A photograph of a sunset over a calm body of water. The sky is filled with warm orange and yellow hues. In the foreground, the silhouette of a heron stands on a grassy bank. The water reflects the colors of the sky. A distant shoreline with trees and a small building is visible across the water.

Birdwatching and the Coronavirus Pandemic

Kimberly Adams

What is birdwatching?

- The enjoyment of watching wild birds
 - Birdwatchers range a full spectrum of intensities

Watch • Identify • Feed
Photograph • Travel to See • “Collect”



- What tools or equipment is needed?
 - *Key Pieces:*
 - Binoculars
 - Field guide
 - *Optional:*
 - Feeders/seed
 - Bird bath
 - Spotting scope
 - Camera
 - Journal / Life List

Why is Birdwatching Important?

Economics

- *Popular hobby with large economic impact*



- *More than **45 million people** watch birds around their homes and away from home, according to the preliminary findings of the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation produced by the U.S. Fish & Wildlife Service, joining other wildlife watchers in contributing a total of **nearly \$80 billion** to the U.S. economy.*

– Fish and Wildlife Service

Why is Birdwatching Important?

Economics

Summary of Economic Impacts - US Fish and Wildlife Birding in the United States: A Demographic and Economic Analysis (pub 2019)

45 million Birders

\$39 billion Total Expenditures

\$96 billion Total Output (includes the direct, indirect, and induced effects)

782,000 Jobs

\$35 billion Employment Income

\$7.5 billion State Tax Revenue

\$8.7 billion Federal Tax Revenue

Why is Birdwatching Important?

Health Benefits



“Evidence is there to support the conclusion that contact with nature benefits our mood, our psychological well-being, our mental health, and our cognitive functioning,”

- University of Washington environmental psychologist
Gregory Bratman

Why is Birdwatching Important?

Health Benefits

“A 2017 study published in BioScience measured different nature characteristics in urban neighborhoods, and found that **vegetation cover and afternoon bird abundance were positively associated with a lower prevalence of depression, anxiety, and stress.**

The findings were so clear that researchers could actually put a number on the minimum amount of vegetation cover needed to reduce each mental health issue: 20% for depression, 30% for anxiety, and 20% for stress.”



Why is Birdwatching Important?

Health Benefits

- “Evidence that birdsong can **boost our attention span** and helps us **recover from stress**”
- “Associated with feelings of **wellbeing**, including **life satisfaction**”
- “Researchers in Kentucky found that people who rested outdoors versus inside showed an increase in **positive feelings** and a **decrease in tiredness**. This means that simply watching a bird feeder for even as little as 10 minutes can be beneficial to your psychological health.”
- “one study found that when bird-watching was introduced as a means of high school physical education, students reported **decreased confusion, fatigue and tension**.”



Why is Birdwatching Important?

Health Benefits

“When we’re outdoors moving around and breathing fresh air, we tend to take deeper breaths.

With more oxygen transported to all the cells of our bodies, including our brains, we become more alert, and our mood is likely to be elevated.

Also, during half an hour in the sun, we can soak up almost a whole day’s requirement of vitamin D.

Vitamin D is important for our physical health in a variety of ways, and it also helps to alleviate anxiety and depression.”



Coronavirus Pandemic



- In March 2020, the world shut down for several months to try to contain the spread of the Coronavirus
- Quarantine efforts kept everyone indoors and isolated from each other
- People quickly searched for ways to entertain themselves and avoid stress

Study Question:

Did quarantine
increase interest
in birdwatching

and
has that interest
persisted?



Previous efforts:

- A simple google search reveals many articles from various sources touting that people turned to birdwatching during the pandemic and have kept with it

Can I find data to support these claims?



All News Shopping Videos Images More

About 9,890,000 results (0.49 seconds)

<https://www.nytimes.com> › bird-watching-coronavirus

The Birds Are Not on Lockdown, and More People Are ...

May 29, 2020 — At a time when **humans** are nervously tracking the spread of a virus as it seeps through communities and leaps across borders, new birders are ...

<https://qz.com> › birdings-popularity-is-lasting-beyond-t...

Birding's popularity is lasting beyond the pandemic - Quartz

Jun 25, 2021 — A sudden rise in **bird watching** around the world was one of the rare heartening consequences of pandemic **lockdowns** last year.

<https://www.wired.com> › Science › birds

Pandemic Bird-Watching Created a Data Boom ... - WIRED

Sep 30, 2021 — The researchers reported that during **lockdown**, bird activity increased for **more** than 80 percent of the species they studied, including ...

<https://www.audubon.org> › news › birdwatching-bright...

Birdwatching Is a Bright Spot in a Pandemic-Stricken Economy

Aug 6, 2020 — After all, a global pandemic has killed **more** than 158,000 **Americans** and continues unabated. As a result, the country's economy shrank by 9.5 ...

<https://www.washingtonpost.com> › 2020/05/22 › amid-...

Amid the pandemic, people are paying more attention to tweets

May 22, 2020 — "For one, we're hearing **more birds** because there's less human ... **Watching birds** is a way to take one's mind off the pandemic shutdowns.

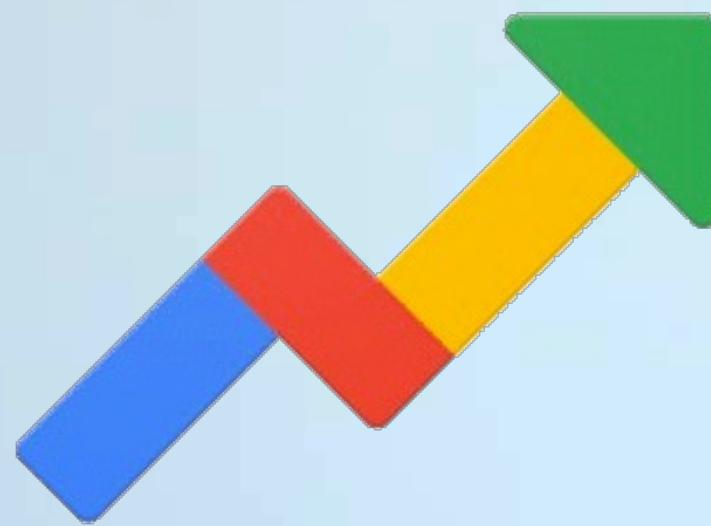
Missing: **Lockdown**, | Must include: **Lockdown**,

Data Sources

- Google Trends
- Financial income data from prominent non-profit birding organizations
 - Audubon
 - Cornell Lab of Ornithology
 - American Birding Association
- Business Financials
 - Wild Birds Unlimited franchise sales
- Participation
 - U.S. Fish and Wildlife Service 2006 – 2016 National Surveys
 - eBird sightings
 - Great Backyard Bird Count

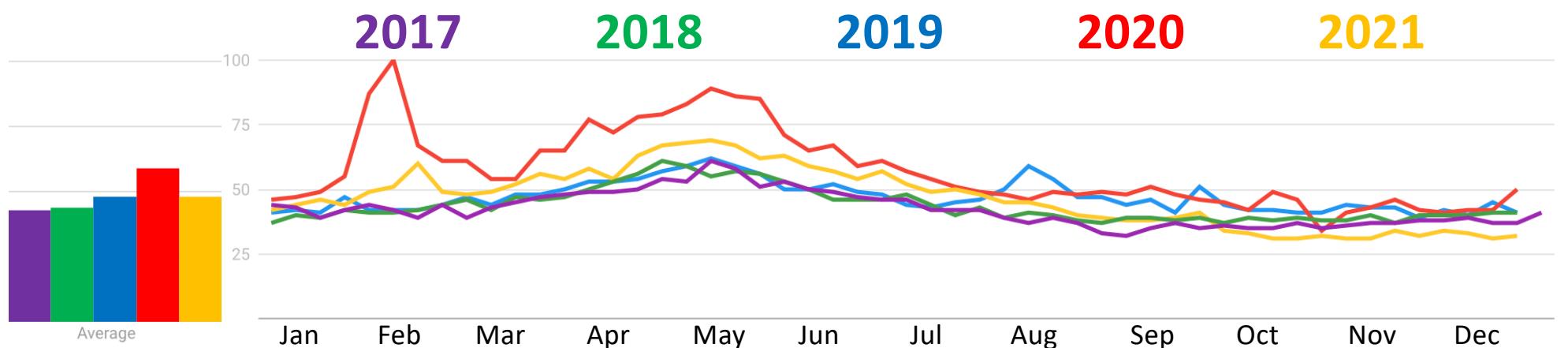


Google Trends



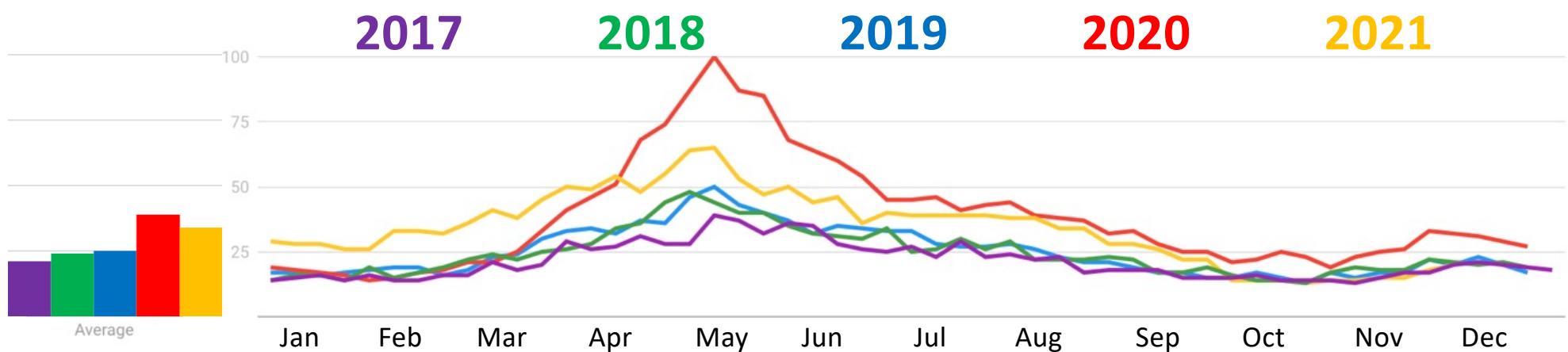
Google Trends Data - "Birds"

- Interesting uptick in searches PRIOR to the quarantine starting in March **2020**
 - Second uptick beginning March **2020**, but not as high as the first
 - Returns to slightly elevated, but more baseline levels by Aug **2020**
 - **2021** starts with a higher search level than years prior to **2020**, but actually ends up LOWER than all other years by Oct - Dec.
 - **General trend:** Increasing **2020 boost:** Yes **Sustained:** No



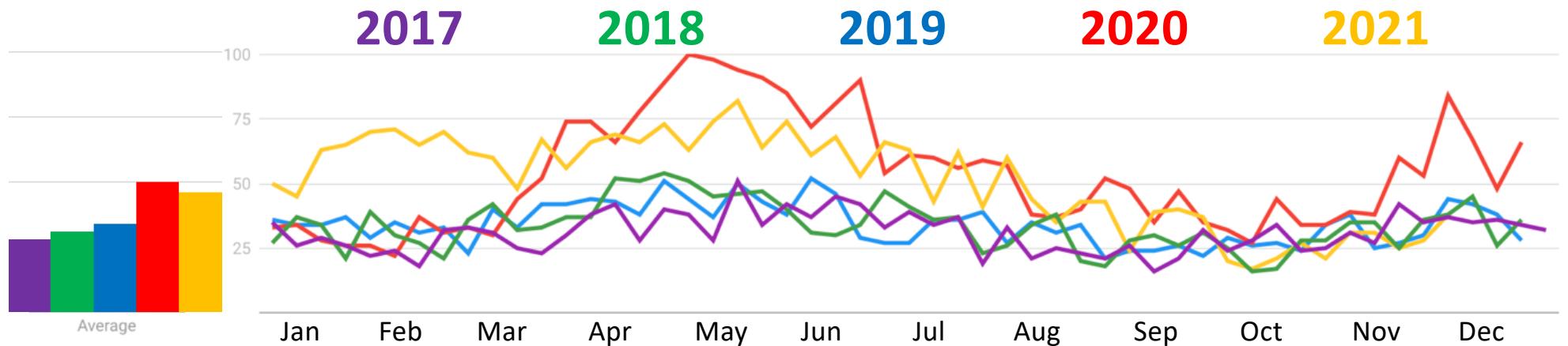
Google Trends Data - "Bird feeder"

- Strong uptick in starting in March **2020**, same time quarantine starts
- Uptick continues at a slightly lesser rate in **2021**, but is still consistently higher than the other previous years. Returns to previous levels by Oct **2021**
- Gradual increase year by year in interest in bird feeding in previous years (**2017** and then **2018 / 2019**) particularly in the spring to late fall
- **General trend:** Increasing **2020 boost:** Yes **Sustained:** Yes



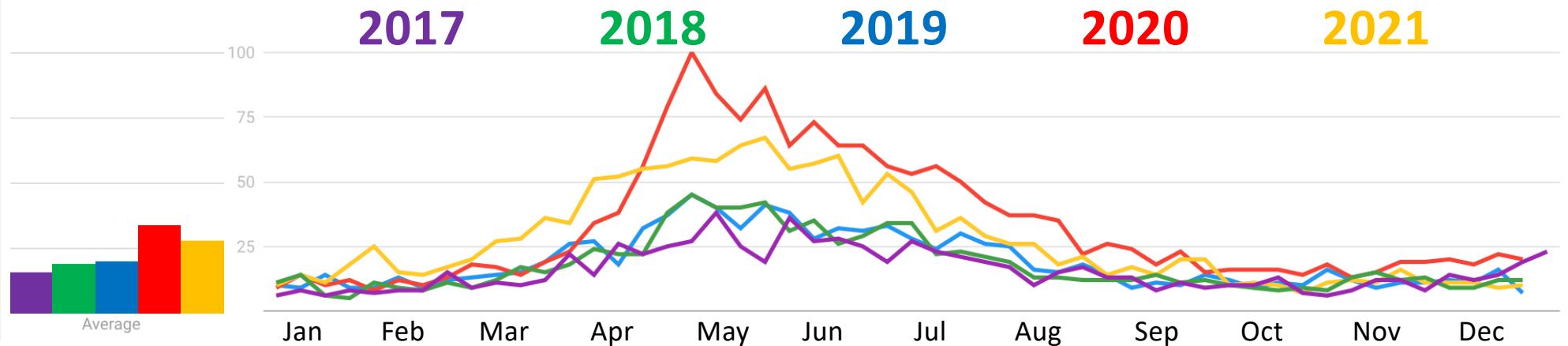
Google Trends Data - "Bird seed"

- Higher rate of searches for **2020** and **2021**
 - Huge surge starting in March **2020** that dips around October before showing a second surge in searches in winter **2020** that continues
- Searches return to previous baseline levels around October **2021**
- **General trend:** Increasing **2020 boost:** Yes **Sustained:** Yes



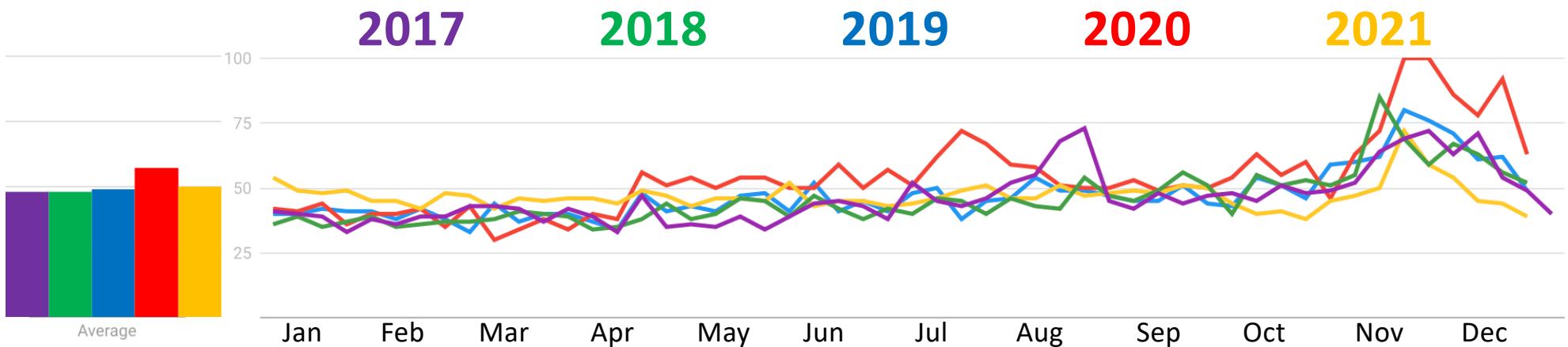
Google Trends Data - "Bird bath"

- Higher rate of searches for **2020** and **2021**
 - Huge surge starting in April **2020** that dips around October until late Jan **2021**
- Searches return to previous baseline levels around October **2021**
- **General trend:** Increasing **2020 boost:** Yes **Sustained:** Yes



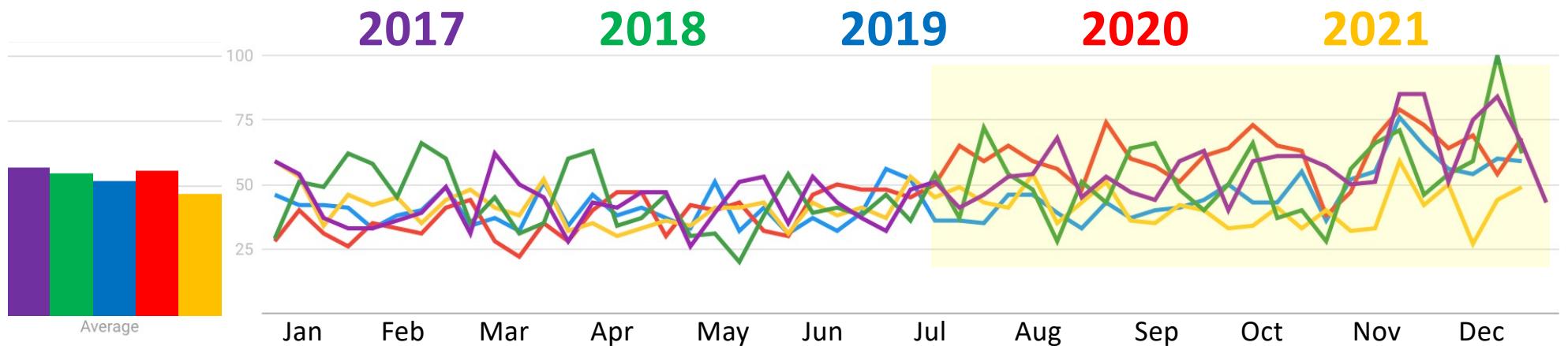
Google Trends Data - "Binoculars"

- Slightly higher rate of searches starting in April **2020** with a bigger spike in Nov and Dec **2020** and return to slightly higher than baseline
- Interest by the end of **2021** ends LOWER than previous years
- **General trend:** Stable **2020 boost:** Yes **Sustained:** No



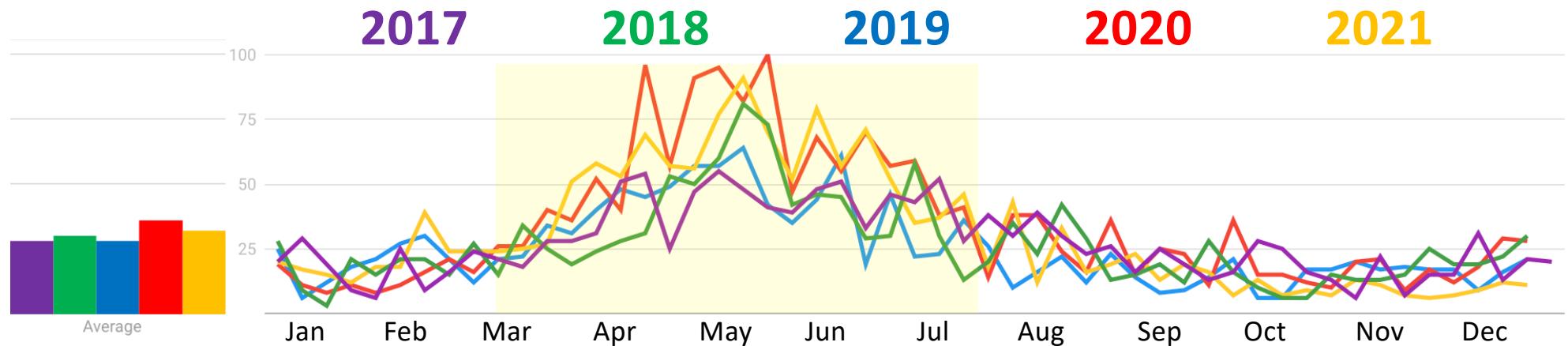
Google Trends Data - "Spotting Scope"

- Very little seasonality in this search data though there is a slight uptick in July – Dec
- Slight bump in searches in 2020 starting in July, but very small
- **General trend:** Decreasing **2020 boost:** Yes **Sustained:** No



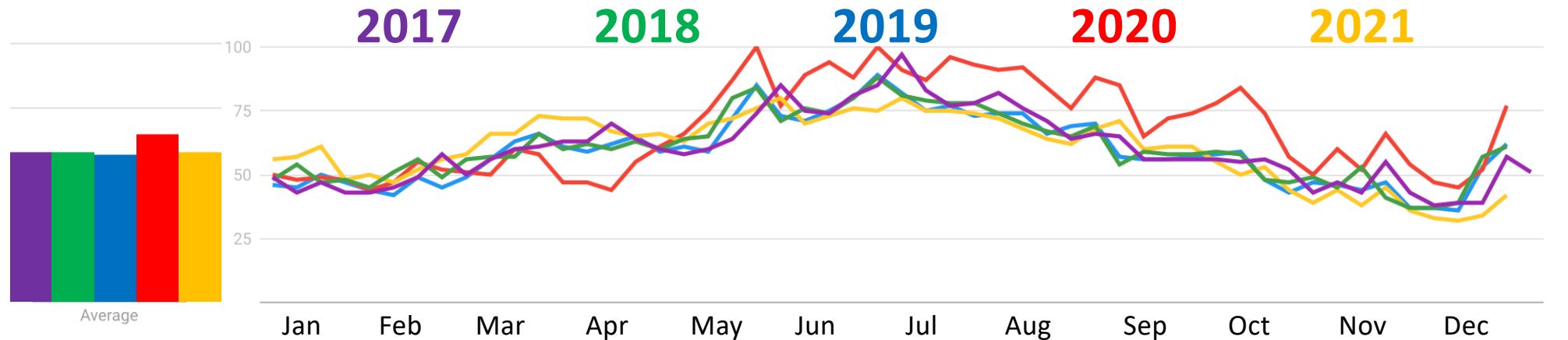
Google Trends Data - "Bird identification"

- Slightly higher interest in **2020** and **2021** between March – July than in previous years
- March – August show increased searches each year compared to fall and winter months
- **General trend:** Stable **2020 boost:** Yes **Sustained:** Yes



Google Trends Data - "Hiking" (topic)

- Searches take a dip in March **2020**
 - Parks were also closed for Covid and everyone was told to stay home
- Searches start to rise in April **2020** and actually climb higher than other years and last on top for roughly a full year until April **2021**
- **General trend:** Stable **2020 boost:** Yes **Sustained:** No



Google Trends Score Card

Averages

Search Term	General Trend Averages 2017 - 2021	2020 Boost	Sustained in 2021?
Birds	↑	Yes	No
Bird feeder	↑	Yes	Yes
Bird seed	↑	Yes	Yes
Bird bath	↑	Yes	Yes
Binoculars	---	Yes	No
Spotting scope	↓	Yes	No
Bird identification	---	Yes	Slightly
Hiking (topic)	---	Yes	No

Google Trends Score Card

Averages

Search Term	General Trend Averages 2017 - 2021	2020 Boost	Sustained in 2021?
Birds		Yes	No
Bird feeder		Yes	Yes
Bird seed		Yes	Yes
Bird bath		Yes	Yes
Binoculars		Yes	No
Spotting scope		Yes	No
Bird identification	---	Yes	Slightly
Hiking (topic)	---	Yes	No

Google Trends Score Card

Averages

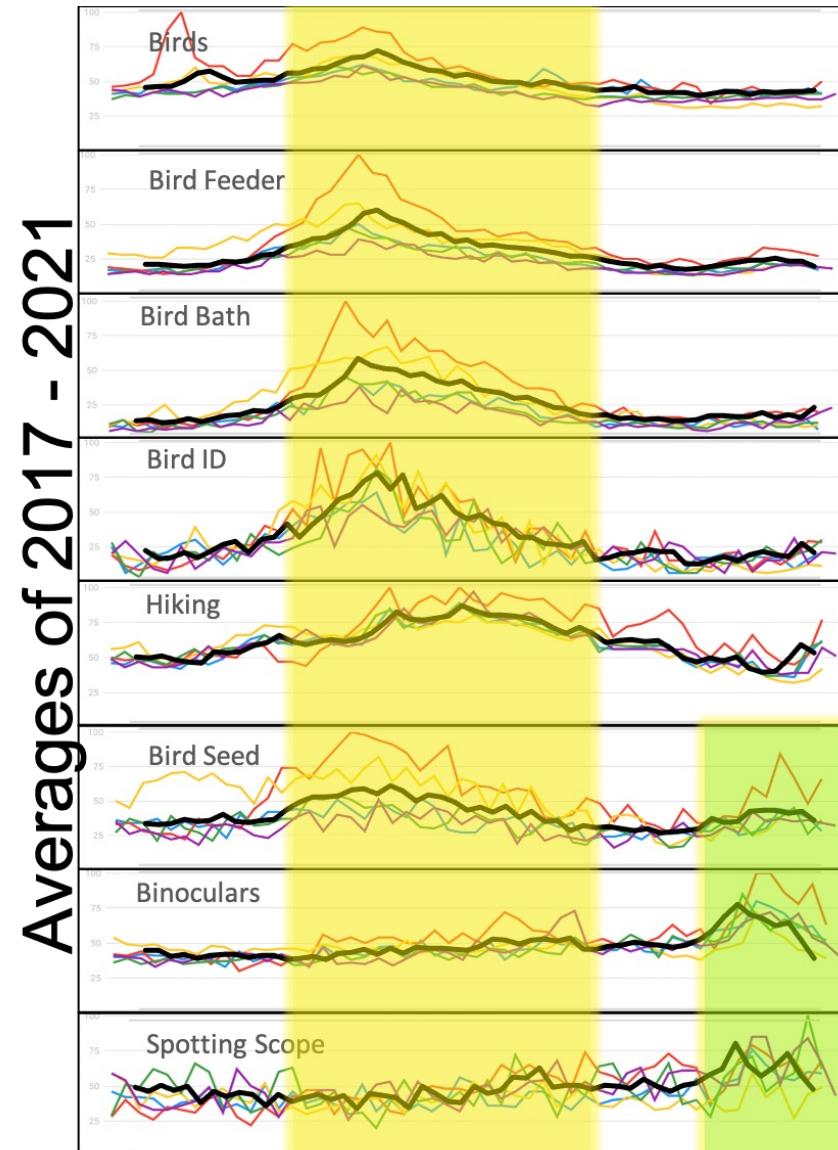
Search Term	General Trend Averages 2017 - 2021	2020 Boost	Sustained in 2021?
Birds	General interest in general birdwatching was NOT sustained.	Yes	No
Bird feeder		Yes	Yes
Bird seed		Yes	Yes
Bird bath		Yes	Yes
Binoculars		Yes	No
Spotting scope		Yes	No
Bird identification		Yes	Slightly
Hiking (topic)		Yes	No

Google Trends Score Card Averages

Search Term	General Trend	2020 Boost	Sustained in 2021?
Birds	However, there IS sustained interest in drawing birds to the home	Yes	No
Bird feeder		Yes	Yes
Bird seed		Yes	Yes
Bird bath		Yes	Yes
Binoculars		Yes	No
Spotting scope	2021 averages are higher than would be expected by overall data trends	Yes	No
Bird identification		Yes	Slightly
Hiking (topic)		Yes	No

Google Trends Conclusions

- Seasonality:
 - In any given year, **March through August** are the primary months for searches in bird-related topics.
 - A few terms (binoculars, spotting scope, and bird seed) did show some small upticks in Nov / Dec.

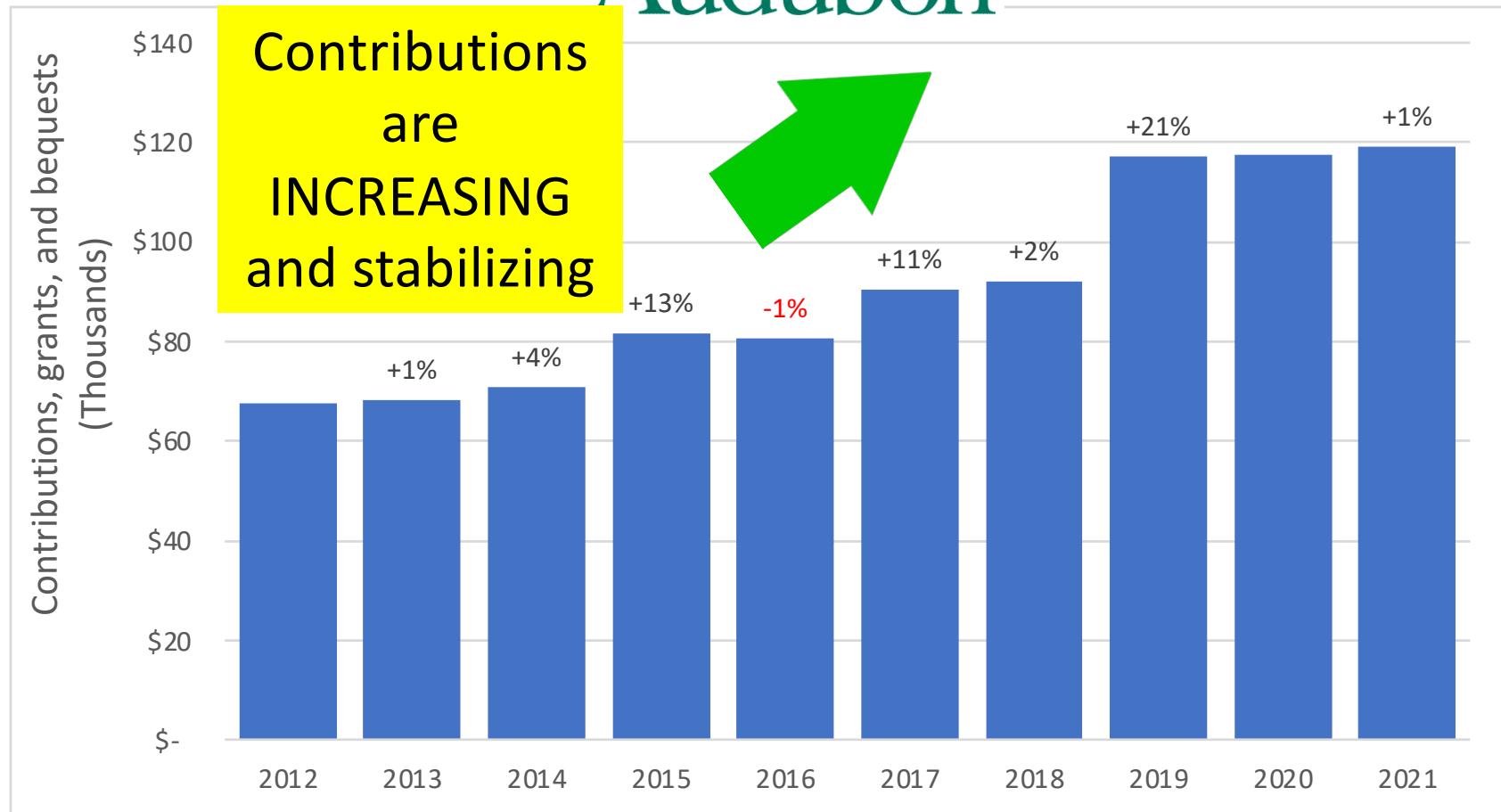


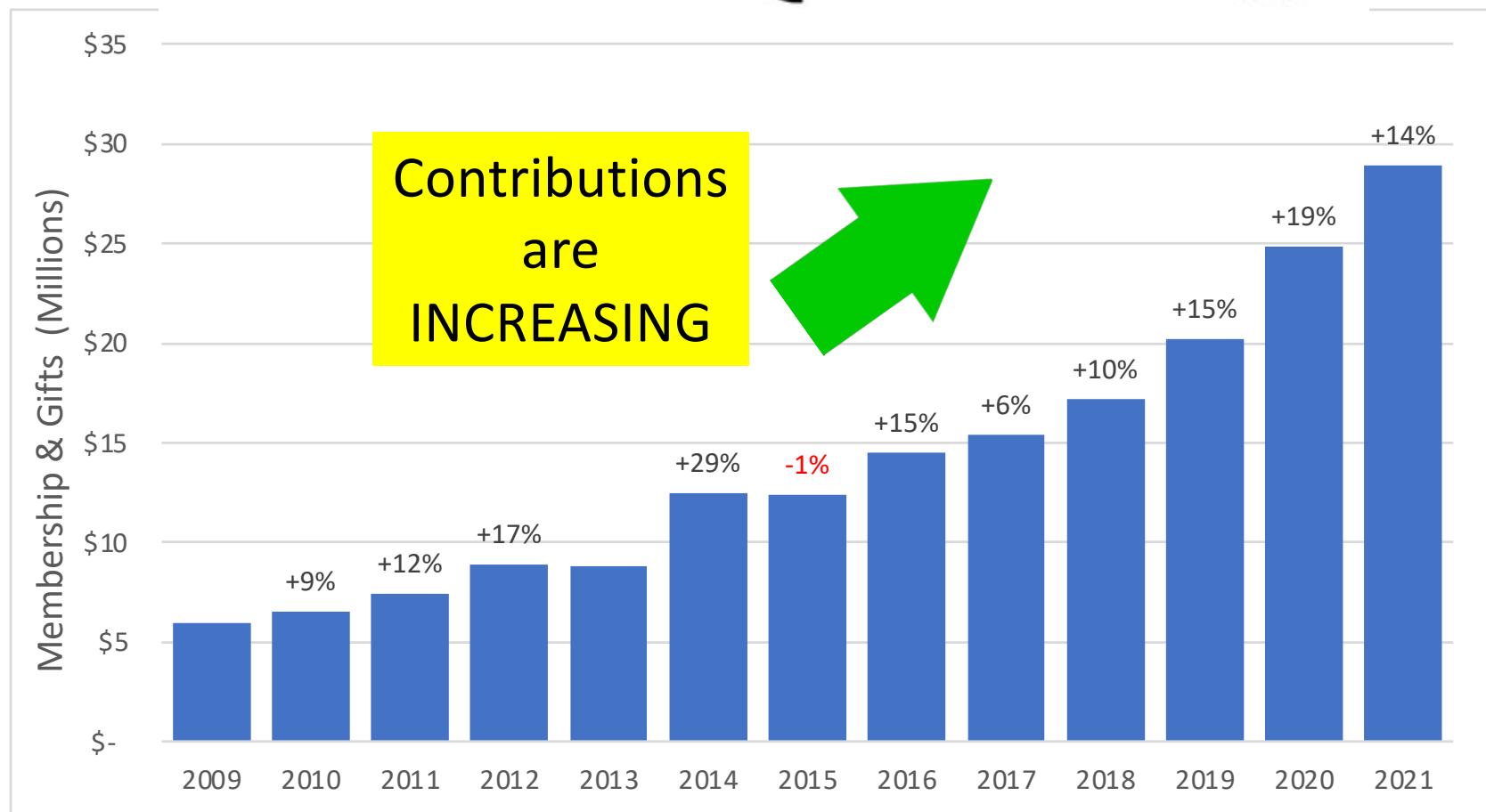
A black coot is swimming in a pond. The bird has dark feathers, a white patch around its eye, and a white bill. It is surrounded by green duckweed on the water's surface. The background shows more of the pond and some distant vegetation.

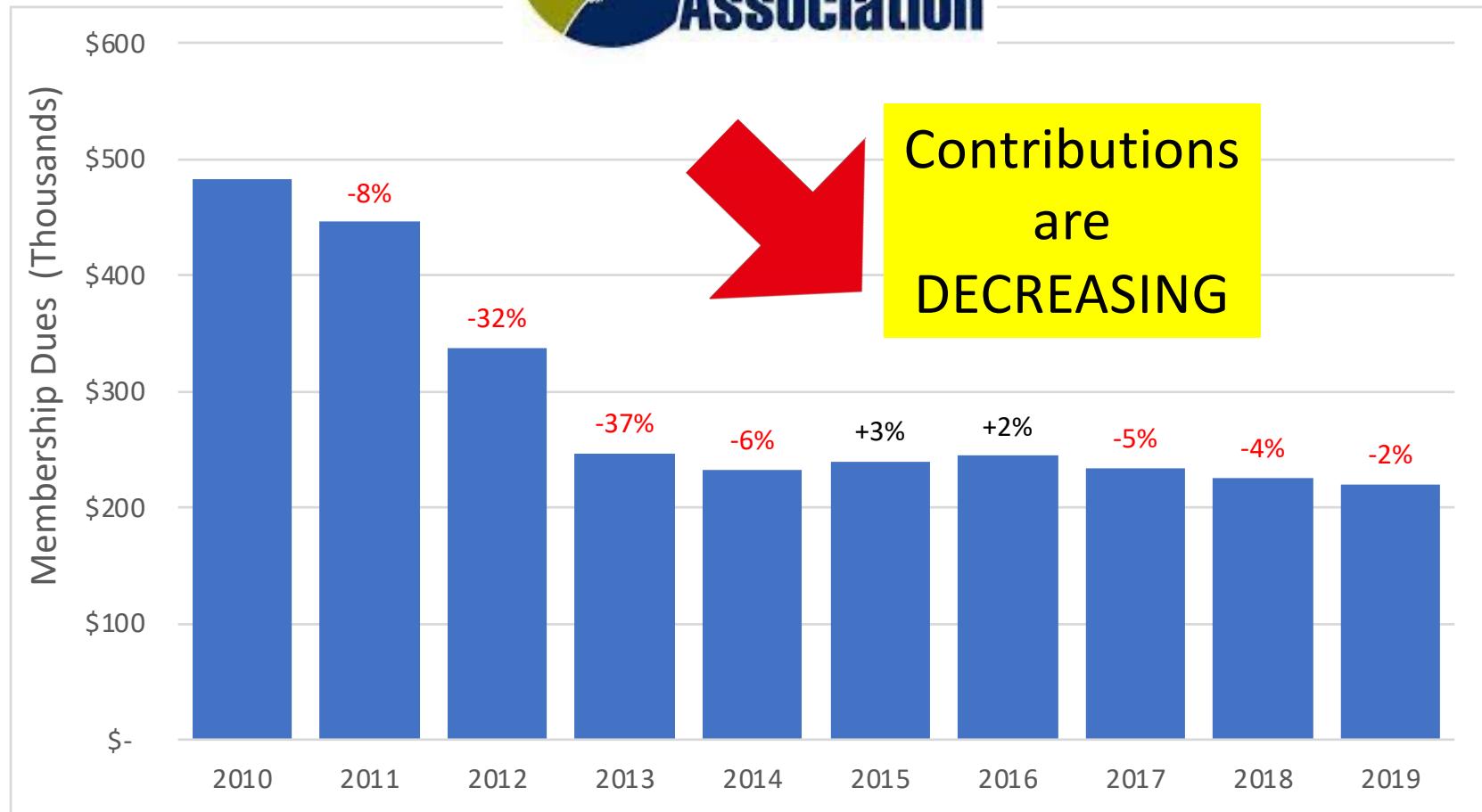
Non-profit Organizations Financials



Audubon

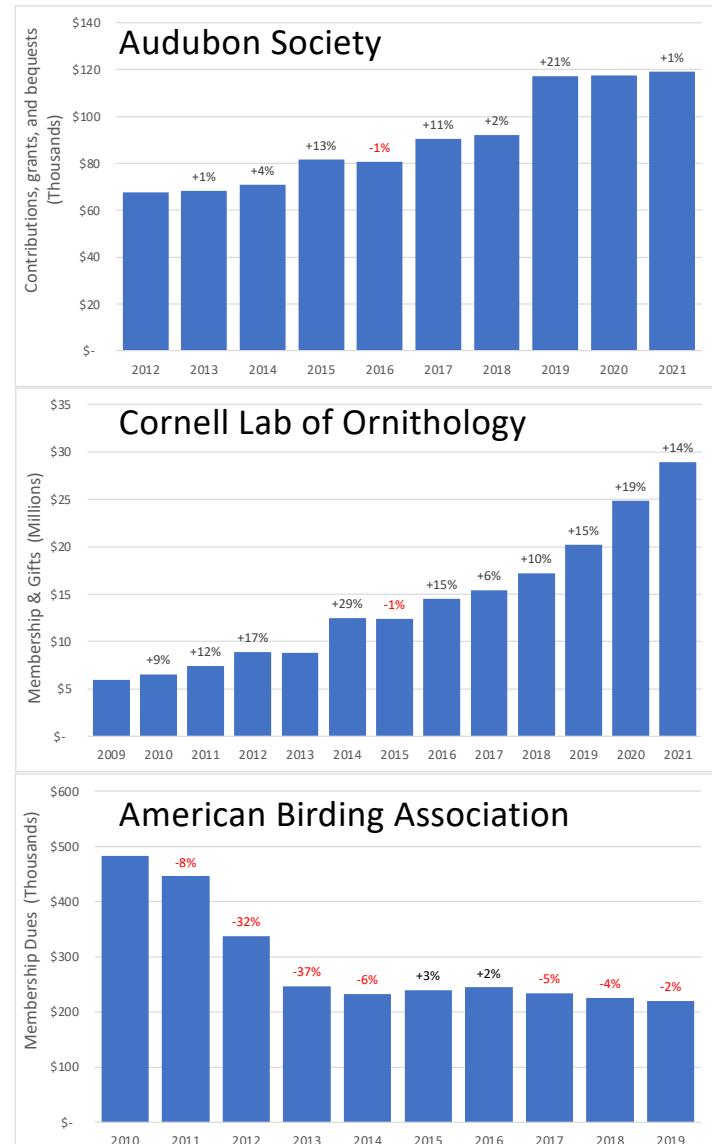






Non-Profit Organization Financials

- Conclusions
 - In general contributions and membership dues have been increasing over the years.
 - For the American Birding Association (ABA), income has decreased and then stabilized since 2014
 - (no data available after 2019)
 - This suggests that ***interest in causal birdwatching has been increasing with time,***
but
formal societies like the ABA have not garnered new interest from the general public



Business Financials





Average Gross Sales for Stores Open for a Full Year
(Thousands \$)



Sales saw a big increase in 2020



A photograph of two American Avocets swimming in a body of water. The birds have long, thin, slightly upturned bills and are facing each other. They are white with dark wing tips and black stripes on their faces. The water is blue with some ripples.

Participation

U.S. Fish and Wildlife Service

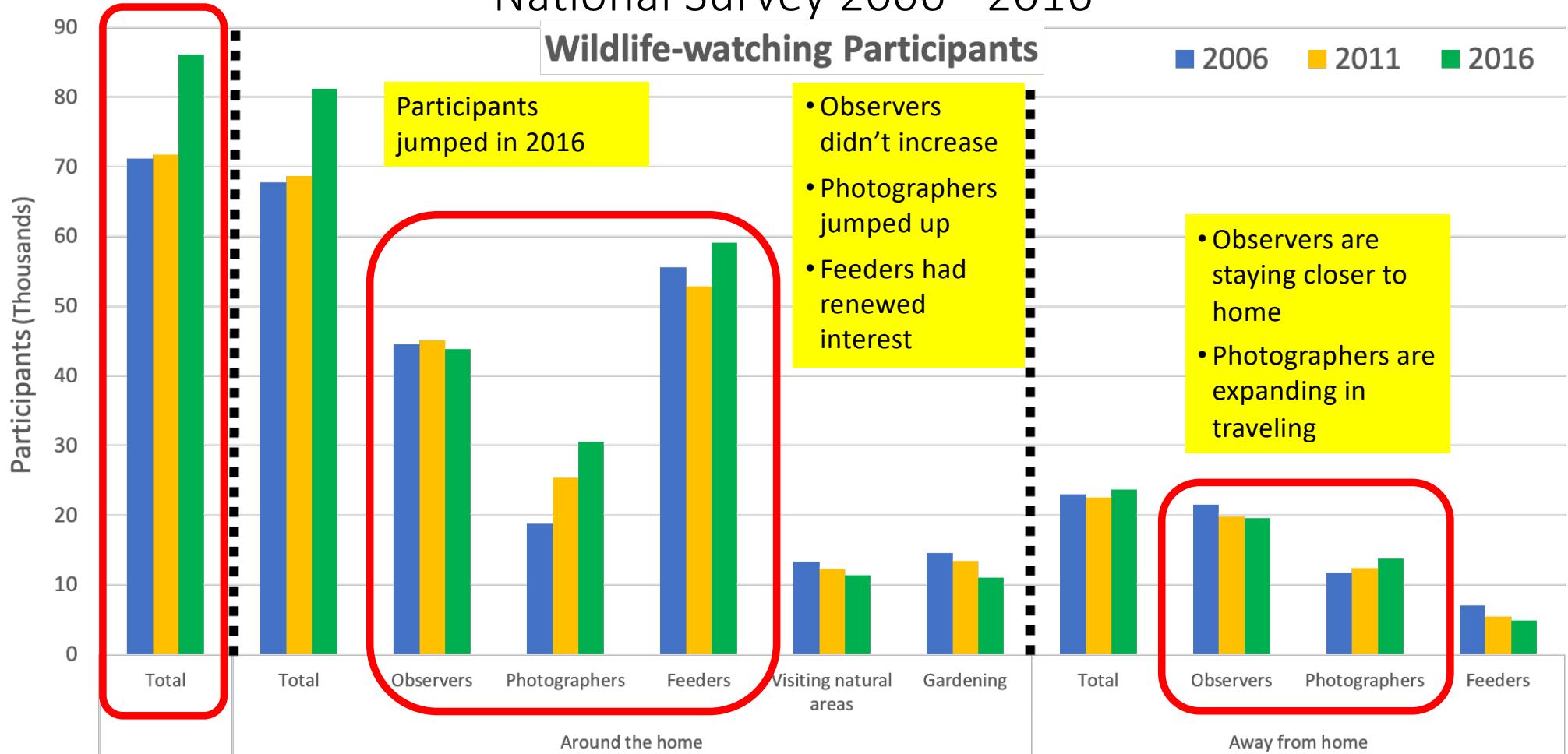
National Survey 2006 - 2016

- Data caveats:
 - Data only goes until 2016 at this point in time.
 - Surveys include other forms of wildlife-watching besides birds
 - Birds
 - Butterflies
 - Mammals
 - etc.
 - Still gives an idea of trends in participation and spending



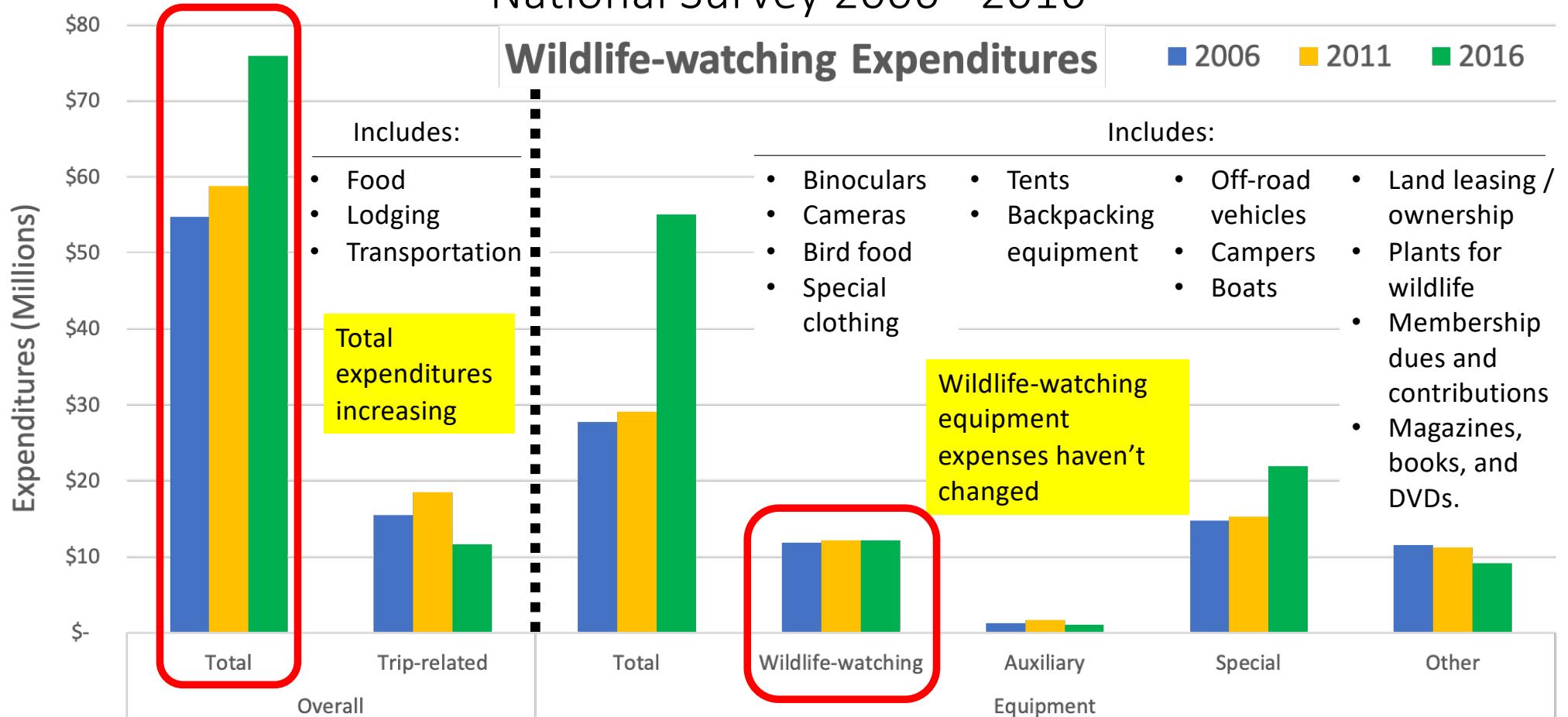
U.S. Fish and Wildlife Service

National Survey 2006 - 2016



U.S. Fish and Wildlife Service

National Survey 2006 - 2016





U.S. Fish and Wildlife Service

National Survey 2006 - 2016

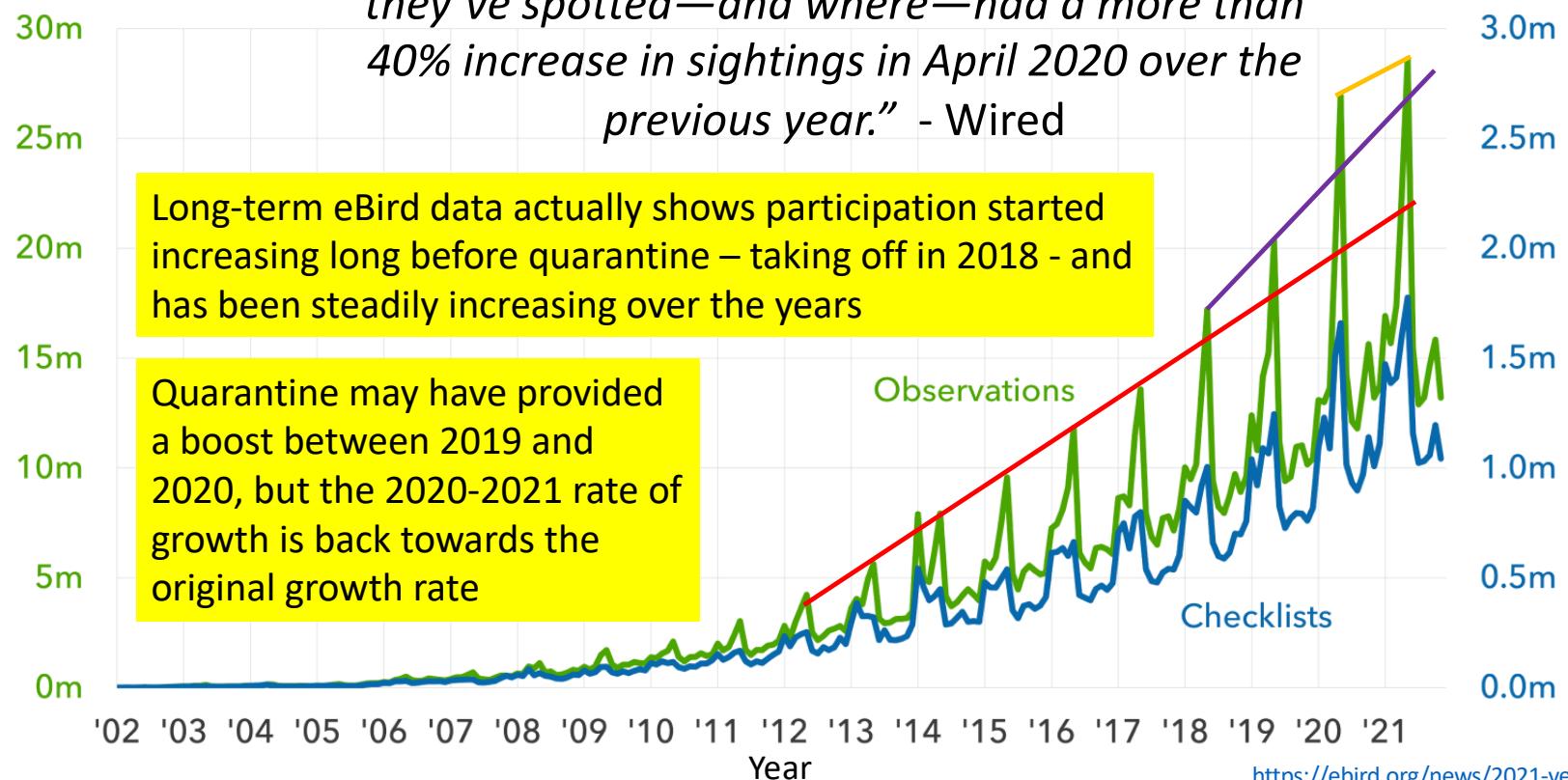
- Summary

- Participation is increasing
 - People are staying closer to home
 - Interest in wildlife photography increasing among those that already have camera equipment
- Observers and expenses for equipment is staying roughly equal across time
 - Overall expenses have increased

eBird Participation

eBird growth

“eBird, which allows birders to note which species they’ve spotted—and where—had a more than 40% increase in sightings in April 2020 over the previous year.” - Wired



<https://ebird.org/news/2021-year-in-review>

Great Backyard Bird Count

GREAT BACKYARD BIRD COUNT GROWS GREATER

500K

400K

300K

200K

100K

0

More than 350,000 eBird checklists from 190 countries were submitted during the 2021 Great Backyard Bird Count. Each year more people around the world are coming together to count and appreciate birds while contributing to their study.

2013 2014 2015 2016 2017 2018 2019 2020 2021



Participation Conclusions

- **Participation has been consistently INCREASING over time**
 - Supported by all participation data sources
- 2020 did cause a higher increase than expected
 - Shown strongly by eBird data
 - lesser extent by the Great Backyard Bird Count (GBBC)
- 2021 continued to increase
 - GBBC shows a huge jump in participation
 - eBird data shows lesser increase similar to previous growth rate



Data Source Wishlist

- Other possible sources of data if access was available:
 - Sales data from more bird specialty stores
 - Birds and Blooms magazine readership / number of subscriptions
 - Park visitor totals over time
 - Sample Facebook group membership size and activity levels (admins have access to past year at least of data)
 - App downloads for birdwatching related apps such as identification apps



facebook



OVERALL SCORE CARD		General Trend	2020 Boost	Sustained in 2021
Google Trends	Birds	↑	Yes	No
	Binoculars	---	Yes	No
	Spotting Scope	↓	Yes	No
	Bird Identification	---	Yes	Slightly
	Bird Feeder	↑	Yes	Yes
	Bird Seed	↑	Yes	Yes
	Bird Bath	↑	Yes	Yes
Financials	Audubon	↑	No	No
	Cornell Lab of Ornithology	↑	Yes	Yes
	American Birding Assoc.	↓	No	No
	Wild Birds Unlimited	↑	Yes	(No data)
Participation	USFWS National Surveys	↑	(No data)	
	eBird sightings	↑	Yes	Slightly
	Great Backyard Bird Count	↑	Slightly	Yes!

OVERALL SCORE CARD		General Trend	2020 Boost	Sustained in 2021
Google Trends	Birds		Yes	No
	Binoculars	---	Yes	No
	Spotting Scope		Yes	No
	Bird Identification	---	Yes	Slightly
	10/14 datasets surveyed = 71.4% shows General interest in birdwatching is INCREASING		Yes	Yes
			Yes	Yes
Financials	Cornell Lab of Ornithology		Yes	Yes
	American Birding Assoc.		No	No
	Wild Birds Unlimited		Yes	(No data)
Participation	USFWS National Surveys		(No data)	
	eBird sightings		Yes	Slightly
	Great Backyard Bird Count		Slightly	Yes!

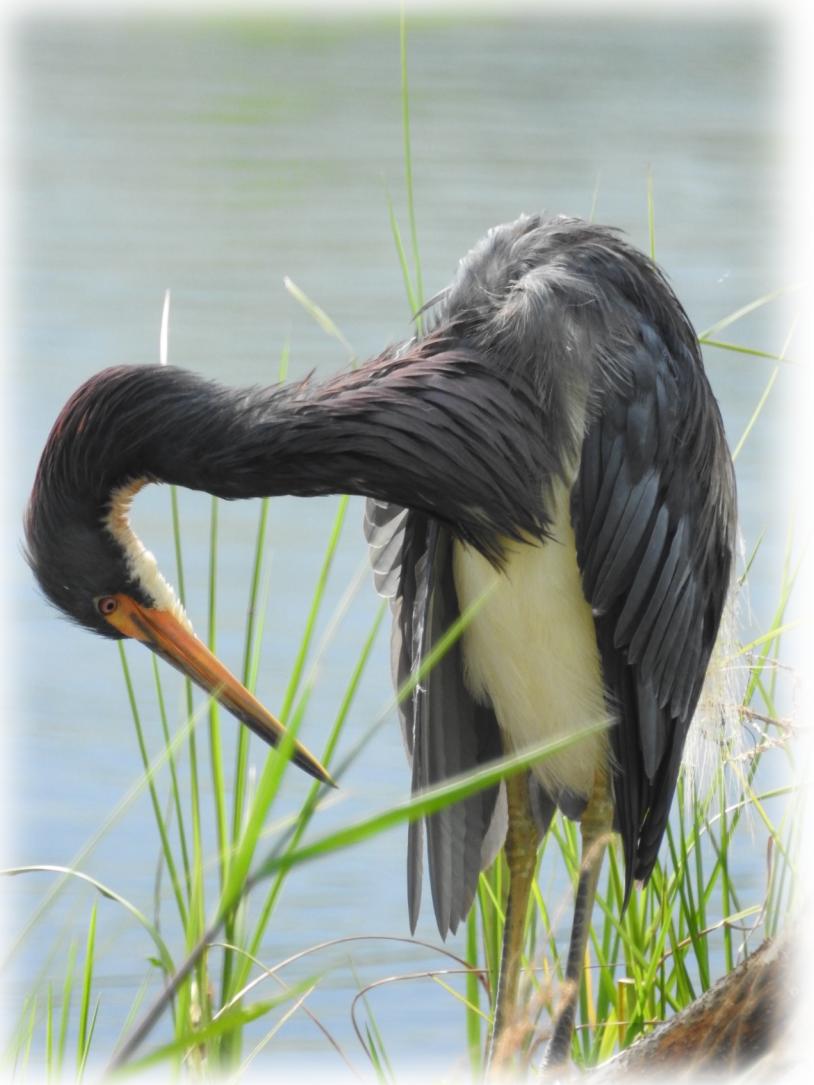
OVERALL SCORE CARD		General Trend	2020 Boost	Sustained in 2021
Google Trends	Birds	↑	Yes	No
	Binoculars	---	Yes	No
	Spotting Scope	↓	Yes	No
	Bird Identification	10/13 datasets surveyed = 76.9% shows		Slightly
	Bird Feeder	2020 gave a boost to birdwatching		Yes
	Bird Seed			Yes
	Bird Bath			Yes
Financials	Audubon	↑	No	No
	Cornell Lab of Ornithology	↑	Yes	Yes
	American Birding Assoc.	↓	No	No
	Wild Birds Unlimited	↑	Yes	(No data)
Participation	USFWS National Surveys	↑	(No data)	
	eBird sightings	↑	Yes	Slightly
	Great Backyard Bird Count	↑	Slightly	Yes!

OVERALL SCORE CARD		General Trend	2020 Boost	Sustained in 2021
Google Trends	Birds	5/12 datasets surveyed = 41.7% shows		No
	Binoculars			No
	Spotting Scope			No
	Bird Identification			Slightly
	Bird Feeder			Yes
	Bird Seed	↑	Yes	Yes
Financials	Bird Bath	↑	Yes	Yes
	Audubon	↑	No	No
	Cornell Lab of Ornithology	↑	Yes	Yes
	American Birding Assoc.	↓	No	No
Participation	Wild Birds Unlimited	↑	Yes	(No data)
	USFWS National Surveys	↑	(No data)	
	eBird sightings	↑	Yes	Slightly
Great Backyard Bird Count		↑	Slightly	Yes!

Overall Summary

- General interest in birdwatching has been increasing over the years starting long before the pandemic
- 2020 gave a boost in birdwatching interest
 - Boost appears as greater increase than expected from overall trend
- Very little support for boost in interest sustained through 2021





Results Suggest:

- Coronavirus quarantine caused a **short-lived large influx** in new birdwatchers
 - Likely bored opportunists who bought **bird feeders and seed** to bring birds **close to their home** quarantine location to **entertain** themselves
 - Only some likely to invest in long-term interest
- When quarantine ended, people no longer had time / opportunity to birdwatch

What implications does this have?

1. People have an innate interest in nature
2. When given the time and opportunity, they explore that interest
3. Unfortunately, when the world resumed motion, people resumed their hectic lives with little time to enjoy the world around them
4. We NEED to take time to slow down for our health and sanity.
5. Birding is just one way to do it
6. Birding also contributes greatly to the economy on multiple levels

To summarize:

It helps us,

**it creates an appreciation of nature,
and it helps the economy.**

Win all around!



Final thought:



Go birdwatch!