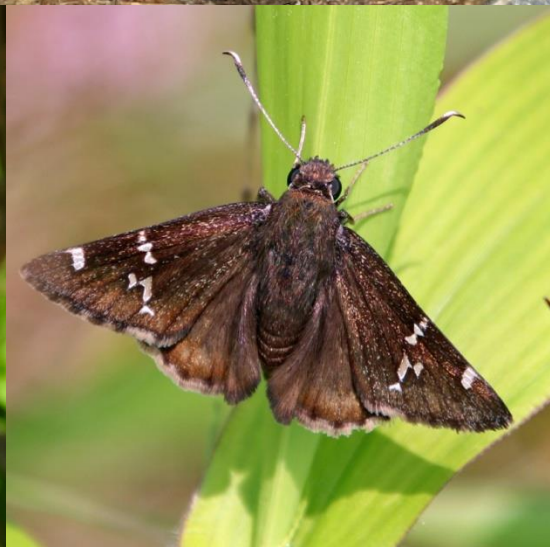


The 2023 Howard County Butterfly Survey Results



Special Thanks

- ***A huge thank you goes out to Kathy Litzinger who again this year took a lead role in the data collection and organization.***
- ***Another thank you to Bob Solem who provides the tools needed to get the data from an email to the spreadsheet where it can be analyzed. He also deals with walk announcements, the photo gallery, posted trip reports and a host of other things.***
- ***We hosted seven butterfly walks this year. The leaders make the walks happen. Another big thank you goes to Woody Merkle, Linda Hunt and Kathy Litzinger who co-led the walks and whose expertise made the walks special for the participants.***
- ***A thank you to everyone who sent in a survey this past year with a particular thanks to the 22 people that sent in 10 or more surveys.***
- ***A VERY HUGE thank you goes out to Clayton Koonce who sent in 212 surveys, the highest number of surveys this year by >100 over the second place surveyor, Linda Hunt.***
- ***Finally, a big thank you goes out to everyone who sent in photos this year. They are appreciated, are a big help in the educational aspect of the survey and they are cool to look at.***

10-Year Overview – Results

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total	2023 Rank
Observers	22	48	44	48	59	62	48	73	104	111		1
Surveys	372	696	715	870	958	748	706	1144	1044	878	8131	3
Duration(min.)	19970	19437	35924	50196	55787	49242	40684	61027	56668	48536	437471	6
Species	68	70	75	70	71	73	69	69	70	70	81	4
Butterflies	10360	17570	21622	25053	25245	26258	20828	25897	23083	19548	215464	8

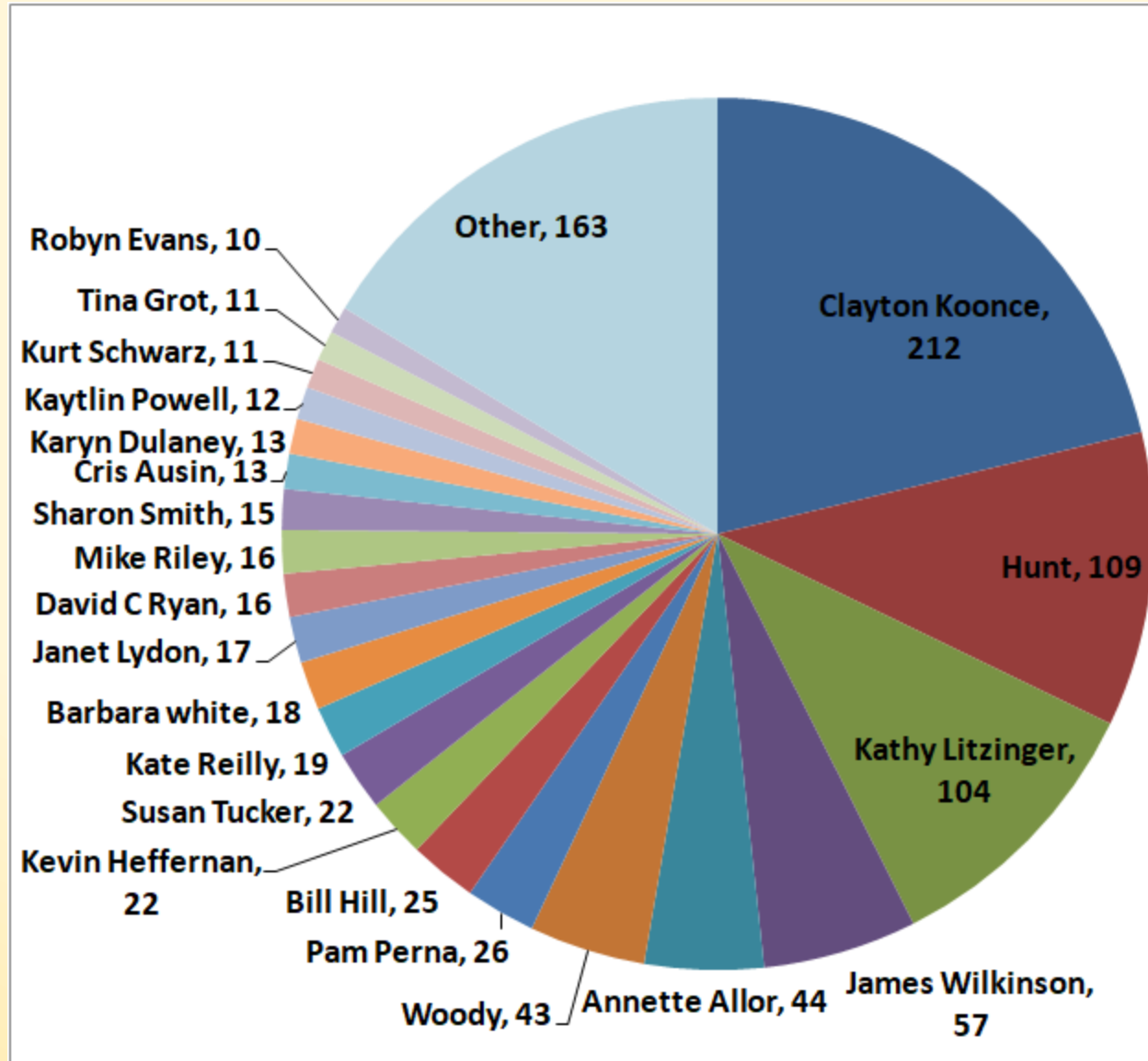
- Highest # of observers in 2023. Third highest # of surveys.
- Participation in the survey is strong and growing.
- Total # of species observed is **81** with the highest number in any year being 75 in 2016.
- **Have seen > 215,000 individual butterflies.**
- This amount of data has allowed us to plot flight times, early / late dates, etc.
- **437,471 minutes = 7288 hrs = 182 40-hour weeks = 3.5 years**

Survey Participant List for 2023

2023 Contributors: Annette Allor, Anna Aoloi, Peter Ashley, Ben Azzara, Cris Ausin, Susan B., Marianne Beauchamp, Bonnie Bezila, John Blaisdell, Martha Blaisdell, Karan Blum, George Boyer, Brianna Brumbaugh, Alicia Buxton, Rosita Calavoa, Julie Carignan, Sue Carlson, Eileen Clegg, Andrea Cochran, Carolyn Cradler, Danielle, Chrissy DeCarlo, Fatima Diallo, Karyn Dulaney, Dominic Duncan, Allen Dupre, Kelly Endres, Robyn Evans, Cheryl Fafaras, Pam Franks, Patricia Greenwald, Tina Grot, Greer Guzzone, Sela Hale, Karen & Kevin Heffernan, Bill & Gayle Hill, Tracy Graham, Tina Grot, Phillip Hill, Susan Hobby, Bekah Holloway, Judy Houson, Stacy Hum, Linda Hunt, Kathryn Jones, Nataly Jones, Ron Jones, Sydney K, Kathy Kaberle, James Kaiser, Dale & Jenny Kanera, Clayton Koonce, Barb Kopicki, Pey Lian Lim, Kathy Litzinger, Janet Lydon, Shelly Mauck, John McKitterick, Woody Merkle, Monica Metz, Louise Miller, Sue Muller, Devin O'Donnell, Daniel Olejo, Mario Olejo, Olivia Olejo, Sharon O'Neill, Heidi Osterman, Bonnie Ott, Aidan Pahel, Rima Pavalko, Pam Perna, Deb Portney, Kaytlin Powell, Sue Probst, Rebecca Quinn, Kate Reilly, Elizabeth Richardson, Heather Richardson, Rebecca Richardson, Mike Riley, Linda Roberts, Russ Ruffing, David Ryan, Sharon Sachs, Kurt Schwarz, Clare Sebok, Ada Simmons, Lois Simmons, Bill & Kathy Skullney, Sharon Smith, Jo & Bob Solem, Susanne Stahley, Ken Thelen, Tim Thompson, Kristin Trouton, Susan Tucker, Mark Wallace, Kelsey Wellons, Barbara White, Jim Wilkinson, Janice Winter, Mark Winter, Sue Wisneski, and Julie Wolf

Number of Surveys Submitted by Individual

- 22 people submitted 10 or more surveys in 2023.
- Clayton Koonce submitted a whopping 212 surveys (~ 1/day from April 1st through October 31st).
- Clayton's contributions were especially important as several of the key surveyors had health or family issues and didn't get out as much this past year.
- As a result, the number of surveys was about 77% of the peak year of 2021.
- There were 878 surveys submitted by 113 people this year. Multiple names on the same survey raises the number to 998. **Five people submitted 50% (526) of the surveys.**
- **Thanks to all 111 people who contributed to the survey this year**



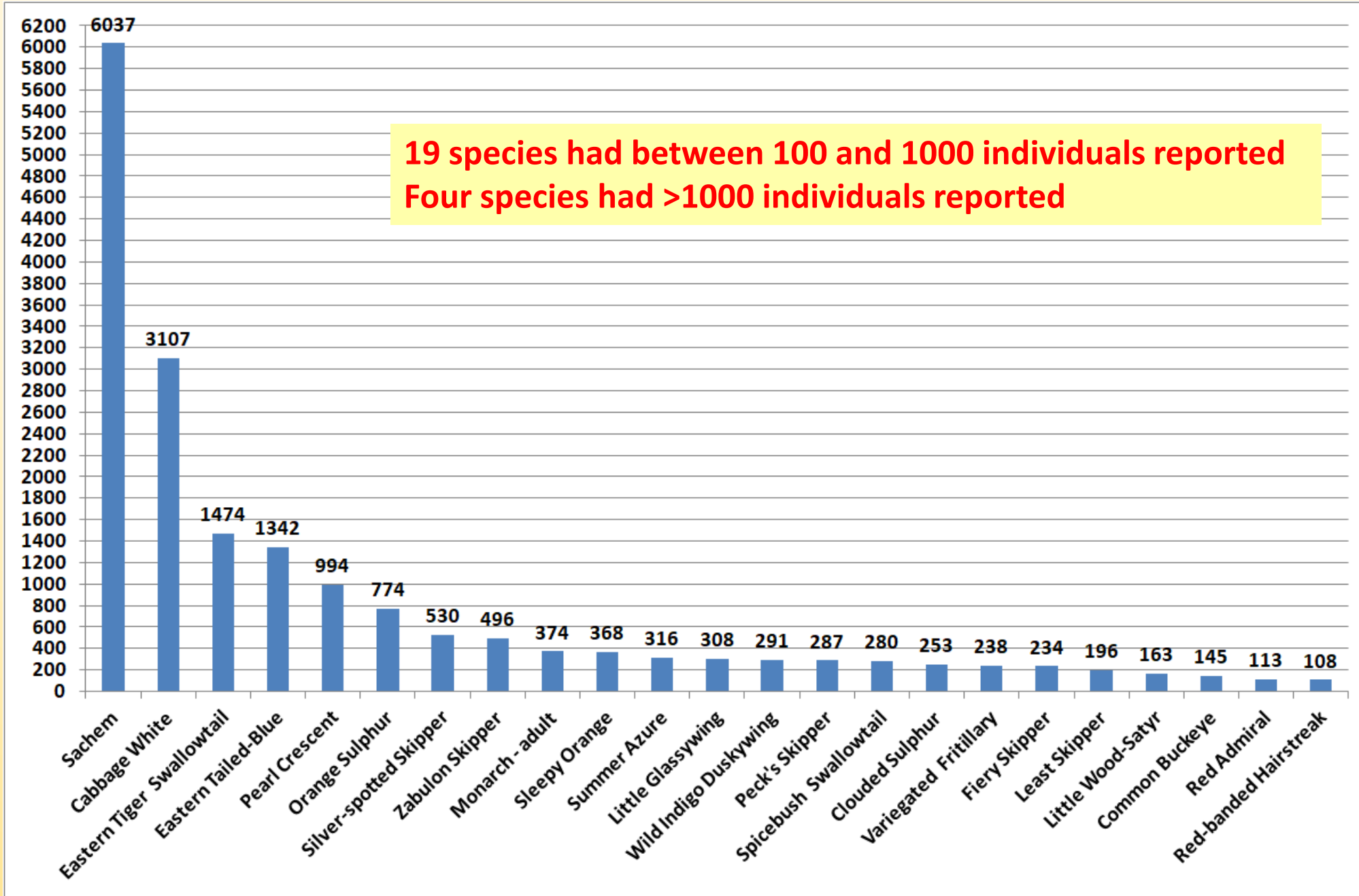
Some Highlights From the 2023 Butterfly Survey

- 70 species seen; one new species for the survey this year, Northern Oak Hairstreak
- High counts for seven species and second highest count for two more (12.8%)
- Low count for eight species and second lowest for 12 more (28.6%)
- Of the 70 species found this year, 18 (~26%) had <10 individuals reported.
- Did not find Dusted Skipper for fifth year in a row
- Found only one Giant Swallowtail and Tawny Emperor
- Between 2015 and 2021, 11 Harvesters were reported. In 2022, 14 were reported.
In 2023, we saw 15.
- On March 26th, Annette Allor found eight Eastern Commas in a single tree.
- On May 24th, Annette Allor found a very white male Azure which Harry Pavullan thinks may be an Appalachian Azure. More investigation is needed to count it.
- The Sleepy Orange found by Clayton Koonce on April 8th was the winter form indicating that it had overwintered in the county.
- Monarch numbers dropped from 928 in 2022 to 374 in 2023. This is the second lowest number in the ten year survey and is worth watching going forward.
- Great Spangled Fritillary, American Copper, Common Checkered-skipper, Tawny-edged Skipper and Monarch are species to be watched
- Conducted seven butterfly walks, six at Mt. Pleasant and one at Elkhorn Garden plots.
- Spotted Lanternflies were found in numbers in the county for the first time this year.
- Updated the early/late dates based on the 2022 / 2023 results

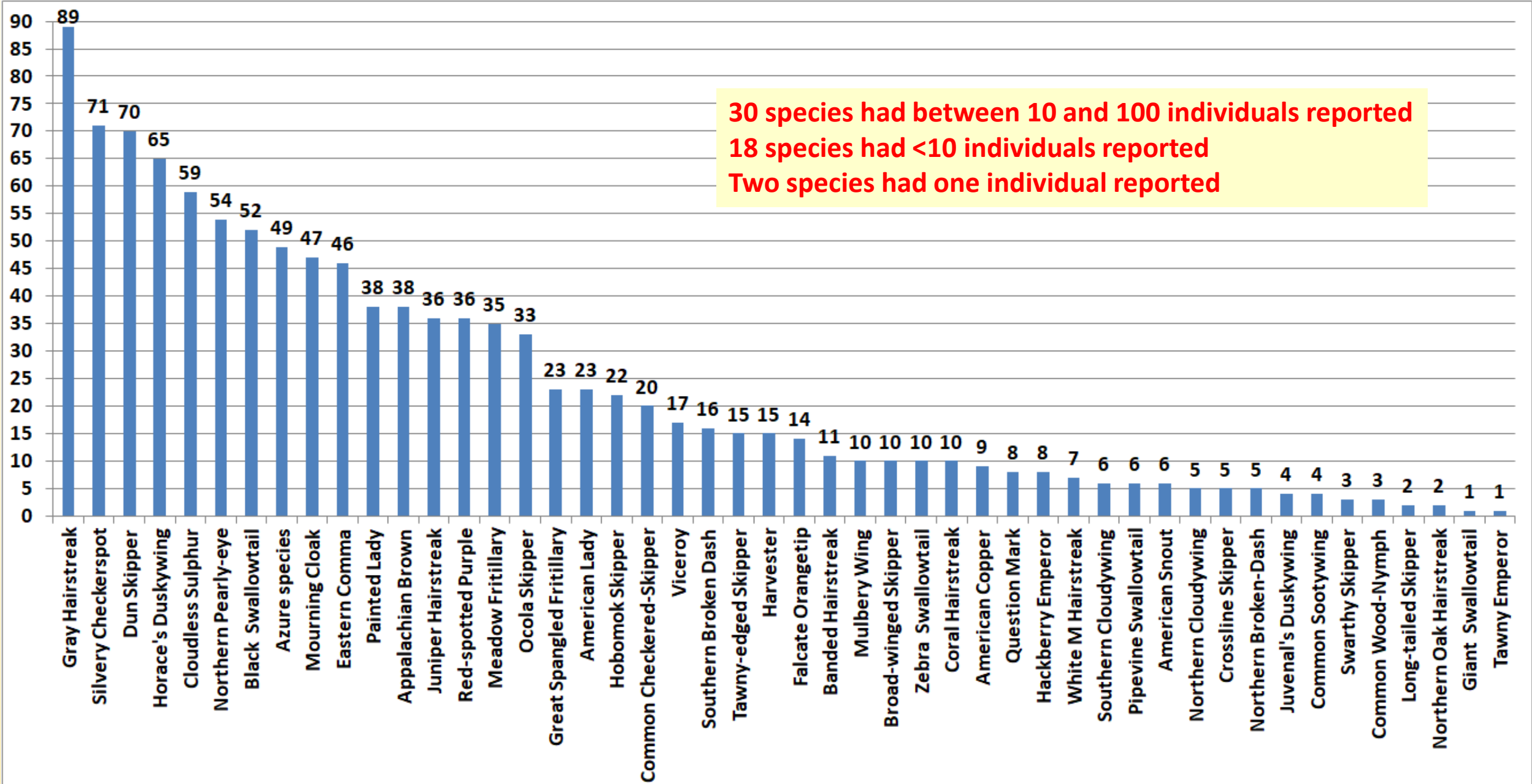


Giant Swallowtail
John McKitterick

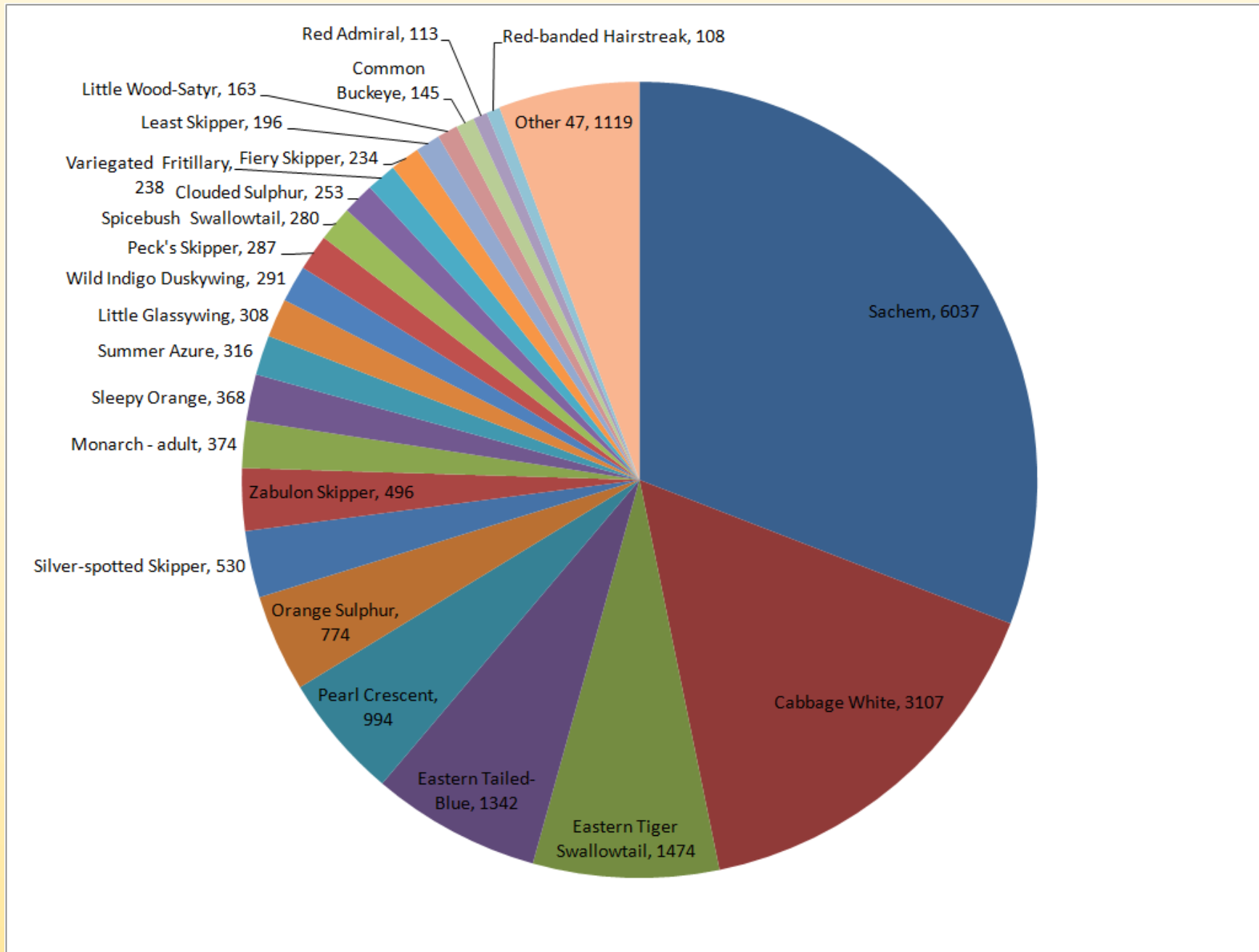
Number of Butterflies by Species



Number of Butterflies by Species



Species Status: Most Numerous Species of 2023

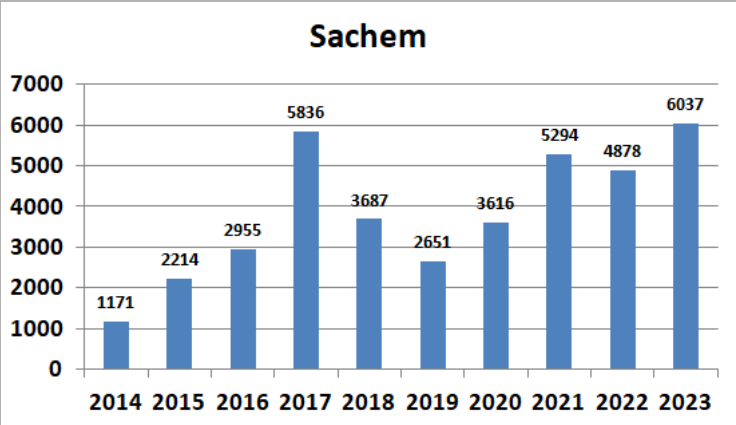


Number of Species Found Each Year

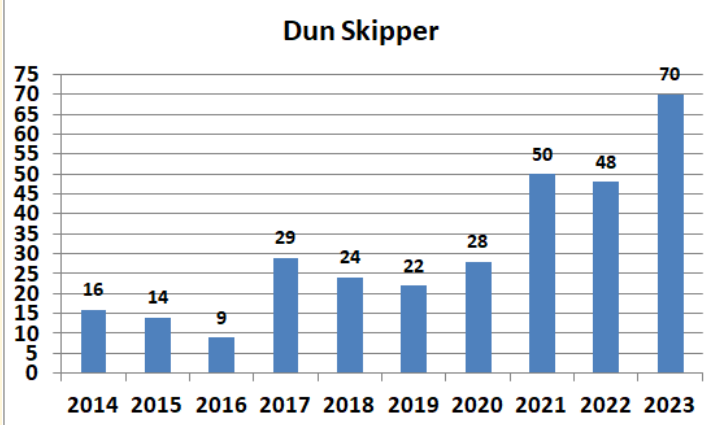
- 61 of the 81 species seen in the survey have been found in all ten years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Cloudless Sulphur (9)		X	X	X	X	X	X	X	X	X	Seen eight or nine years. Will most likely be seen every year.
Harvester (9)	X	X	X	X	X		X	X	X	X	
American Snout (9)	X		X	X	X	X	X	X	X	X	
Silvery Checkerspot (9)	X	X	X		X	X	X	X	X	X	
Long-tailed Skipper (8)			X	X	X	X	X	X	X	X	
Clouded Skipper (8)		X	X	X	X	X	X	X	X		
Tawny Emperor (8)			X	X	X	X	X	X	X	X	
Mulberry wing (6)		X	X			X		X	X	X	The number of these six species seen will determine the number of species seen in a given year.
Giant Swallowtail (6)	X		X	X		X			X	X	
Eastern Pine Elfin (6)	X	X	X	X		X	X				
Dusted Skipper (5)	X	X	X	X	X						
Little Yellow (4)		X	X			X		X			
Checkered White (2)			X		X						
Hayhurst's Scallopwing (1)		X									Species seen in only one of the ten years. Are unlikely to be seen most years.
Brazilian Skipper (1)						X					
Dainty Sulphur (1)						X					
Bronze Copper (1)			X								
Henry's Elfin (1)					X						
Northern Oak Hairstreak (1)										X	
Spring Azure (1)	X										
Total for Year	68	70	75	70	71	73	69	70	70	70	

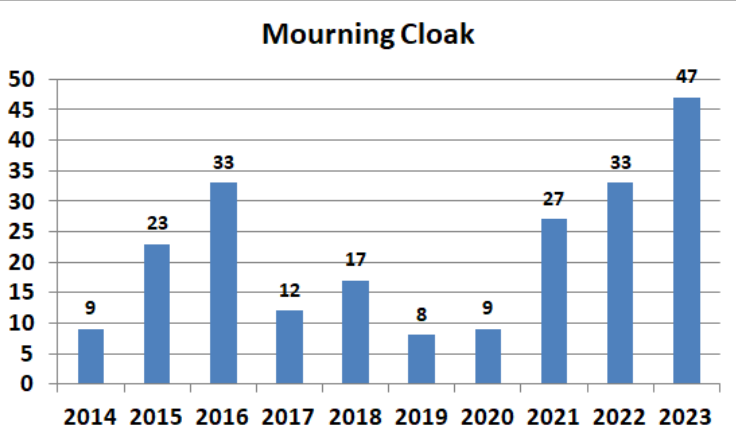
Species Status: Highest Annual Count in 10-Years



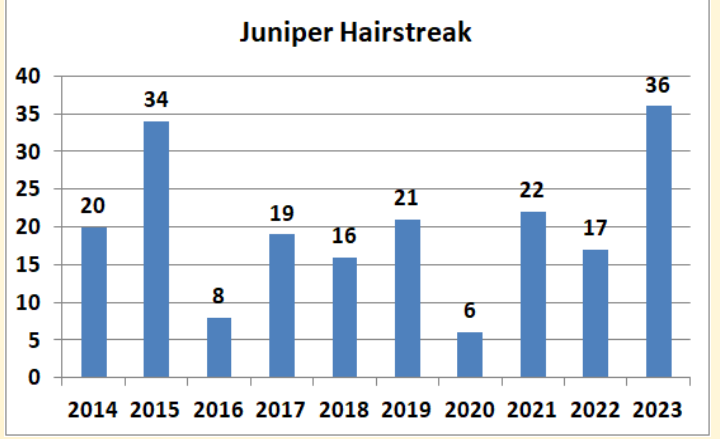
Sachem
Clayton Koonce



Dun Skipper
Linda Hunt



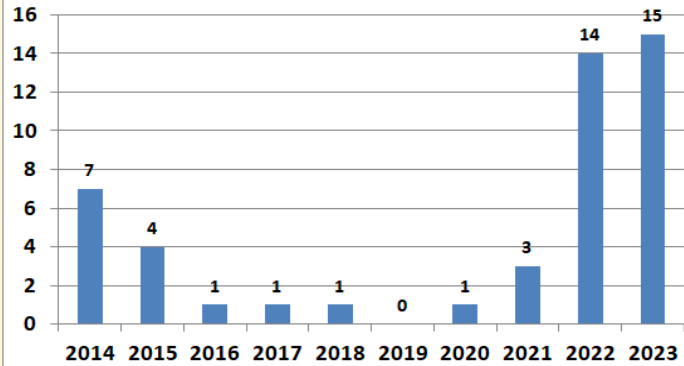
Mourning Cloak
Linda Hunt



Juniper Hairstreak
Kathy Litzinger

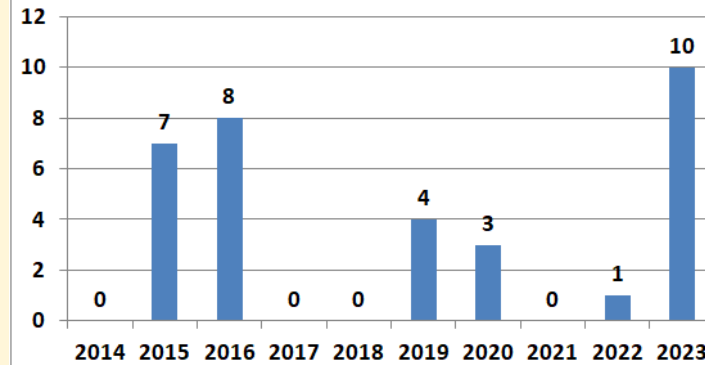
Species Status: Highest Annual Count in 10-Years

Harvester



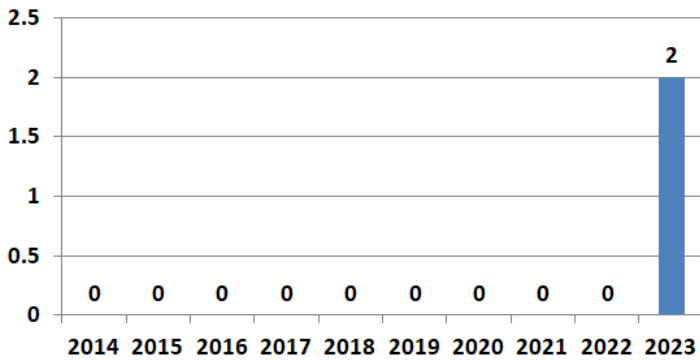
Harvester
Annette Allor

Mulberry Wing



Mulberry Wing
Annette Allor

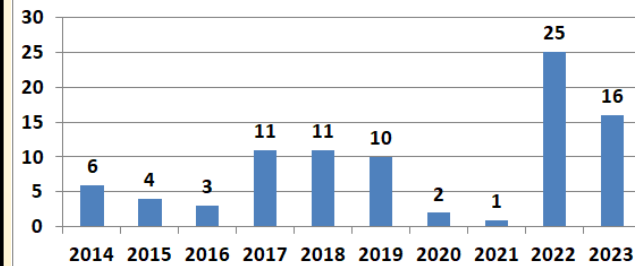
Northern Oak Hairstreak



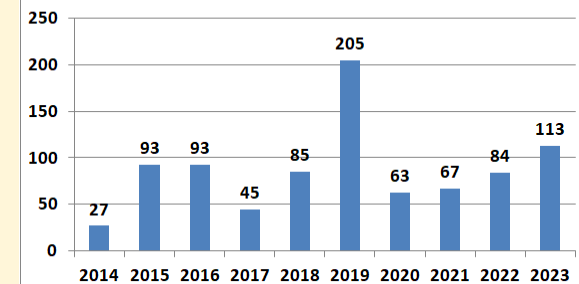
Northern Oak Hairstreak
Kathy Litzinger

Second highest annual count in 10-tears

Broad-winged Skipper

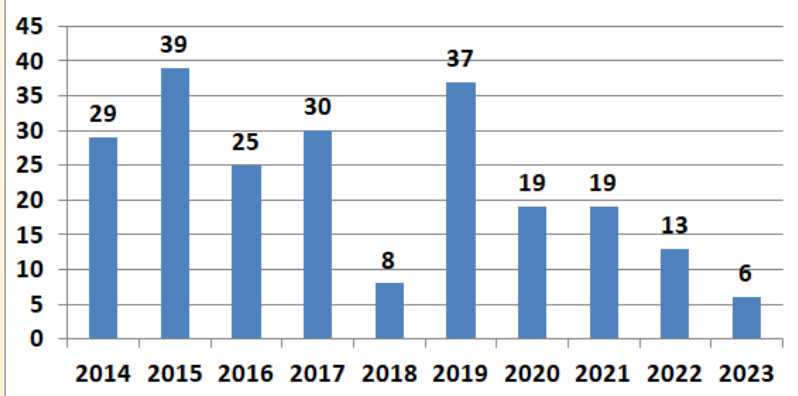


Red Admiral



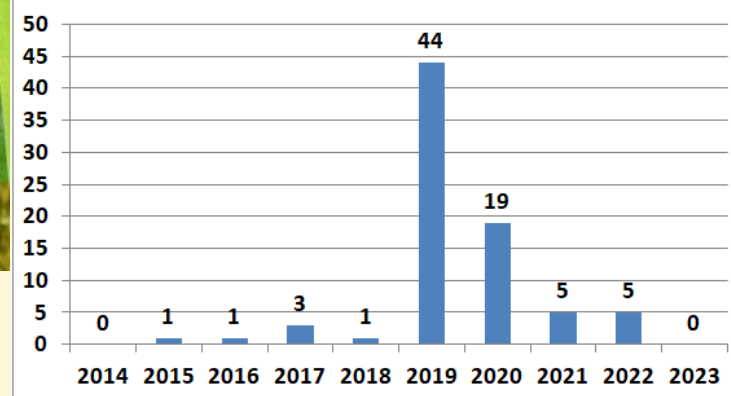
Species Status: Lowest Count in 10-Years

Southern Cloudywing



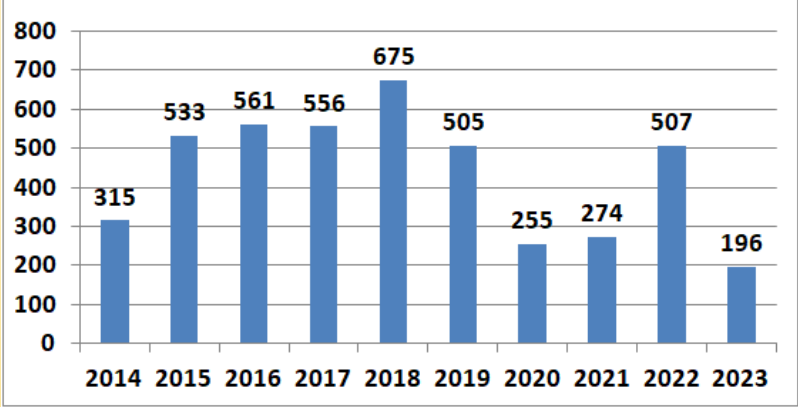
Southern Cloudywing
Annette Allor

Clouded Skipper



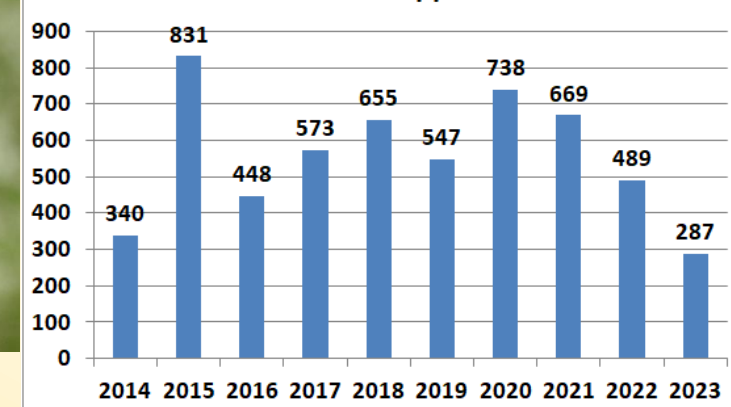
Clouded Skipper
Linda Hunt

Least Skipper



Least Skipper
Annette Allor

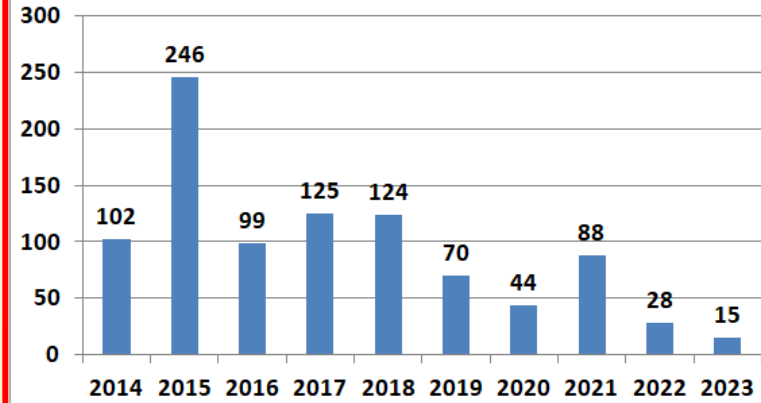
Peck's Skipper



Peck's Skipper
Clayton Koonce

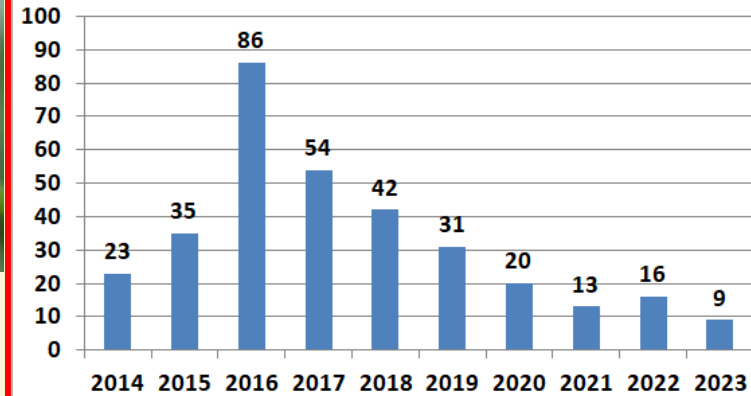
Species Status: Lowest Count in 10-Years

Tawny-edged Skipper



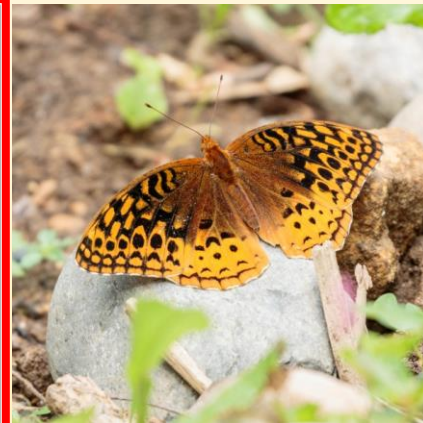
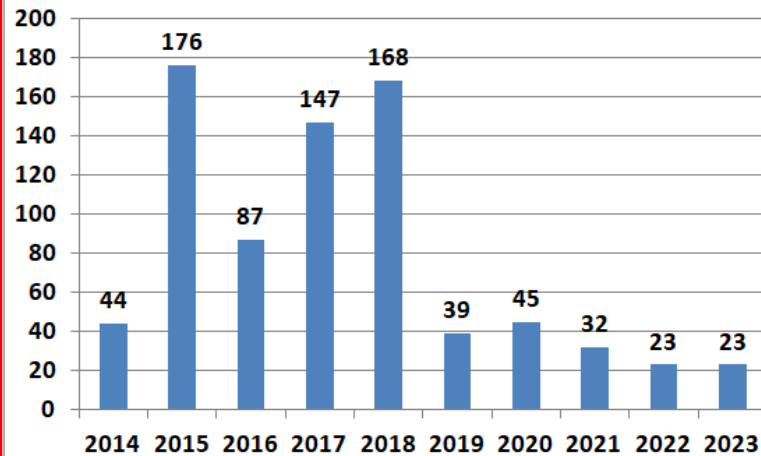
Tawny-edged Skipper
Pam Perna

American Copper



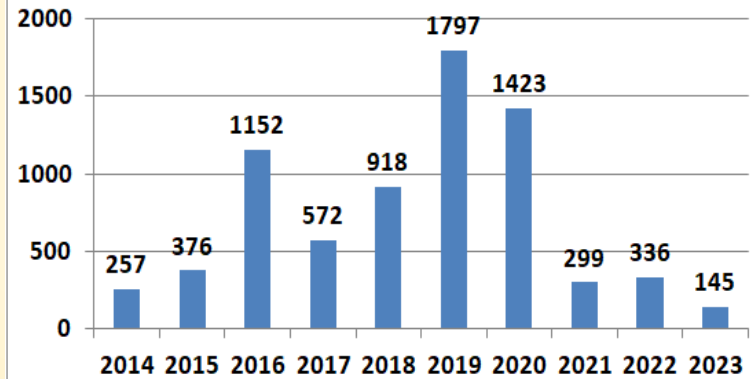
American Copper
Pam Perna

Great Spangled Fritillary



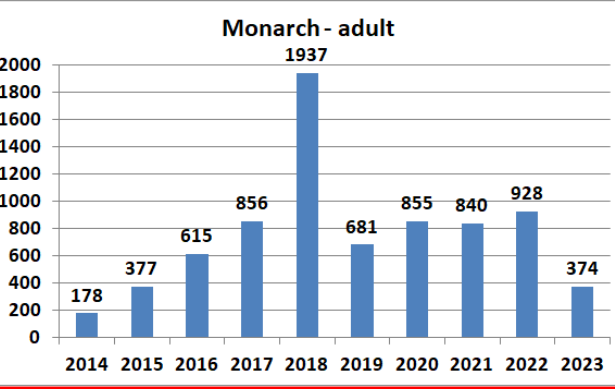
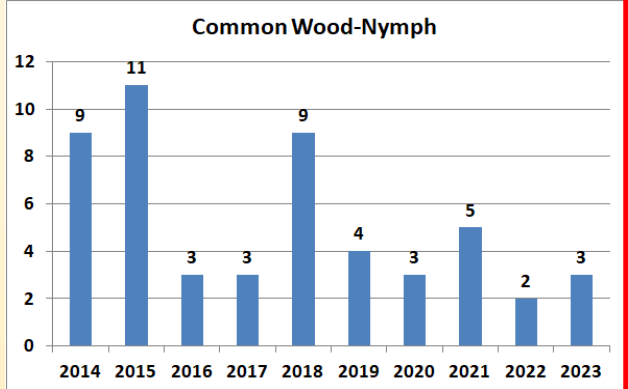
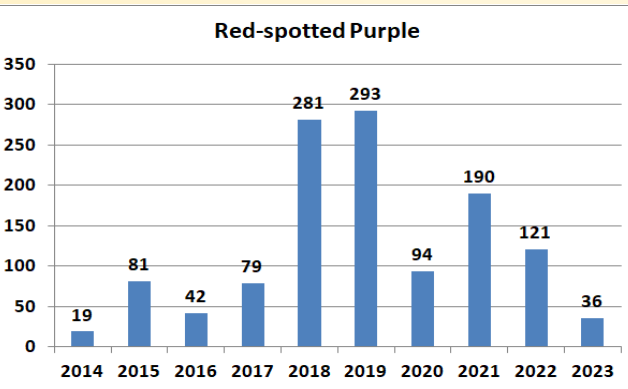
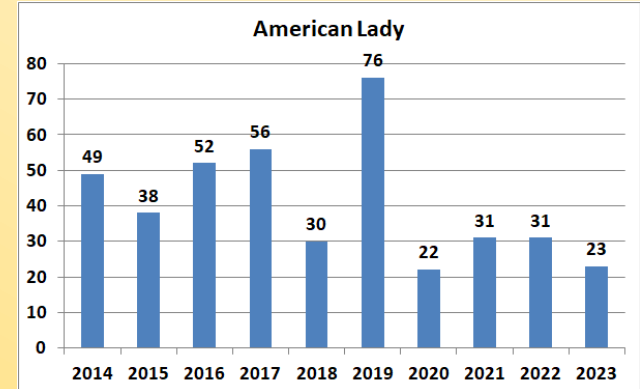
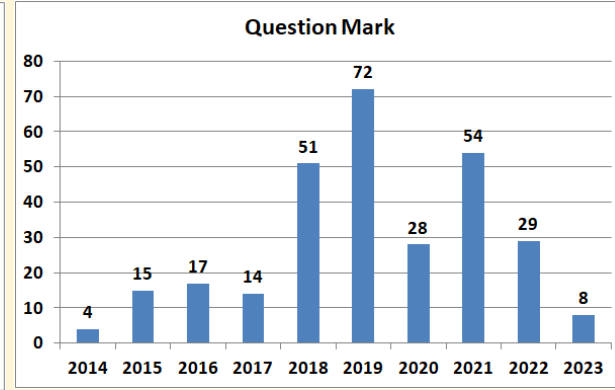
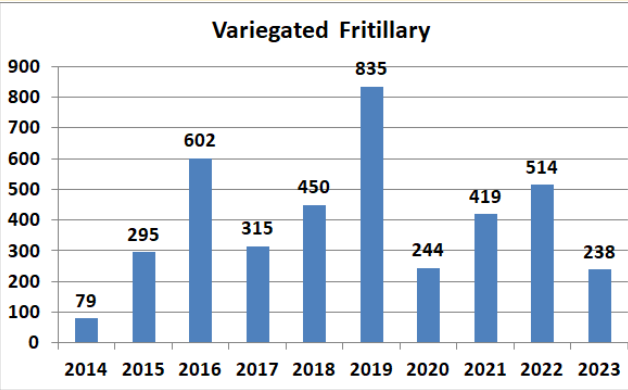
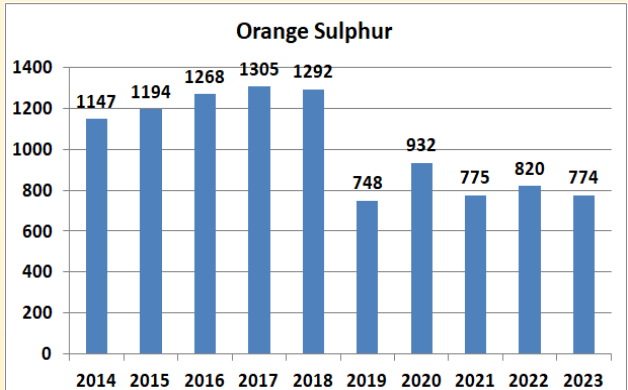
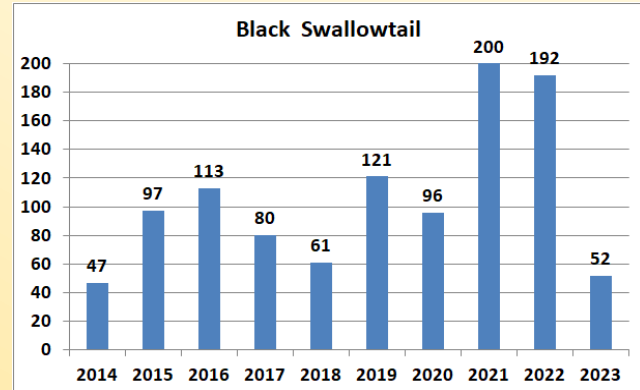
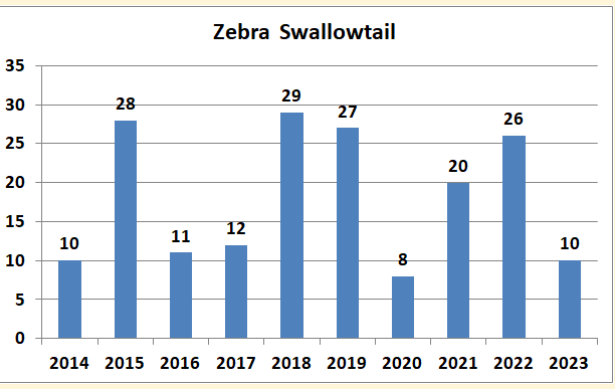
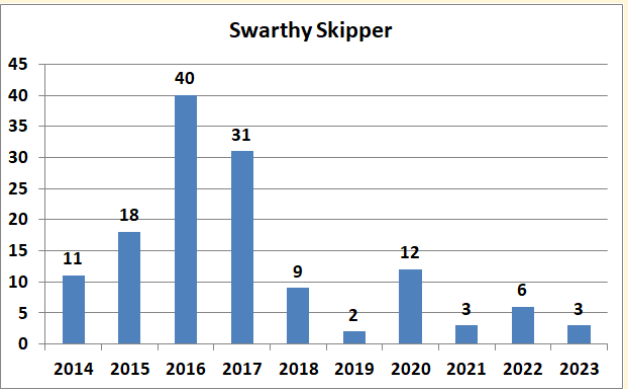
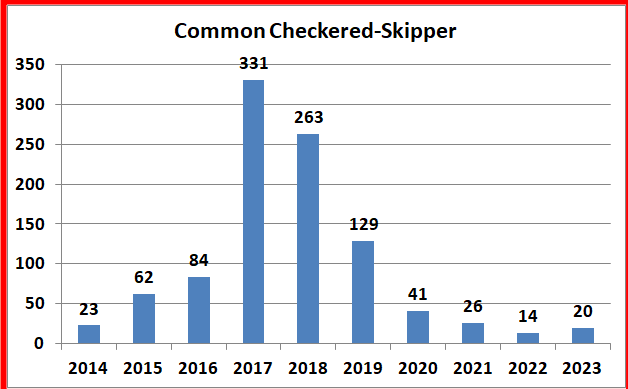
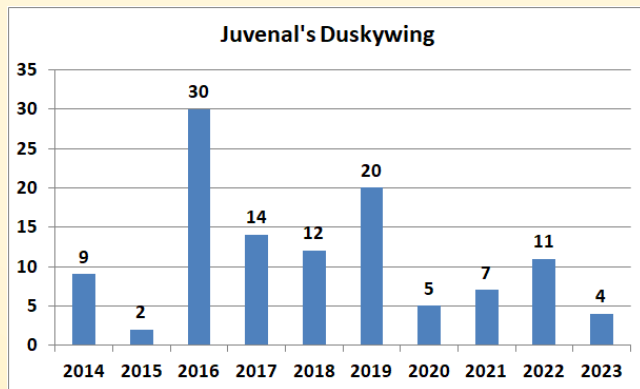
Great Spangled Fritillary
Kevin Heffernan

Common Buckeye



Common Buckeye
Annette Allor

Species Status: Second Lowest Count in 10-Years



New Early Dates

<u><i>Species</i></u>	<u><i>New Early Date</i></u>	<u><i>Old Early Date</i></u>	<u><i>Observer</i></u>	<u><i>Location</i></u>
Crossline Skipper	5/25/2022	6/1/2021	Annette Allor	Howard County
Sleepy Orange	4/4/2023	4/8/2023	Clayton Koonce	Vantage Point
Meadow Fritillary	4/5/2023	4/11/2021	Linda Hunt	Alicia's Farm
Red-banded Hairstreak	4/17/2023	4/29/2023	Jim Wilkinson	Trinity Cemetary
Northern Cloudywing	5/14/2023	5/19/2019	Kathy Litzinger	Mount Pleasant
Hobomok Skipper	5/15/2023	5/18/2014	Annette Allor	PVSP - Henryton
Viceroy	5/18/2023	5/19/2019	Karan Blum & Bill Hill	Sharps Farm
Viceroy	5/18/2023	5/19/2019	Bill Hill & Mark Wallace	McNeil Rd
Common Sootywing	5/19/2023	6/11/2017	Clayton Koonce	Construction Staging Site
Northern Pearly Eye	5/21/2023	5/24/2023	Brianna Brumbaugh	MPEA South Wind Circle
Harvester	5/22/2023	6/8/2014	Annette Allor	Rockburn
Dun Skipper	5/25/2023	5/29/2023	Clayton Koonce	Lake K
Northern Oak Hairstreak	6/4/2023	N/A	Bonnie Bedila	Mt Airy

New Late Dates

<u><i>Species</i></u>	<u><i>New Late Date</i></u>	<u><i>Old Late Date</i></u>	<u><i>Observer</i></u>	<u><i>Location</i></u>
Hobomok Skipper	6/26/2022	6/18/2024	Annette Allor	Mt Pleasant
Appalachian Brown	9/2/2022	8/29/2022	Bill Hill	Warfield's Pond Park
Northern Oak Hairstreak	6/10/2023	N/A	Kathy Litzinger	Illchester Elementary
Appalachian Brown	9/2/2023	9/2/2022	Bill Hill	Warfield Ponds Park
Southern Broken-dash	9/15/2023	9/13/2020	Cris Ausin	Ellicott City
Broad-winged Skipper	9/19/2023	9/12/2022	Annette Allor	Meadowbrook
Great Spangled Fritillary	10/3/2023	10/2/2018	Linda Hunt	Schooley Mill Park
Wild Indigo Duskywing	10/26/2023	10/22/2015	Clayton Koonce	Lake K
Zabulon Skipper	10/26/2023	10/10/2020	Clayton Koonce	Lake K
Silver-spotted Skipper	10/28/2023	10/25/2020	Annette Allor	Shrine of St Anthony's
Black Swallowtail	11/4/2023	10/28/2014	Kathy Litzinger	New Cut Landfill
Painted Lady	11/13/2023	11/10/2023	Clayton Koonce	Lake K
Monarch	11/22/2023	11/18/2021	Sharon Smith	TLV Tree Farm

Northern Oak Hairstreak: New Species for the Survey

- There were three species that were seen in the precursor years of the survey, 2012 or 2013 that had not been seen during the survey itself. Those were Northern Oak Hairstreak, Striped Hairstreak and Baltimore Checkerspot.
- Kathy Litzinger found a Northern Oak Hairstreak on June 12th, 2023 at Illchester Elementary school.
- To give an idea of the enormity of this sighting:
 - Northern Oak Hairstreak was seen sometime prior to the 1980's.
 - It was next seen in May, 2012 by Kathy Litzinger in her garden.
 - The next sighting was Kathy's in June, 2023
 - *Since the 70's, two individuals of this species have been seen in Howard County*
- first new species recorded since 2019
- Interestingly, a second one was found this year (more on this later)



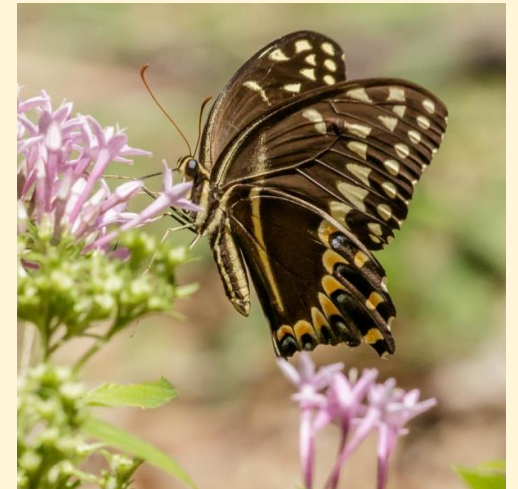
Northern Oak Hairstreak
Kathy Litzinger

Some species of butterflies are known as “Species of Low Detectability” (very difficult to find)

Next New Species??

• *Eight people were asked to give their best guess as to the next new species of butterfly for the Howard County Butterfly survey. Here are the results.*

- **Gulf Fritillary (6)**
- **Delaware Skipper (5)**
- Hoary Edge (4)
- **Dion Skipper (2)**
- Eufala Skipper (2)
- Brown Elfin (2)
- Sleepy Duskywing (1)
- **European Skipper (1)**
- **Great Southern White (1)**
- Large Orange Sulphur (1)
- Appalachian Tiger Swallowtail (1)
- **Palamedes Swallowtail (1)**
- **Striped Hairstreak (1)**
- Northern Oak Hairstreak (1)
- Baltimore Checkerspot (1)
- Compton Tortoiseshell (1)
- White Admiral (1)
- **Queen (1)**



Another Possible New Species for the Survey

- On May 24th, Annette Allor found a very white male Azure
- Quoting Annette: “I sent the photo to Harry Pavulaan and he thinks that it is probably an Appalachian Azure. We cannot say with 100% certainty though without more investigation and photos of more butterflies.” Harry said that they can have temporary colonies that come and go.
- This species uses Black Cohash as a host plant.
- We did not count this sighting by Annette’s request.
- To give an idea of the enormity of this sighting, Appalachian Azure was considered rare in 1993 and 2000 and extirpated in 2012.
- This species uses Black Cohash as a host plant.
- If you see a very white Azure or a grouping of Black Cohash, please let us know.



Black Cohash



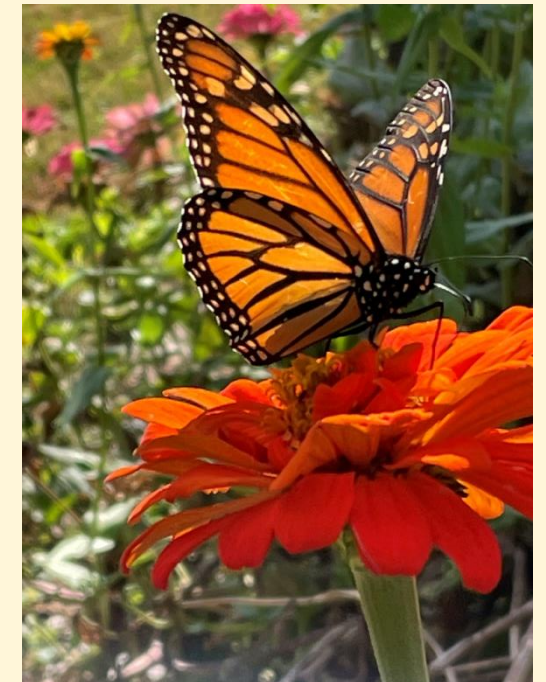
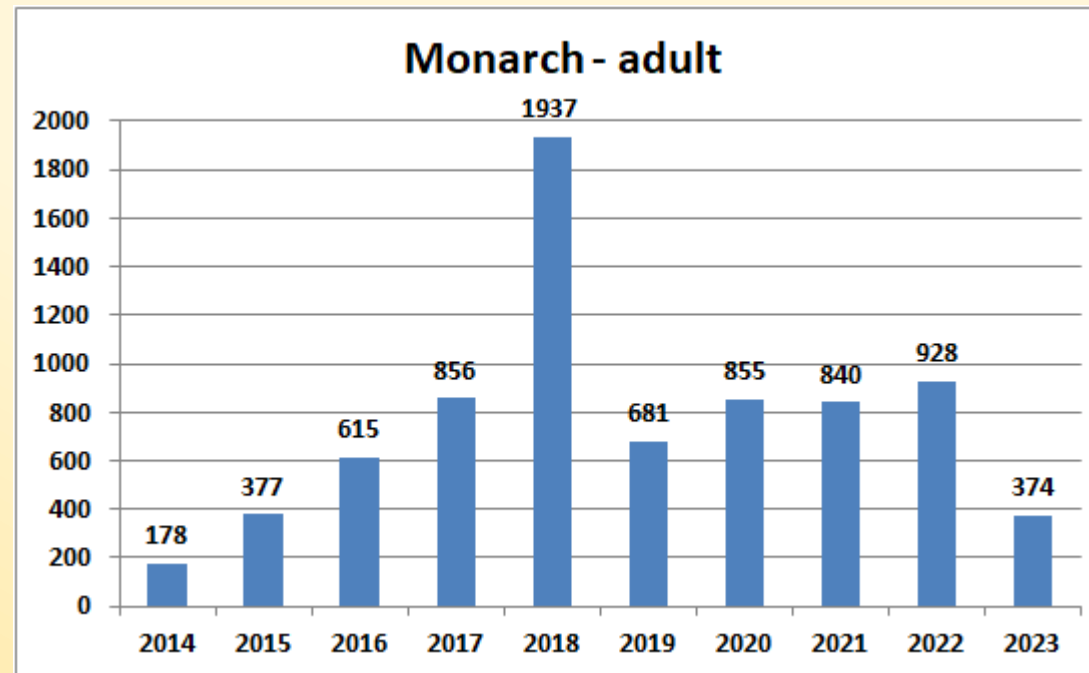
**Possible Appalachian Azure
Annette Allor
Wincopin Trail
May 24, 2023**

Monarch status

- The eastern population of Monarchs shrunk by 84% from 1996 to 2014.
- The International Union for the Conservation of Nature (IUCN) has labeled the Monarch as endangered
- The numbers of Monarchs during the survey remained stable from 2016 through 2022.
- In 2023 however, the number reported (374) was only 40% of last years sightings.
- This species is worth monitoring in the coming years.



Monarch
Clayton Koonce



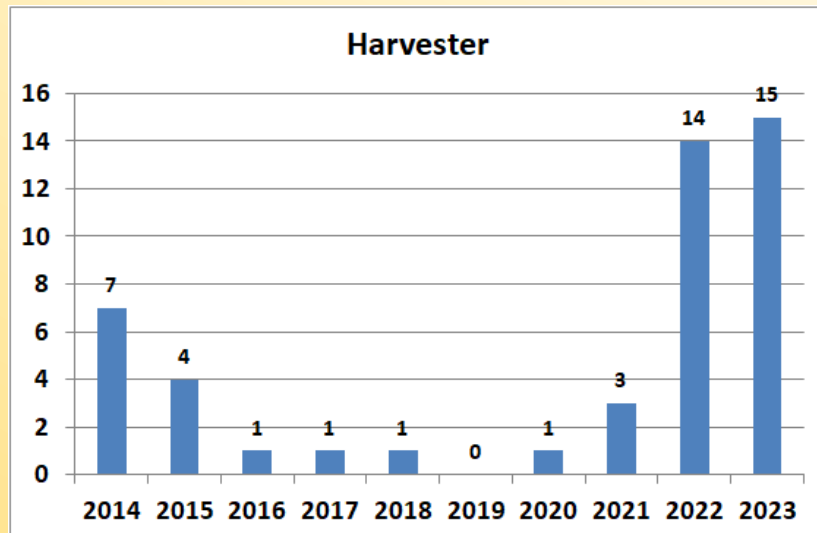
Monarch
Karan Blum

Harvester

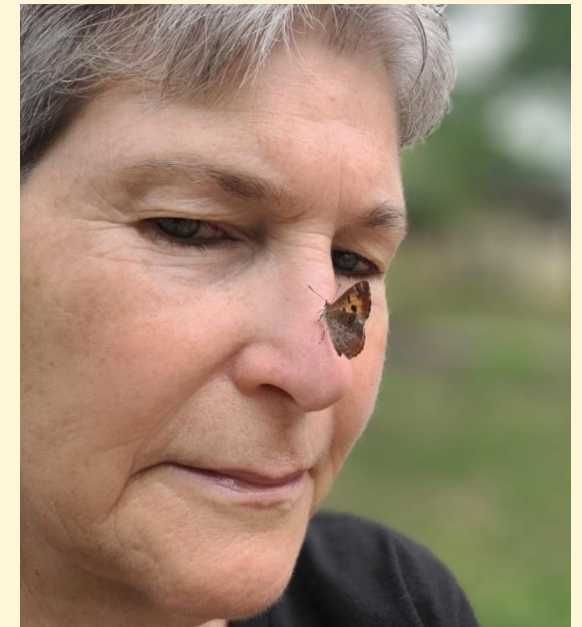
- Harvester caterpillars are the only carnivorous caterpillars in the county. They eat wholly aphids.
- They are difficult to find and are considered “Rare”
- To find them, look in wooded areas for aphids on alders, beech, ash or hawthorn trees.
- They fly between May 22nd (new early date this year) and October 10th
- Sightings in 2014 were the first adult Harvesters seen since 1996.
- Have been seen in 9 of 10 years in the survey.
- The 14 seen in 2022 exceeded the number of sightings in the previous seven years combined and made Harvester “Butterfly of the Year”. In 2023, 15 were reported for a new survey high count.
- Again, they are difficult to find but sometimes they find you.



Harvester
Annette Allor
Rockburn Park,
May 22, 2023



Harvester
Heidi Osterman



Harvester
Heidi Osterman

John McKitterick: The Giant Swallowtail Whisperer

- Giant Swallowtails have been reported in six of the 10 years of the survey
- John has seen at least one Giant Swallowtail in all six of the years that it has been reported.
 - In 2016 and 2023, he was the only person to report one.
 - In 2022, a Giant visited Linda Hunt's garden (photo on right) and then a day or so later, visited John's garden. The notches in the wing on John's photo matched those in Linda's so we only counted one sighting.
- A total of 23 have been reported. John has seen nine (39% of the total).
- They preferentially nectar on the lantana that John plants in his garden each year
- Why does this late season southern migrant show up at John's house so often?



Giant Swallowtail
Linda Hunt

2nd Northern Oak Hairstreak

- On June 4th, another Northern Oak Hairstreak was found by Bonnie Bezila in Mount Airy.
- Unfortunately, it was deceased.
- Northern Oak Hairstreak has a state ranking of S1/S2 (highly state rare / state rare)
- Many pest control companies market “barrier treatments” as a normal and safe way to protect homes, even when there is no problem to begin with
- The chemicals used include pyrethrins, pyrethroids and other insecticides that can be harmful not only to insects (bees, butterflies, moths, fireflies and others), birds and other wildlife but also to children and pets
- These products are also counterproductive, harming and killing spiders and other predatory organisms that are already providing natural insect control.



Northern Oak Hairstreak
Bonnie Bezila

Seven Butterfly Walks

- Held seven butterfly walks between June 20th and Sept 3rd
- Six were at Mount Pleasant; the seventh was at Elkhorn Garden plots
- Averaged 21 people / walk and 20 species of butterflies / walk
- The two walks in June were during Pollinator Week
 - successfully found both Coral and Banded Hairstreaks during the two June walks
- June 20th walk had the most people (28)
- Each walk had between two and four leaders
- Plan to have a similar number of walks this year as well



Group photo from June 20th walk



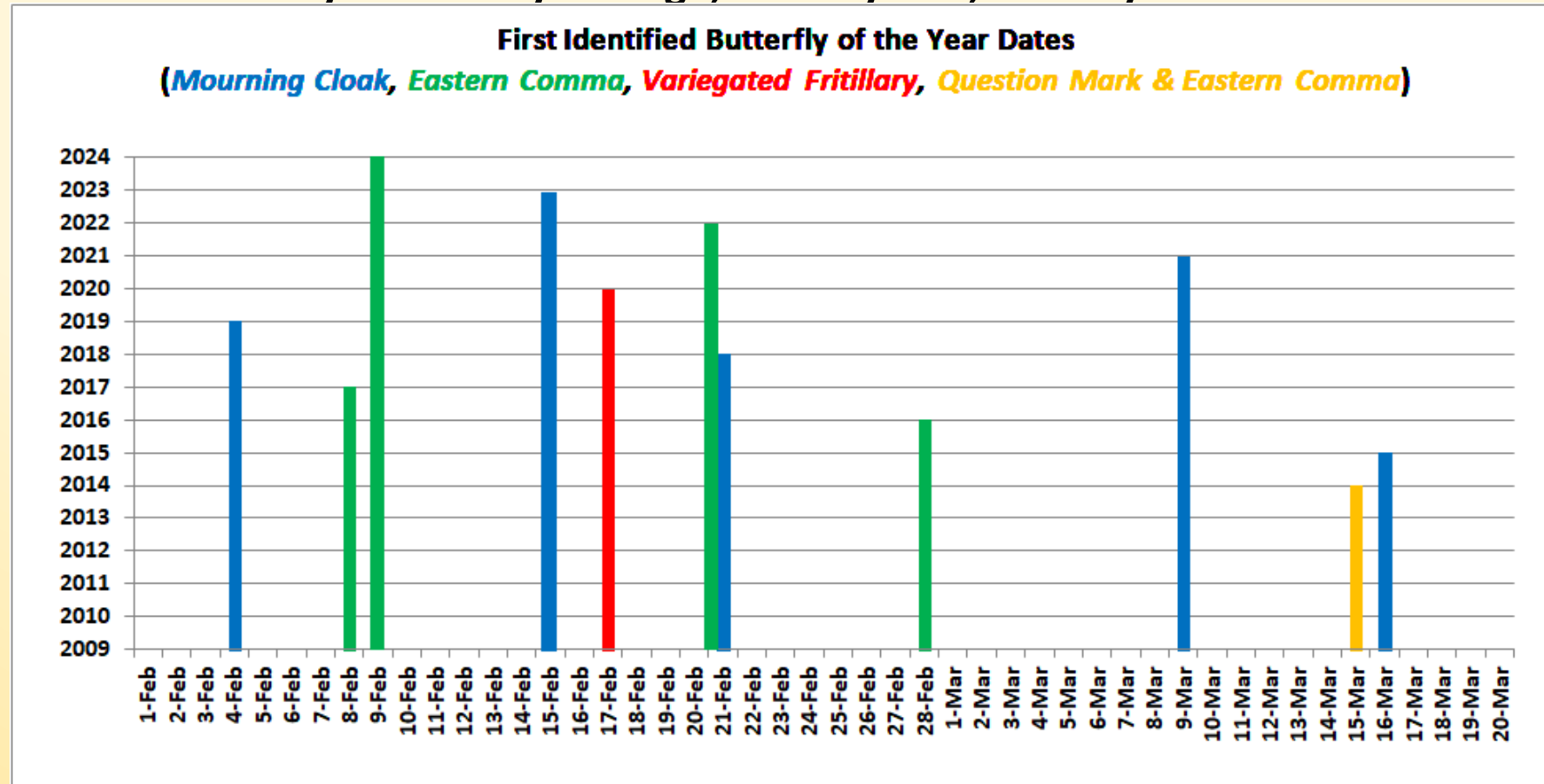
Group photo from Aug 14th walk

First Butterfly of the Year 2023

- The first identified butterfly of 2023 was a *Mourning Cloak* seen by Annette Allor on Feb 15th at Wincopin Trail
- Chart shows dates & species of the first identified butterfly sighting for each of the ten (11) years of the survey
- A total of 19 butterflies were seen in February including 14 in one day, February 23rd.
 - The previous peak number of butterflies seen in the entire month of February was three.
- The first butterfly of 2024 was an Eastern Comma (no photo) found by Cheryl Fafaras on Feb 9th at MPEA.
- Earliest sighting date of an unidentified butterfly was four years ago, January 12th, 2020 by Bonnie Ott



Mourning Cloak
Annette Allor
Wincopin Trail
February 15, 2023



Last Butterfly of the Year 2023

- The last butterfly of the year contest has been held the last three of years. The rules are that
 - It cannot be a Cabbage White
 - Must submit a photo and an Incidental Butterfly report
 - It cannot be one of the people involved in the survey
- The winner in 2023 was Jim Wilkinson who found an Orange Sulphur at Meadowbrook Park on December 8th
 - Jim will receive a copy of the “Butterflies of the Mid-Atlantic by Robert Blakely and Judy Gallagher



**Orange Sulphur
Jim Wilkinson
Meadowbrook Park
December 8th, 2023**



**Jim Wilkinson
Winner of the Last Butterfly
of the Year contest**

Interesting Observations in 2023

- **Winter form Sleepy Orange**
 - On April 4th, 2023, Clayton Koonce photographed a Sleepy Orange in winter plumage
 - first confirmation of a Sleepy Orange overwintering as an adult
 - On March 14, 2024, Annette Allor had a second winter plumage Sleepy Orange at MPEA
- **Annette Allor found a Cloudless Sulphur caterpillar on October 2nd**
 - This species is not thought to overwinter in Howard County
 - Assuming it pupated a couple of days after the photo was taken, and spent ~10 in the chrysalis, it would have eclosed in mid-October.
 - It would still have time to migrate south.



Sleepy Orange (winter form)
Clayton Koonce



Cloudless Sulphur caterpillar
Annette Allor

Interesting Observations in 2023

- **Monarch ovipositing in April**
 - **On April 24th, Andrea Cochran photographed a Monarch ovipositing on a recently emerged milkweed plant**
 - **The milkweed looks to be ~one inch tall**
 - **Did this butterfly come from Florida or the Gulf coast?**
- **There has been a disagreement about whether Monarch caterpillars eat milkweed flowers in addition to the leaves. Annette Allor posted a video of a Monarch caterpillar eating milkweed flowers (see next slide) which should end the argument.**



**Monarch ovipositing
Andrea Cochran**



Interesting Observations in 2023

- **Both Ends of Meadow Fritillary Reproduction Cycle by Linda Hunt**



**Meadow Fritillary ovipositing on Violets
Linda Hunt**



**Meadow Fritillary recently eclosed
Linda Hunt**

Juniper Hairstreaks

- A total of 36 were reported, 29 in the first brood and seven in the second brood
- This is the largest annual total in the 10 year survey
- Annette Allor reported 16 at Mt Pleasant on April 17th
- Linda Hunt reported six at MPEA Cleggs Meadow on April 14th
- A total of five were found on the butterfly walk at Mt Pleasant on July 10th
 - These were at the top of a single Red Cedar tree and were difficult to see
 - For those walk participants, the photo to the right is what they look like



**Juniper Hairstreak at top of Red Cedar tree
Linda Hunt**

Interesting Observations in 2023

- Annette Allor found a Gray Hairstreak caterpillar at the Shrine of Saint Anthony's on October 4th. This is the first reported (to my knowledge) during the survey. It was on Partridge Pea.
- Andrea Cochran photographed an American Lady caterpillar on Pussytoes on May 16th. This is also the first reported (again, to my knowledge) during the survey.
- This year will be remembered for the year that the Spotted Lanternfly arrived in numbers in Howard County



Gray Hairstreak caterpillar
Annette Allor



American Lady caterpillar
Andrea Cochran

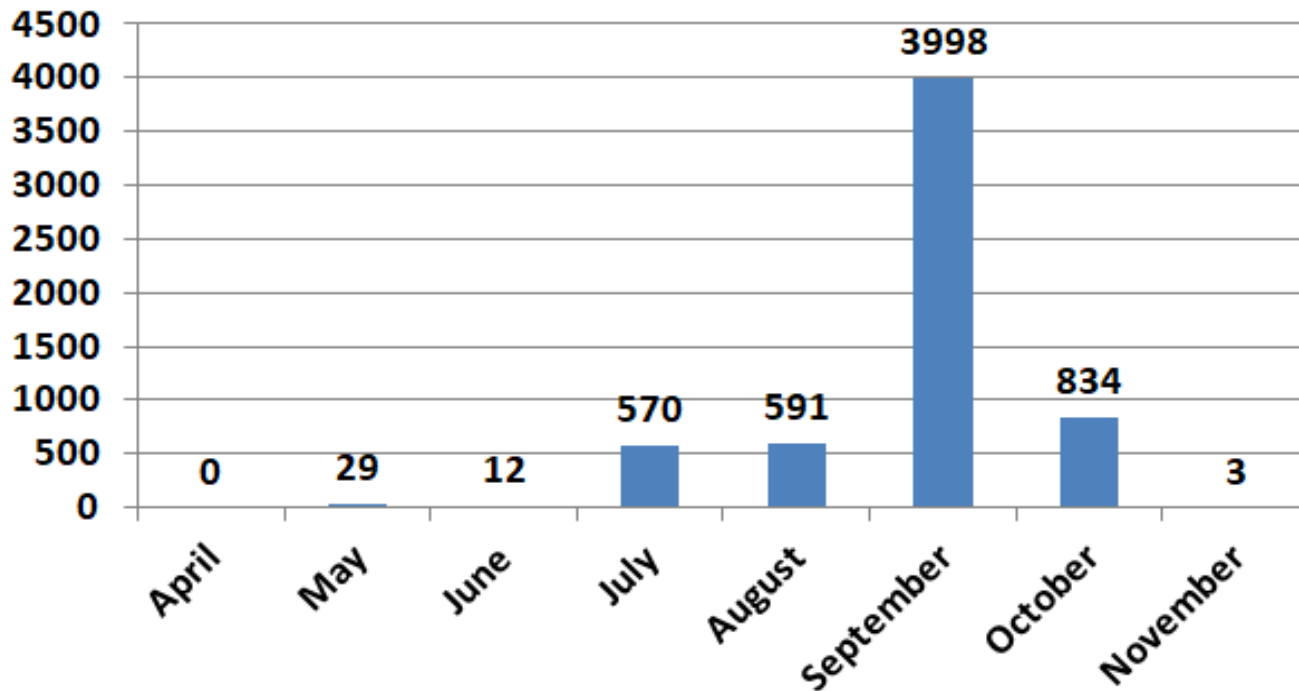


Spotted Lanternfly
Kevin Heffernan

Interesting Observations in 2023

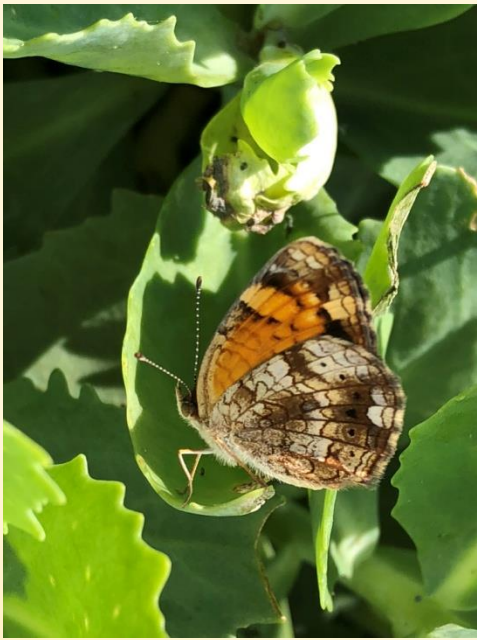
- The 6037 Sachems reported this year was the highest annual number for any species during the 10 year survey. Linda Hunt found 500 between Sept 20th and 21st (Yes, that number is correct).
 - Of course, in the August email, I noted that the Sachem numbers were down this year.

Number of Sachems Reported by Month



**Female Sachem
Clayton Koonce**

Photos from Participants



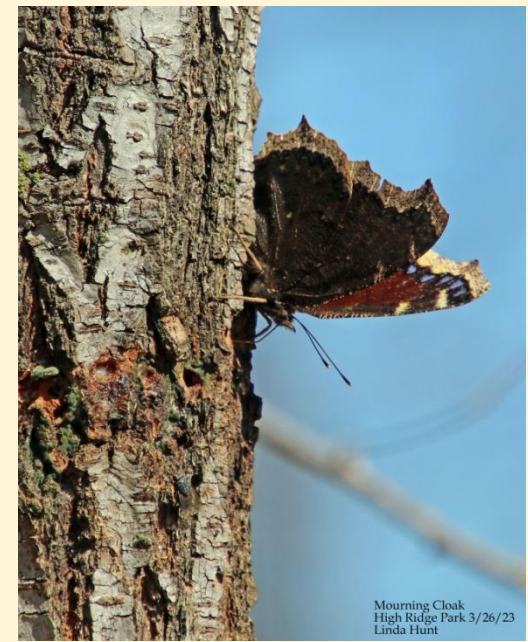
Pearl Crescent
Susan Tucker



Hobomok Skipper
Annette Allor



Long-tailed Skipper
Jim Wilkinson



Mourning Cloak
Linda Hunt



Tawny Emperor
Linda Hunt



Coral Hairstreak
Kevin Heffernan



Painted Lady
Clayton Koonce

Photos from Participants



Meadow Fritillary
Annette Allor



Sleepy Orange
Kelsey Wellons



Red-banded Hairstreak
Annette Allor



Silvery Checkerspot
Clayton Koonce



Silver-spotted Skipper
Cris Ausin



Juniper Hairstreak
Kathy Litzinger

Photos from Participants



Southern Cloudywing
Linda Hunt



Banded Hairstreak
Annette Allor



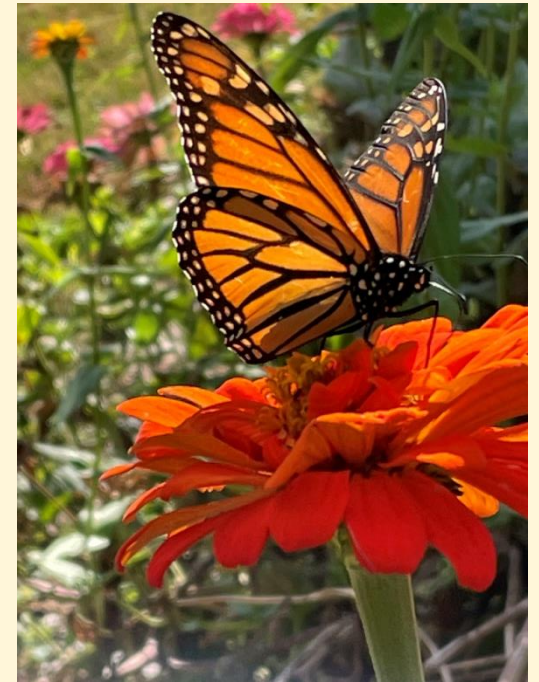
Mourning Cloak
Annette Allor



White M Hairstreak
Annette Allor



Sleepy Orange
Annette Allor



Monarch
Karan Blum

Photos from Participants



Hackberry Emperor
Kurt Schwarz



Red-spotted Purple
Louise Miller



Common Checkered-Skipper
Sue Probst



Harvester
Heidi Osterman



Common Sootywing
Pam Perna



Appalachian Brown
Bill Hill

Photos from Participants



Tiger Swallowtail
Danielle Stuby



Great Spangled Fritillary
Cris Ausin



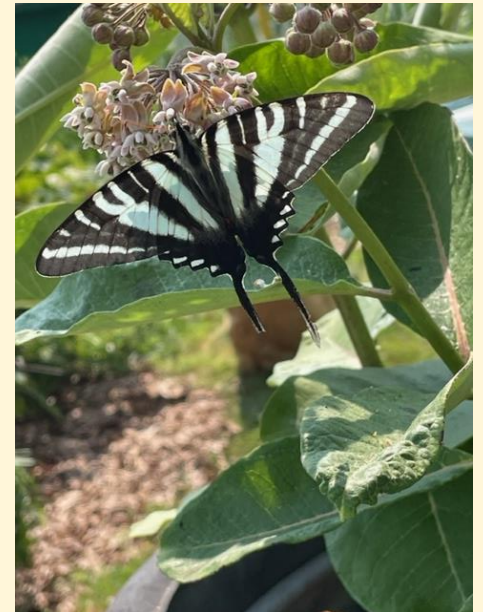
Falcate Orangetip
Linda Hunt



Meadow Fritillary
Linda Hunt



Northern Cloudywing
Kathy Litzinger



Zebra Swallowtail
Barbara White

Difficult to Find Spring Butterflies

(Need more sightings and additional locations for each species)

- **Falcate Orangetip:**

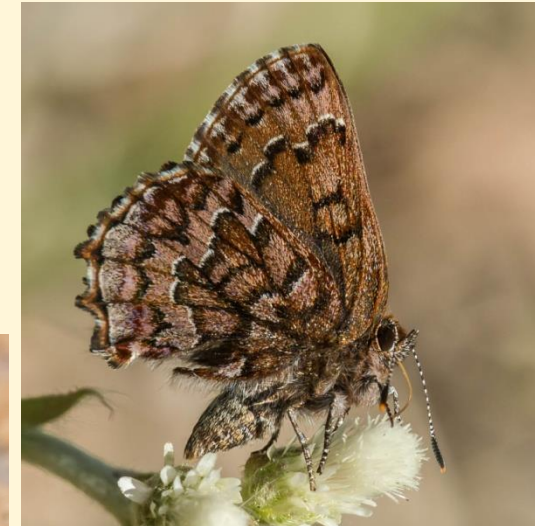
- one brood between late March and early May
- found in open woodlands
- found 14 last year



Falcate Orangetip
Kevin Heffernan

- **Eastern Pine Elfin:**

- one brood between mid-April and late May
- found near Virginia Pine (host plant)
- found 16 in ten years (not seen since 2019)



Eastern Pine Elfin
Kevin Heffernan

- **Henry's Elfin:**

- one brood from late March to early May
- found in woodland clearing, trails and edges
- found two in 2018 at High Ridge Park



Henry's Elfin
Kevin Heffernan

Difficult to Find Spring Butterflies

(Need more sightings and additional locations for each species)

• Juvenal's Duskywing:

- one brood from early April to mid-May
- found in open woodlands and adjacent areas
- found four last year
- difficult to ID due to definitive field marks on ventral side



Juvenal's Duskywing
Linda Hunt

• Dusted Skipper:

- one brood from mid-May to early June
- dry fields, barrens, or power line cuts
- Found 22 from 2014 to 2018 in Murray Hill
- not seen since 2018



Dusted Skipper
Kevin Heffernan

• Spring Azure:

- found from ~late March to mid-May
- found two in 2014, none since
- very difficult to ID vs. Summer Azure



Spring Azure
Annette Allor

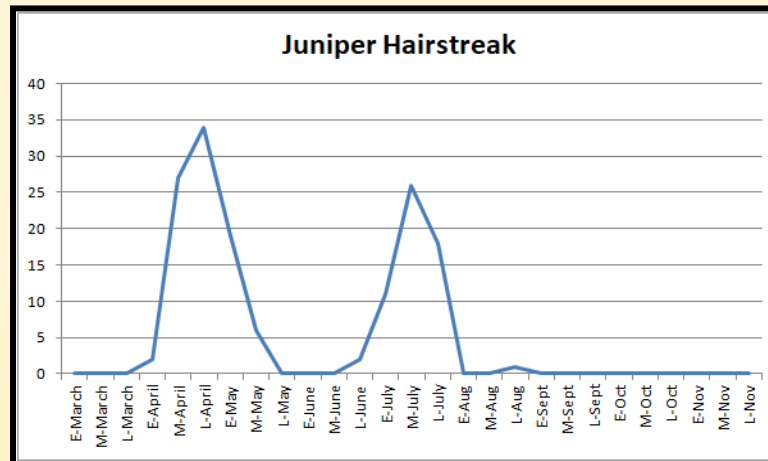
Educational Materials / Activities

- Dick Smith's "Butterflies of Howard County"
- Butterfly Identification Cheat Sheet
- Butterfly Flight Times graphs
- Butterfly Early and Late dates
- Butterfly Overwintering Strategies
- Annual "Butterfly Year" Presentations
- Pollinator garden design templates
- Pollinator garden design spreadsheet
- Butterfly photo gallery
- Butterfly walks
- Annual reports
- Last butterfly of the year contest
- **Butterfly year status emails**
- Butterfly talks
- Butterfly ID emails
- Recognize the first identified butterfly of the year

* Items in blue text are on the Howard County Bird Club website

** Many of these are pdfs that can be downloaded to your phone


	Early	Late
Pipeline Swallowtail	4/29/2017	11/16/2020
Zebra Swallowtail	3/28/2016	10/1/2018
Black Swallowtail	4/11/2017	10/28/2014
Giant Swallowtail	8/27/2014	10/2/2019
Eastern Tiger Swallowtail	4/1/2016	10/15/2020
Spicebush Swallowtail	4/9/2017	10/20/2017
Checkered White	9/12/2016	10/10/2018
Cabbage White	2/23/2017	11/25/2019
Falcaté Orangetip	3/30/2020	5/22/2015
Clouded Sulphur	3/29/2018	12/27/2015
Orange Sulphur	2/25/2017	12/27/2015
Cloudless Sulphur	5/29/2019	11/26/2019
Little Yellow	8/31/2015	9/25/2016
Sleepy Orange	4/8/2020	11/18/2021
Dainty Sulphur	9/18/2019	10/4/2019



Overwintering Strategies	Egg	Caterpillar	Chrysalis	Adult
Hobomok Skipper		X		
Zabulon Skipper		X		
Broad-winged Skipper		X		
Dun Skipper		X		
Dusted Skipper		X		
Pipeline Swallowtail			X	
Zebra Swallowtail			X	
Black Swallowtail			X	
Eastern Tiger Swallowtail			X	
Spicebush Swallowtail			X	
American Copper		X		
Bronze Copper	X			
Coral Hairstreak	X			
Banded Hairstreak	X			
Question Mark				X
Eastern Comma				X
Mourning Cloak				X

THE BUTTERFLIES OF HOWARD COUNTY, MARYLAND

A Biological Summary and Checklist



The Howard County Chapter of the Maryland Ornithological Society
Richard H. Smith, Jr.

Similar Butterfly ID Cheat Sheet (does not include Skippers)
Version A, 02-28-18
© Kevin J. Heffernan
Sponsored by the Howard County Bird Club

Photo credits:
Chris Davidson, Grant ST, Harold HS, Tracy Empson D & V, Leslie Wood Sater D & V, Northern Parula D & V, Bowers DE, Melissa Pitt D & V, Patrick Luby D, Spencer D & V, Variegated Fritillary V, Richard DE, American Lady D, Spicebush ST, M. Parnwell ST D, Mark Salinger, Black Swallowtail V, Question Mark V, Jay Jeff, Kathy Stanger, Northern Oak Hairstreak, Mark Salinger, Question Mark ST, Joe Turner, Question Mark D, Kevin Heffernan D & V, etc.

Sixteen Step Process to Cure “Nature Deficit Disorder”

- 1. Plant a native plant garden*
- 2. Use straight natives instead of native cultivars or hybrids if possible*
- 3. Use local ecotype native plants*
- 4. Landscape for caterpillars*
- 5. Use as many of the Keystone trees, shrubs and perennial plants as possible for caterpillars*
- 6. Support native plant nurseries*
- 7. Remove invasive species**
- 8. Minimize the number of non-native plants, shrubs and trees in your yard**
- 9. Reduce the size of your lawn**
- 10. Leave the leaves**
- 11. Wait until mid-spring to clean up your garden**
- 12. Turn out the lights at night**
- 13. Reduce or eliminate insecticide use**
- 14. Reduce or eliminate mosquito spraying**
- 15. Provide nest sites for bees (patches of bare ground, brush piles, nesting blocks)**
- 16. Spread the word**

What can you do at home to help butterflies?

Why plant *native* plants?

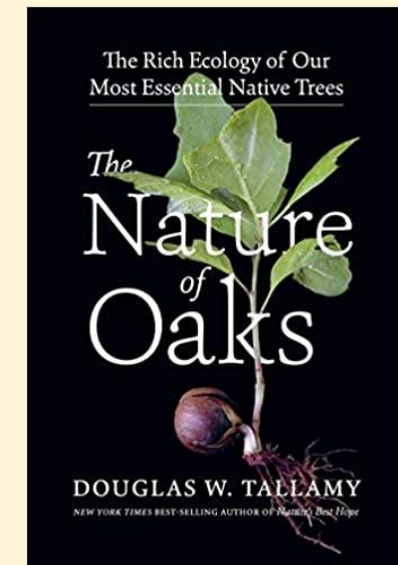
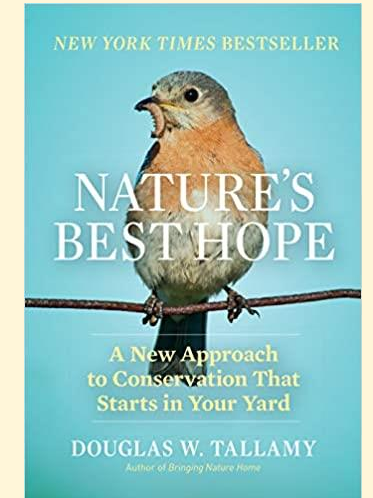
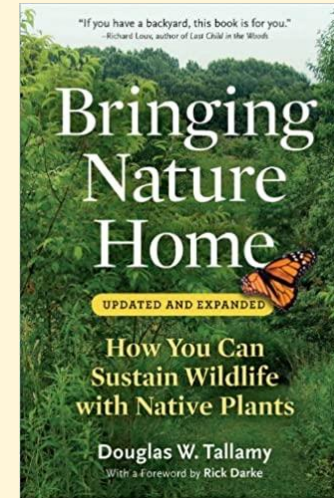
- Plants lace their leaves with nasty tasting or toxic chemicals to keep herbivores from eating them. Insects that eat these plants have had to adapt to these chemical defenses. The plant then adapts to the insect adaptation in a reciprocal evolution. Of the 6,752 species of butterflies and moths in North America with confirmed host records, 86% confine their larval development to plants within only three families out of the 268 plant families in North America. *They are not only unable to eat almost all of the non-native plants but also most native plants.* This is called “host plant specialization”. Many native solitary bees are pollen specialists requiring a specific plant as well.
- A study compared caterpillar numbers of four non-native invaded sites with four native sites of similar size. The results were that the non-native plots had 68% fewer caterpillar species, 91% fewer caterpillars and 96% less caterpillar biomass than the native sites. In other words, 91% less butterflies and moths , and 96% less food available for birds.
- *96% of our birds raise their young on insects. It takes from 6,000 to 9,000 caterpillars to raise a single brood of chickadees.*
- *A 2018 Smithsonian study concluded that in areas made up of <70% native plant biomass, Carolina chickadees will not produce enough young to sustain their populations. At 70 percent or higher, the birds can thrive.*
- Mt. Cuba Center conducted a survey of 14 local nurseries in PA, NJ, MD, and VA to determine what percentage of plant taxa sold by local nurseries are native?
 - *Results: 75% non-native, 19.3% native cultivars and hybrids, 5.7% straight natives*
 - Also: 2% are invasives and another 2% are on Invasive Watch List



New England Aster
“Purple Dome”

Keystone Trees, Shrubs, and Herbaceous Plants

Data from Doug Tallamy's Research on Lepidopteran Use of Native Plants					
Woody Plants			Herbaceous Plants		
Common Name	Genus	# B/M Species	Common Name	Genus	# B/M Species
Oak	Quercus	534	Goldenrod	Solidago	115
Black cherry	Prunus	456	Asters	Aster	112
Willow	Salix	455	Sunflower	Helianthus	73
Birch	Betula	413	Joe pye, Boneset	Eupatorium	42
Poplar	Populus	368	Morning glory	Ipomoea	39
Crabapple	Malus	311	Sedges	Carex	36
Blueberry	Vaccinium	288	Honeysuckle	Lonicera	36
Maple	Acer	285	Lupine	Lupinus	33
Elm	Ulmus	213	Violets	Viola	29
Pine	Pinus	203	Geraniums	Geranium	23
Hickory	Carya	200	Black-eyed susan	Rudbeckia	17
Hawthorn	Crataegus	159	Iris	Iris	17
Spruce	Picea	156	Evening primrose	Oenothera	16
Alder	Alnus	156	Milkweed	Asclepias	12
Basswood	Tilia	150	Verbena	Verbena	11
Ash	Fraxinus	150	Beardtongue	Penstemon	8
Rose	Rosa	139	Phlox	Phlox	8
Filbert	Corylus	131	Bee balm	Monarda	7
Walnut	Juglans	130	Veronica	Veronica	6
Beech	Fagus	126	Little bluestem	Schizachyrium	6
Chestnut	Castanea	125	Cardinal flower	Lobelia	4



Best Native Nectar Plants for Butterflies

- Joe Pye Weed
- Beebalm
- Asters
- Goldenrods
- Common Milkweed
- Swamp Milkweed
- Butterfly Milkweed
- Purple Coneflower
- Gayfeather
- Boneset
- Thoroughwort
- New York Ironweed
- Field Thistle
- Buttonbush



Red-banded Hairstreak on Boneset
Clayton Koonce



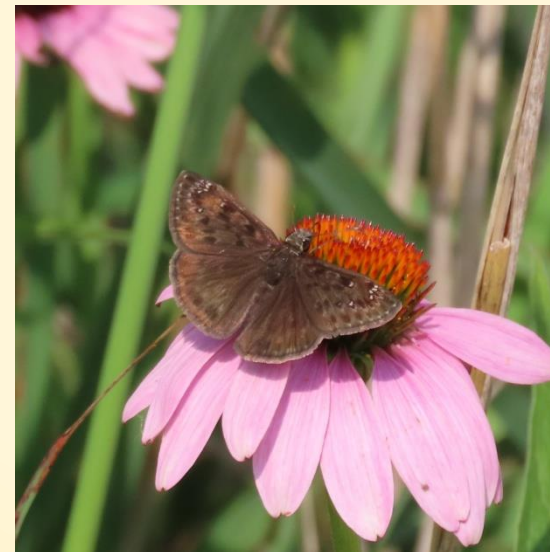
Clouded Sulphur on Aster
Annette Allor



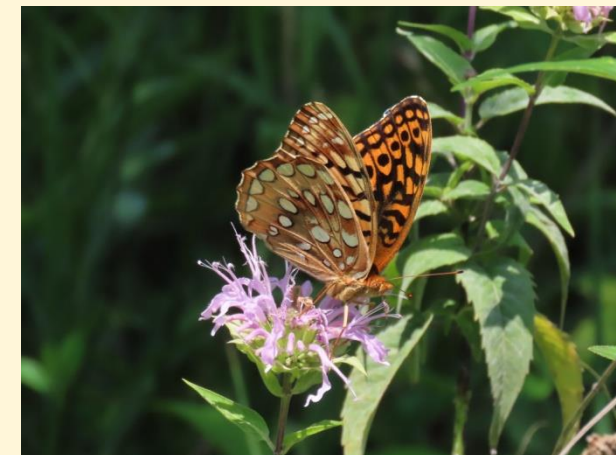
Monarch on Thistle
Kevin Heffernan



Viceroy on Buttonbush
Clayton Koonce



**Horace's Duskywing on
Purple Coneflower**
Clayton Koonce



**Great Spangled Fritillary
on Beebalm**
Clayton Koonce

Is It OK to Use Non-native Annuals in your Native Plant Garden?

- Plants native to this area are the best choice in pollinator gardens as they are disease-resistant and naturally adapted to the environment.
- Supplementing native plants with some non-native, non-invasive plants will guarantee a continuous supply of both nectar and pollen throughout the growing season.
 - Bees and other pollinators need a continuous supply of nectar to provide sugar for energy and pollen to provide vital proteins and fats.
- Choose old-fashioned simple blooming annuals instead of double blooms and hybrids
- ***The common advise is to try for a 70:30 or 80:20 native to nonnative ratio***
- Some plants to try are Zinnias, Lantana, Mexican sunflowers (Tithonia), Tall Verbena, Cosmos, Salvia, Angelonia, and Alyssum



Lantana



Cosmos



Mexican Sunflower



Tall Verbena



Salvia



Angelonia

Support Native Plant Nurseries

- Quick list of local nurseries specializing in native plants. I am excited that some are offering straight native plants only!

- The perfect mail order nursery (IMHO) would be a Prairie Moon Nursery type nursery located in Maryland (local ecotype plants)
- Prairie Moon offers pre-planned garden trays for many different garden conditions. In addition, they offer customizable trays.
- My Home Park now offers a few pre-planned garden trays with local ecotype plants
- To me, the easiest way to get native plant gardens in the ground is to offer pre-planned gardens for their conditions with a planting map



<u>Retail Native Plant Nurseries</u>	Location	Miles from Ellicott City	Retail	Retail on some dates	By appointment only	Order - Pickup	Order - ship to house	Straight Natives	Native Cultivars	Some Ornamentals	Local Ecotype?	Customizable Trays	Pre-planned garden trays
Lauren's Native Plant Nursery	Ellicott City, MD	10	X			X		X	X	X	Y	N	N
Howard Ecoworks (Seeds of Change)	Jessup, MD	14	X			X		X			Y	N	N
Herring Run Nursery	Baltimore, MD	26	?			X		X	X		Y		
Wildflower Native Plants	Bethesda, MD	35			X			X			Y		
Chesapeake Natives, Inc.	Upper Marlboro, MD	49		X		X		X			Y	N	N
Wild Spirit Native Plants	Thurmont, MD	52				X		X			Y	N	N
Kollar Nursery	Pylesville, MD	52	X			X		X	X	X	?		
Earth Sangha	Springfield, VA	55	X			X		X			Y		
Meadowsweet Native Plant Farm	York, PA	65			X			X	X		?	N	N
Adkins Arboretum	Ridgely, MD	74	X			X		X			Y		
Redbud Native Plant Nursery	Media, PA	109	X			X		X	X		Y	N	N
Keystone Wildflowers	Robeson, PA	114				X		X			Y	N	N
<u>Mail Order Nurseries</u>													
Mid-Atlantic	Cobbs Creek, VA						X	X			Y	N	N
Direct native plants	Middle River, MD						X	X			Y	N	N
Izel Plants	Washington D.C.						X	X			N	N	Y
Prairie Moon Nursery	Winona, MN						X	X			N	Y	Y
Prairie Nursery	Westfield, WI						X	X			N	Y	Y
My Home Park							X	X			Y	N	Y

Native Plant Sales, Tree Giveaways and Native Plant Swaps

Native Plant Sales in 2024			
<u>Event</u>	<u>Date</u>	<u>Time</u>	<u>Location</u>
Greenfest	4/13/2024	9:00 to 4:00	Howard Community College
Brookside Gardens	4/20/2024	10:00 to 2:00	Brookside Gardens
Yards Alive! Spring Plant Share	4/20/2024	11:00 to 2:00	Oakland Mills The Other Barn
Clarkville Commons	4/27/2024	1:00 to 4:00	Clarkville Commons
Howard County Conservancy	5/4/2024	11:00 to 1:00	Howard County Conservancy
Irvine Nature Center	5/18/2023	9:00 to 1:30	Irvine Nature Center
Native Plant Palooza	9/29/2024	12:00 to 4:00	Robinson Nature Center
Trees for Bees (too late to order)	4/13/2024	10:00 to 3:00	Howard Community College

What can you do at home to help butterflies?

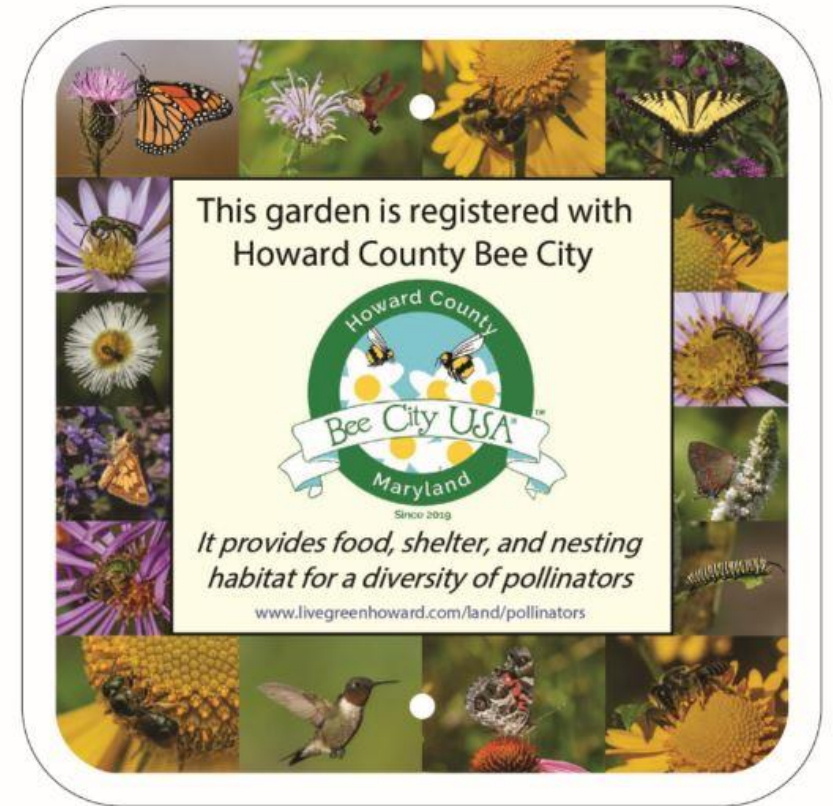
Plant a native plant pollinator garden

- See pollinator plant spreadsheet on HCBC website for garden design information
 - has 125 herbaceous plants, ~70 trees and shrubs, 6 vines and 11 grasses
 - has lots of references and notes
 - is being periodically updated
 - can be sorted to emphasize plants / conditions that you are looking for
 - Mt. Cuba Center just released a similar spreadsheet

<i>Herbaceous Plants</i>																														
Flowers	Latin Name	English Name	Bloom time		Color, Height, Spread			Nectar, Host, Native, H-birds				Perennial, Biennial, Annual			Soil		Sun		Deer Damage Level					Pollinator Value				Larval host	Comment	
			Bloom start	Bloom end	Color	Height	Spread	Native	Nectar value	Host Plant	Hummingbirds	Perennial	Biennial	Annual	Wet	Moist	Dry	Full	Part sun	Shade	Rarely	Seldom	Occasionally	Frequently	Resistant	Very high	High			Medium
Actaea racemosa	Common Black Cohosh		6	8	White	4-7'	2-4'	Y	Y	Y	Y	P			M		P	S					X						Host for Spring Azure.	Hummingbirds; flowers have odor that repels some insects; nectar source for sweat and leaf-cutting bees, beetles and flies.
Agastache foeniculum	Anise hyssop		6	9	Lavendr to purple	2-4'	1.5-3'	N	Y	Y	Y	P			M	D	F	P					X							Special Value to native bees, bumble bees and honey bees; upright, clump-forming perennial of the mint family; is a wonderful accent when covered with bottlebrush blossoms and a cloud of butterflies; flowers are pollinated primarily by various types of bees including honeybees, bumblebees, Halictid bees, digger bees, leaf-cutting bees and masked bees; flowers are also visited by pollinating flies, butterflies, skippers, moths and the occasional hummingbird; is used as a butterfly nectar plant or as part of a grouping or mass planting; plants provide fragrance, showy blooms, and are valuable components of wildlife, wildflower, or butterfly gardens or meadows;
Agastache scrophulariifolia	Purple Giant Hyssop		7	9	Purple	4-6'	1-2'	Y	Y	Y	Y	P			M		F	P					X	X				Host for Summer Azure and two moths.	Special Value to native bees, bumble bees and honey bees; long bloom time in combination with their being nectar-rich makes them highly attractive to butterflies, hummingbirds and other pollinators; flowers are cross-pollinated primarily by honeybees, bumblebees, digger bees, leaf-cutting bees, Halictid bees, and Masked bees, which seek nectar or pollen; rated as very high pollinator value in NRCS study;	
Allium cernuum	Nodding Onion		6	8	Pink	1-1.5'	.25-.5'	Y	Y	Y	Y				M	D	F	P					X						Special value to native bees; bulb, member of the lily family; rock gardens, border fronts, cottage gardens or naturalized areas; nectar and pollen of the nodding flowers attract primarily bees, including honeybees, bumblebees, Anthophorine bees, and Halictid bees; plants usually go dormant in summer after blooming and leaves disappear until cool weather returns; city of Chicago gets it's name from the Algonquin Indian name for this plant, "chigagou";	

Embrace the “wild in your garden”

- *Your yard will be an oasis for bees, butterflies and birds in your neighborhood*
- *Register your garden with Bee City and receive a garden sign*
- *Report your butterfly sightings to the Butterfly Survey*
- *Sit back and enjoy the show*





Thank you, Volunteers!

Silvery Checkerspot
on *Rudbeckia laciniata*
Pam Perna's Garden
Woodbury 7/29/20