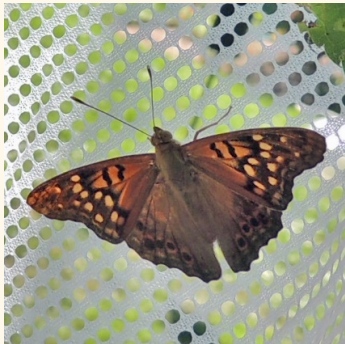
Checkered White
9/24 Meadowbrook Park
Kathy Litzinger



BronzeCopper
10/18 Meadowbrook Park
Bonnie Ott

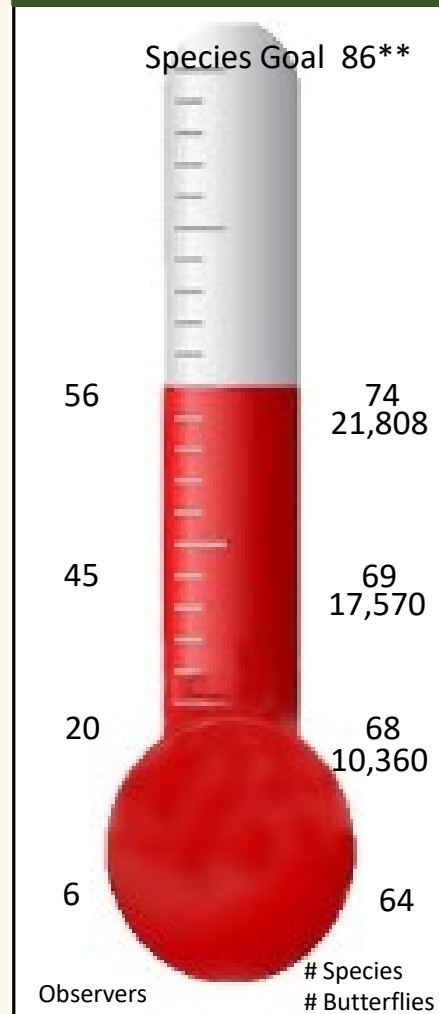


Little Yellow
9/24 Oxford Square
Jim Wilkinson



Tawny Emperor
8/14 Ellicott City
Kathy Litzinger

Year	Counts	Observers	Duration*	Locations	Butterflies	Species
2016	715	56	35,924	79	21,808	75
2015	696	45	19,437	79	17,570	70
2014	372	20	19,970	43	10,360	68
2013	155	7	6,008	27	5,231	64



2017 & 2018

Counts & Locations Increase; Species & Butterfly #s remain constant.

Two species new to HOCO appear while other rare species are not found.

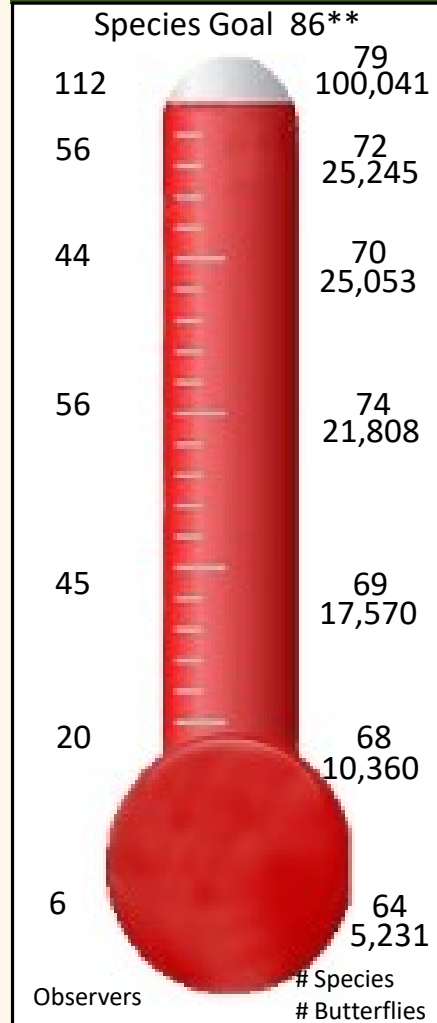
Henry's Elfin
4/26/18 High Ridge Park
Linda Hunt



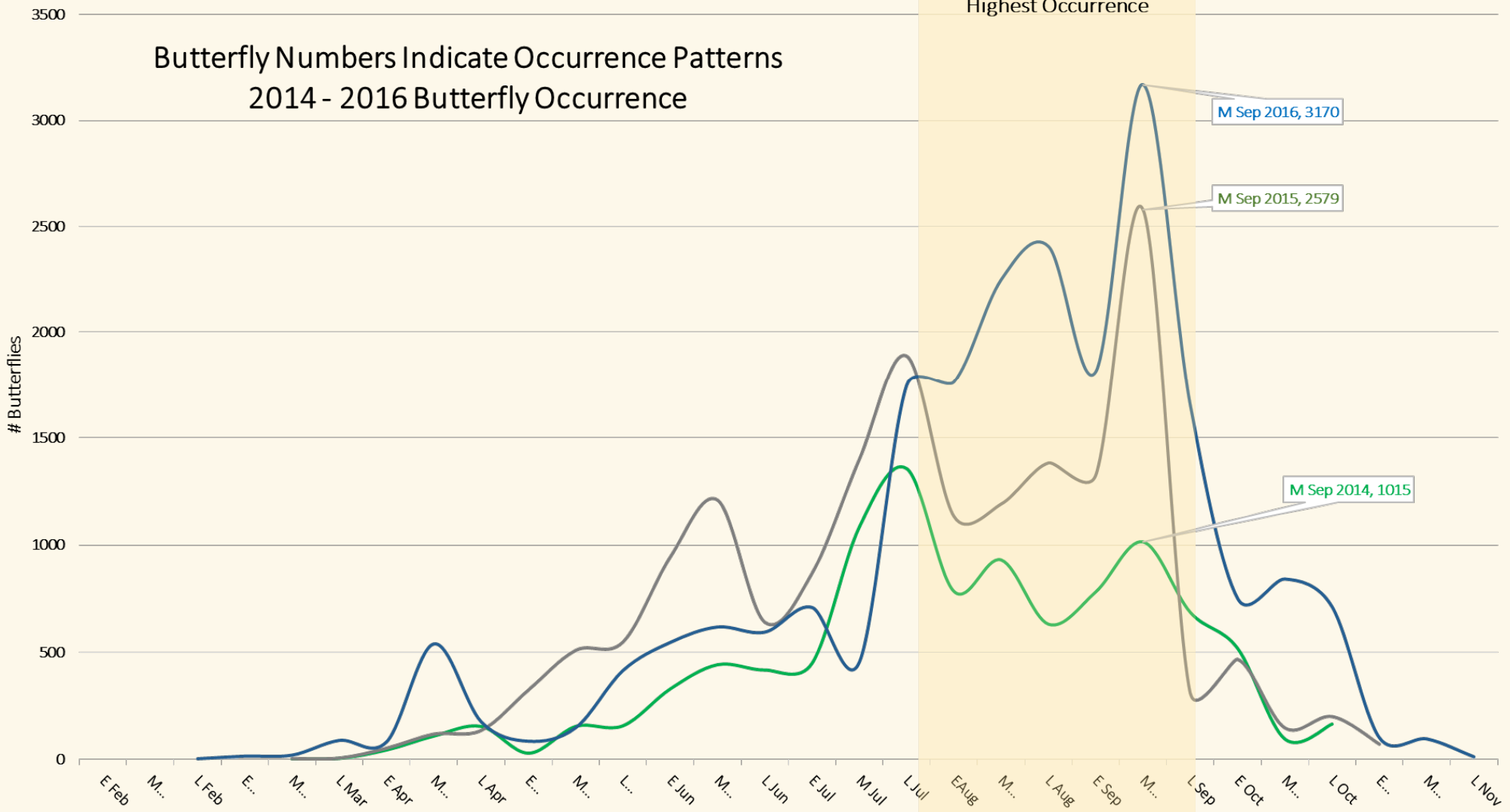
Brazilian Skipper
10/10/18 Columbia
Jim Wilkinson



Year	Counts	Observers	Duration*	Locations	Butterflies	Species
2018	958	56	55,787	98	25,245	71
2017	870	48	50,196	77	25,053	70
2016	715	56	35,924	79	21,808	74
2015	696	45	19,437	79	17,570	69
2014	372	20	19,970	43	10,360	68
2013	155	7	6,008	27	5,231	64

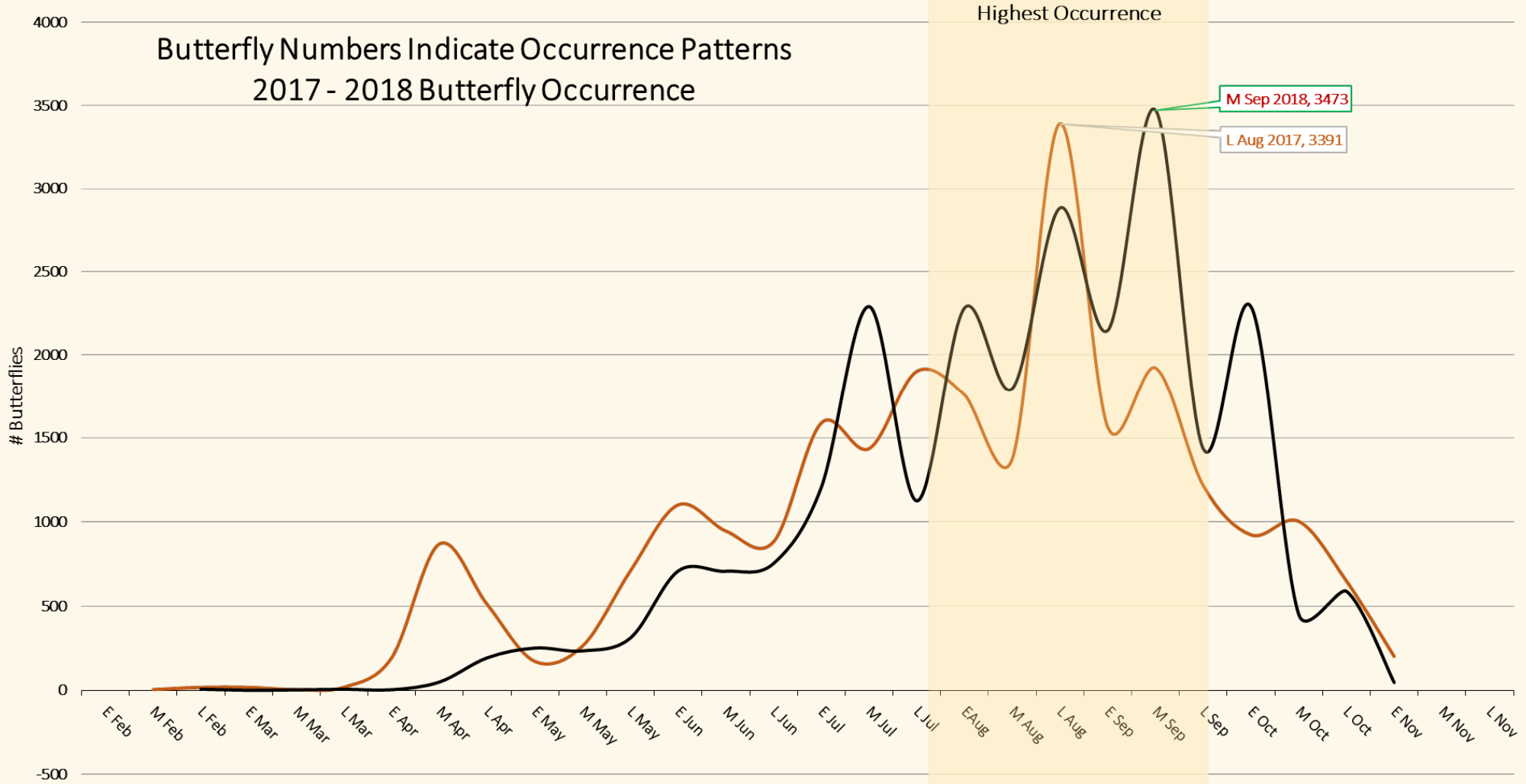


Butterfly Numbers Indicate Occurrence Patterns 2014 - 2016 Butterfly Occurrence



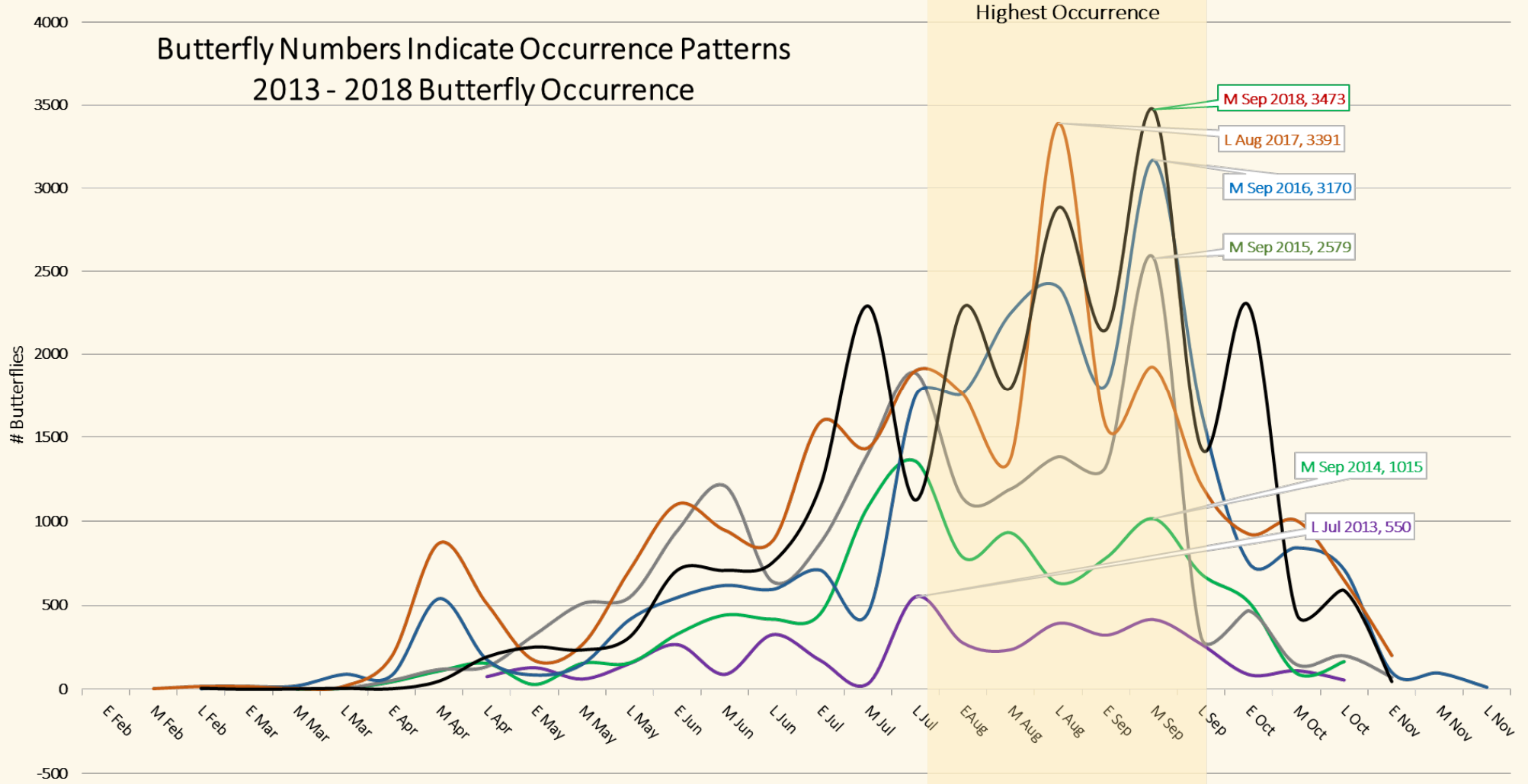
Butterfly Numbers Indicate Occurrence Patterns

2017 - 2018 Butterfly Occurrence



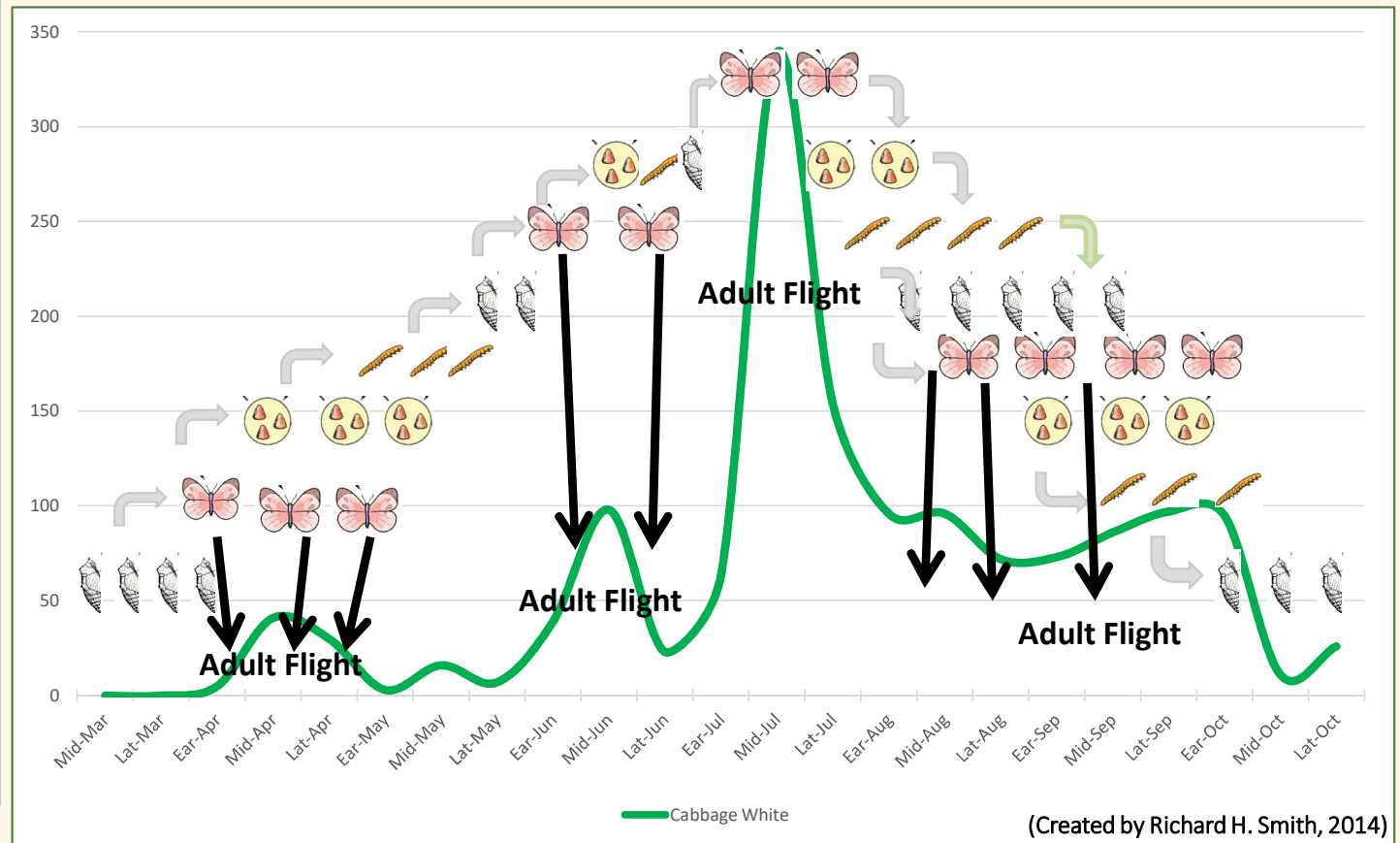
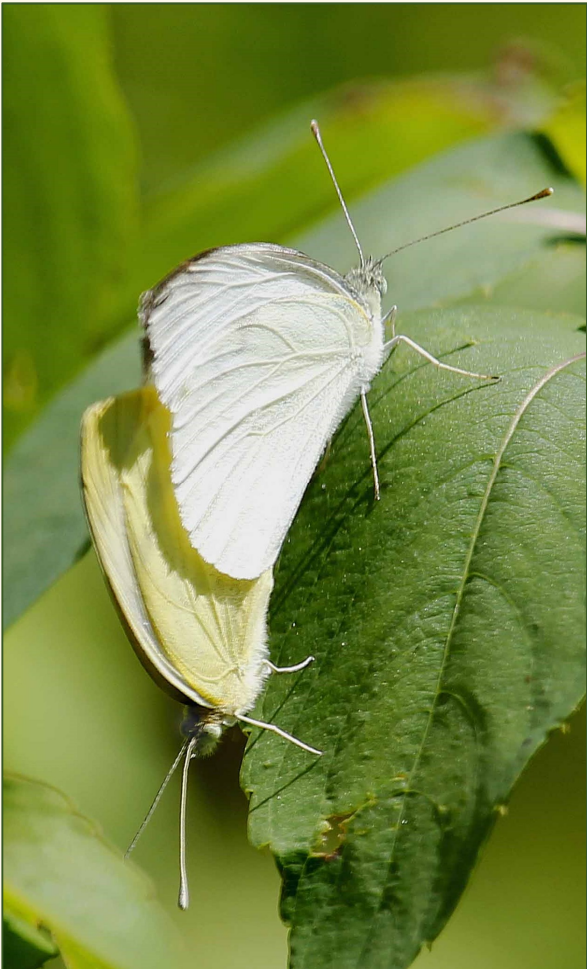
Butterfly Numbers Indicate Occurrence Patterns

2013 - 2018 Butterfly Occurrence



Species Brood Peaks and Gaps

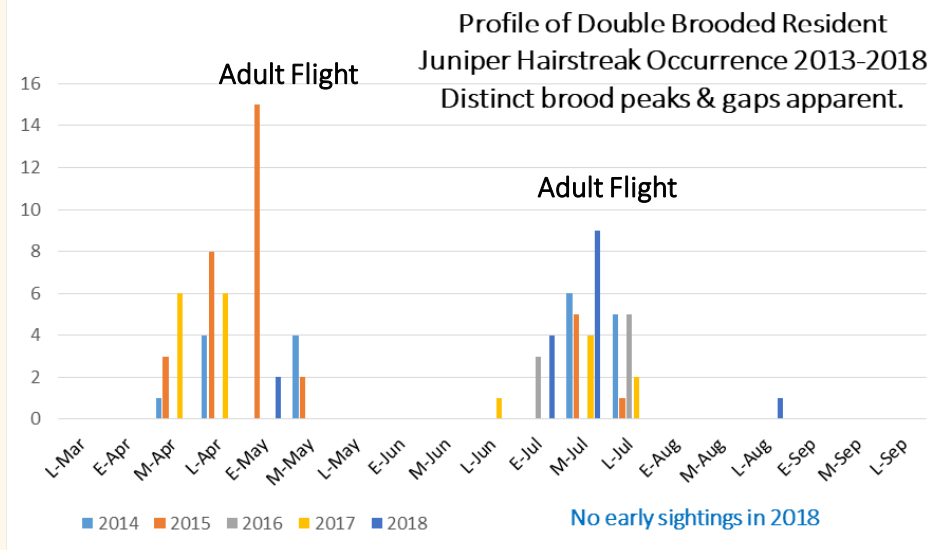
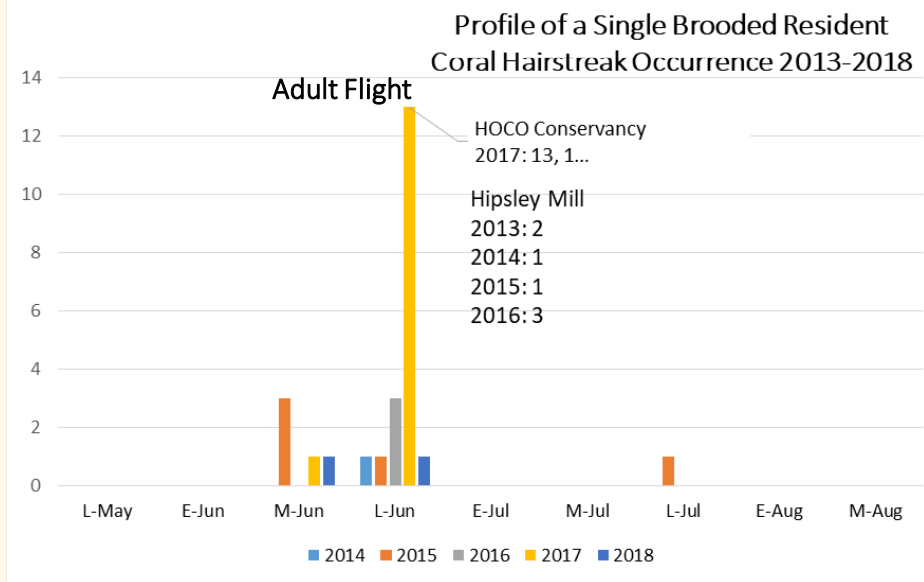
Phenology: Broods and Adult Appearances – Cabbage White



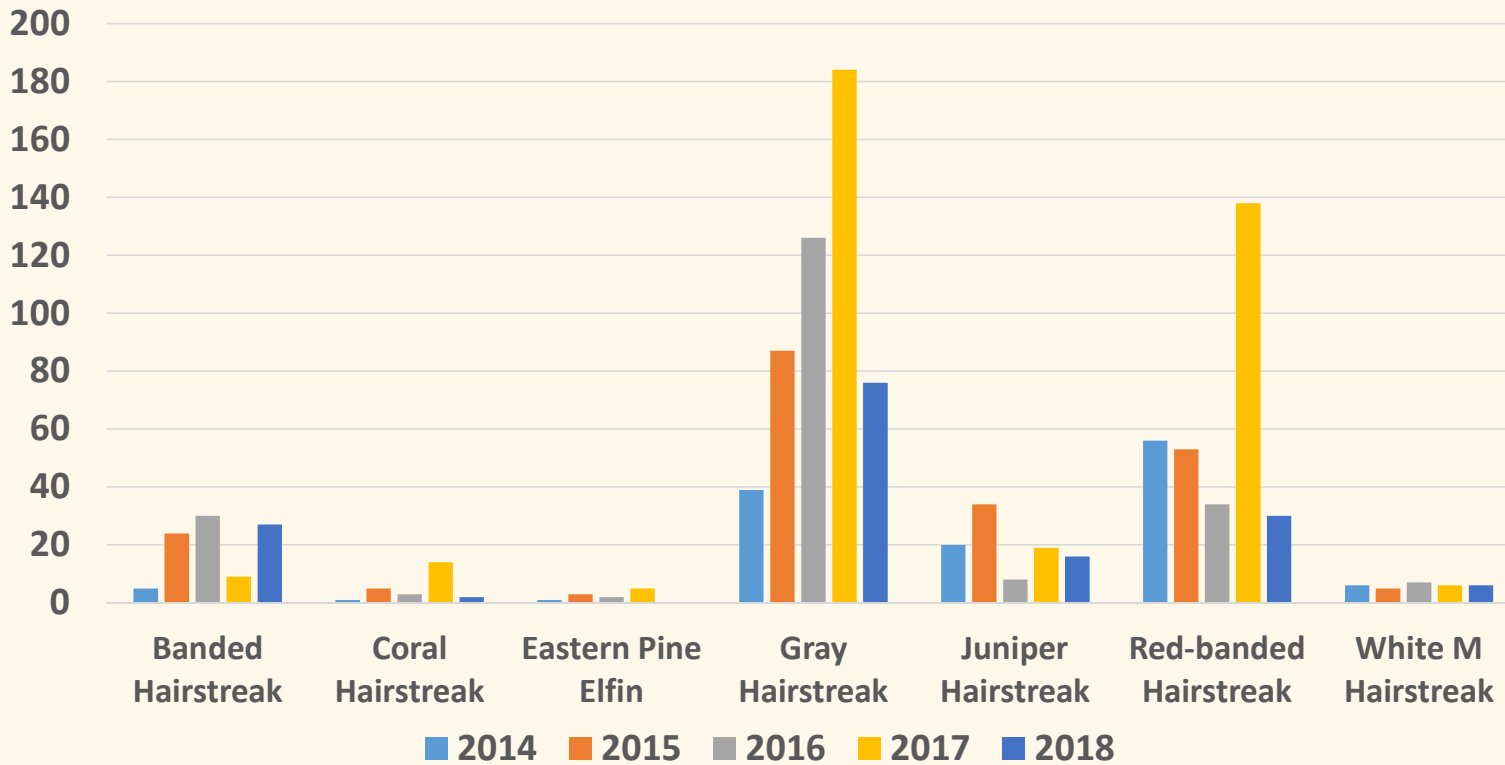
(Created by Richard H. Smith, 2014)



Brood cycles may vary from year to year, possibly dependent on weather. Most observations of multi-brooded species are often later in the season; numbers of individuals may be larger and weather more conducive to observation.



Comparison of Hairstreak Population Numbers 2014-2018



White-M Hairstreak;
B. Hill



Red-banded Hairstreak;
K. Heffernan



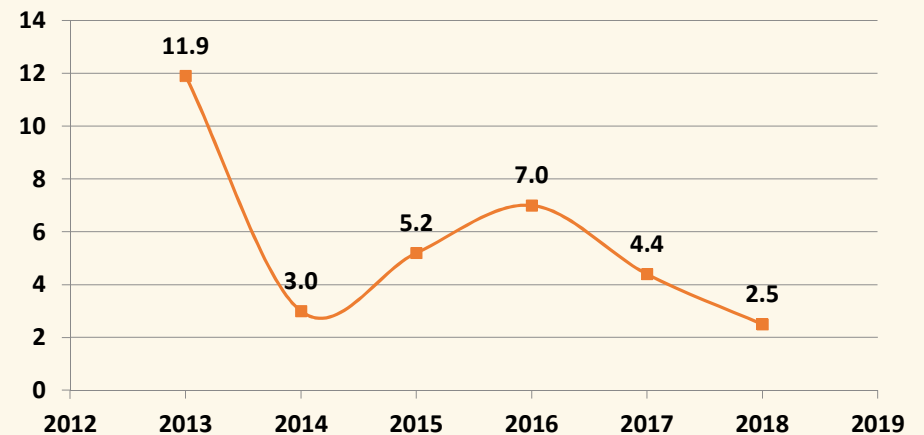
Banded Hairstreak;
A. Allor

Specific species occurrence levels may vary dramatically from year to year.



In 2013 a precipitous dip in the Eastern Tiger Swallowtail population following a 2012 peak year creates alarm.

Eastern Tiger Swallowtail Sightings as a Percent of Total for Year

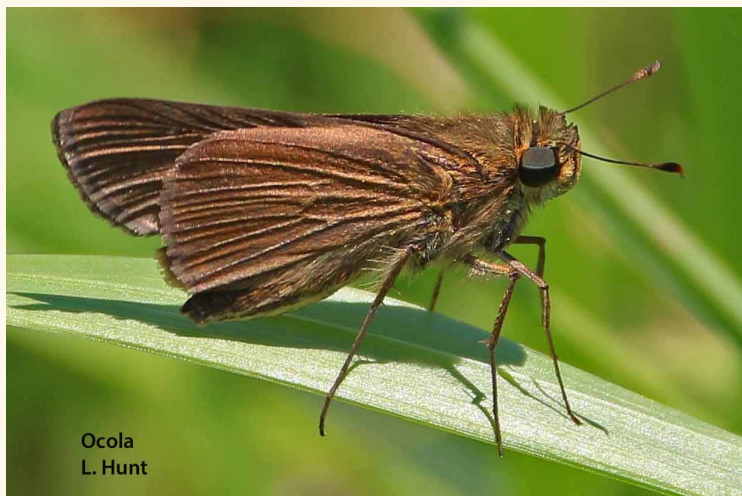


Percent Eastern Tiger Swallowtails of Total Population Counted

2013 = 469 (11.9%) 2014 = 307 (3%) 2015 = 846 (4.8%)
2016 = 1,525 (7.0%) 2017 = 1,098 (4.5%) 2018 = 641 (2.5%)

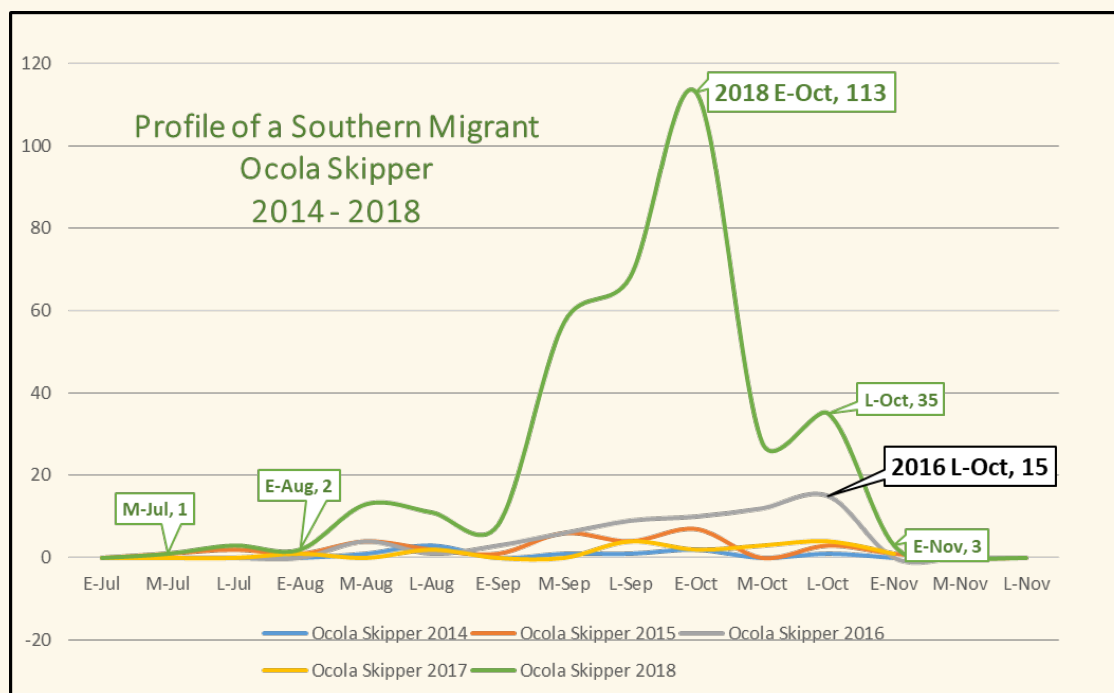
2018 Ocola Skipper numbers were 4x higher than previous highs in the survey

Ocolas are appearing earlier in the season and in more abundance than previously. The 2018 peak (113) dramatically surpassed the previous peak in 2016 (15).



The normally unusual/rare Ocola Skipper migrates northward each year and may occur in any habitat with nectar flowers.

Easily identified by its long wings.

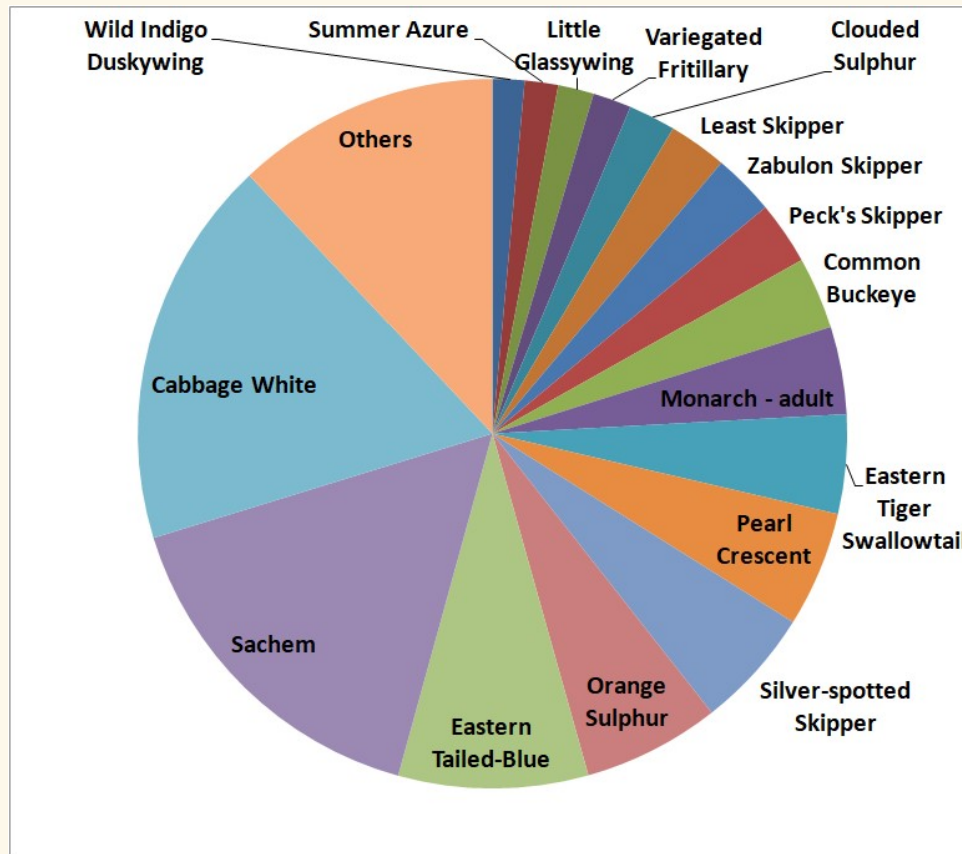


17 Abundant and Common Species Provide the Most Numbers Reported

- More than half of the butterflies reported were from five species



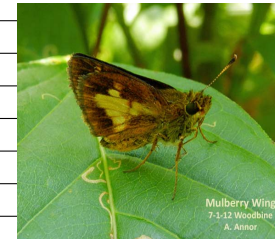
Cabbage White numbers are more than the total of all the lowest occurring 65 species put together.



Cabbage White & Sachem numbers are >1/3 of all butterfly numbers.

Butterflies by Occurrence Levels

Abundant (20+)*	Common (3-20)*	Uncommon (0-3)*	Rare (rarely seen)*	Extremely Rare/(Extirpated possibly no longer in HOCO)*
Eastern Tiger Swallowtail (100)	Spicebush Swallowtail (14)	Pipevine Swallowtail (3)	Giant Swallowtail (1)	Dainty Sulphur
Cabbage White (130)	Clouded Sulphur (50)	Zebra Swallowtail (12)	Checkered White (1)	Bronze Copper (1)
Orange Sulphur (74)	Gray Hairstreak (8)	Black Swallowtail (11)	Little Yellow (4)	Striped Hairstreak
Eastern Tailed-blue (226)	Summer Azure (31)	Falcate Orangetip (25)	Harvester (2)	Northern Oak Hairstreak
Pearl Crescent (92)	Variegated Fritillary (60)	Cloudless Sulphur (10)	Coral Hairstreak (5)	Brown Elfin
Little Glassywing (50)	Great-spangled Fritillary (25)	Sleepy Orange (26)	Eastern Pine Elfin (5)	Henry's Elfin (2)
Sachem (300)	American Lady (8)	American Copper (30)	Juniper Hairstreak (7)	Baltimore Checkerspot
	Painted Lady (35)	Banded Hairstreak (15)	White M Hairstreak (4)	Hoary Edge
	Red Admiral (6)	Red-banded Hairstreak (14)	American Snout (6)	Hayhurst's Scallopwing (1)
	Common Buckeye (120)	Spring Azure (1)	Hackberry Emperor (4)	Dreamy Duskywing
	Red-spotted Purple (10)	Meadow Fritillary (50)	Tawny Emperor (4)	Sleepy Duskywing
	Appalachian Brown (25)	Silvery Checkerspot (3)	Long-tailed Skipper (1)	European Skipper
	Little Wood Satyr (334)	Question Mark (3)	Southern Cloudywing (15)	Mulberry Wing (4)
	Monarch (41)	Eastern Comma (5)	Clouded Skipper (1)	Brazilian Skipper (4)
	Silver-spotted Skipper (70)	Mourning Cloak (4)	Broad-winged Skipper (2)	
	Juvenal's Duskywing (9)	Viceroy (4)	Dusted Skipper (5)	
	Horace's Duskywing (10)	Northern Pearly-eye (30)	Ocola Skipper (21)	
	Wild Indigo Duskywing (30)	Common Wood Nymph (3)		
	Least Skipper (82)	Northern Cloudywing (10)		
	Peck's Skipper (156)	Common Checkered-Skipper (140)		
	Crossline Skipper (6)	Common Sootywing (4)		Extirpated
	Zabulon Skipper (30)	Swarthy Skipper (6)		Leonard's Skipper
		Fiery Skipper (21)		Delaware Skipper
		Tawny-edged Skipper (25)		Black Dash
		Southern Broken-dash (3)		Common Roadside Skip
		Northern Broken-dash (3)		Appalachian Azure
		Hobomok Skipper (5)		Regal Fritillary
		Dun Skipper (6)		Silver-bordered Fritillary



Red text – did not find

Blue text – new species

Yellow fill – ≤10 individuals total

Blue fill – ≤10 individuals ea yr

*Numbers in parentheses indicate Richard Smith's definition of the Occurrence Level in his Howard County Biological Summary and Checklist: "the number of specimens likely to be seen on a single visit to the species' habitat at the peak time of the adult brood population during the flight period." Species are grouped according to Richard Smith's OL. The number following each species name is the maximum number sighted during one count during the survey period.

Howard County Rare versus Vulnerable Species

Low Occurrence often may mean the species is potentially vulnerable to extirpation (possibly no longer existing in a particular area).

On a global scale this would mean extinction.

No species in Howard County is considered endangered in a statewide or global manner.

However, a few are in danger of no longer occurring in the county.



Dusted Skipper;
K Heffernan



Hayhurst's Scallopwing;
R. Orr



Clouded Skipper; J. Wilkinson



Common Sootywing;
Karen Heffernan



Northern Cloudywing; L. Hunt



Little Yellow; K. Heffernan



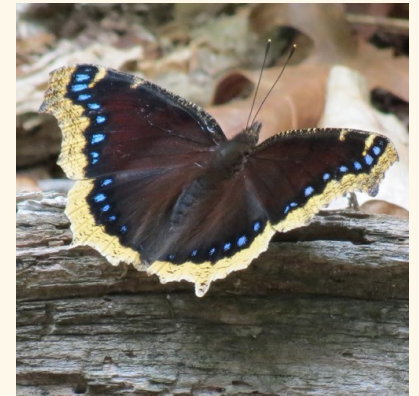
Bronze Copper; K. Heffernan

Factors contributing to Low Occurrence Levels

- Single brood – limited time to find
- Late season migrant – does not reach Howard County each year
- Species is a wanderer
- Species is non-resident or stray
- Species is at the edge of its range
- Identification difficult
- Few known habitat locations
- Occurrence variability



Pipevine Swallowtail ;
K. Heffernan



Mourning Cloak; H. Fink

Single brooded species present limited time for observation.



Falcate Orangetip K. Heffernan



Juvenal's Duskywing L. Hunt



Coral Hairstreak K. Heffernan



Eastern Pine Elfin B. Ott



Dusted Skipper L. Hunt



Hobomok Skipper K. Heffernan



Southern Cloudywing K. Heffernan



Northern Cloudywing L. Hunt

Falcate Orangetip
Dusted Skipper

Juvenal's Duskywing
Hobomok Skipper

Coral Hairstreak
Southern Cloudywing

Eastern Pine Elfin
Northern Cloudywing

Late Season Migrants do not reach Howard County every year



Little Yellow, Jim Wilkinson
Giant Swallowtail, Emy Holdridge
Long-tailed Skipper, Clayton Koonce
Checkered White, Kathy Litzinger

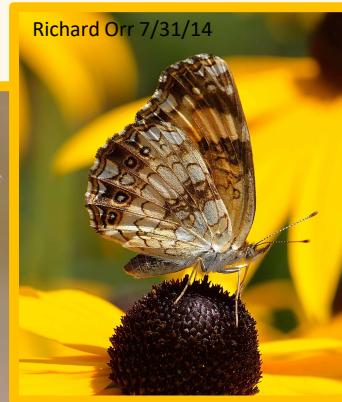
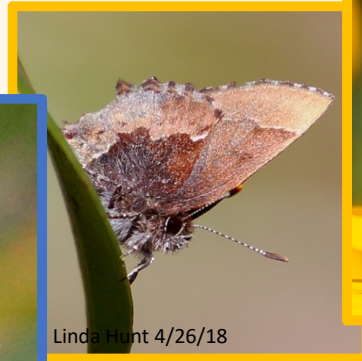
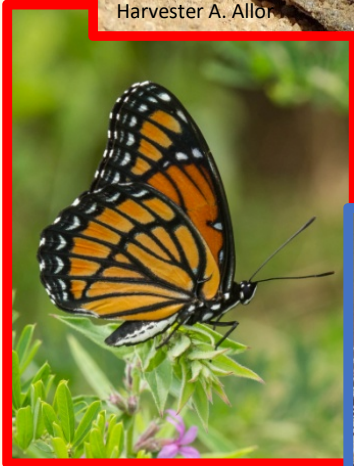


A species that is a **wanderer**, **stray**, or is **at the edge of its range** often may only be found by happenstance



Harvester
Viceroy
Dainty Sulphur
Henry's Elfin

Silvery Checkerspot
Hayhurst's Scallopwing
Clouded Skipper
Broad-winged Skipper

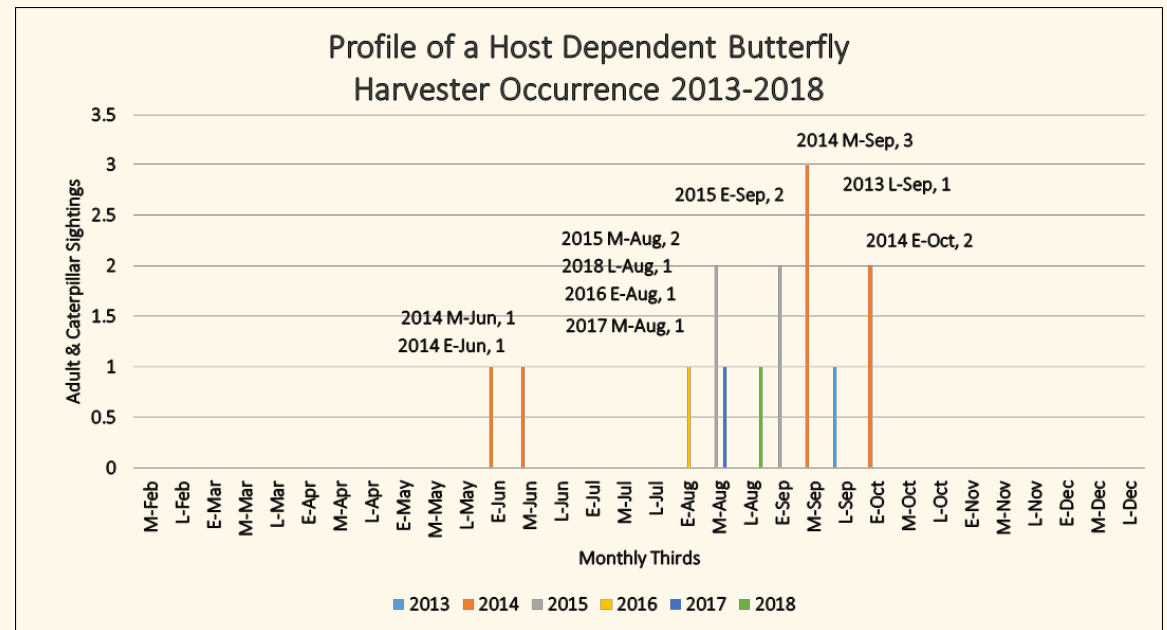




The Wandering Harvester

After an abundance of sightings of beech aphids, caterpillars, and Harvester butterflies in 2014 (Rockburn, PVSP, Wincopin Trails), the Harvester lived up to its reputation and seemingly vanished from previous sites, randomly appearing at new sites each year.

- 2013 Rockburn Branch Park: 1 caterpillar
- 2014 PVSP - Morning Choice Tr & Marriottsville, Wincopin Trails: 8 adults & caterpillars
- 2015 Rockburn Branch Park & PVSP Hollofield: 3 adults
- 2016 Rockburn Branch Park: 1 adult
- 2017 HOCO Conservancy: 1 adult
- 2018 PVSP – Morning Choice Tr.: 1 adult, 1 caterpillar

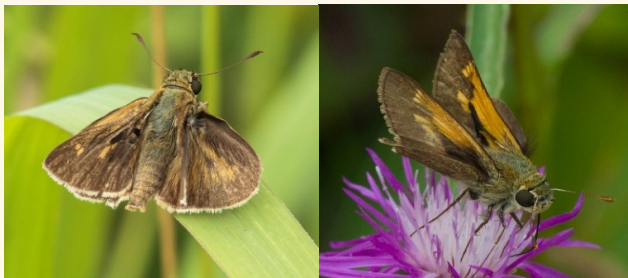


The species identification is difficult



Duskywings

Grass Skippers



Northern Broken-dash;
K. Heffernan

Crossline Skipper; K Heffernan

Azure Complex



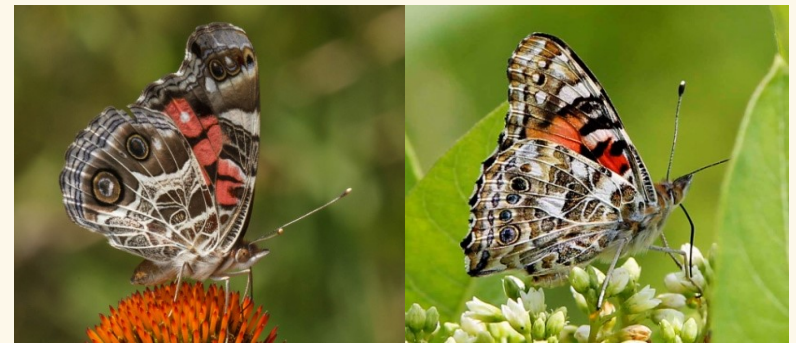
Spring Azure; T. Reichert



Eastern Comma; K. Heffernan

The Anglewings

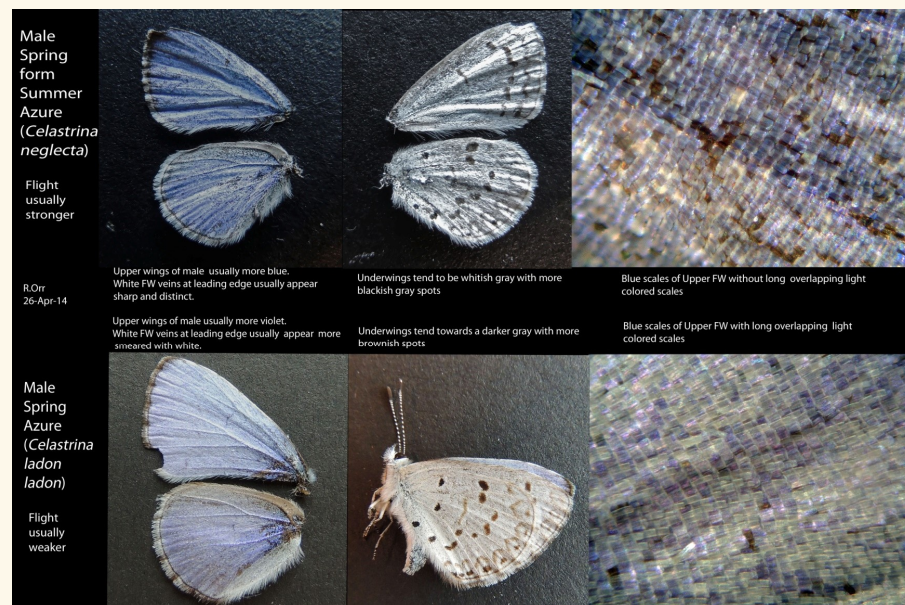
The Lady's



Spring vs. Summer Azure

(Harry Pavulaan & Richard Orr)

- The fact that *Summer Azure's* spring brood was unrecognized until 1999 is why it was called the "Summer Azure". A misnomer!
- Spring Azure used to be common in this region when flowering dogwood, its primary host plant, was thick in our forest understory. Since the demise of flowering dogwood due to Anthracnose, Spring Azure has become very rare.
- Summer Azure's spring host, *Viburnum prunifolium*, has become more common in the forest here over several years
- Spring Azure has one brood and routinely holds off its flight until about April 1.
- Summer Azure has multiple broods. Adults can emerge in winter during warm spells. Summer Azure is the MAIN "Spring" Azure in the Piedmont region.
- Harry HIGHLY recommends the recently published Pennsylvania butterfly guide that explains all this.
- Richard Orr's and Annette Allor's (identified by Harry Pavulaan) 2014 specimens are the ONLY Spring Azures during the survey.



Identification guideline by Richard Orr

The species has either limited habitat locations and/or difficult to access locations.

Limited locations with specialized soil, plants:

- Murray Hill –
Northern Cloudywing
Southern Cloudywing
Dusted Skippers
- Swamps
Appalachian Brown



Dusted Skipper;
K. Heffernan



Northern Cloudywing;
L. Hunt



Southern Cloudywing; L. Hunt



Appalachian Brown; K. Heffernan

Limited Hosts:

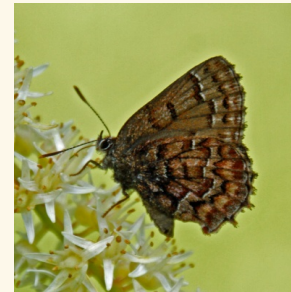
- Beech Aphids
Harvester
- Conifers
Juniper Hairstreak
Pine Elfin
- Pipevine
Pipevine Swallowtail



Harvester;
K. Litzinger



Juniper Hairstreak; K. Heffernan



Eastern Pine Elfin; K. Litzinger



Pipevine Swallowtail; R. Orr

Hackberry Emperor

2013: 1, David Force

2014: 1, UMD Ed Office

2015: 4, Sykesville garden

2016: 2, Sykesville garden; Toll House Rd.

2017: 16: 15 at HOCO Conservancy

2018: 10: HOCO Conservancy, Blandair,

American Snout

2013: 0

2014: 1 garden

2015: 0

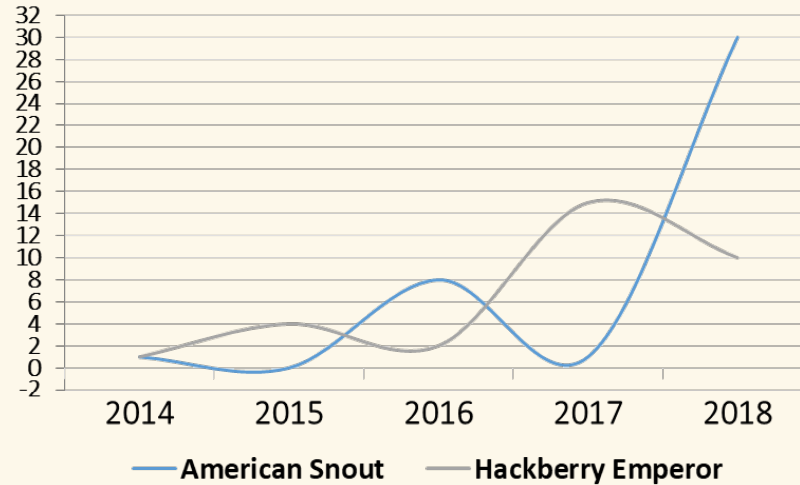
2016: 8 HOCO Conservancy, garden, Lake Kittamaqundi, Gateway, Oxford Square

2017: 1 garden

2018: 30 HOCO Conservancy; 3 gardens; Parks & Rec Office, Enchanted Forest, Gateway



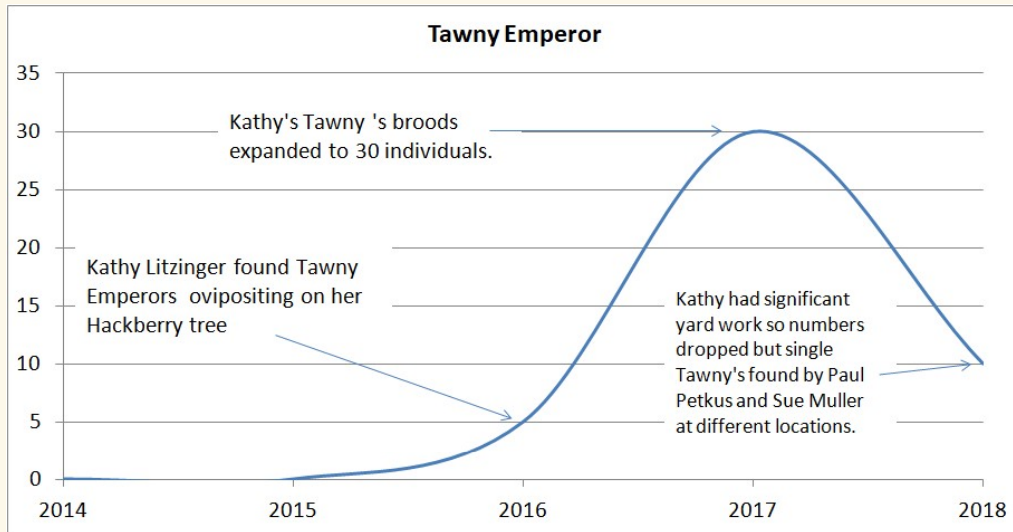
The Hackberry Saga



4 years of Howard County Bird Club members looking for a good location with hackberry trees!

- Surveyors discovering Hackberry trees at 2 private homes, 3 parks & 2 other locations
- HOCO Recreation & Parks planting 12 hackberry trees at 3 county parks in memory of Dick Smith
- In 2017 Kevin & Karen Heffernan and Bonnie Ott found ~ 20 trees in the hedgerows around the Howard County Conservancy fields. From mid-July to mid-August they documented 15 Hackberry Emperors. Jim Wilkinson discovered 2 Hackberry Emperors sitting on his car in Elkridge on July 19.
- In 2018, nearly 4x the previous peak of American Snouts were found mostly on the same Hackberry trees.

Tawny Emperor Saga



OMG!! There are so many astonishments in this series of pics, I can't believe it!

Number 1 is, yes, a Tawny Emperor (TE). **Third all-time sighting in the county, and the last site was developed soon after the photo record (with all hackberry trees taken out).**

Number 2 is, it's in your yard. Oh wait, that's no surprise after our experiences in 2012. AND, those sure looks like hackberry leaves. Does Linda know you have a hackberry tree in your yard?!

Number 3 is, it's a female Tawny Emperor (much black on dorsal HW; hindwings large and rounded; plump abdomen). A very fresh specimen; obviously full of eggs.

OK, let's put these three items together. This butterfly, rare to Howard County, is probably going to lay eggs all over the one or more hackberry trees you have there (in fact, isn't that an egg already on the leaf at the abdomen tip in your last pic?); little TEs will probably be hatching and crawling around nibbling on your leaves, and you will have more Tawny Emperors flitting around there by late August.

Dick

Tawny Emperor
Kathy L.

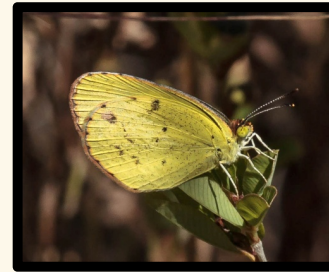
The species specific habitat may no longer exist

Seen in the last 10 years

- Checkered White 2018
- Little Yellow 2016
- Bronze Copper 2016
- Northern Oak Hairstreak 2012
- Striped Hairstreak 2013
- Mulberry Wing 2016
- Baltimore Checkerspot 2009



Northern Oak Hairstreak;
K. Litzinger



Little Yellow;
K. Heffernan



Checkered White; K. Litzinger



Striped Hairstreak;
D. Smith



Baltimore Checkerspot;
B. Sherman



Bronze Copper; B. Ott



Mulberry Wing; A. Allor

The species specific habitat may no longer exist

Not seen for at least 10 years

- Hoary Edge
- Dreamy Duskywing
- Sleepy Duskywing
- European Skipper
- Brown Elfin 2001



Brown Elfin; J Solem



Hoary Edge; A. Allor



Dreamy Duskywing; K. Heffernan



Sleepy Duskywing; R. Orr



European Skipper;
K. Heffernan

The species specific habitat may no longer exist

Currently listed as Extipated

- Leonard's Skipper
- Delaware Skipper
- Black Dash
- Common Roadside Skipper
- Appalachian Azure
- Regal Fritillary
- Silver-bordered Fritillary



Common Roadside Skipper;
K. Heffernan



Regal Fritillary;
K. Heffernan



Delaware Skipper; B. Ott



Silver-bordered Fritillary;
J. Wilkinson



Leonard's Skipper;
K. Heffernan



Appalachian Azure; R. Orr

Butterfly of the Year

2014 Butterfly of the Year



Giant Swallowtail
8-27-14
Emy Holdridge

Giant Swallowtail – Emy Holdridge

2015 Butterfly of the Year



Hayhurst's Scallopwing – R. Borchelt

2014 Runner-Up



Spring Azure – Annette Allor

2015 Runner-Up



Little Yellow – Jim Wilkinson

Butterfly of the Year

2016 Butterfly of the Year



Bronze Copper – Bonnie Ott

2017 Butterfly of the Year



Clouded Skipper – Wilkinson, Hunt, Barylski

2016 Co-Butterfly of the Year



Tawny Emperor – Kathy Litzinger

2017 – Runner-Up



Eastern Pine Elfin - Hunt

Butterfly of the Year

2018 Butterfly of the Year



Henry's Elfin – Linda Hunt

2018 – Runner-Up



Brazilian Skipper – Jim Wilkinson

Issuing Invitations Conservation Suggestions

Never say Never? Extirpating Species from “The” Checklist

Bronze Copper had not been seen in Howard County for nearly 20 years when one was found by Bonnie Ott at Meadowbrook Park on October 18, 2016.

It was considered Rare / Extirpated.

Bonnie took a photo of what she assumed was an American Copper. After she posted it on Flickr, she was congratulated on finding a Bronze Copper!



The 2014 “Not Seen”/Rare/Extirpated List

Checkered White	Hayhurst’s Scallopwing
Bronze Copper	Dreamy Duskywing
Brown Elfin	Sleepy Duskywing
Appalachian Azure-X	European Skipper
Regal Fritillary-X	Leonard’s Skipper-X
Silver-bordered Fritillary-X	Delaware Skipper-X
Tawny Emperor	Black Dash-X
Hoary Edge	Common Roadside Skipper

Happenstance Happens

but it may not always be happenstance

Two Species New to Howard County

Henry's Elfin is routinely found at the Patuxent North track in PG County, just over the border with Howard County. The closest park in Howard County to that area is High Ridge Park in Laurel. The park does contain American holly, one of its host plants.

Brazilian Skipper caterpillars were found on their host plant, Canna Lily, in several locations in the mid-Atlantic this year. There was much discussion online about whether this was an actual invasion year or whether the caterpillars were on the Canna Lilies when they were sent to the nurseries.



Linda Hunt
High Ridge Park
April 26, 2018

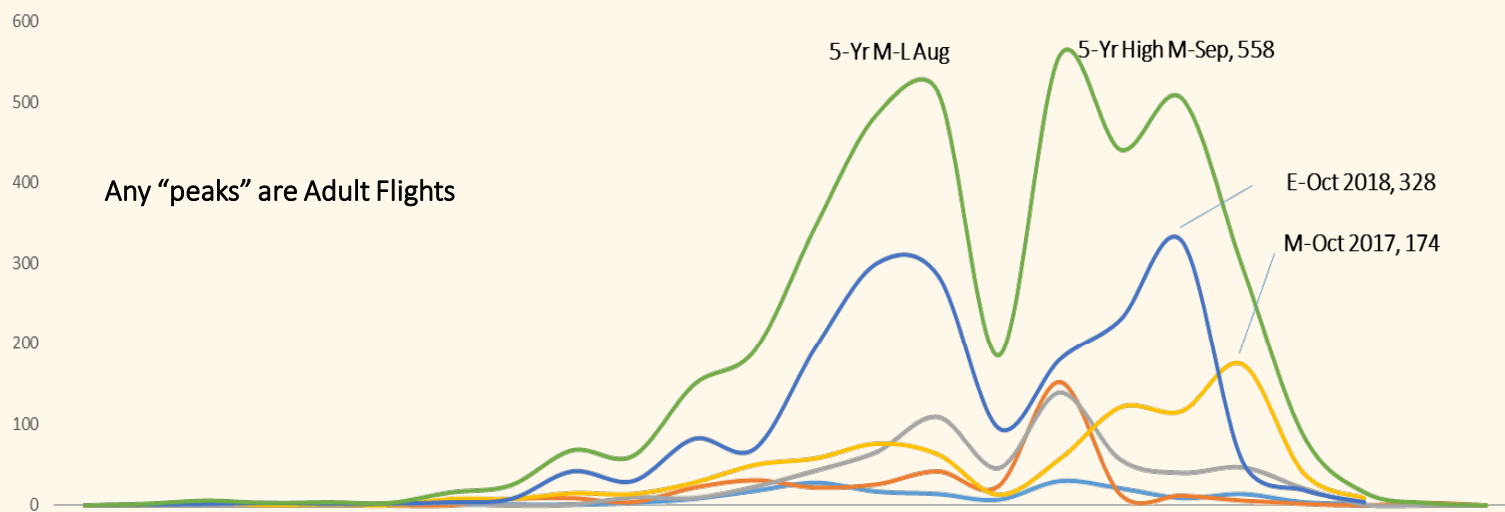


Jim Wilkinson
Hopewell pool area
October 9, 2018
Photo by K. Heffernan



In Howard County most Monarchs occur during fall migration and need nectar plants.

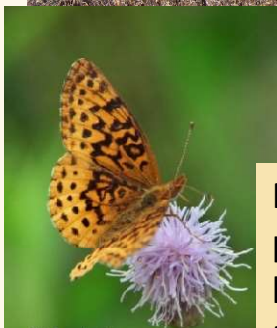
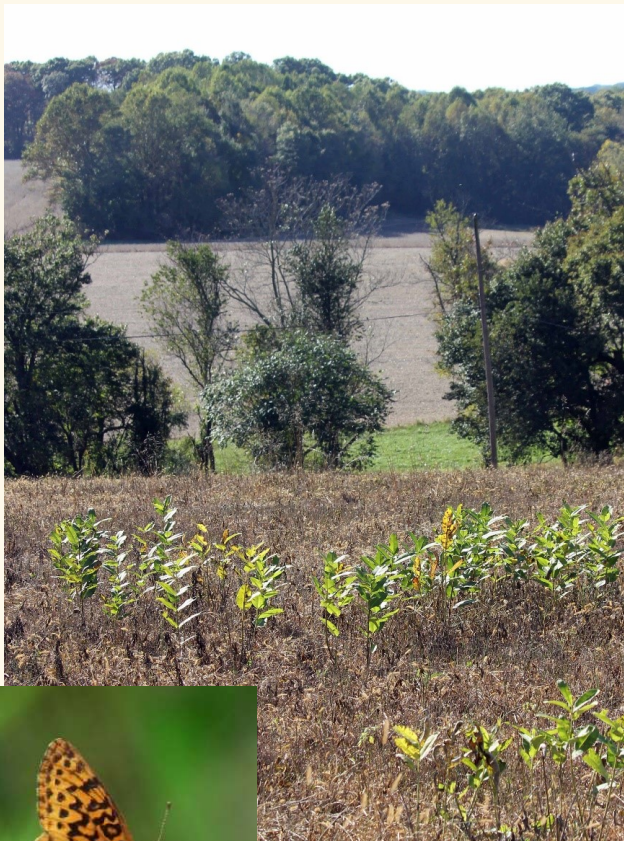
Local surveys can be helpful for butterfly conservation planning. Monarch Occurrence 2014-2018



	E-Apr	M-Apr	L-Apr	E-May	M-May	L-May	E-Jun	M-Jun	L-Jun	E-Jul	M-Jul	L-Jul	E-Aug	M-Aug	L-Aug	E-Sep	M-Sep	L-Sep	E-Oct	M-Oct	L-Oct	E-Nov	M-Nov	L-Nov
2014	0	0	0	0	0	0	1	1	1	3	8	18	28	17	14	7	30	21	9	14	4	2		
2015	0	0	0	0	1	0	0	8	9	4	22	31	22	26	42	24	152	13	12	6	2	0	3	0
2016	0	0	0	0	0	1	3	0	1	10	9	23	43	66	109	46	139	56	40	47	21	1	0	0
2017	0	1	4	0	1	0	8	8	15	14	28	50	58	76	63	13	57	121	116	174	40	9		
2018	0	1	2	3	2	2	4	8	42	30	82	70	196	300	285	95	180	230	328	54	19	4		
5-Year Occurrence	0	2	6	3	4	3	16	25	68	61	149	192	347	485	513	185	558	441	505	295	86	16	3	0

Monthly 3rds

Unfortunately, development has now encroached on most, if not all, of Howard County's sliver of Coastal Plain habitat along the Anne Arundel border. Development & commercial herbicide spray continues to decrease farm meadow habitat in western Howard County. During the survey time period there have been fewer or no sightings of familiar and rarer species dependent on these habitats.



Farm fields prepared with potent herbicide spray or lost to development
Meadow Fritillary, skippers



Little Yellow
L. Hunt
Oxford Square 2016



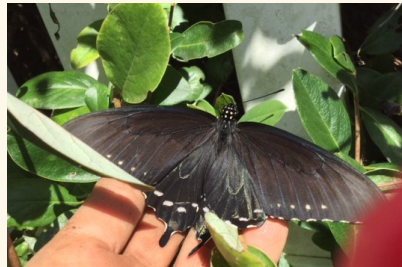
Checkered White, female
Hessner, 9/12/16
Jim Williams

Oxford Square, coastal plain
Checkered White, Little Yellow

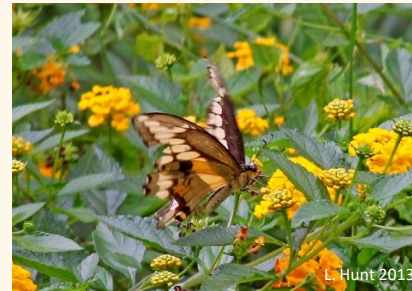
However, parks, private gardens, farms and rights of way are important sources of butterfly habitat.



Barbara White has multiple broods of Pipevine Swallowtail on pipevine.



Giant Swallowtails stop to nectar at gardens (lantana shown).



L. Hunt 2013



Monarch emerging
Sue Muller
home garden 10/13/17

Monarch emerging in garden.



Long-tailed Skippers often appear, gardens.

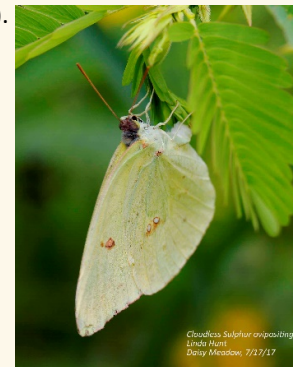


Cloudless Sulphur



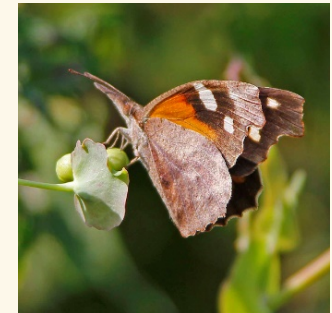
Sleepy Orange

Maryland Senna supported broods of Sleepy Orange and Cloudless Sulphur at Robinson Nature Center, Daisy Meadow & gardens.



Cloudless Sulphur ovipositing
Linda Hunt
Daisy Meadow, 7/17/17

Cloudless Sulphur Ovipositing Daisy Meadow 7/17/17



American Snout

Post Survey Butterfly Activities could focus on:

- Improving skipper identification
- Developing knowledge of and ability to identify host plants
- Expanding the number of known locations for the species of conservation concern
- Creating a rare butterfly alert system via a list serve
- Coordinating with parks and utility groups on mowing and herbicide spraying schedules
- Encouraging the planting of more butterfly gardens and meadows
- Encouraging interest in butterflies through more butterfly walks, targeted species searches and surveys, and presentations





Baltimore Checkerspot

Never say never....

Deer, turtlehead, background: L. Hunt

Checkerspot pictures: Rick Henlo, New Hampshire, BAMONA; Bill Hubick, 7/1/2006, Garrett County, MD Biodiversity Project