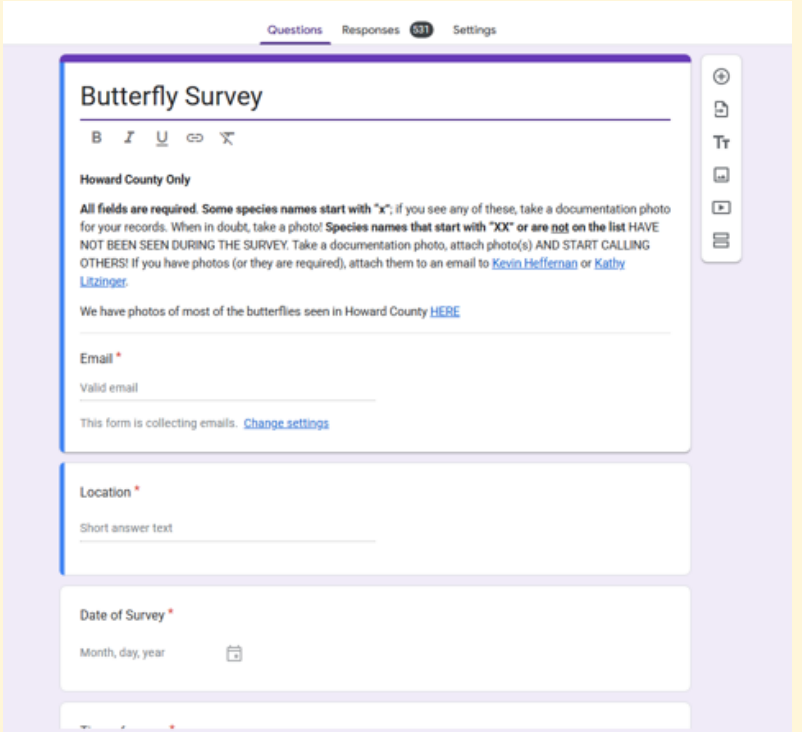
The 2025 Howard County Butterfly Survey Results

Special Thanks (Slide 1 of 2)

- ***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, Kathy Litzinger, Woody Merkle, Linda Hunt, Annette Allor and Cris Ausin, make the walks happen. Their expertise made the walks special for the participants. A special thank you goes to Cris Ausin who took vacation to help lead the weekday walks.**
- ***A VERY HUGE thank you goes out to the four people who submitted >100 surveys, Clayton Koonce (146), Kathy Litzinger (138), Linda Hunt (121) and Annette Allor (109).***
- ***A thank you to everyone who sent in a survey this past year with a particular thanks to the 20 people that sent in 20 or more surveys.***
- ***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.***

Special Thanks (Slide 2 of 2)

- In 2016, Bob Solem designed the Butterfly Report Form that automated the butterfly reporting system. That form worked flawlessly for nearly 10 years.
- On August 11th, the Butterfly Report Form stopped working. August is, of course, the busiest time of year for the butterfly survey.
- Bob worked tirelessly for days trying to fix the problem and thought that he had it solved twice. Unfortunately, the fixes still had some issues. I talked to Bob several times that week and he sounded exhausted with all of the hours that he was putting in to solve the problem.
- As a backup plan, Gregg asked Steve Luke to try to come up with a new system for ingesting butterfly report data. He came up with the Google Forms solution that is working well.
- The system was down for two weeks. We manually put in the reports that we received during those two weeks into the new system. Many people held off submitting their reports until the new system was working.
- ***This could have been much worse but for the efforts of Bob and Steve.***
- A ***HUGE THANK YOU*** goes out to Bob Solem for designing the original system and keeping it working flawlessly for nearly 10 years.
- Another ***HUGE THANK YOU*** goes out to Steve Luke for quickly turning around the new system under pressure.
- Finally, thank you to the butterfly community for their patience while we worked this issue.



12-Year Overview – Results

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total	2025 Rank
Observers	22	48	44	48	59	62	48	73	85	112	58	77		
Surveys	372	696	715	870	958	748	706	1144	1044	878	947	1257	10335	1
Duration(min.)	19970	19437	35924	50196	55787	49242	40684	61027	56668	48536	45334	69128	551933	1
Species	68	70	75	70	71	73	69	69	70	70	70	72	81	3
Butterflies	10361	17574	21598	25025	24827	26187	20370	25675	22915	19553	20909	26728	261722	1

- **A total of 77 observers handed in surveys. A total of 179 people attended the six walks.**
- ***Highest annual # of surveys by >100*.**
- ***Highest duration by nearly 8,000 minutes*.**
- **Participation in the survey is strong.**
- **The 72 species recorded this year is the third highest during the survey.**
- **Total # of species observed is *81.***
- ***The 26,722 individual butterflies seen this year is the highest during the survey.***
- ***Have seen >261,000 individual butterflies*.**
- **This amount of data has allowed us to plot flight times, early / late dates, etc.**
- ***551,933 minutes = 9198 hrs***

12-Year Butterfly Survey Major Milestones

- ***More than 10,000 individual surveys***
- ***More than 551,933 minutes in the field. This is equivalent to 383 24-hour days. We have spent more than a full year of 24 hour days in the field.***
- **Finally, we have recorded more than a**

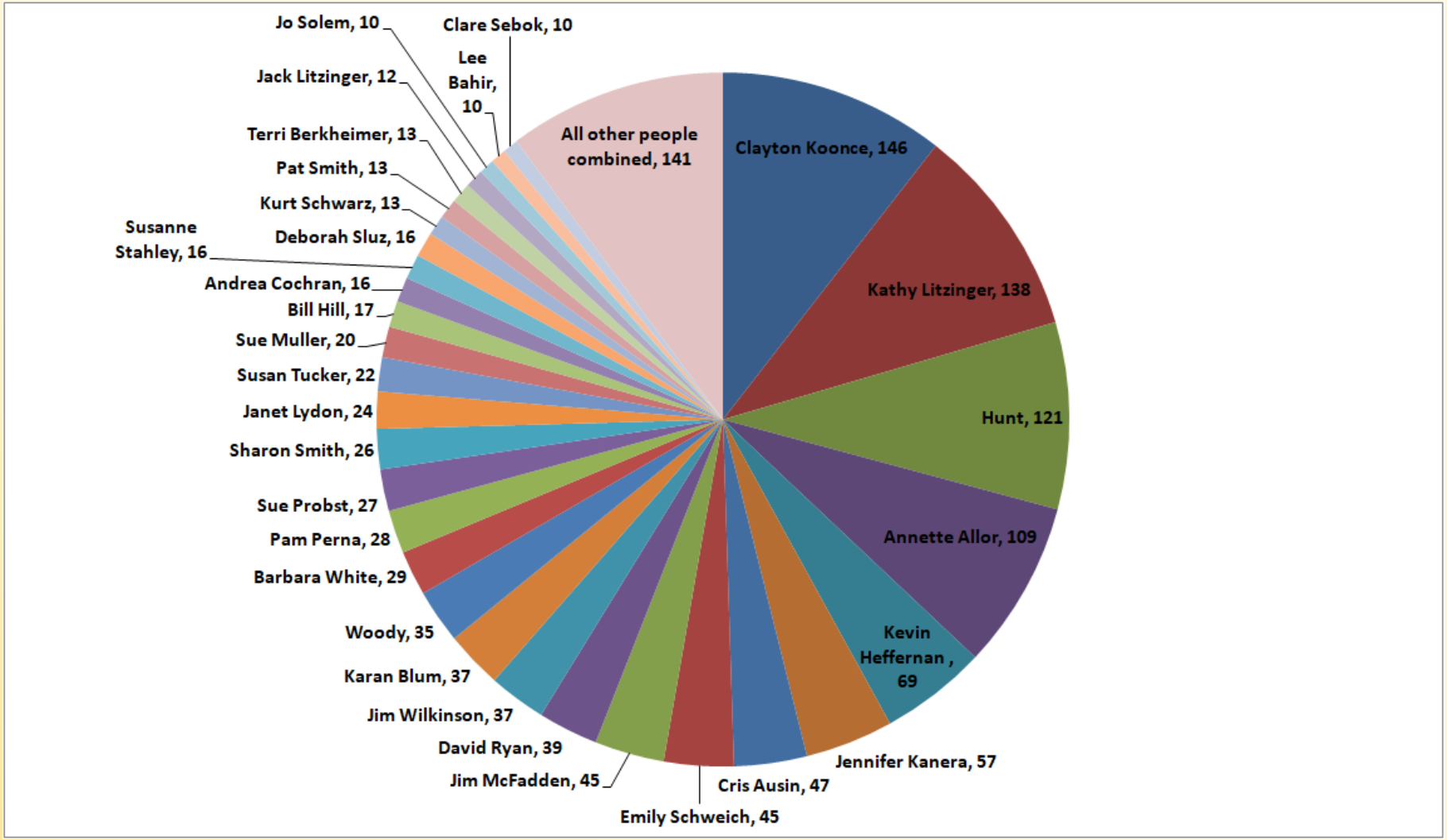
Quarter million butterflies!!!

Dick Smith would be proud!

Survey Participant List for 2025

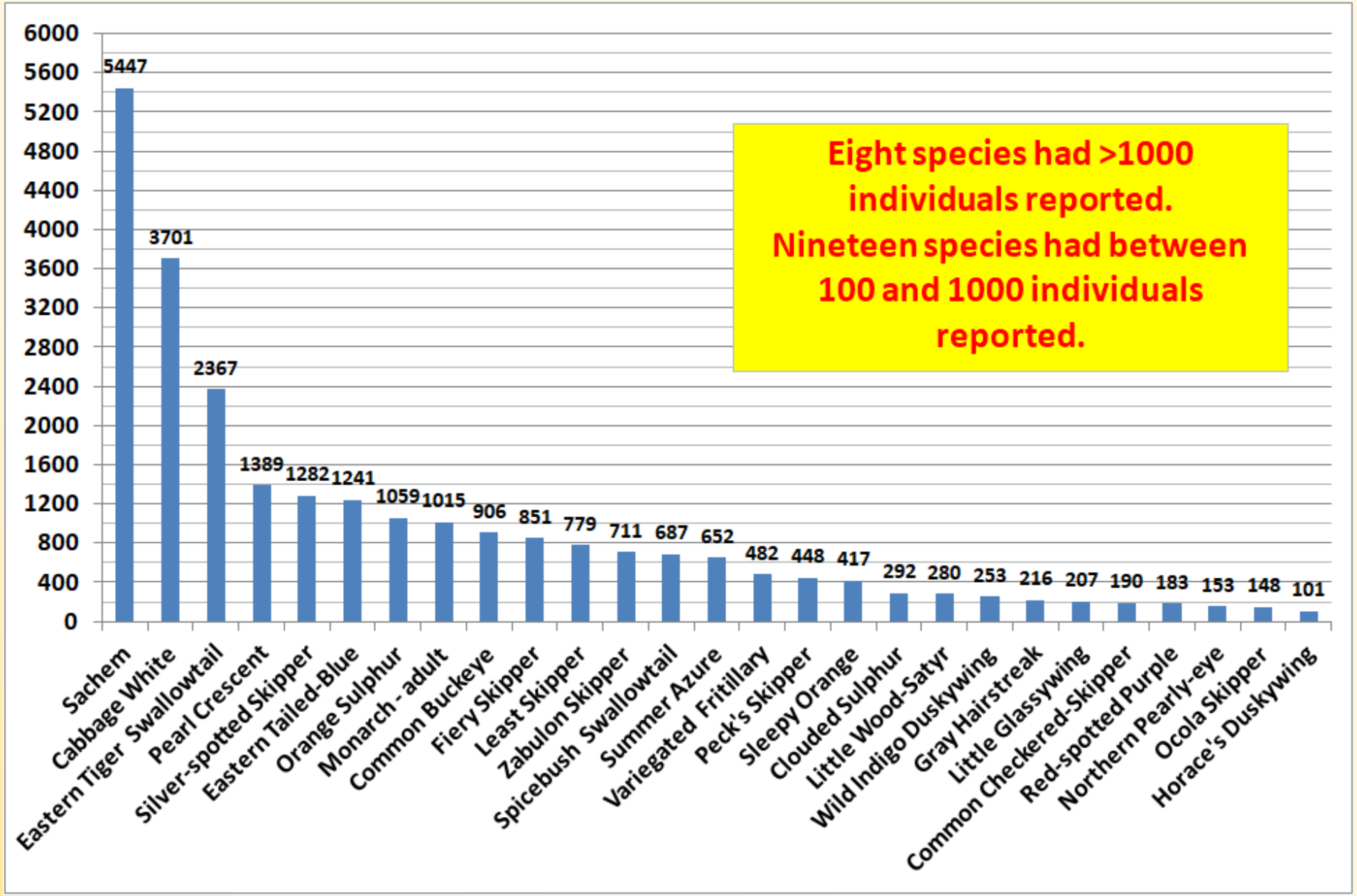
2025 Contributors: Annette Allor, Peter Ashley, Cris Ausin, Lee Bahir, George Berkheimer, Terri Berkheimer, John Blaisdell, Martha Blaisdell, Karan Blum, Alicia Buxton, George Buxton, Jane Chandler, Mark Chandler, Andrea Cockran, Jeff Culler, Allen Dupre, Ward Ebert, Cheryl Fafaras, Tim Foard, Pam Franks, Jeff Friedhoffer, Lou Fries, Michael Griffith, Kim Gross, Tina Grot, Cathy Hallam, Kevin Heffernan, Bill Hill, Gail Hill, Linda Hunt, Kathy Kaberle, Jenny Kanera, Sydney King, Suzanne Klick, Clayton Koonce, Janine Linden, Jack Litzinger, Kathy Litzinger, Janet Lydon, Lizabeth Malone, Jim McFadden, Woody Merkle, Sue Muller, Catherine Ojo, Bonnie Ott, Mike Perna, Pam Perna, Gregg Petersen, Janine Pollack, Sue Probst, Sue Rajan, Kate Reilly, Mike Riley, David Ryan, Kurt Schwarz, Emily Schweich, Lori Schweich, Mike Schweich, Clare Sebok, Tom Seivert, Kristine Siglin, Deborah Sluz, Stacy Small-Lorenz, Pat Smith, Sharon Smith, Bob Solem, Jo Solem, Authur Sorak, Susanne Stahley, Cat Taylor, Robin Todd, Susan Tucker, Kelsey Wellons, Barbara White, Carol Wilkinson, Jim Wilkinson, and Michele Wright.

Number of Surveys Submitted by Individual

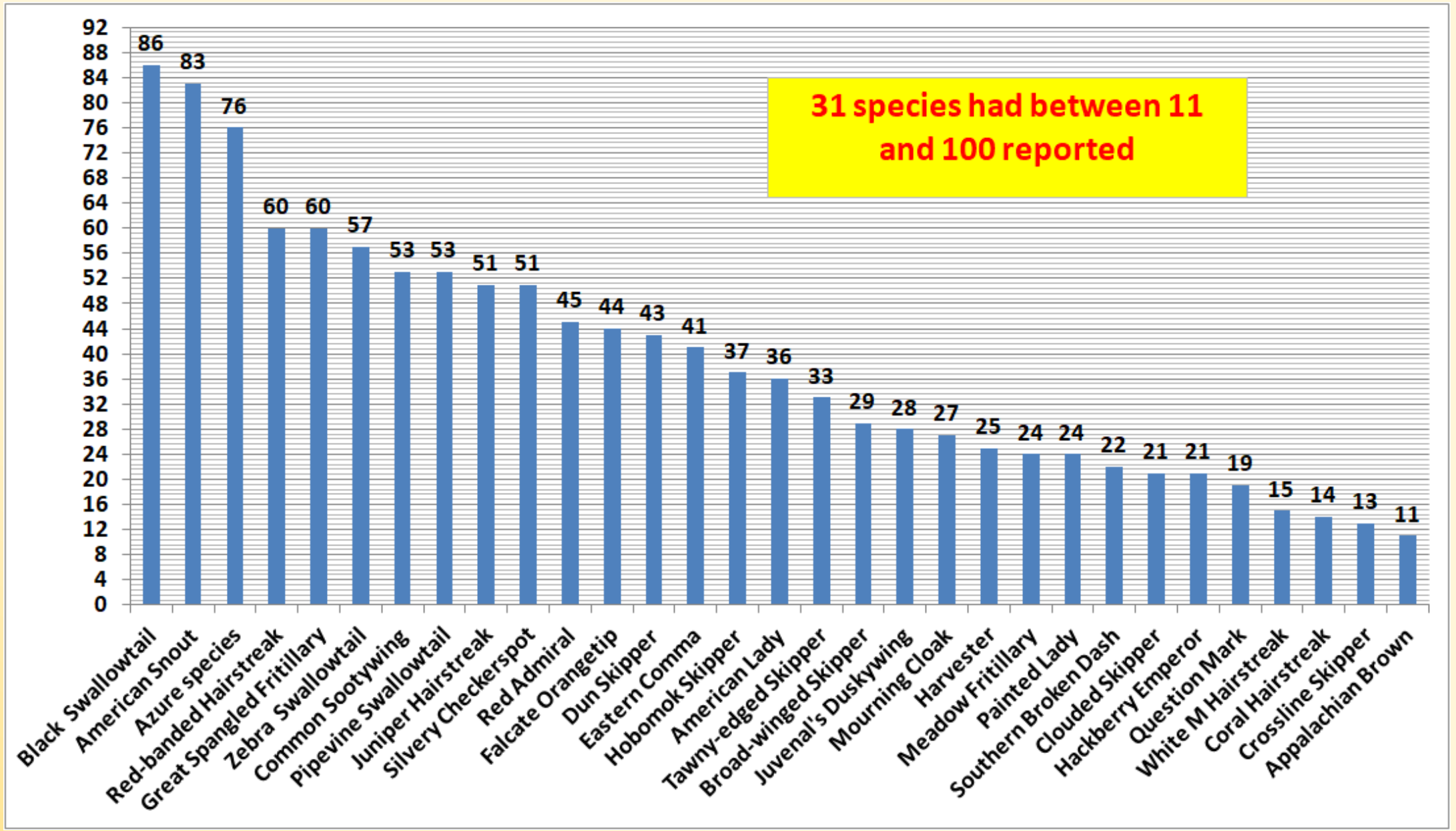


- ***Twenty people submitted 20 or more surveys in 2025. Thirty-one submitted 10 or more.***
- ***Clayton Koonce is a survey machine. He submitted 146 surveys (~ 2 every 3 days from April 1st through October 31st).***
- There were 1257 surveys submitted by 77 people this year. Multiple names on the same survey raises the number to 1396.
- ***The 1257 surveys was the highest in the 12 years by >100.***
- ***Eight people submitted 50% (732) of the surveys.***
- ***Thanks to all 77 people who contributed to the survey this year***

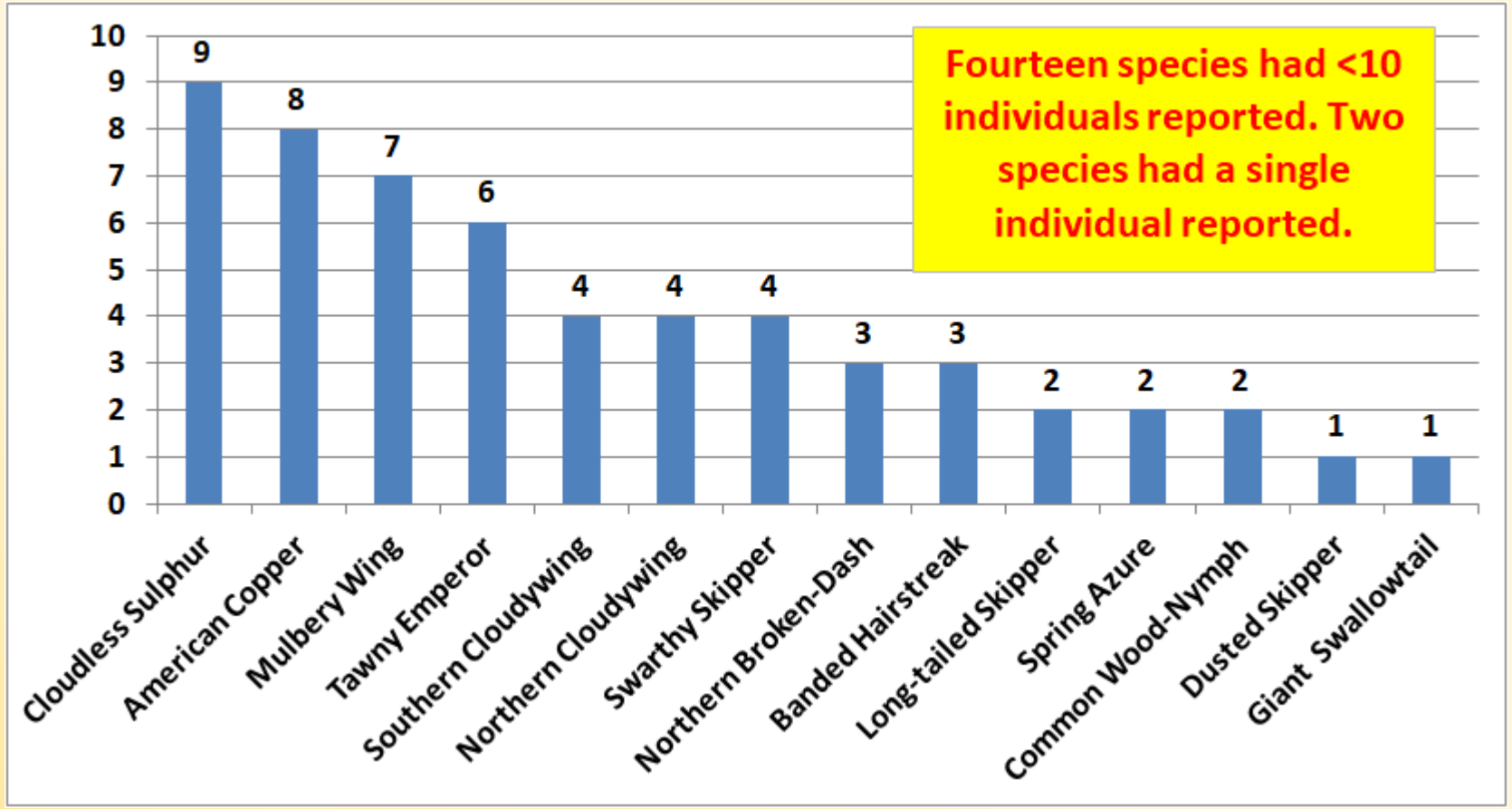
Number of Butterflies by Species



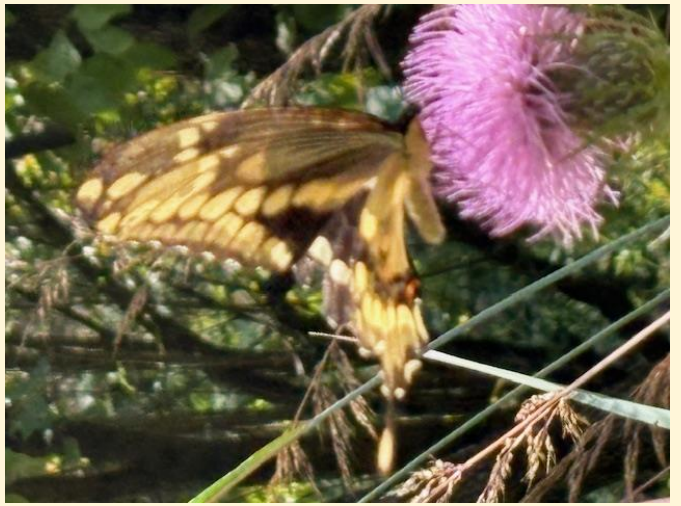
Number of Butterflies by Species



Number of Butterflies by Species

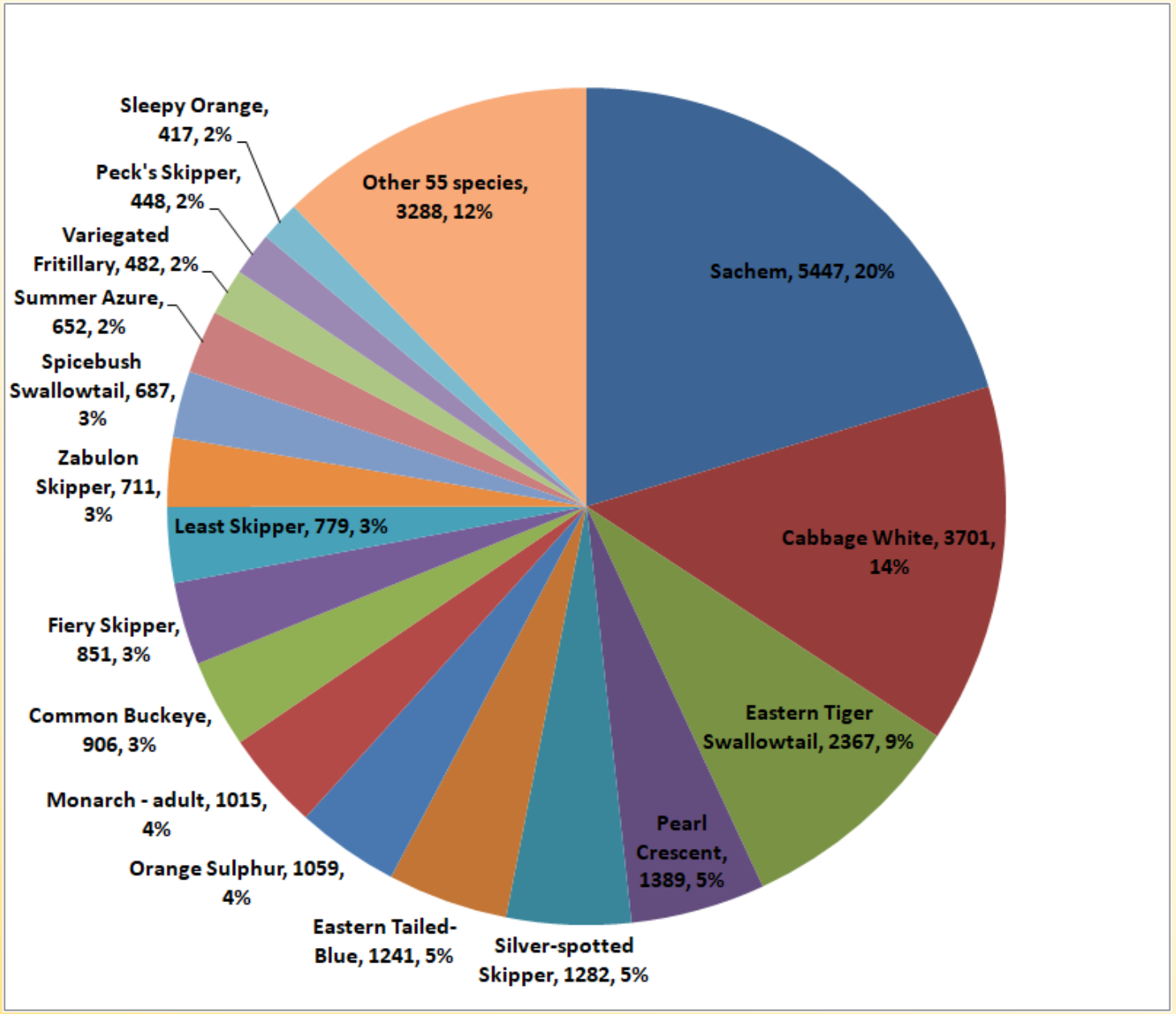


Dusted Skipper
Annette Allor



Giant Swallowtail
Jim McFadden

Most Numerous Species Reported in 2025



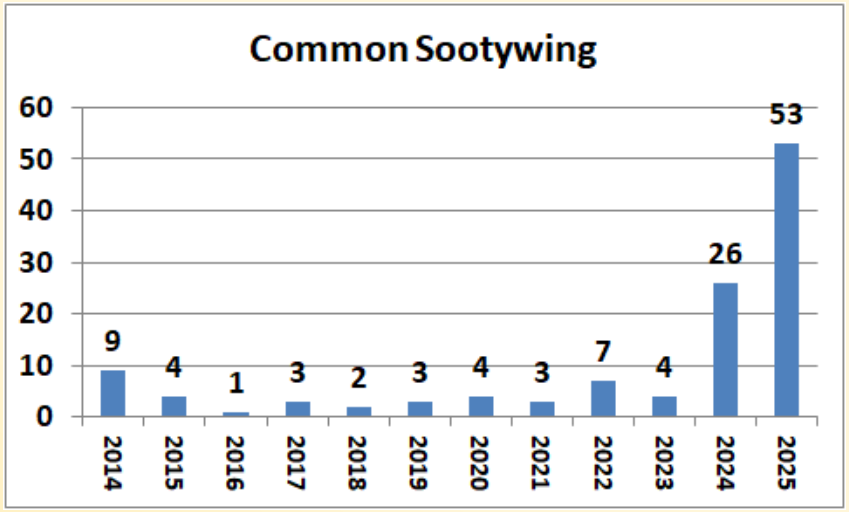
	2025	*12 yr total*
Sachem	1	1
Cabbage White	2	2
Eastern Tiger Swallowtail	3	4
Pearl Crescent	4	7
Silver-spotted Skipper	5	5
Eastern Tailed-Blue	6	3
Orange Sulphur	7	6
Monarch - adult	8	8
Common Buckeye	9	9
Fiery Skipper	10	19
Least Skipper	11	12
Zabulon Skipper	12	10
Spicebush Swallowtail	13	17
Summer Azure	14	16
Variegated Fritillary	15	13

Number of Species Found Each Year

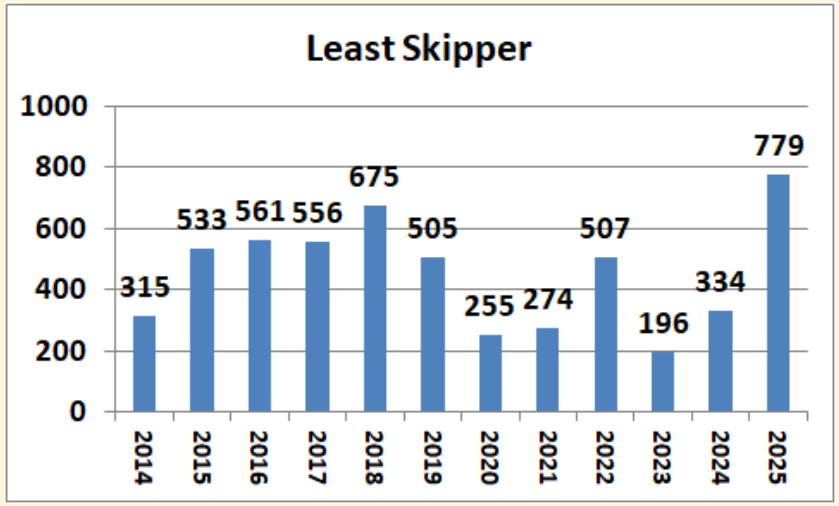
61 of the 81 species seen in the survey have been found in all twelve years

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Cloudless Sulphur (11)		X	X	X	X	X	X	X	X	X	X	X	These seven species have been seen ten or eleven years. Will most likely be seen every year.
Harvester (11)	X	X	X	X	X		X	X	X	X	X	X	
American Snout (11)	X		X	X	X	X	X	X	X	X	X	X	
Silvery Checkerspot (11)	X	X	X		X	X	X	X	X	X	X	X	
Long-tailed Skipper (10)			X	X	X	X	X	X	X	X	X	X	
Clouded Skipper (10)		X	X	X	X	X	X	X	X		X	X	
Tawny Emperor (10)			X	X	X	X	X	X	X	X	X	X	
Mulberry wing (7)		X	X			X		X	X	X		X	These seven species have been seen between 2 and 9 years. The number seen will determine the number of species seen in a given year.
Eastern Pine Elfin (7)	X	X	X	X		X	X				X		
Giant Swallowtail (7)	X		X	X		X			X	X		X	
Dusted Skipper (7)	X	X	X	X	X						X	X	
Little Yellow (4)		X	X			X		X					
Checkered White (2)			X		X								
Spring Azure (2)	X											X	
Hayhurst's Scallopwing (1)		X											These six species have been seen in only one of the 12 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			
Total for Year	68	70	75	70	71	73	69	70	70	70	70	72	
Total for Survey	68	72	77	77	78	80	80	80	80	81	81	81	

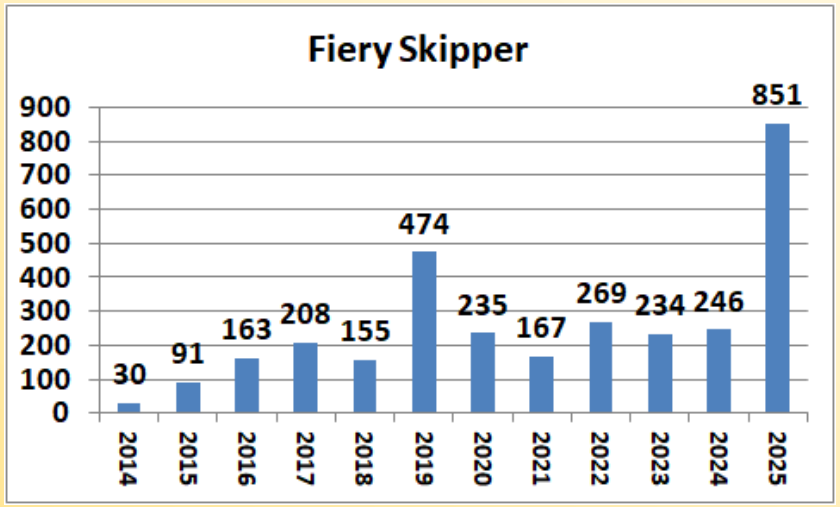
Species Status: Highest Annual Count in 12-Years

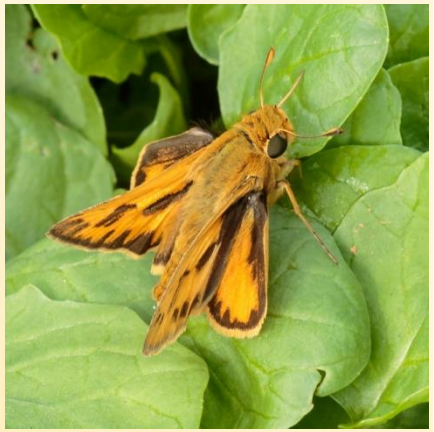


Common Sootywing
Annette Allor

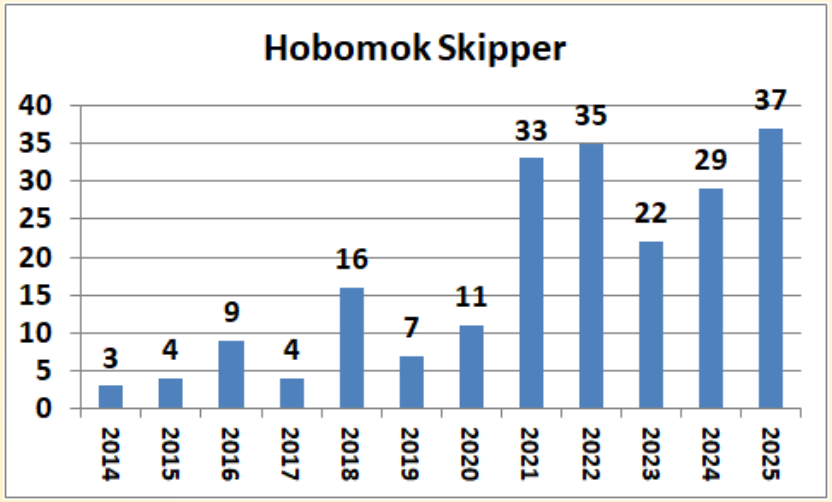


Least Skipper
Annette Allor



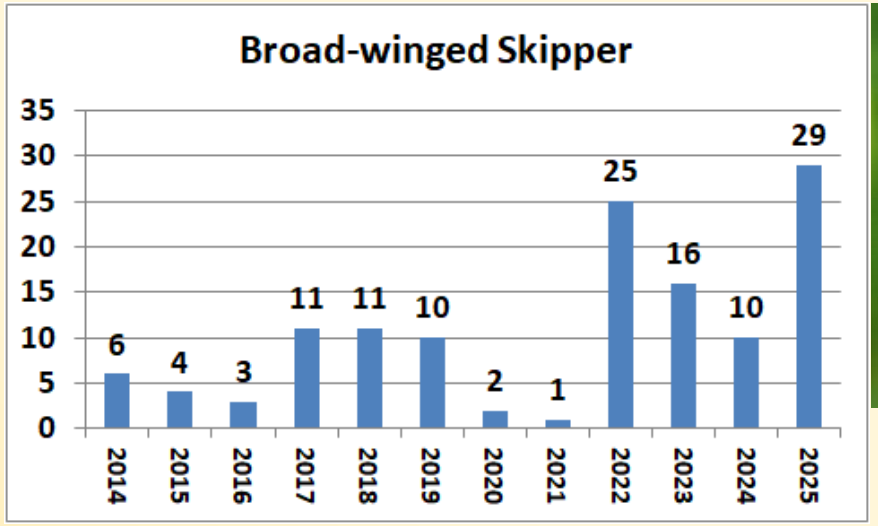


Fiery Skipper
Kevin Heffernan

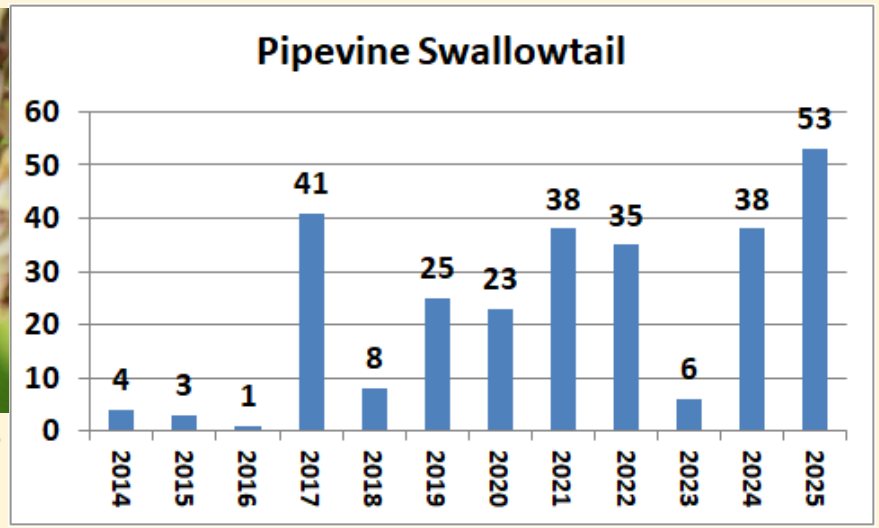


Hobomok Skipper
Pam Perna

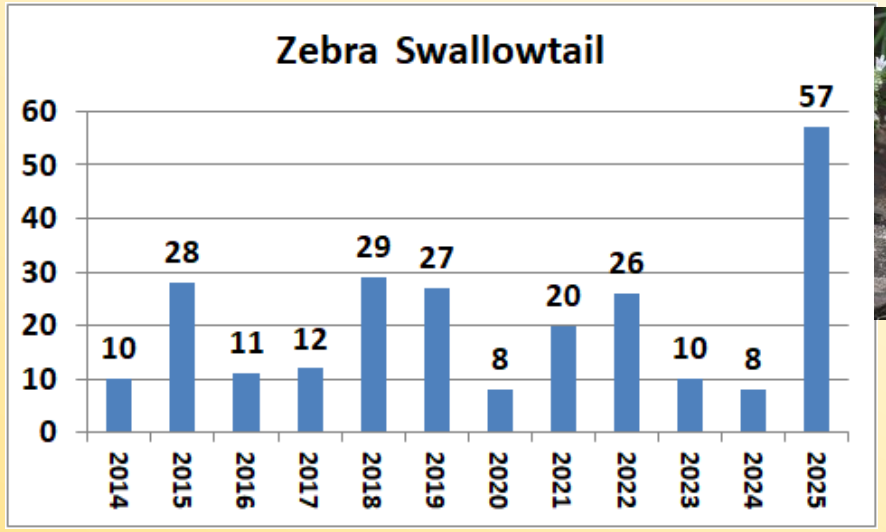
Species Status: Highest Annual Count in 12-Years



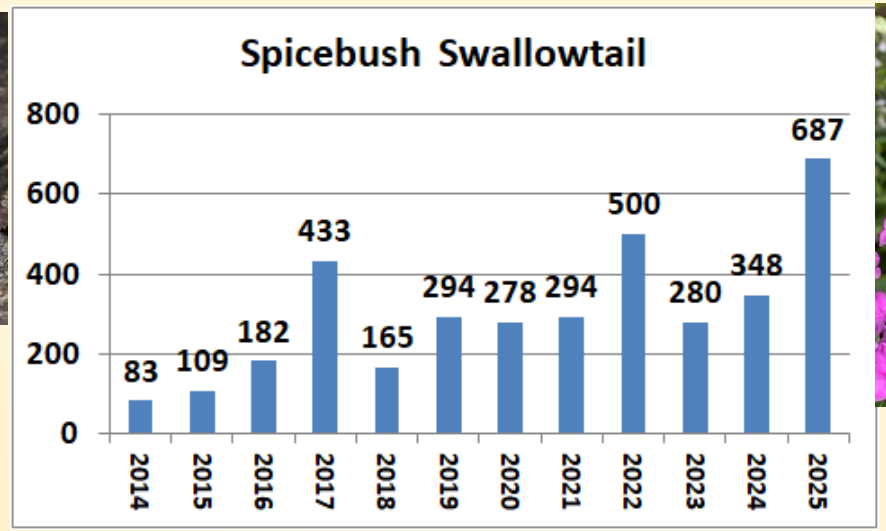
Broad-winger Skipper
Kathy Litzinger

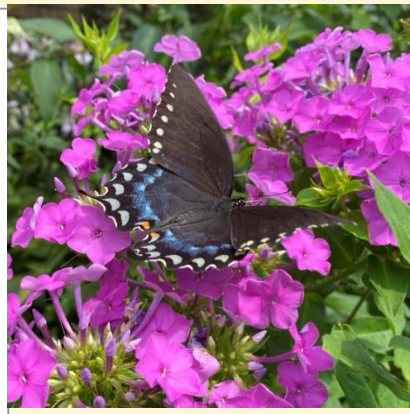


Pipevine Swallowtail
Kurt Schwarz



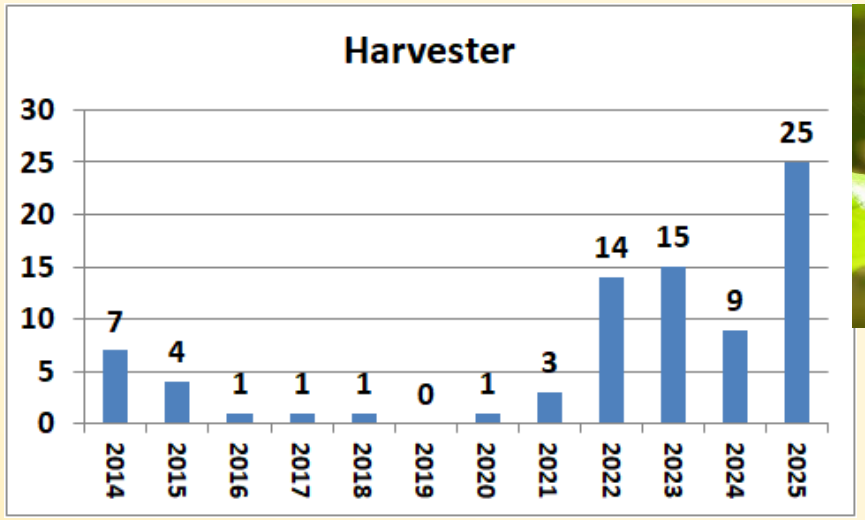
Zebra Swallowtail
Pam Perna



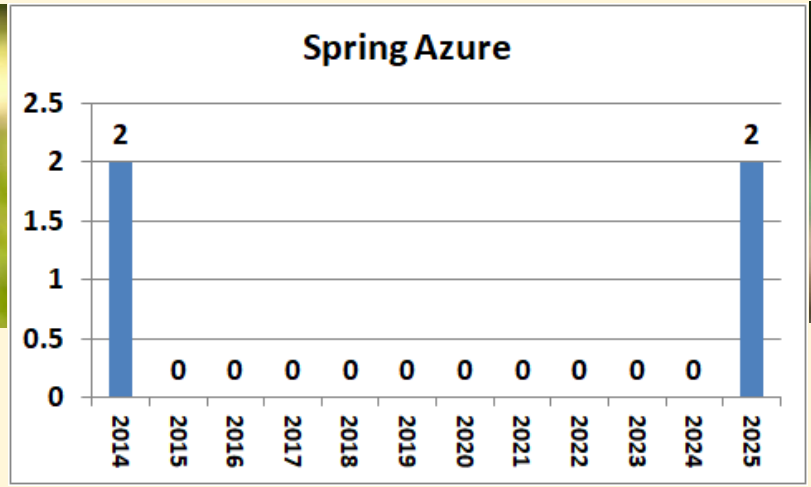


Spicebush Swallowtail
Emily Schweich

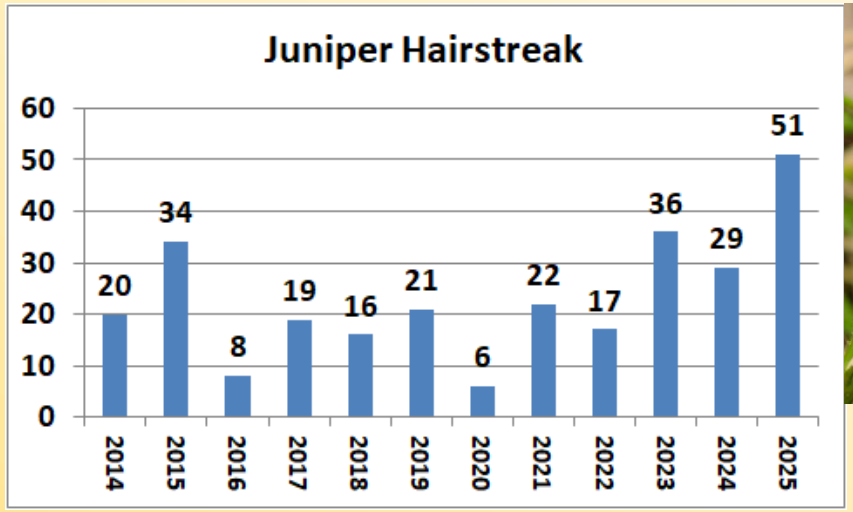
Species Status: Highest Annual Count in 12-Years



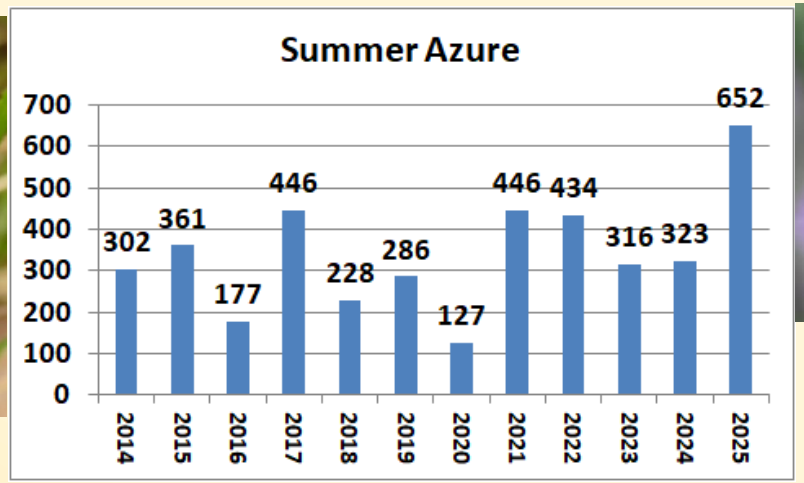
Harvester
Annette Allor



Spring Azure
Cris Ausin

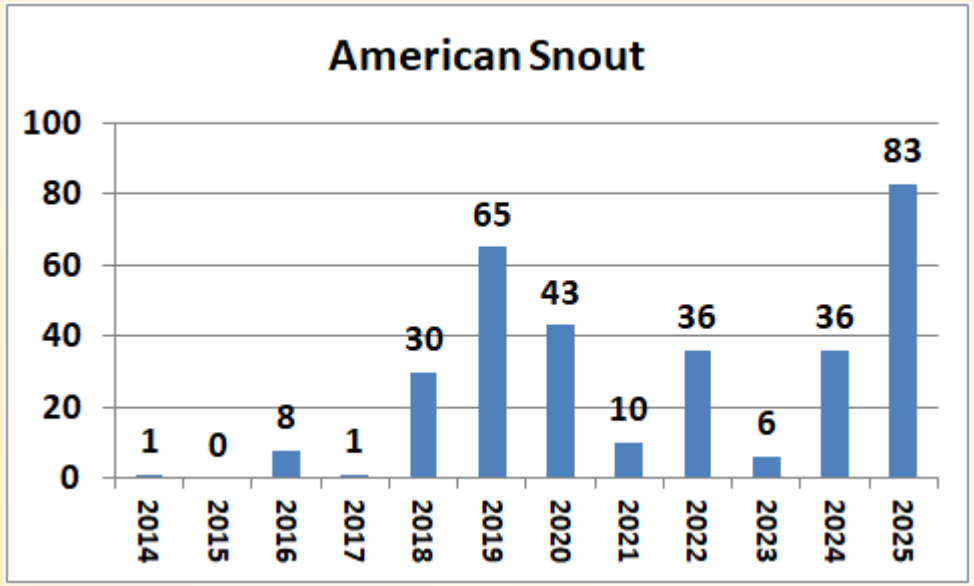


Juniper Hairstreak
Annette Allor

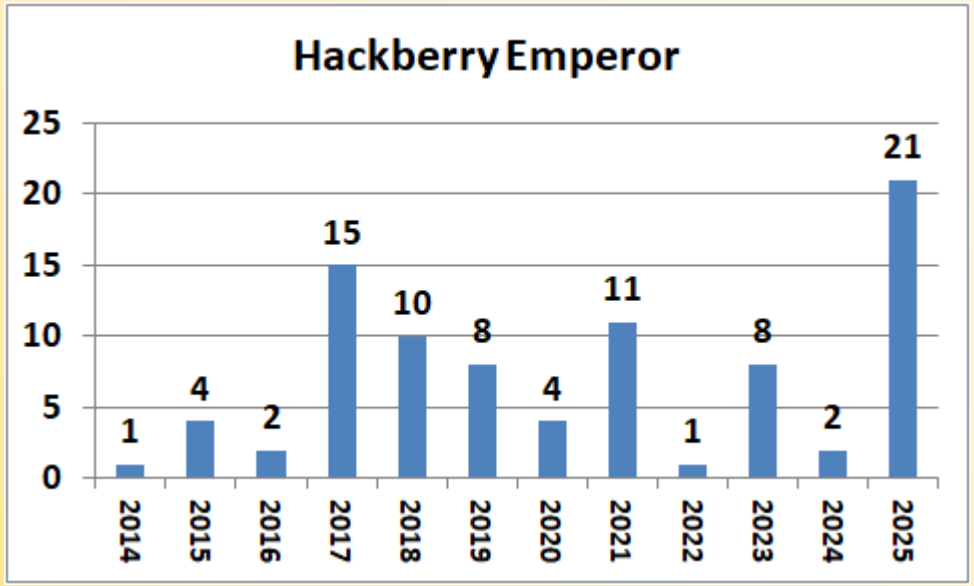


Summer Azure
Kevin Heffernan

Species Status: Highest Annual Count in 12-Years

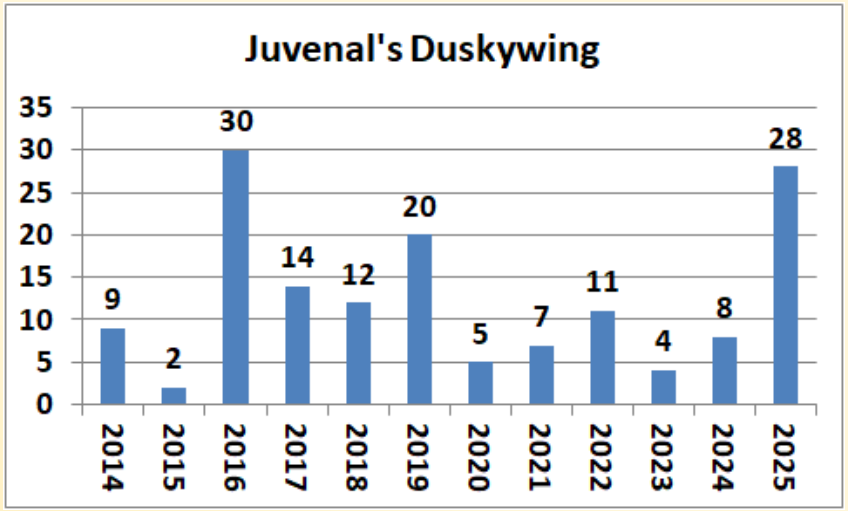


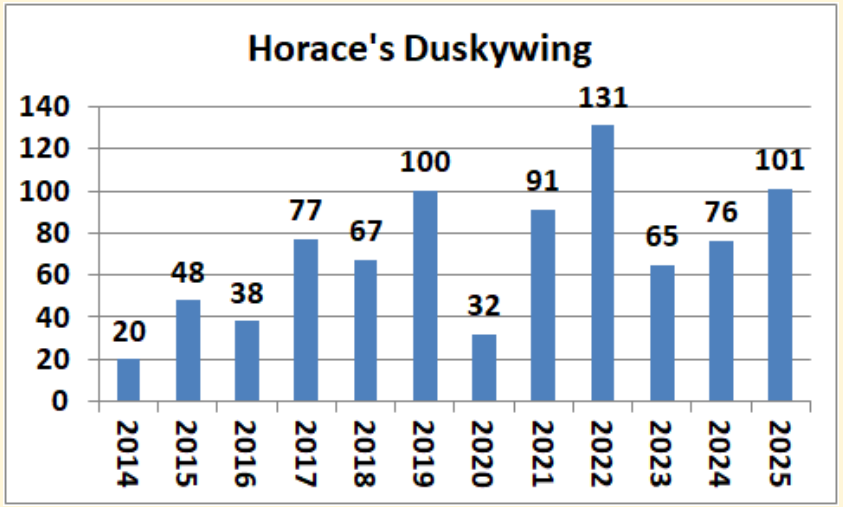
American Snout
Steve Taylor

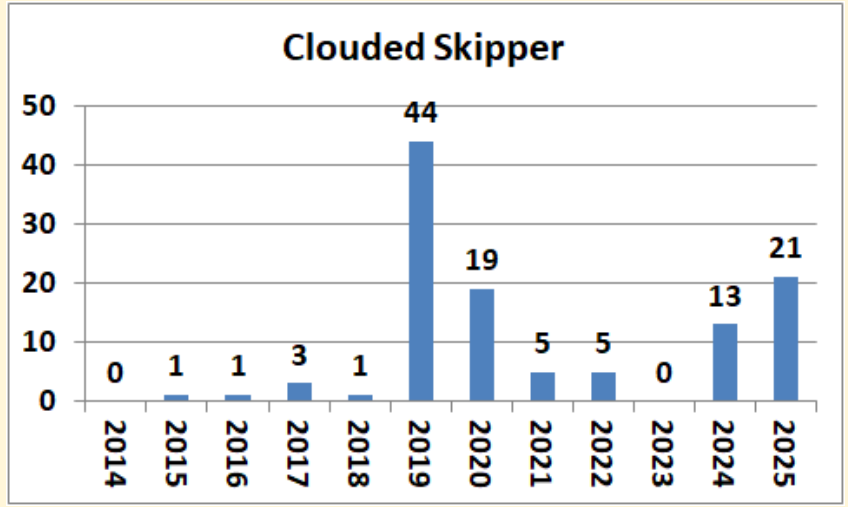


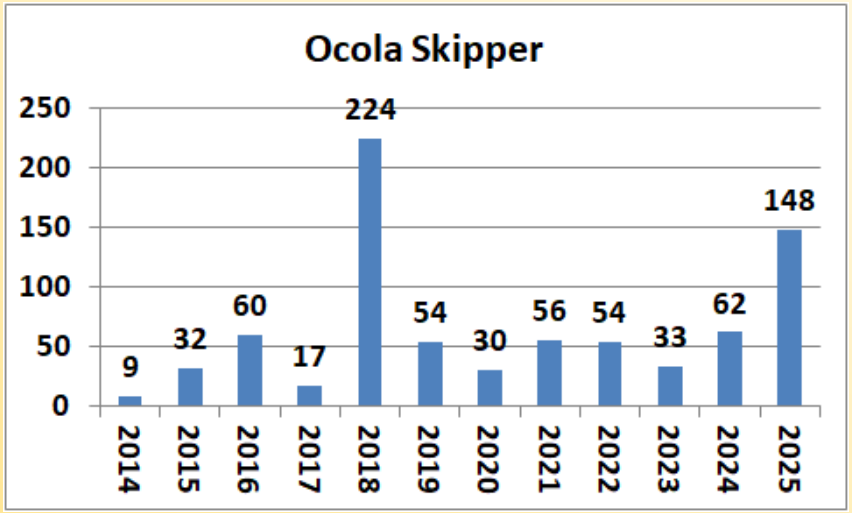
Hackberry Emperor
Annette Allor

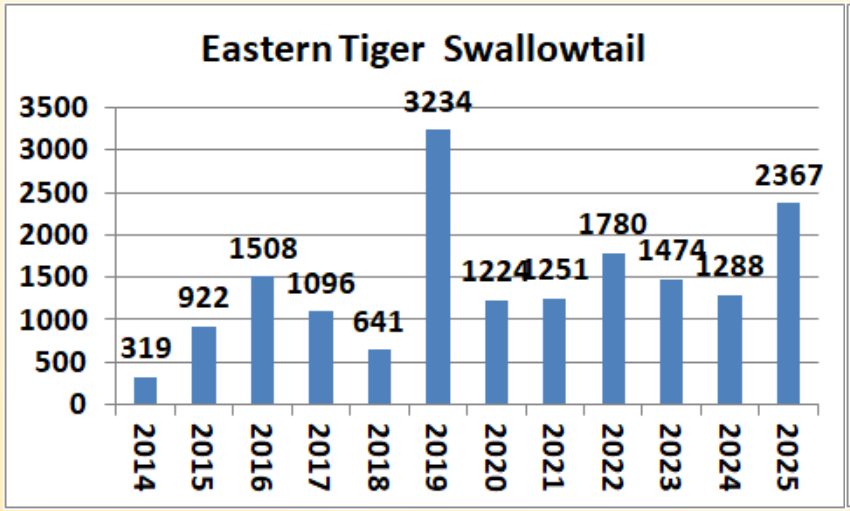
Second Highest Annual Count in 12-Years

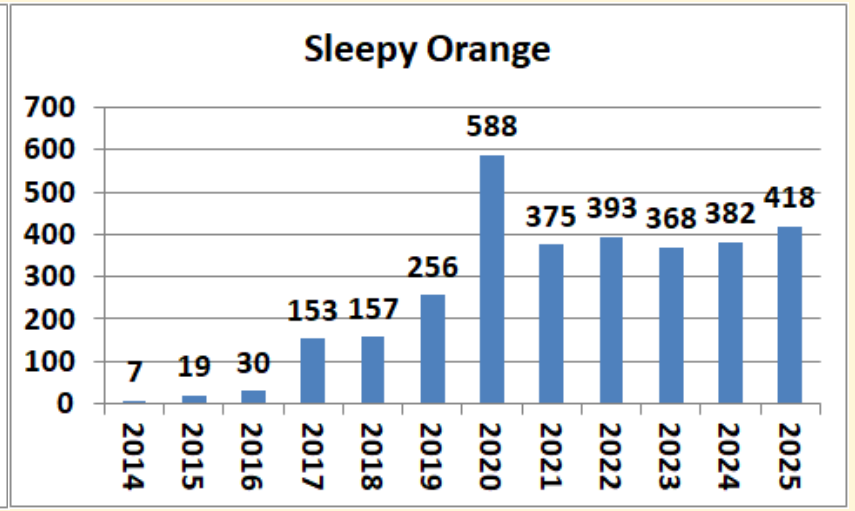




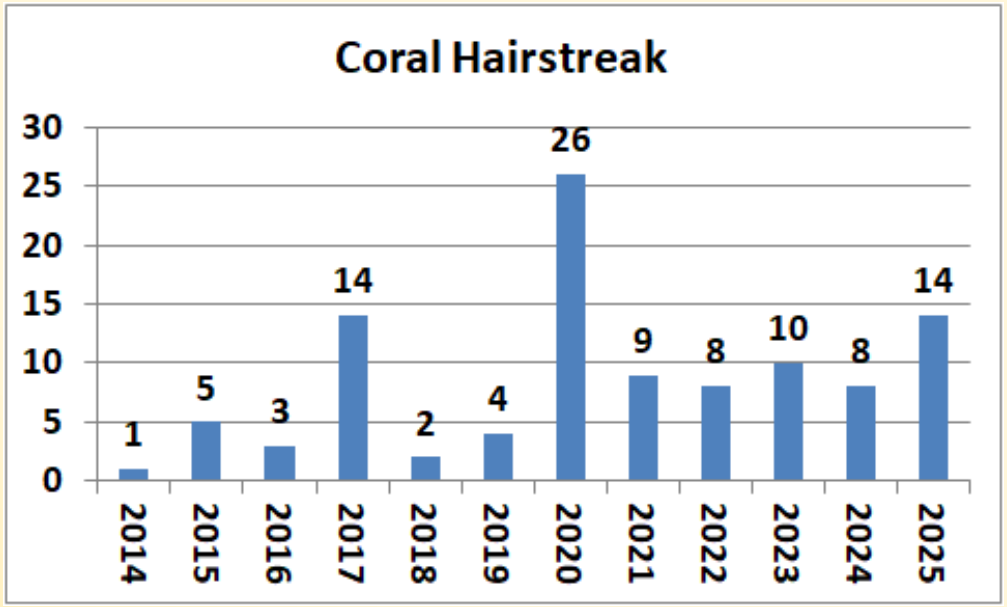


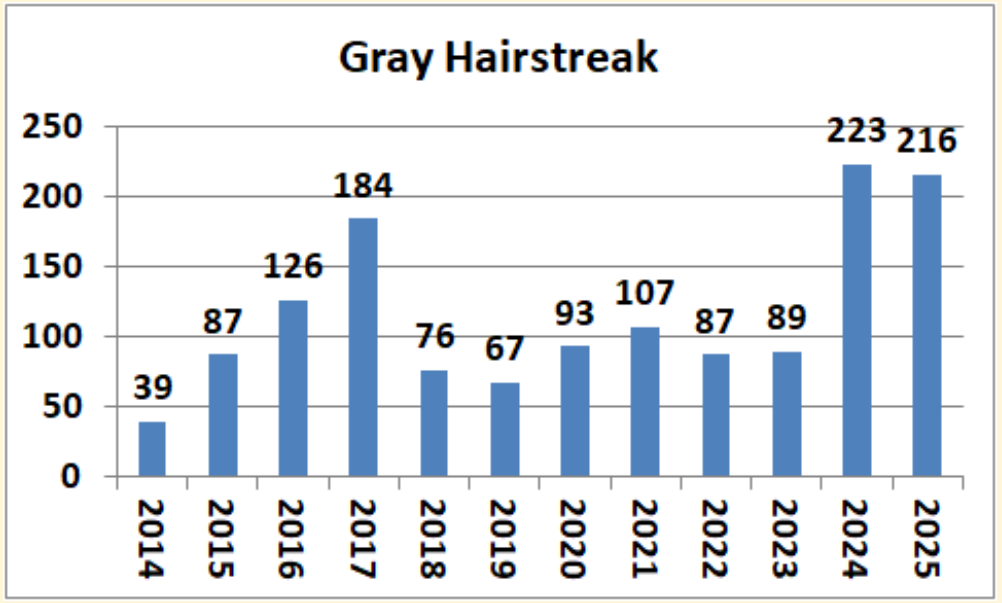


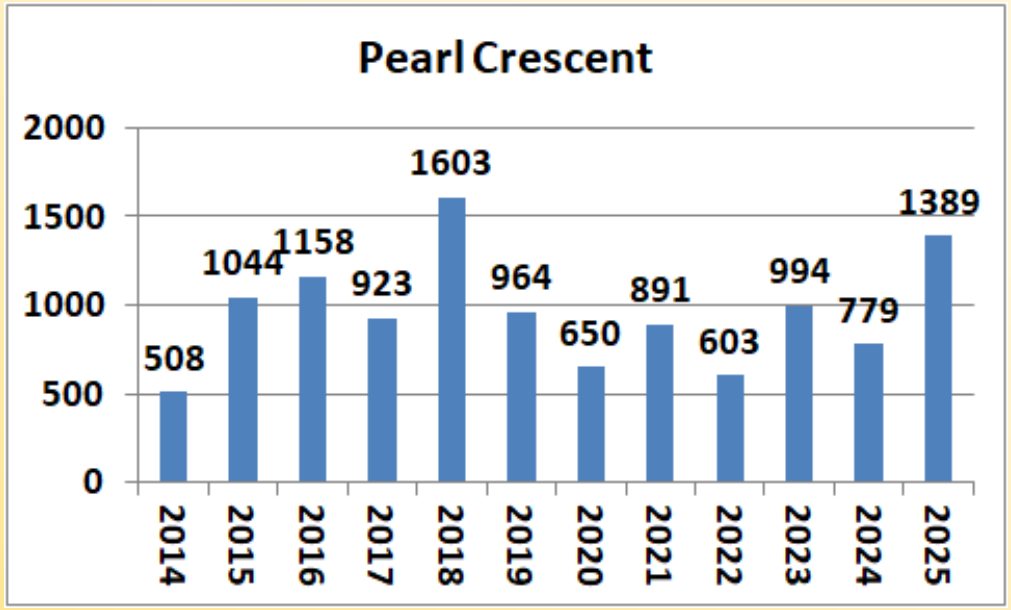


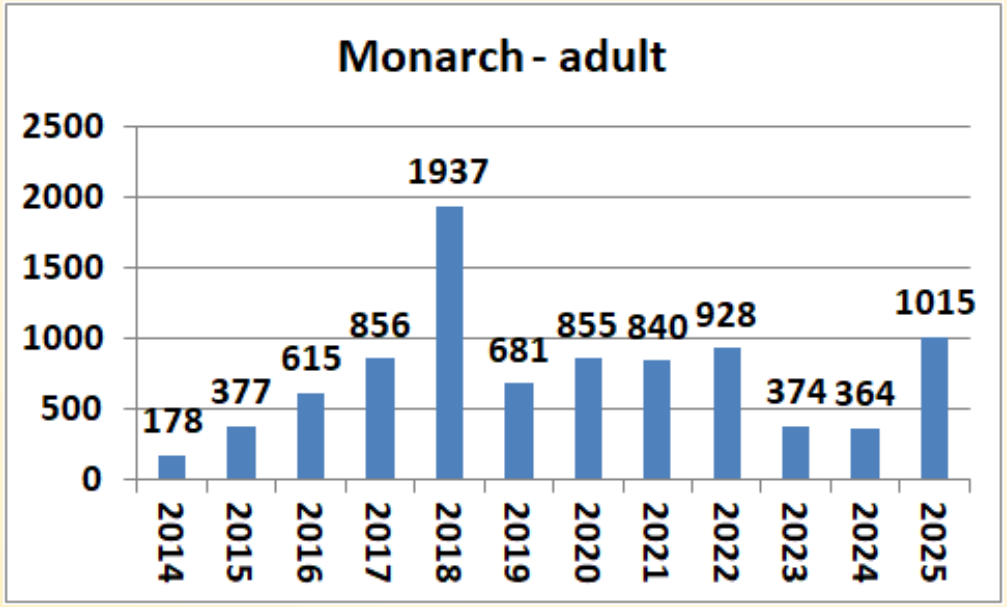


Second Highest Annual Count in 12-Years

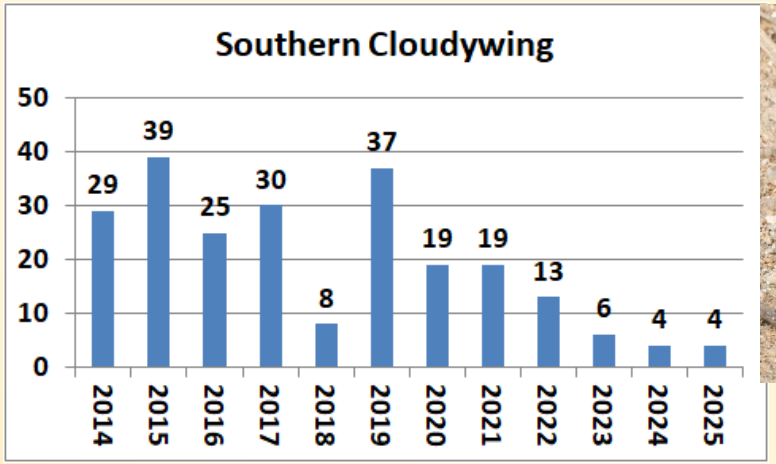




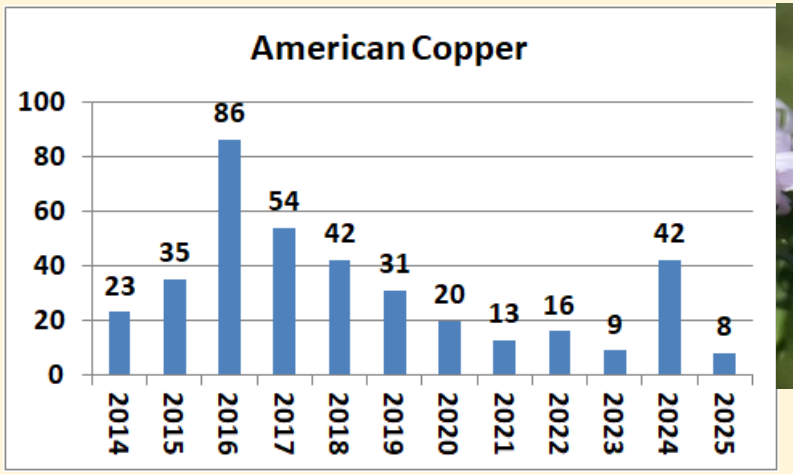




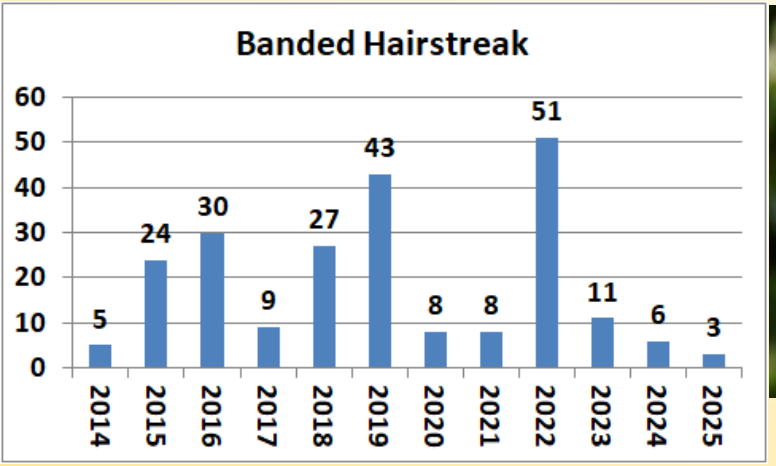
Species Status: Lowest Count in 12-Years



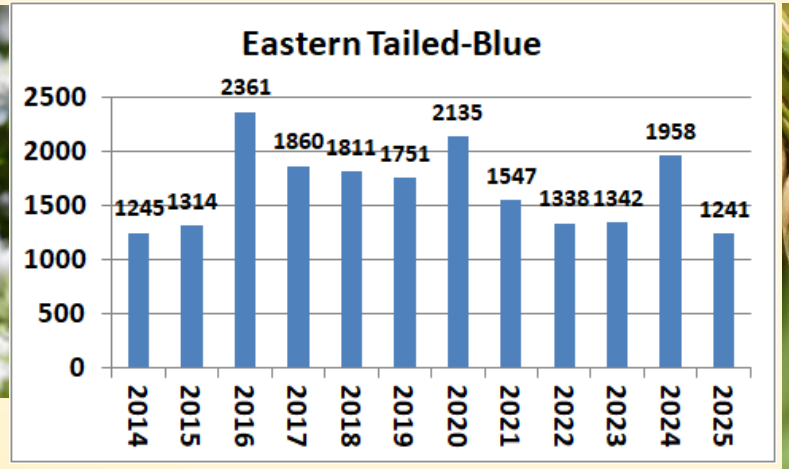
Southern Cloudywing
Kevin Heffernan



American Cooper
Suzanne Klick

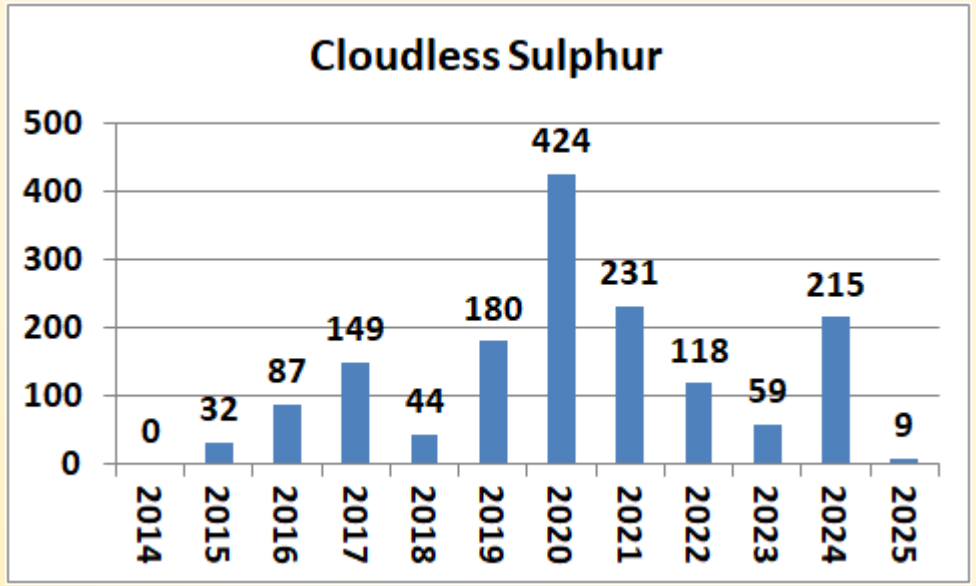


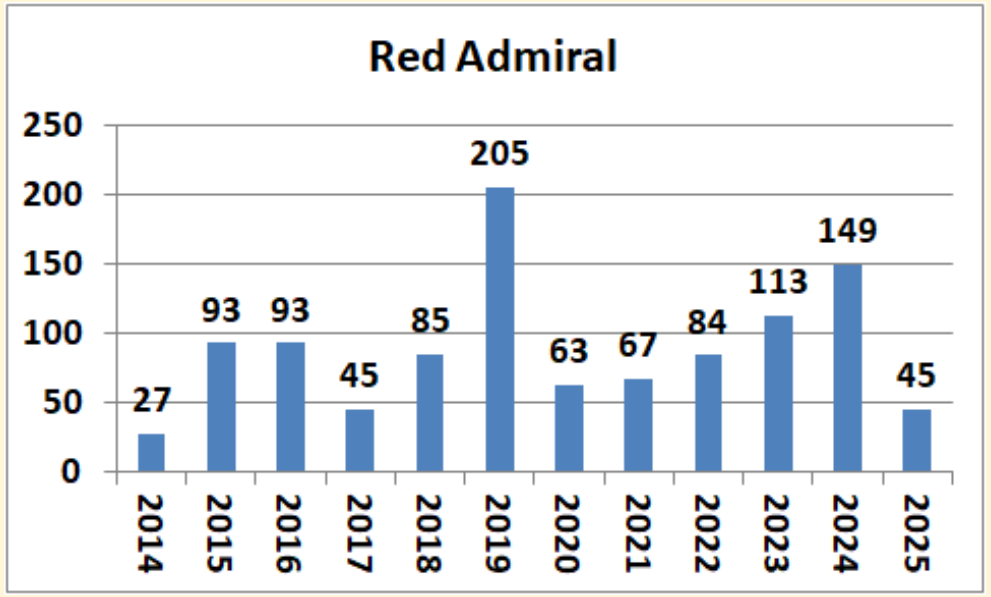
Banded Hairstreak
Annette Allor

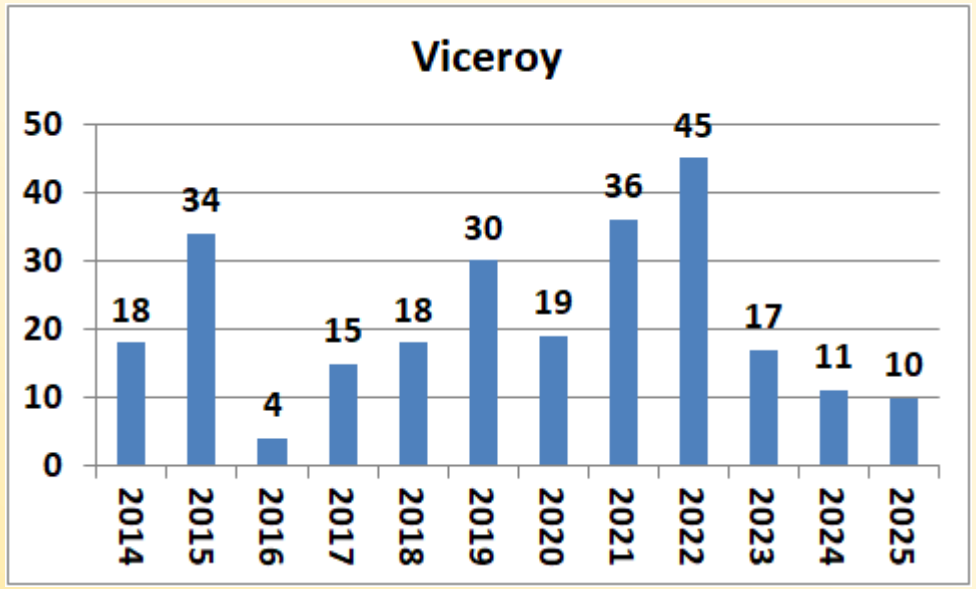


Eastern Tailed-blue
Kevin Heffernan

Species Status: Second Lowest Count in 12-Years



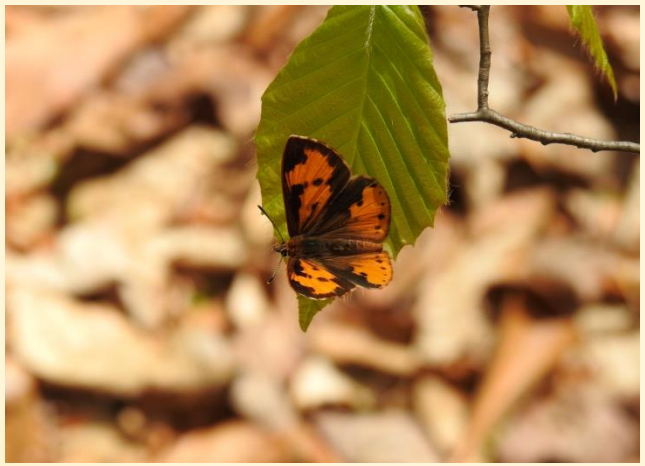




New Early Dates

Species	*New Early Date*	*Old Early Date*	*Observer*	*Location*
Harvester	4/18/2025	5/2/2024	Annette Allor	Morning Choice Trail
Clouded Skipper	5/8/2025	6/7/2016	Jim McFadden	MPEA
Ocola Skipper	6/18/2025	6/25/2020	Bonnie Ott	New Cut Landfill

Harvester
Annette Allor



Harvester
Annette Allor

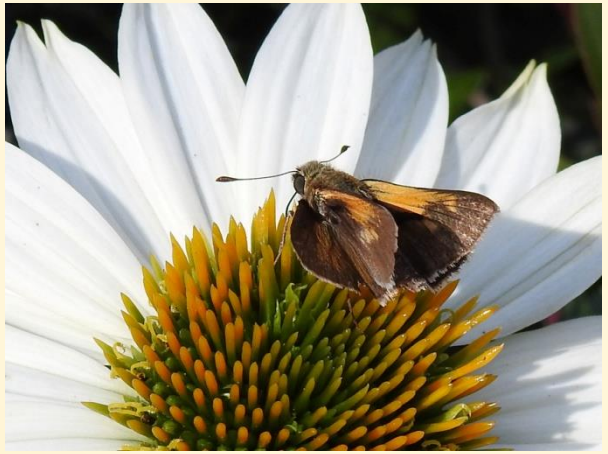
Clouded Skipper
Jim McFadden

New Late Dates

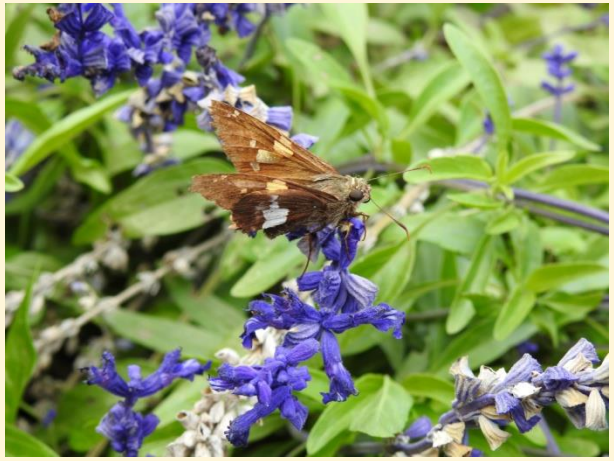
Species	*New Late Date*	*Old Late Date*	*Observer*	*Location*
Appalachian Brown	9/20/2025	9/2/2022	Karan Blum	Meadowbrook Park
Broad-winged Skipper	9/20/2025	9/19/2023	Karan Blum	Meadowbrook Park
Broad-winged Skipper	9/21/2025	9/20/2025	Kathy Litzinger	Litzinger yard
Horace's Duskywing	10/9/2025	10/9/2015	Annette Allor	St Anthony's Shrine
Tawny-edged Skipper	10/26/2025	10/19/2016	Annette Allor	St Anthony's Shrine
Red Admiral	11/1/2025	11/1/2018	Kevin Heffernan	Kanera yard
Silver Spotted-skipper	11/7/2025	11/5/2024	Annette Allor	St Anthony's Shrine

Appalachian Brown
Karan Blum

Horace’s Duskywing
Annette Allor



Tawny-edged Skipper
Annette Allor

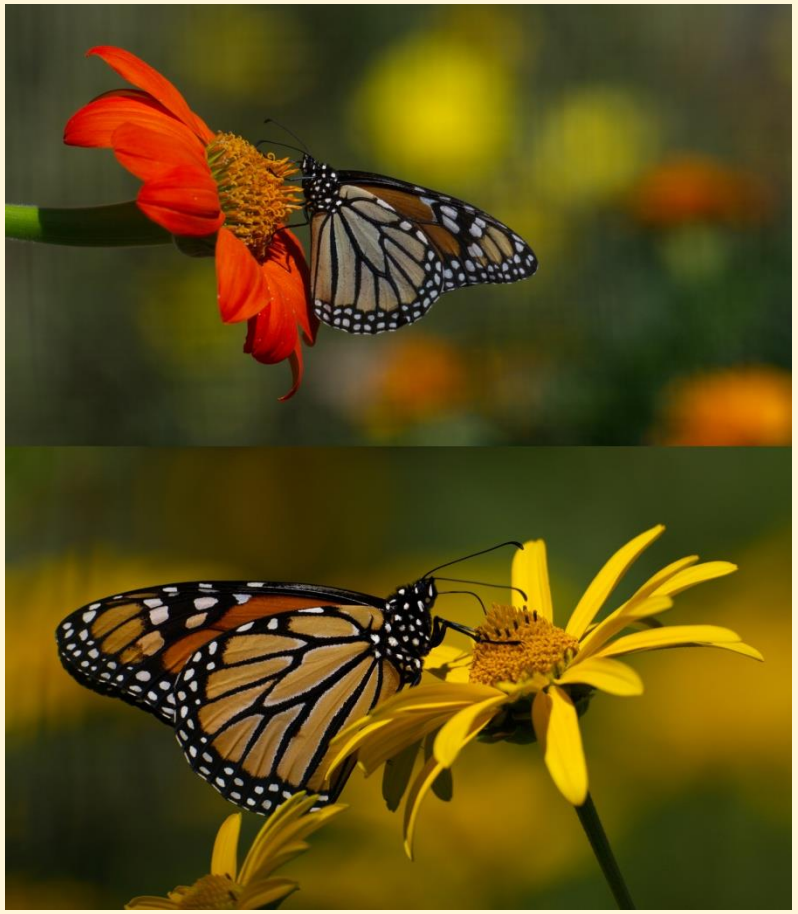


Silver-spotted Skipper
Annette Allor

Monarch status

- **In the 1980's, over 4.5 million western Monarchs flocked to overwintering grounds in coastal California. In the mid-1990's, an estimated 380 million eastern Monarchs made the journey to their overwintering grounds in Mexico. Since then, the western population shrunk by more than 95% and the eastern population by 80%.**
- **By 2080, the western population has >99% probability of extinction and the eastern population has a 56% to 74% probability of extinction.**
- **The International Union for the Conservation of Nature (IUCN) has labeled the Monarch as vulnerable.**
- **On Dec 12, 2024, the USFWS sought public input on a proposal that the Monarch be listed as a threatened species under the Endangered Species Act. The 90-day comment period ended March 12, 2025. The USFWS has one year to review the input and scientific data before making a decision.**

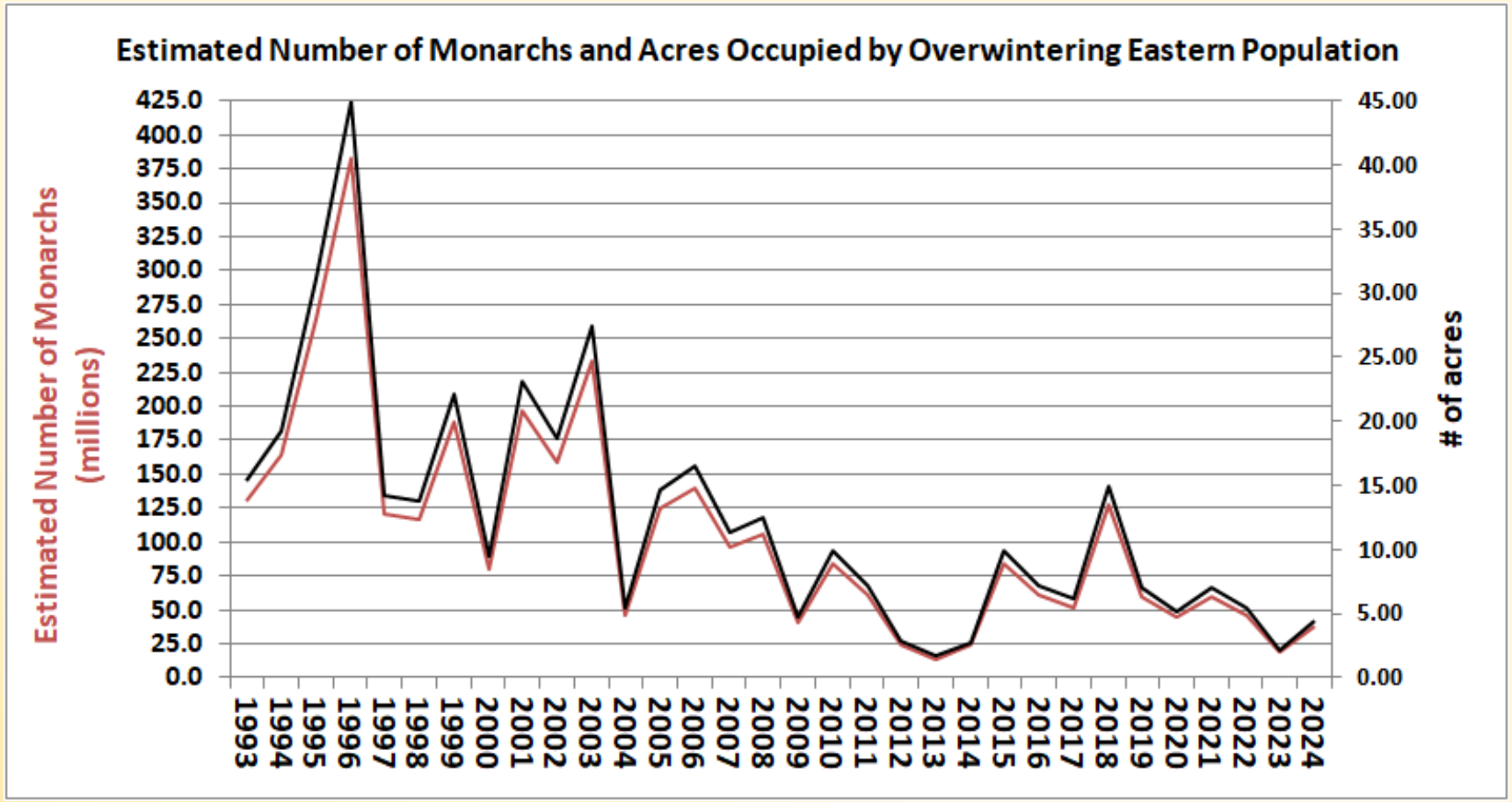
Monarch
Kevin Heffernan



Monarchs
Kelsey Wellons

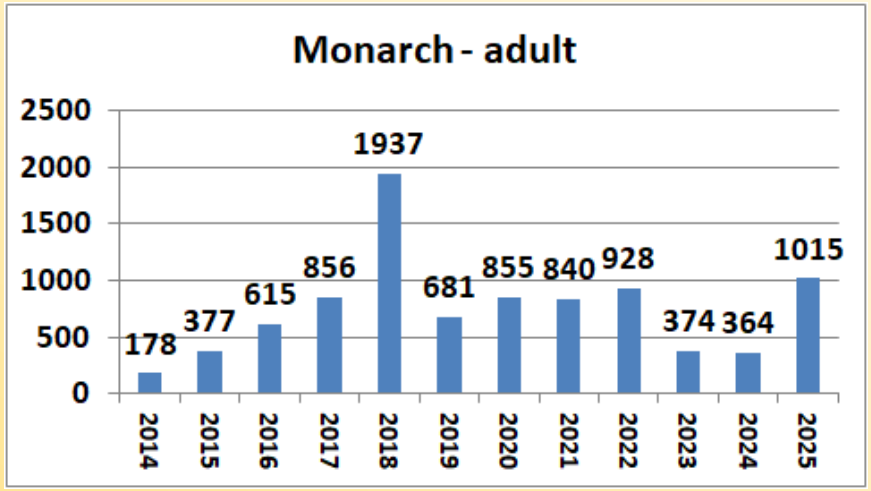
Monarch status (con'd)

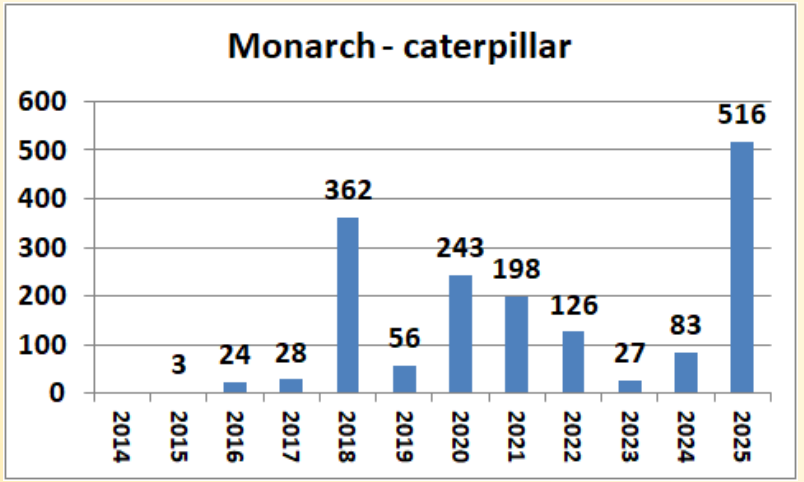
- In the 2024 - 2025, the overwintering population of Monarchs in Mexico covered 4.42 acres, up from 2.22 acres in 2023 – 2024 (second worst year ever).
- The maximum recorded area was 45 acres during the 1996-1997 season.
- The minimum recorded area was 1.65 acres in the 2013 – 2014 season.
- The data for the 2025 – 2026 overwintering season will be gathered from counts conducted in late December, 2025 and will be announced in early March, 2026.
- Experts have established a goal of a sustained population of 15 acres.

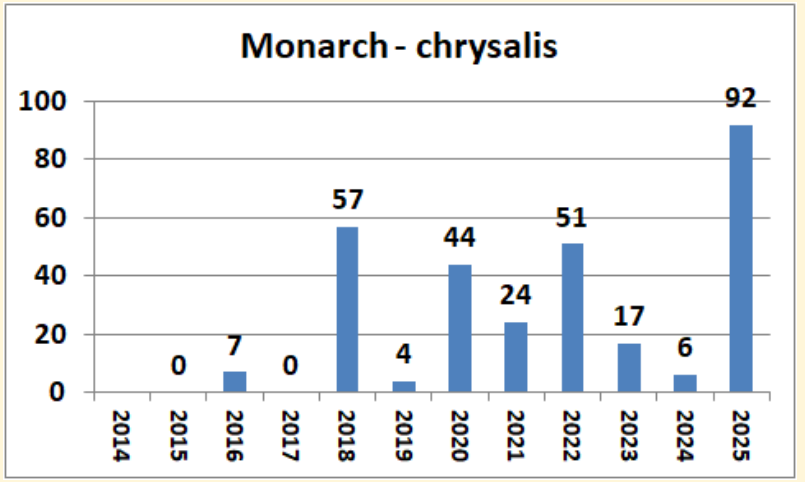


Monarch 2025 Survey Results

- **There were 1015 adult Monarchs reported this year. That is the second highest total in the 12-year survey. This also represents a significant increase from the last two years of the survey.**
- **The 516 Monarch caterpillars and 92 chrysalises reported are the highest numbers for both.**
- **David Ryan has for years, primarily reported numbers of Monarch adults, caterpillars and chrysalises. He has also provided videos. His support of the Monarch cause is greatly appreciated.**
- **Deborah Sluz found and photographed seven Monarch chrysalises in her yard in early October.**
- **Karan Blum reported 67 Monarch caterpillars in her yard on July 31st. Cris Ausin reported 31 on August 24th and Kathy Colston reported 30 on Sept 14th.**







The Butterfly – People Connection

Coral Hairstreak - Jenny Kanera
Kevin Heffernan

American Snout – Jenny Kanera
Jenny Kanera

Hackberry Emperor – KJH shirt
Annette Allor

Hackberry Emp – woman's leg
Kurt Schwarz

Tree frog – Annette finger
Kevin Heffernan

Juniper Hairstreak – Annette finger
Annette Allor

Hackberry Emperor – Ranger cage
Annette Allor

Tawny Emperor – Chris' finger
Kevin Heffernan

Aberrant Coloration

- This Eastern Tiger Swallowtail was found and photographed by Jenny Kanera in her yard on August 15th. The photo was fowarded to Annette and then to Harry Paavulaan who had never seen one that looked like it in the past.
- The next day, Jenny found an aberrant Red-spotted Purple (called a White Admiral by the Picture This app). Harry P also confirmed this one. Photo of a normal Red-spotted Purple and the aberrant are show below for comparison.

Aberrant Eastern Tiger Swallowtail
Jenny Kanera

Red-spotted Purple
Cris Ausin

Aberrant Red-spotted Purple
Jenny Kanera

Life Cycle of Harvester Butterfly

Harvester pair mating
Annette Allor

Harvester caterpillar pair
Bonnie Ott

Harvester ovipositing (can see egg)
Annette Allor

Harvester caterpillar in aphids
Bonnie Ott

Harvester dorsal photo
Annette Allor

Harvester chrysalis
Bonnie Ott

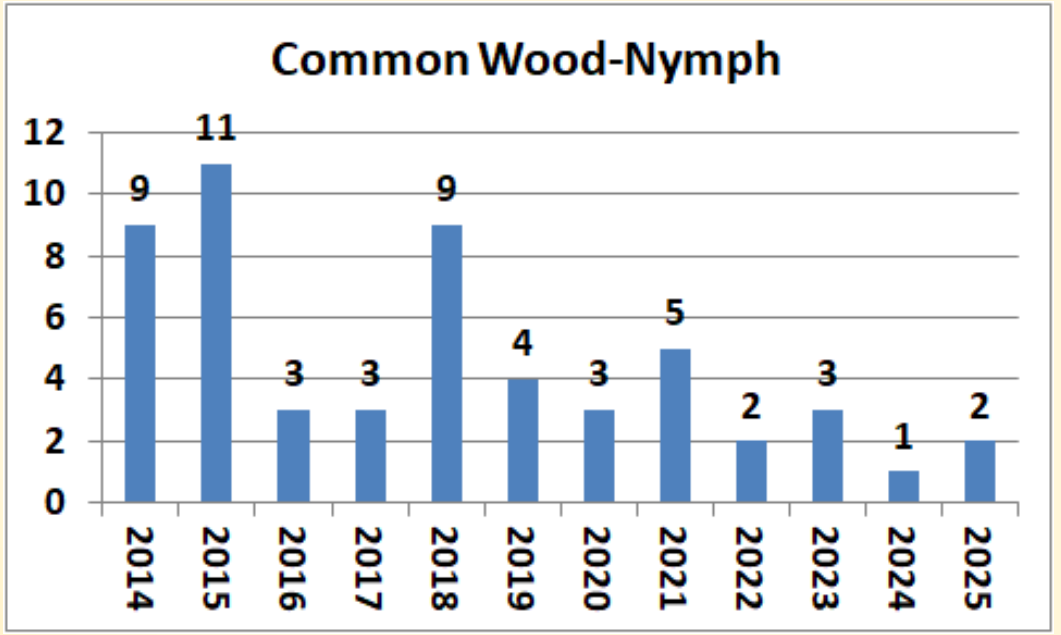
Harvester Caterpillar Eating Aphids by Annette Allor

Species Seen Every Year With the Fewest Number of Individuals

- Common Wood-Nymph has been reported all 12 years of the survey.
- We have seen a total of 55 individuals in 12 years.
- Only 20 individuals have been seen in the last seven years (average of <3/year.
- Most of these have been found at Mt. Pleasant.

Common Wood Nymph
Annette Allor

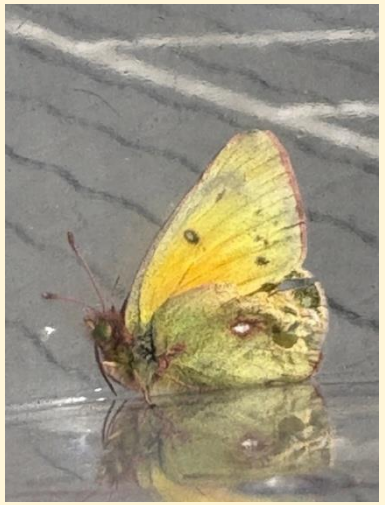
Common Wood Nymph
Annette Allor



Interesting Observations (1 of 4)

- **Jim McFadden found a possible overwintering Orange Sulphur (see photo) on March 25th at MPEA.**
- **Sue Muller found a winter form Sleepy Orange (photo shown) on April 23rd. Kevin Heffernan and Jenny Kanera also found one on April 14th. This is the 3rd year in a row that overwintering Sleepy Oranges have been found.**
- **On April 8th, Kevin Heffernan reported an Eastern Tiger Swallowtail. It was windy and cold with a temperature of 47 degrees.**
- **Barbara White's garden continues to produce Pipevine Swallowtails. Kathy Kaberle had at least three broods of Pipevine Swallowtail on her Pipevine this year. Photos of a beautiful male Pipevine ST and Pipevine ST caterpillars are below.**

A survey record 53 Pipevine Swallowtails were reported this year.



Orange Sulphur
Jim McFadden

Sleepy Orange
(winter form)
Sue Mueller

Pipevine Swallowtail (male)
Barbara White

Pipevine Swallowtail cats
Kathy Kaberle

Interesting Observations (2 of 4)

- **Last year, Annette Allor confirmed that Black Swallowtails use asparagus as a host plant. This year, she confirmed that they also use Lovage as a host plant.**
- **The first instar of Black Swallowtail caterpillar looks entirely different from the 2nd, 3rd and 4th instars.**
- **The butterfly walks at Mount Pleasant on July 12th and July 23rd both had gorgeous views of Juniper Hairstreaks on Mountain Mint in the Community Garden. (see photo by Steve Taylor).**
- **The eight Hackberry Emperors found on the August 19th walk at Mount Pleasant met or exceeded the annual totals of eight of the years of the survey. It was also the first walk where both Emperors have been found.**

Black Swallowtail caterpillar on Lovage
Annette Allor

Juniper Hairstreak
Steve Taylor

Hackberry Emperor
Annette Allor

Interesting Observations (3 of 4)

- **Kevin Heffernan photographed three Coral Hairstreaks on one Common Milkweed flower at Mount Pleasant on June 21st. This was more Coral Hairstreaks that were seen in 2014 and in 2018.**
- **A survey high total of 223 Gray Hairstreaks were reported last year. We followed that with 216 reported this year.**
- ***There are currently 53 species that have been reported at St. Anthony's Shrine (Little Portion Farm). That is amazing considering that we have only known about it for three years.***
- **A real mystery is what is going on with Cloudless Sulphur. Last year, a total of 215 were reported. This year, we found nine.**
- **Pam Perna found a Question Mark just emerging from its chrysalis. Very cool.**
- **In October, I received two photos that each had a pair of Praying Mantises mating. The female in each photo was multitasking. In the first, she was eating a grasshopper. In the second, she was having a Sachem for lunch. (We did not count the Sachem.)**

Three Coral Hairstreaks on Milkweed
Kevin Heffernan

Question Mark emerging
Pam Perna

Interesting Observations (4 of 4)

- White M Hairstreaks have a vibrant, irridescent blue color on their dorsal side that is rarely seen since they rarely show their dorsal side. Robin Todd found a deceased White M in his yard that did show the color.
- Deborah Sluz sent in many photos of Monarch caterpillars and chrysalises. One was a 1st instar caterpillar. Like the 1st instar Black Swallowtail caterpillar on an earlier slide, it looks totally different from the older instars.
- Zebra Swallowtail caterpillars are tough to find as they tend to be on the underside of Pawpaw leaves. Pam Perna sent in a photo of three different instars of ZT caterpillars from her yard. Great find.

White M Hairstreak
(deceased)
Robin Todd

Monarch caterpillar
1st instar
Deborah Sluz

Zebra Swallowtail caterpillars
Pam Perna

Six Butterfly Walks

Group photo from Aug 9th walk

- Held six butterfly walks between June 7th and August 31st.
- Five were at Mount Pleasant; one at Elkhorn Garden plots.
- A total of 179 people attended. August 9th walk had the most people (47). Each walk had four or five leaders
- An average of 22 species were seen. Max of 31 on August 9th
- Best finds were 45 Little Wood Satyrs on June 7th, 11 American Snouts (exceeded six of the 11 years of the survey) and close up views of five Juniper Hairstreaks on Aug 9th, eight Hackberry Emperors (only found two last year total), one Tawny Emperor, and three Swarthy Skippers (out of the four for the year) on Aug 19th.

American Snout
Gregg Petersen

Juniper Hairstreak
Annette Allor

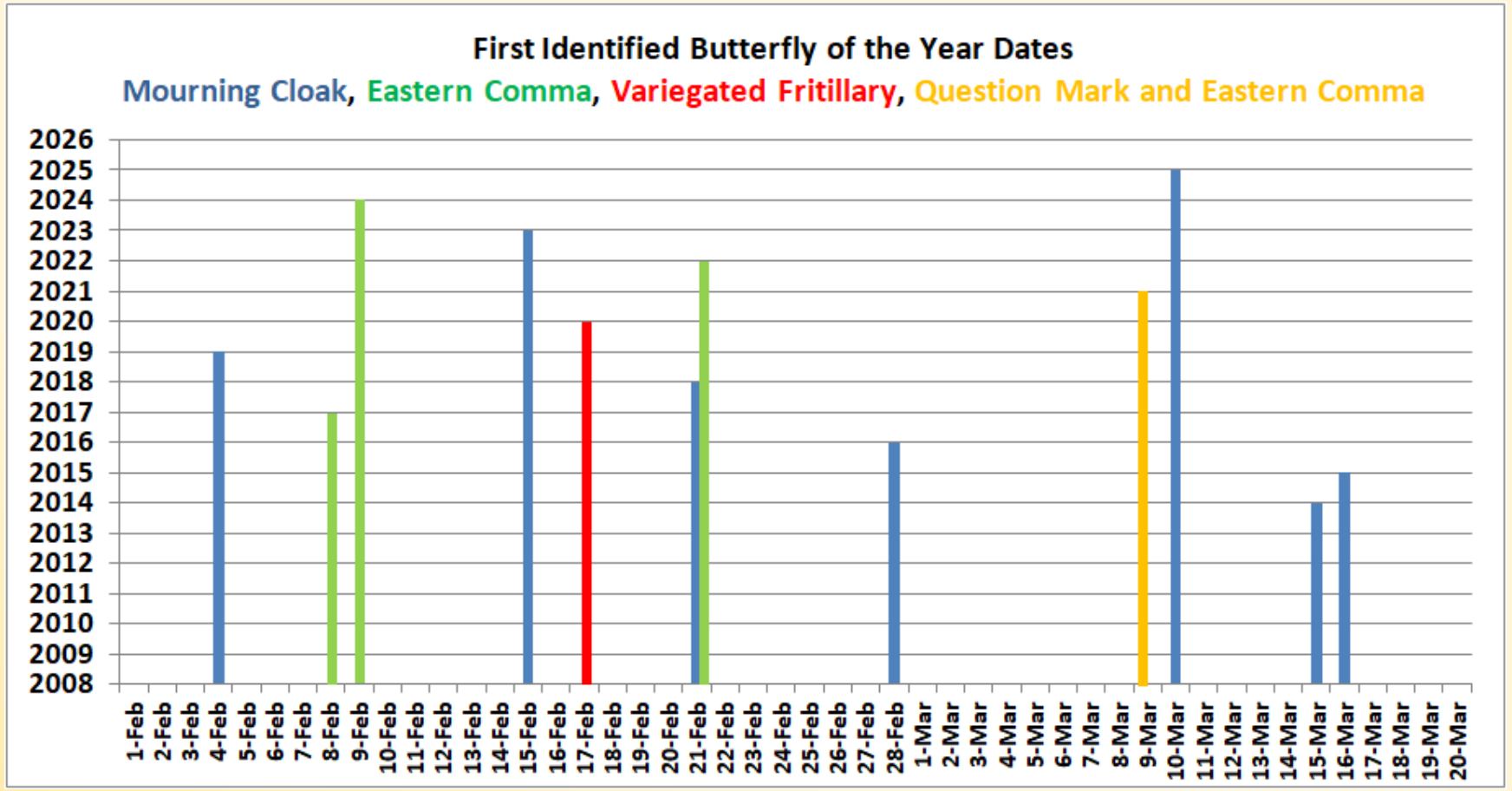
Hackberry Emperor
Annette Allor

Hackberry Emperor
Annette Allor

First Butterfly of the Year 2025

- **The first 11 butterflies of 2025 were found by Annette Allor and Linda Hunt on March 10th. In talking to the two of them, Annette was out earlier and her first sighting was a Mourning Cloak (photo below).**
- **Annette actually found nine butterflies, five Mourning Cloaks and four Eastern Commas. Linda found one of each.**
- **A total of 19 butterflies were seen in February, 2023 including 14 in one day, February 23rd. In 2024, only 2 were reported in February. In 2025, none were reported in February.**
- **Earliest sighting date of an unidentified butterfly was six years ago, January 12th, 2020 by Bonnie Ott**

Mourning Cloak
Annette Allor
March 10, 2025



Last Butterfly of the Year 2025

- **The last butterfly of the year contest has been held the last four years. The rules are that**
  - **Must be in Howard County**
  - **Must submit a photo and an Incidental Butterfly report**
  - **It cannot be one of the people involved in the survey**
- **The winner in 2025 was Karan Blum who found an Eastern Comma at St. Anthony's Shrine on November 26th**
  - **Karan received a copy of the "Butterflies of Pennsylvania" by James Monroe and David Wright**

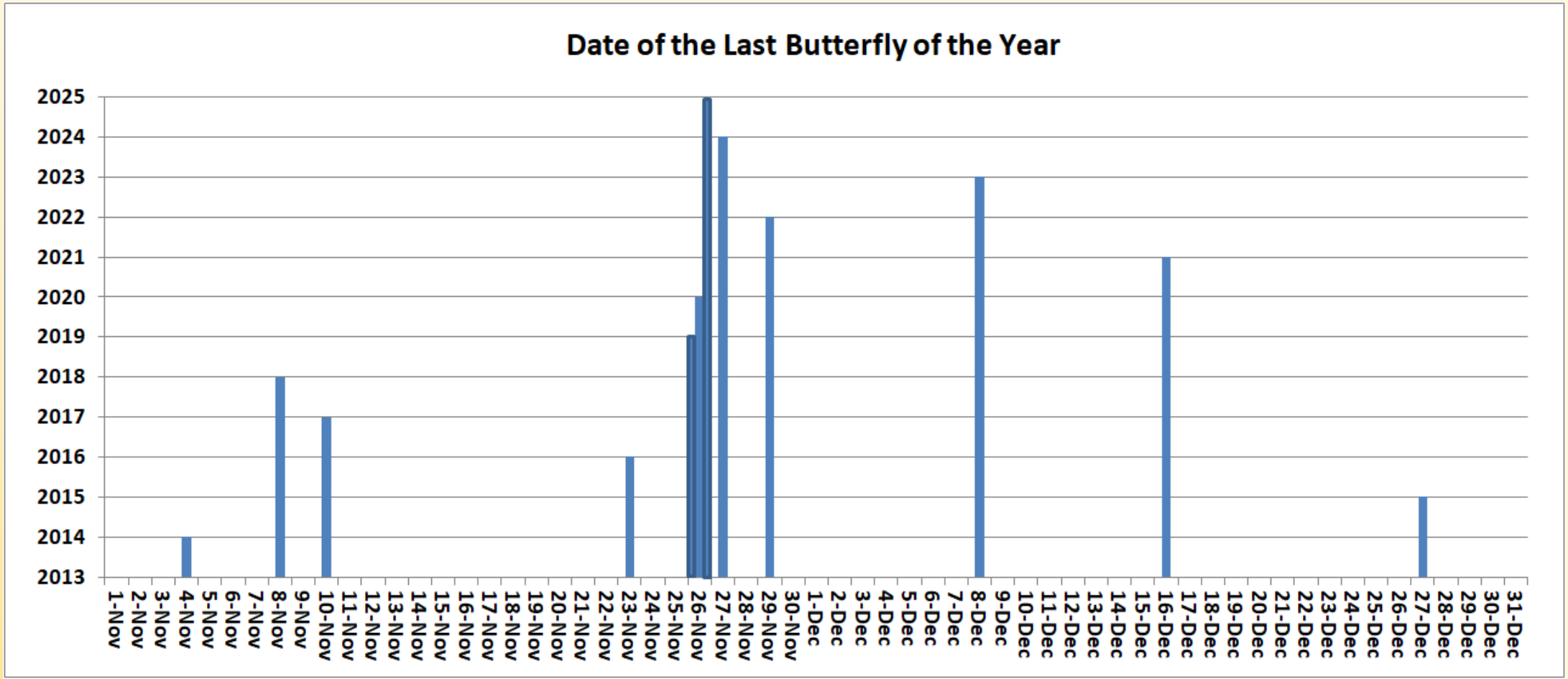
Eastern Comma (ventral side)
Karan Blum

Eastern Comma (dorsal side)
Karan Blum

Karan Blum
W*i*nner of the Last Butterfly of the Year contest

Historical Last Butterfly of the Year

- The following 12 species were the last ones found in a given year: Cabbage White (1), Orange Sulphur (5), Clouded Sulphur (1), Cloudless Sulphur (1), Sleepy Orange (1), Eastern Tailed-blue (1), Variegated Fritillary (1), Pearl Crescent (1), Eastern Comma (2), Painted Lady (1), Common Buckeye (2), and Monarch (1)
- Twelve different people recorded the last butterfly of the year
- In three different years, the date of the last butterfly observation was November 26th.



Photos from Participants

Monarch (recently eclosed)
Deborah Sluz

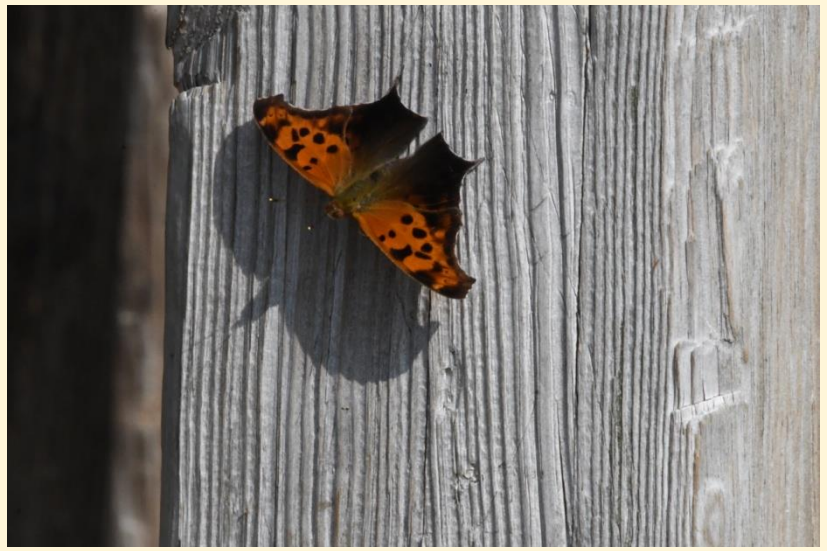
American Snout
Sydney King

Long-tailed Skipper
Clayton Koonce

White M Hairstreak
Kathy Litzinger

Pipevine Swallowtail
Kurt Schwarz

Hobomok Skipper
Pam Perna



Question Mark
Pam Franks

Photos from Participants

Tawny Emperor
Annette Allor

Fiery Skipper
Pam Perna

Harvester
Annette Allor

Sleepy Orange (dorsal side)
Jim Wilkinson

Variegated Fritillary
Annette Allor

Orange Sulphur (white form)
Clayton Koonce

Photos from Participants

Southern Cloudywing
Kevin Heffernan

Dusted Skipper
Annette Allor

Southern Broken-dash
Gregg Petersen

Common Wood-Nymph
Annette Allor

Common Buckeyes mating
Kevin Heffernan

Red-spotted Purple
Pam Perna

Butterfly of the Year – Spring Azure

- **Azure history:**
  - **Historically, it was believed that Spring and Summer Azure were different broods of the same species**
  - **The fact that they were two different species wasn't determined until the 1980's**
    - **Then, the Azures in spring were Spring Azures and the Azures in the summer were Summer Azures**
  - **In 1999, it was determined that Summer Azure had an early brood that came out before the Spring Azure.**
    - **They are difficult to ID. You need both dorsal and ventral photos and Harry Pavulann has to agree.**
  - **Spring Azure went into rapid decline starting in 1990 with the demise of the Flowering Dogwood. It is now quite rare in the Piedmont region.**
- **Howard County Butterfly Survey history:**
  - **Annette Allor and Richard Orr found this species in 2014. It was not seen for the next 10 years.**
  - **On April 4th, Annette found a possible Spring Azure at St Anthony's Shrine. Harry confirmed it.**
  - **On April 9th, Cris Ausin found a second one also at St Anthony's Shrine, also confirmed by Harry.**

Spring Azure
Annette Allor

Spring Azure
Cris Ausin

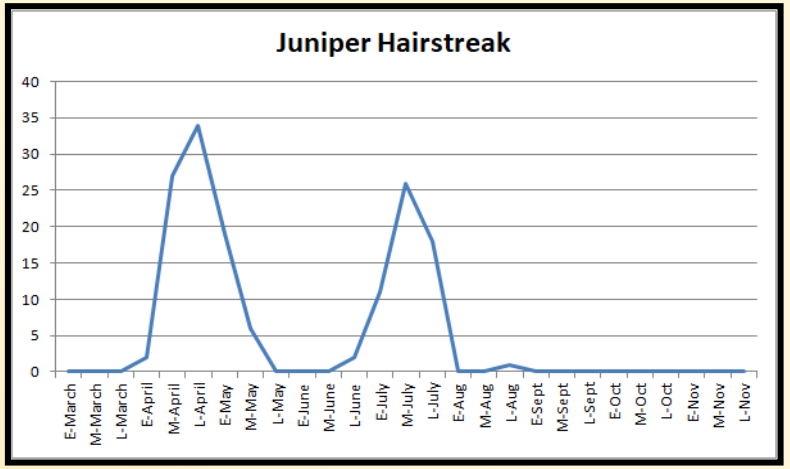
"Wow, congratulations! You got a verified Spring Azure (C. ladon). The upperside has the distinct look of ladon (lacking distinct white forewing veins of Summer Azure). They have become quite rare in areas where there used to be considerable Dogwood understory. I have not seen one here in Loudoun County for many years now. It's all Summer Azures now. Hope you find more of them! "

Educational Materials / Activities

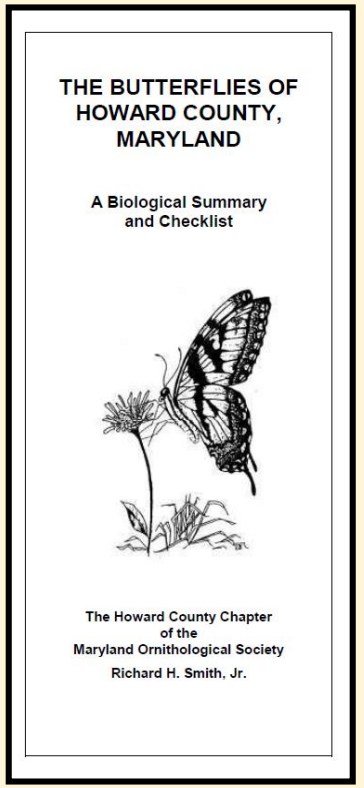
- Dick Smith's "Butterflies of Howard County"
- Butterfly Identification Cheat Sheet
- Butterfly Flight Times graphs
- Butterfly Early and Late dates
- Butterfly Overwintering Strategies
- Annual "Butterfly Year" Presentations
- Pollinator garden design templates
- Pollinator garden design spreadsheet
- Butterfly photo gallery
- Butterfly walks
- Annual reports
- Last butterfly of the year contest
- *Butterfly year status emails*
- Butterfly talks
- Butterfly ID emails
- True butterfly ID online class
- First identified butterfly of the year
- * Items in blue text are on the Howard County Bird Club website

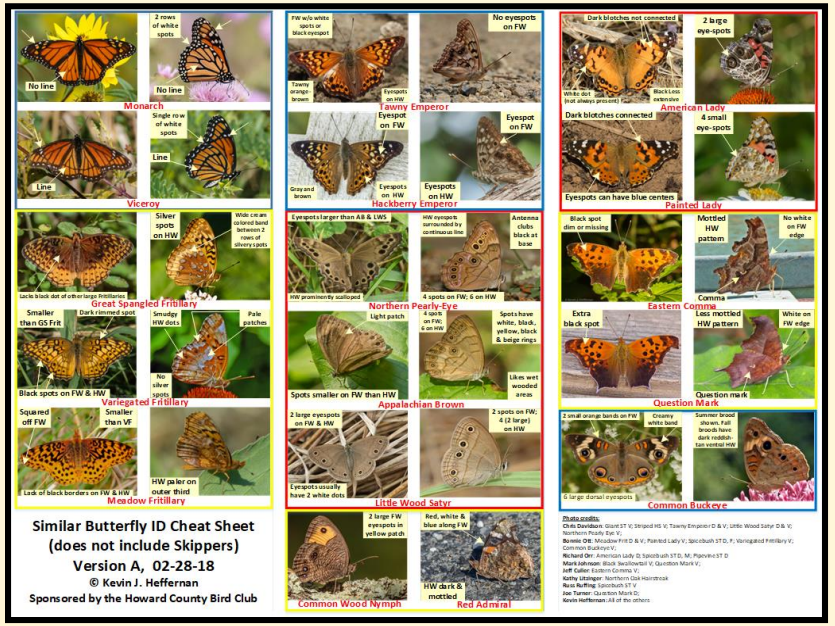
  ** Many of these are pdfs that can be downloaded to your phone

	Early	Late
Pipevine 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
Falcate 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		
Pipevine 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





Wish list and how you can get involved

Wish List:

- additional butterfly walks
- butterfly walks for targeted species
- putting together a two-part butterfly ID class (true butterflies and skippers)
- creating a skipper cheat sheet
- putting together a host plant list for each species
- having input into the mowing and pesticide / herbicide schedules in the county

How you can get involved:

- getting out in the field and submitting surveys
- finding new locations
- leading or co-leading butterfly walks
- helping at table events
- recruiting new people

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?

New England Aster
"Purple Dome"

- **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**

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

Herbaceous Plants

Flowers		Bloom time		Color, Height, Spread			Nectar, Host, Native, H-birds				Perennial, Biennial, Annual			Soil			Sun			Deer Damage Level					Pollinator Value					Larval host	Comment
																									USDA NRCS						
Latin Name	English Name	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	Low	PSU Top 20		
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	Lavndr to purple	2-4'	1.5-3'	N	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					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";

Best Native Nector Plants for Butterflies

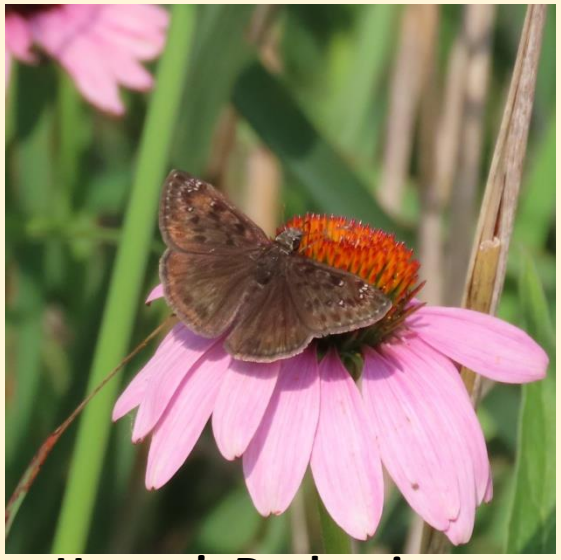
- Joe Pye Weed
- Beebalm
- Asters
- Goldenrods
- Common Milkweed
- Swamp Milkweed
- Butterfly Milkweed
- Purple Coneflower
- Gayfeather
- Boneset
- Thoroughwort
- New York Ironweed
- Field Thistle
- Buttonbush

Red-banded Hairstreak on Boneset
Clayton Koonce

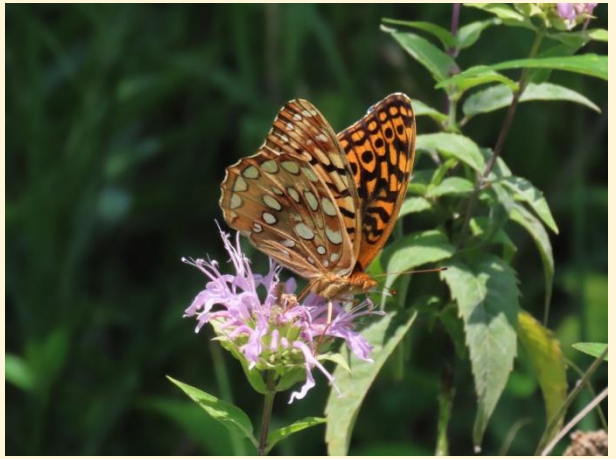
Clouded Sulphur on Aster
Annette Allor

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

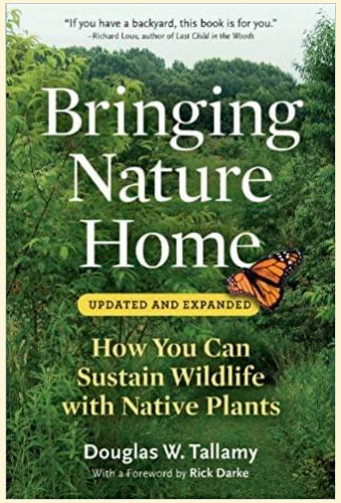
Tall Verbena

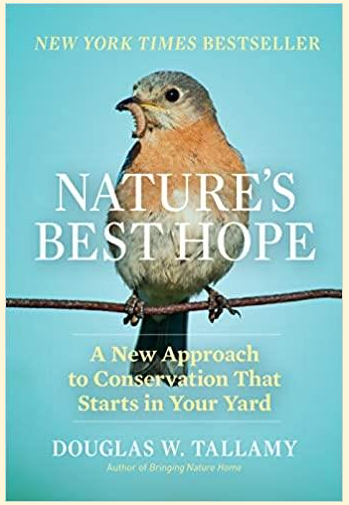
Salvia

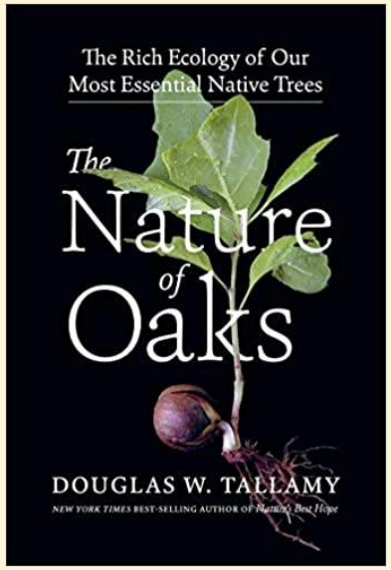
Angelonia

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

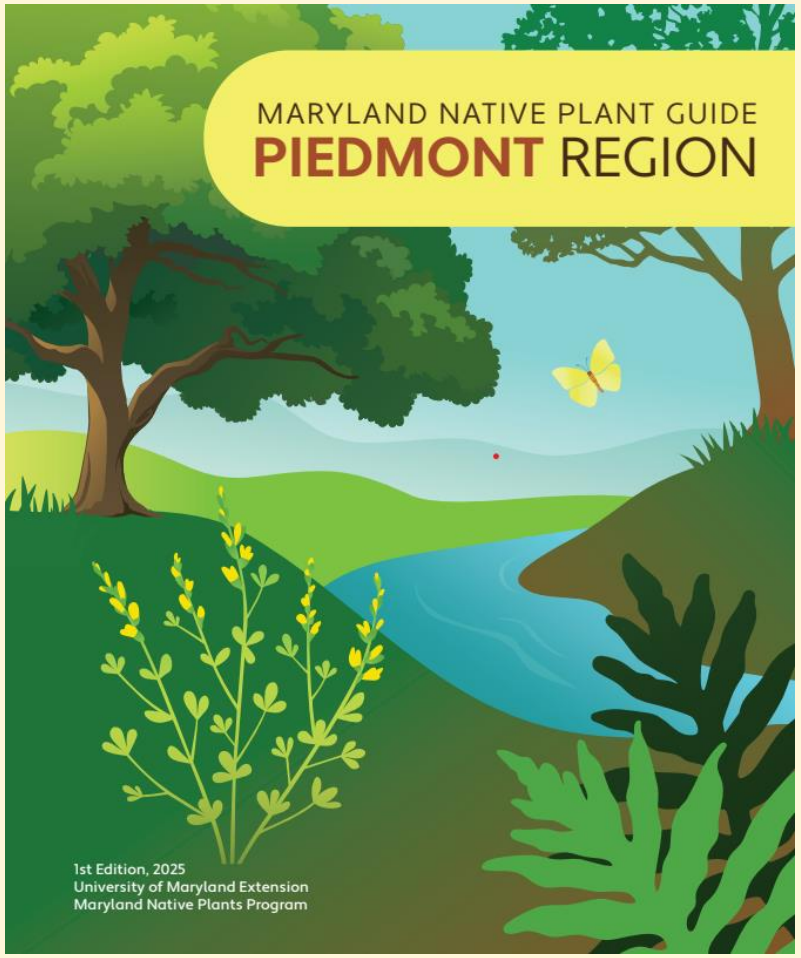






Maryland Native Plant Guide Piedmont Region

- A new, 180 page book called the “Maryland Native Plant Guide Piedmont Region” was produced through a partnership between the University of Maryland Extension, the Maryland Native Plant Society, the Department of Natural Resources, and the Maryland Department of Agriculture.
- The Maryland Native Plant Guide Piedmont Region includes:
  - educational articles to support gardening success
  - photos and descriptions of 300+ featured plants
  - plant lists for specific site conditions
  - aquatic plants suitable for ponds
  - advice on managing invasive species
  - planting approaches in the face of climate change
  - an index of plants native to the Maryland Piedmont
  - planting strategies from nature writer Nancy Lawson
  - tips for dealing with deer (includes deer resistant plants)
- You can download a pdf copy from the Maryland Native Plant Society website
- They are also selling hard copies but they are currently out of stock. Please do not order one until I get my copy. ☺

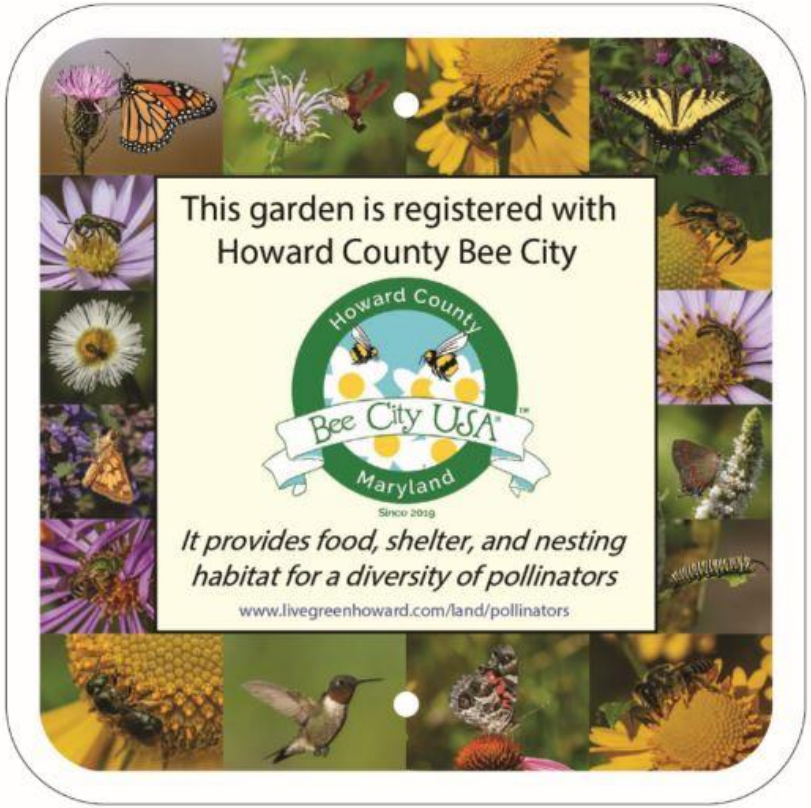


Buckets of Doom

- **I dedicated a couple of slides to the Bucket of Doom at last year's talk**
- **Jenny Kanera and I both placed four Buckets of Doom in our yards last summer. The results were better than the year before but not as good as I had hoped.**
  - **I plan to use them again next year but will do a better job of reducing the sources of standing water**
- **I contacted Dr. Maddie Potter (PhD Entomology from U of MD) regarding her thoughts on the Bucket of Doom. Her comments are below.**
  - **Current studies show that at least 80% or more of the neighborhood need at least 3-4 traps/buckets per household in order to have an effect on the *Aedes* mosquito populations.**
  - **Buckets can become larval breeding grounds if not properly maintained; as the Bti dunk/bit loses effectiveness over time (would indicate the period of time on the product label).**
  - ***The top action someone can take to sustainably manage mosquitoes is to seek out and reduce sources of standing water in their landscape***
    - ***some mosquitoes only require as little as a teaspoon of water to reproduce***
  - **These mosquito buckets can help reduce some mosquitoes if maintained properly, but this management tactic should be paired with other sustainable management tactics to effectively manage local mosquito populations. These buckets are not a quick fix.**
  - ***Pesticides (highest risk) should be considered/used as a last resort***
  - ***Howard County Bee City has developed a presentation on the sustainable management of mosquitos titled "Where have all the fireflies gone". It was piloted last summer and they plan to present it at Greenfest on April 11th.***

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!