

# Understanding wildlife viewers and their potential to support conservation

Road to Recovery Breakout Session  
Emily Sinkular, Ashley Dayer, PhD & Christy Pototsky



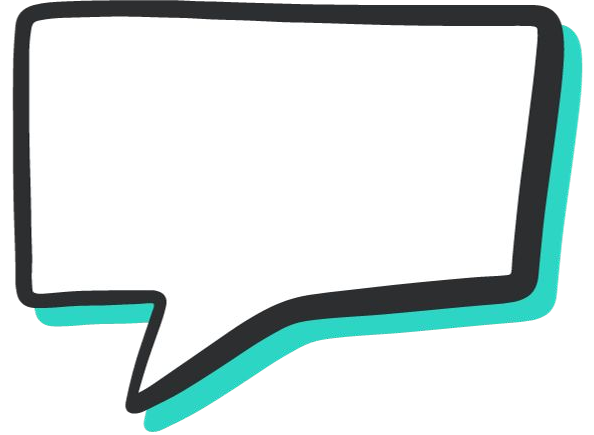
# Today's presentation

1. Understand who wildlife viewers are
2. Examine wildlife viewers and their participation in conservation behaviors
3. Examine wildlife viewers and their contributions to participatory science
4. Discuss how working groups can connect with and engage wildlife viewers in conservation efforts



# Before we get started...

Whenever you see this bubble,  
it means we'll stop and talk!





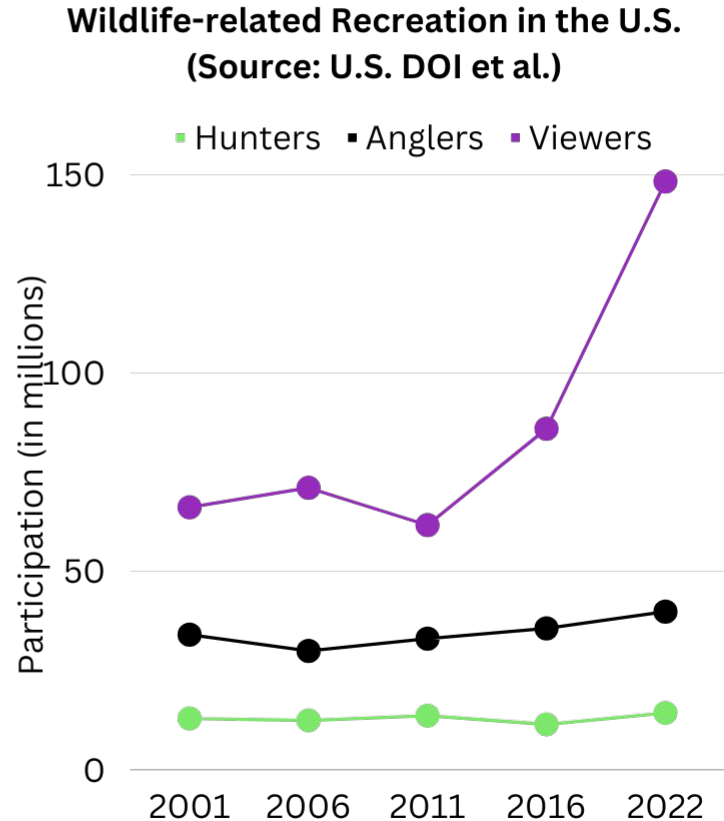
## **What is wildlife viewing?**

**“Closely observing, feeding, and photographing wildlife; visiting parks or natural areas to observe, feed, or photograph wildlife; and maintaining plantings and natural areas for the benefit of wildlife.”**

(U.S. DOI et al. 2018)

# Additional importance of studying wildlife viewers

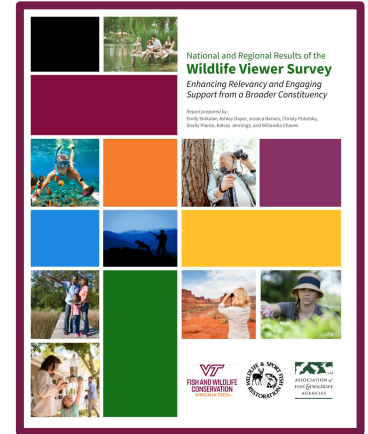
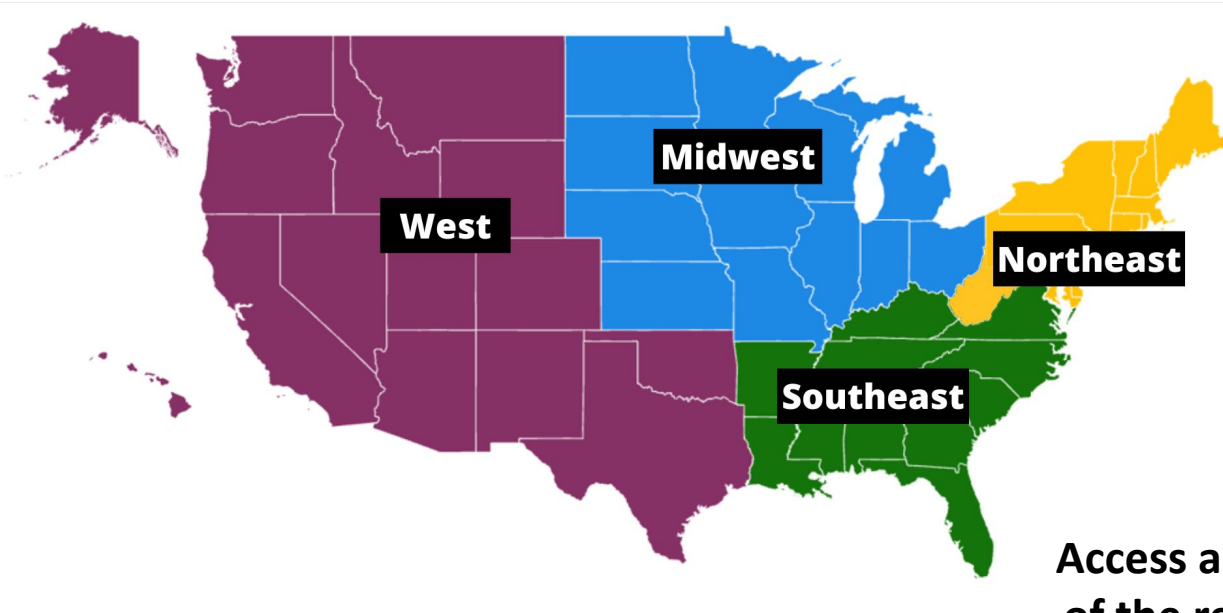
- More than **1 in 2 Americans** are wildlife viewers
- Wildlife viewers could be donors to **conservation**
- Studying wildlife viewers helps to better connect with this group and **engage them in conservation activities**



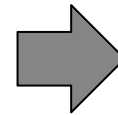
**To better understand wildlife viewers and how to connect with them, we conducted a nationwide survey.**

# Nationwide survey of wildlife viewers

4,030 total respondents



Access a copy  
of the report  
here!







## Survey Results



# Demographics: Survey quotas

**Gender** 59% male, 41% female

18-34: 22%

**Age**

35-54: 33%

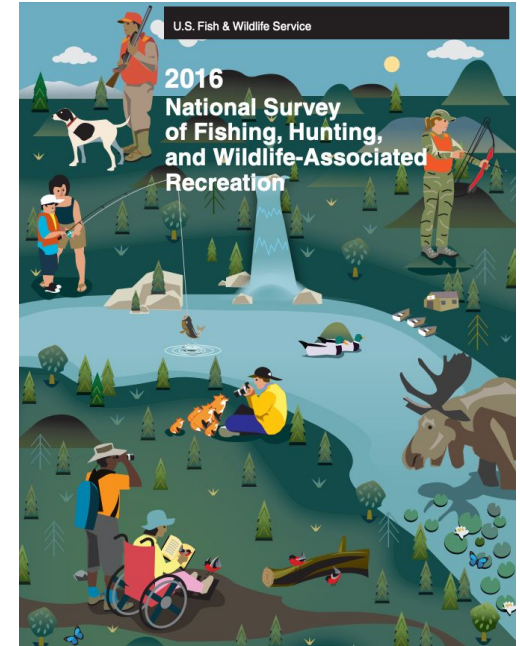
55+: 45%

**Education**

High school diploma or less: 39%

Some college: 23%

Bachelor's or graduate: 38%



# Demographics: Race and ethnicity



Of respondents were Black, Indigenous or people of color (BIPOC)



Of Americans are Black, Indigenous or people of color (BIPOC)

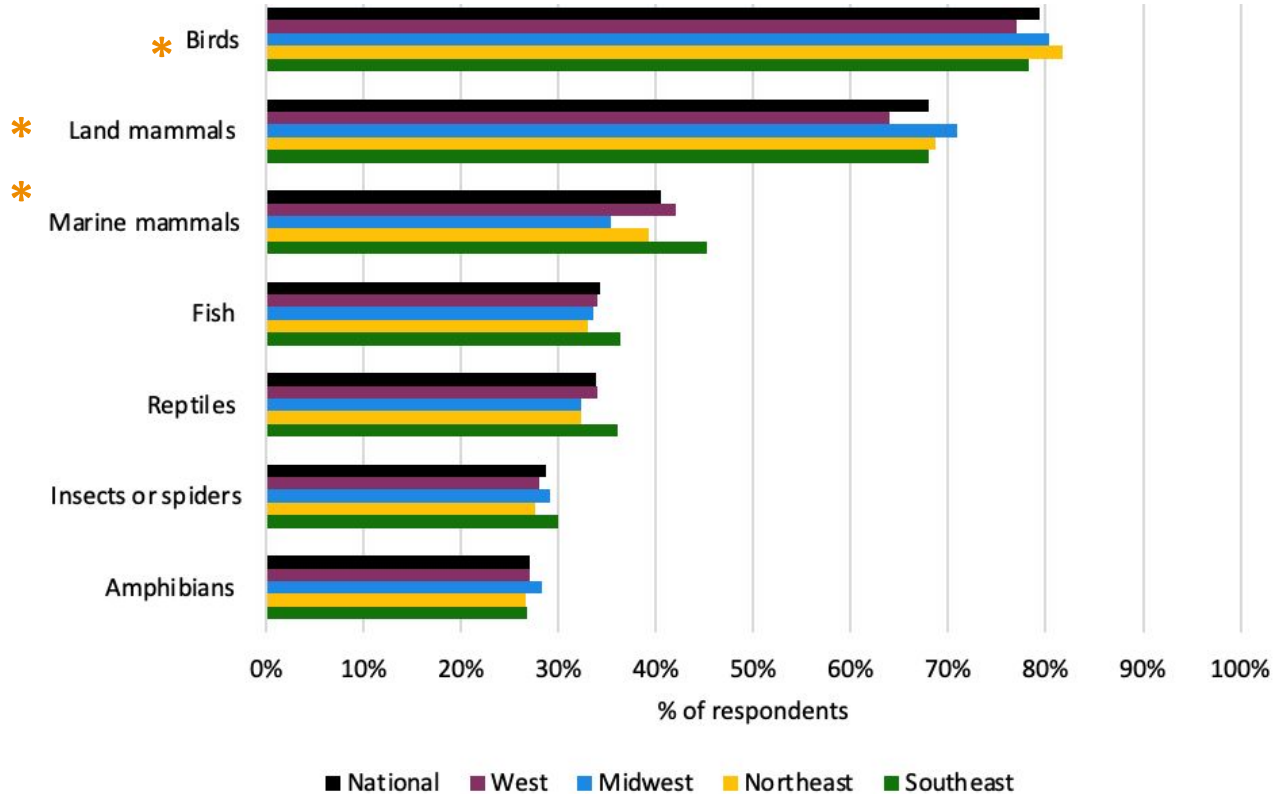
# What types of wildlife do respondents view?



The majority of respondents were interested in viewing **wild birds (79%\*)** and/or **land mammals (68%\*)**.

*\* indicates  $p < .05$ ; chi-square comparing across the four AFWA regions (Northeast, Southeast, Midwest, West)*

# What types of wildlife do respondents view?



\* indicates  $p < .05$ ; chi-square comparing across the four AFWA regions (Northeast, Southeast, Midwest, West)

# Which wildlife viewing activity do you think is most common?



**Closely observing wildlife**



**Feeding wild birds**



**Photographing wildlife**



**Feeding other wildlife**



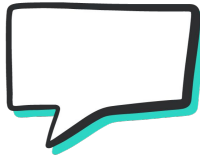
**Maintain plantings  
and natural areas**



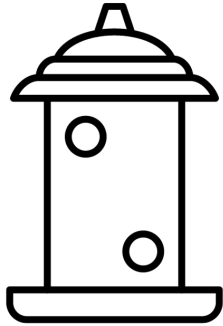
**Taking trips and outings  
to other locations**



**Visiting parks and natural areas**

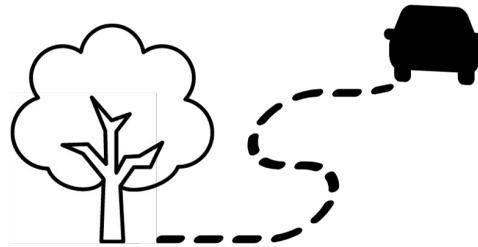


# How do respondents participate in wildlife viewing?



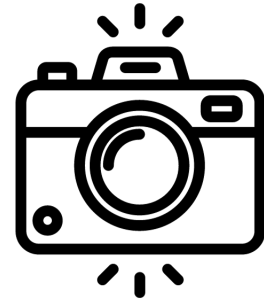
**56% \***

**Feeding birds**



**51%**

**Visiting parks and  
natural areas to view  
wildlife**

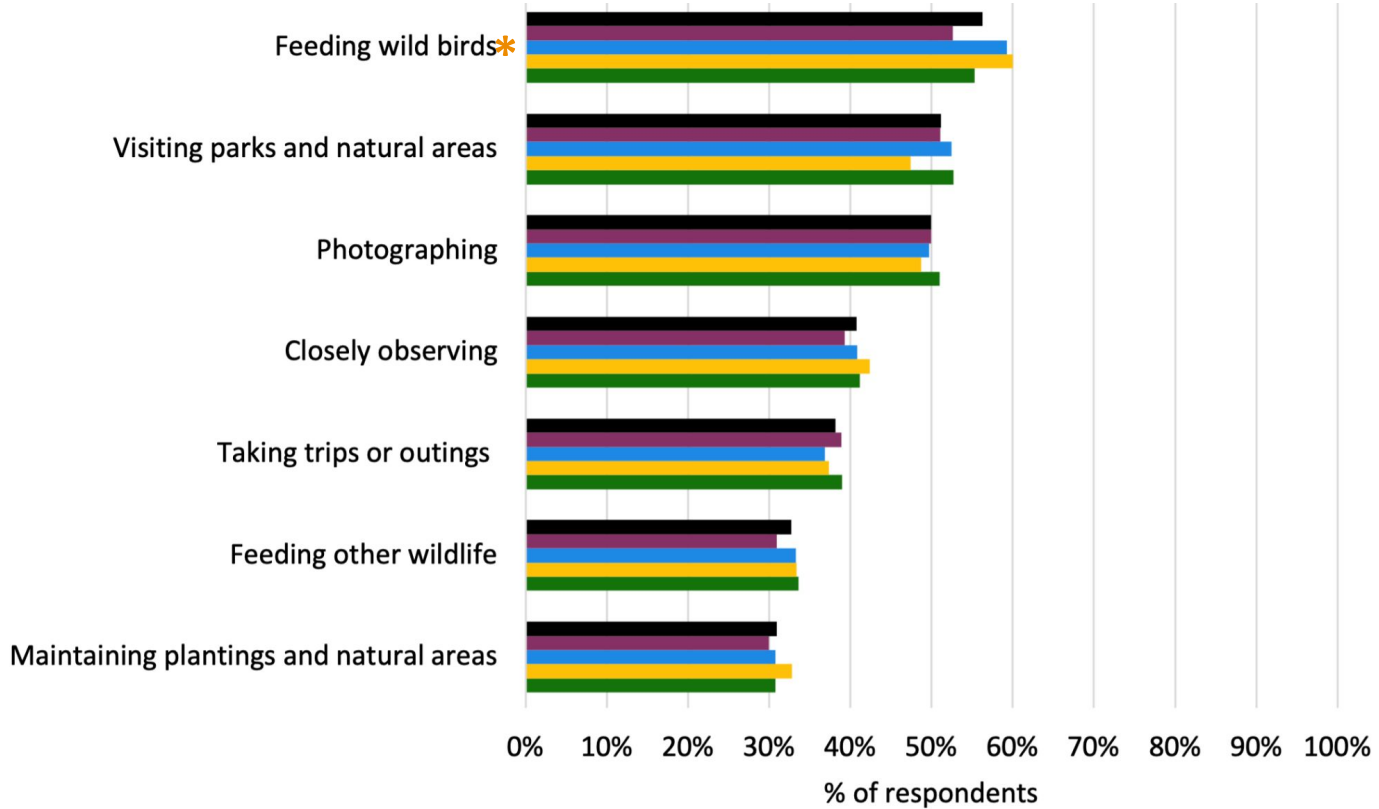


**50%**

**Photographing wildlife**

*\* indicates  $p < .05$ ; chi-square comparing across the four AFWA regions (Northeast, Southeast, Midwest, West)*

# How do respondents participate in wildlife viewing?



\* indicates  $p < .05$ ;  
chi-square  
comparing across  
the four AFWA  
regions

■ National ■ West ■ Midwest ■ Northeast ■ Southeast



# Where do wildlife viewers participate in viewing?



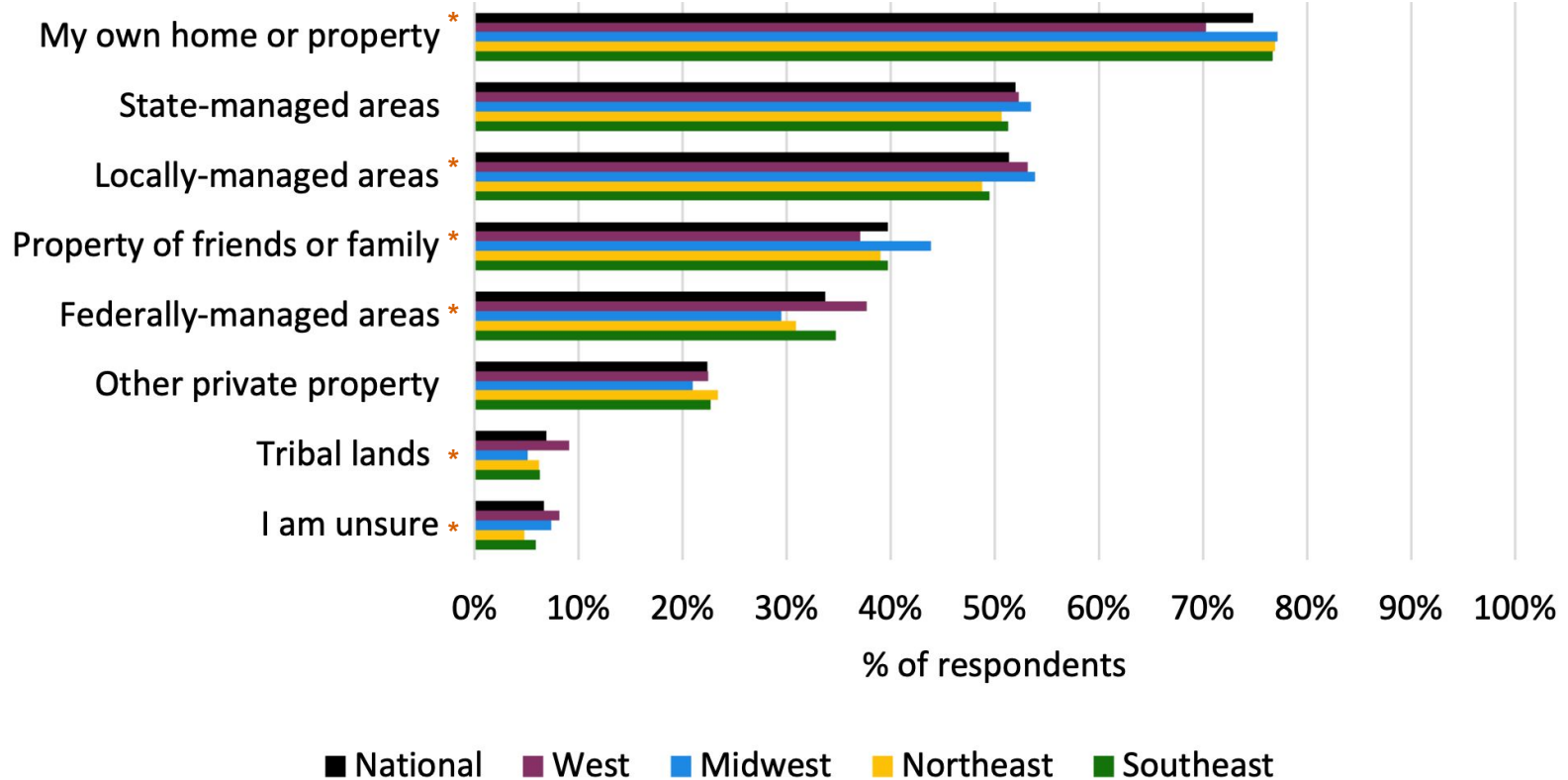
**75%\*** of wildlife viewers participate in viewing **on their own home or property.**



**52%\*** of wildlife viewers participate on **state-managed lands.**

*\* indicates  $p < .05$ ; chi-square comparing across the four AFWA regions (Northeast, Southeast, Midwest, West)*

# Where do wildlife viewers participate in viewing?

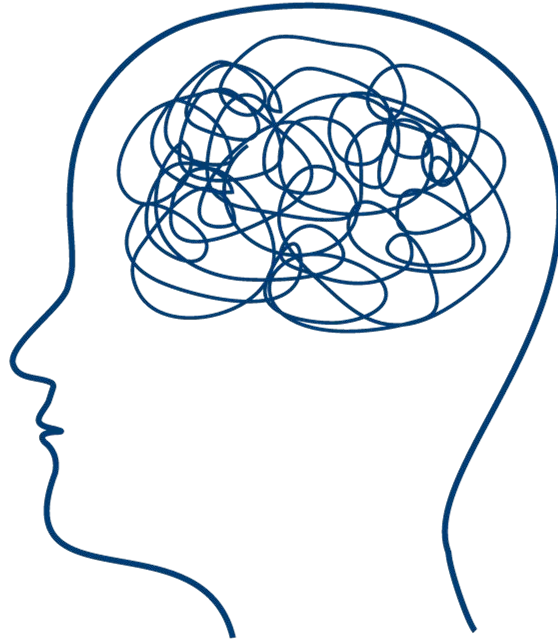


\* indicates  $p < .05$ ; chi-square comparing across the four AFWA regions (Northeast, Southeast, Midwest, West)

## How skilled are wildlife viewers?

**61%**

**Beginner or  
novice**



**29%**

**Intermediate**

**10%**

**Advanced or  
expert**

# What do wildlife viewers want to support their viewing?



**More info on state wildlife (41%)**

Remember, the survey asked about state agencies!



**More info about where to see wildlife (40%)**



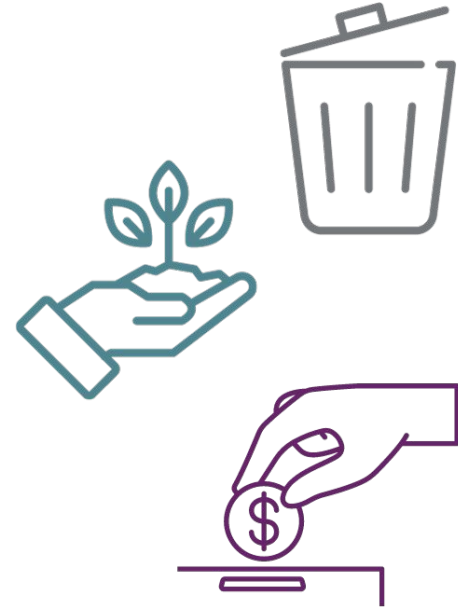
**Access to more places to view wildlife (35%)**



**How do wildlife viewers participate in conservation behaviors?**

# What are conservation behaviors?

Conservation or pro-environmental behaviors (PEB) “are actions that **generate positive environmental impacts**, promote environmental quality, and result in sustainable use of natural resources.”



*(Cooper et al., 2015; Stern 2000, Monroe 2003, Steg et al. 2014)*



# What do we know about wildlife viewers and conservation behaviors?

- Wildlife viewers are **more likely to participate in conservation behaviors** than non-recreationists
- Birders are more likely to **make purchases whose proceeds benefit conservation** than non-birders
- Birders and wildlife viewers are more likely **to participate in (most) conservation behaviors** than hunters and anglers

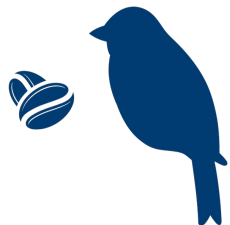




A background image of a beach with waves and a bird in flight. The bird is a shorebird with long legs and a long beak, captured in mid-flight over the water. The waves are breaking on the shore, and the sky is a pale blue.

**Think-pair-share:**  
**How do you think wildlife viewers can support conservation?**

# What conservation behaviors did we study?



Purchasing products that benefit wildlife or whose proceeds support conservation

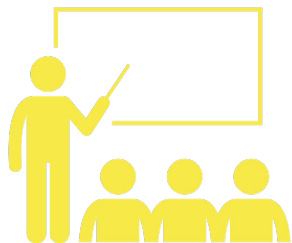
**Which behavior do you think is most popular?**



Donating money to support wildlife conservation



Enhancing wildlife habitat



Informing or teaching others about wildlife conservation



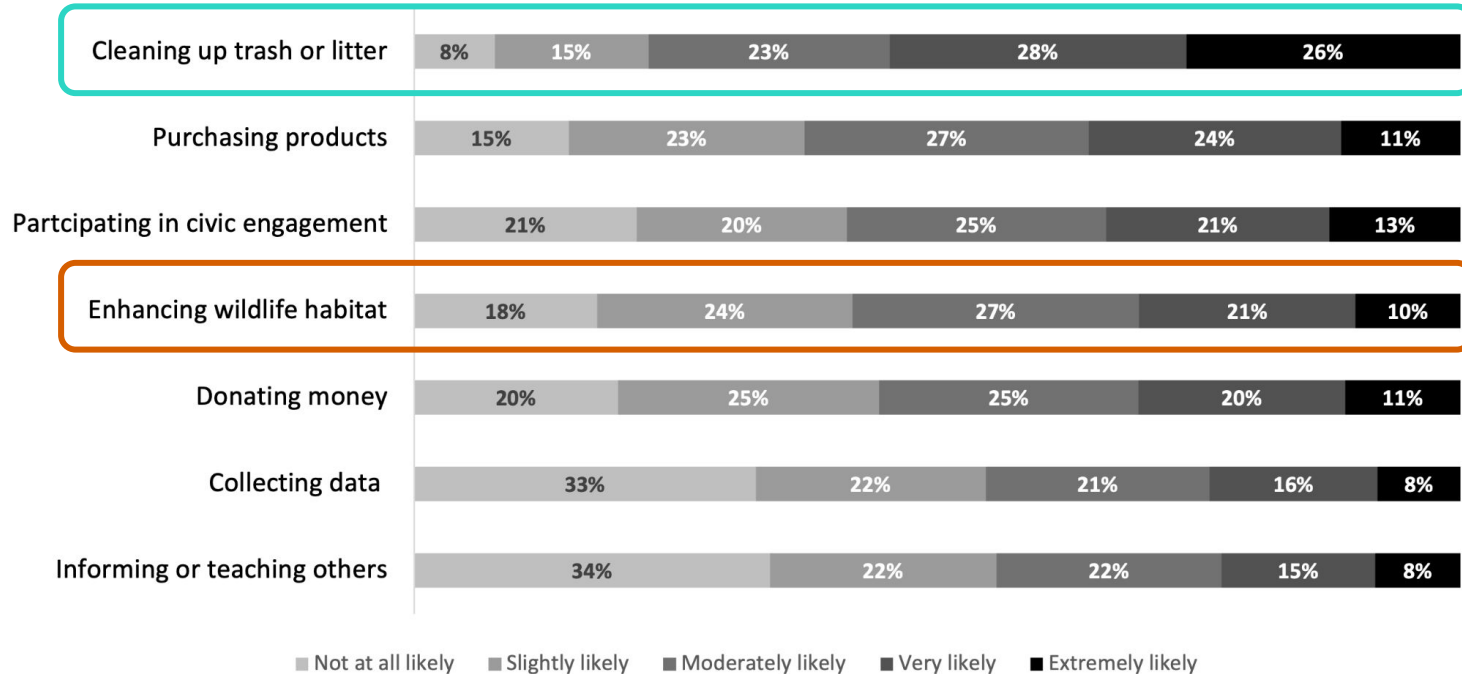
Collecting data on wildlife or habitat to contribute to science or management



Participating in civic engagement (such as voting or advocating) related to wildlife conservation

# Wildlife viewers likelihood to participate in conservation behaviors

How likely would you be to participate in each of the following conservation activities in the next 5 years, if you had the opportunity to do so?





**56%**



**31%**

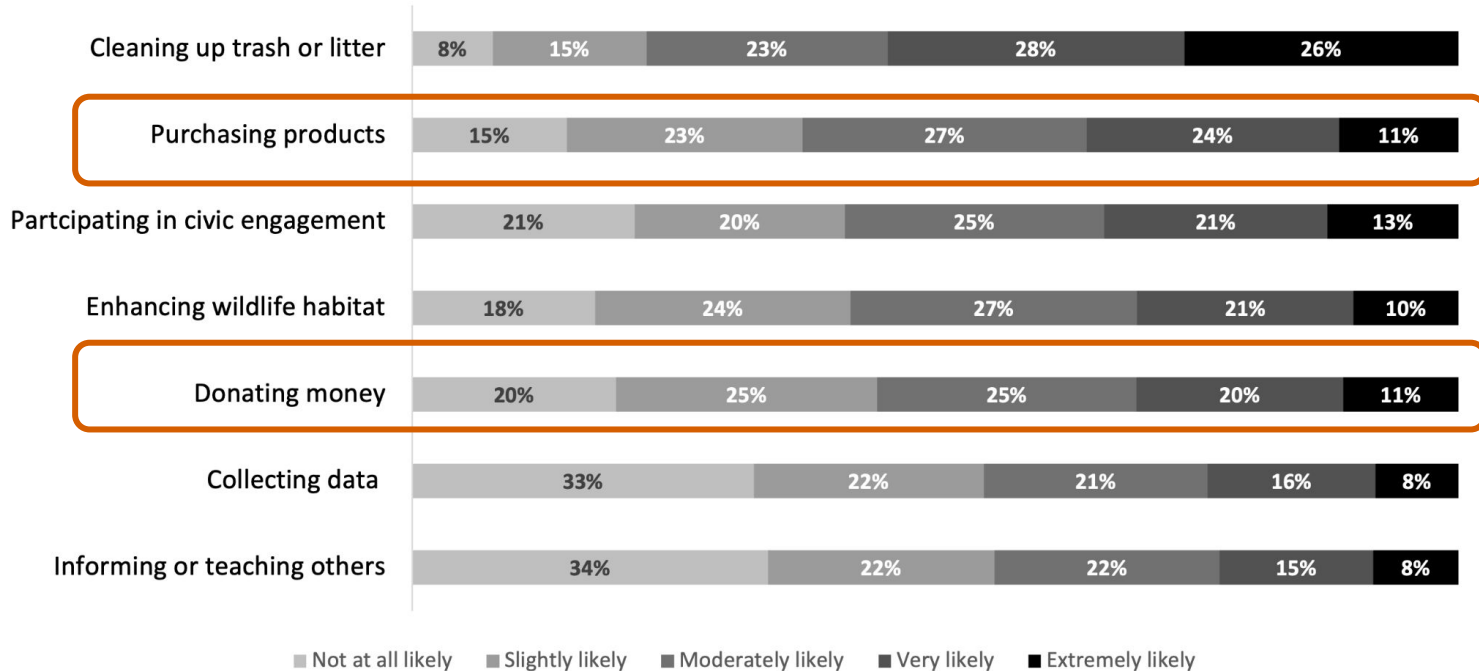
# How do we get more bird feeding folks to plant habitat?

- Framing planting as “feeding birds and other wildlife”!
  - Adds a new, complex layer to their wildlife viewing experience and...
  - Focus on conservation benefits
- Deconstructing barriers

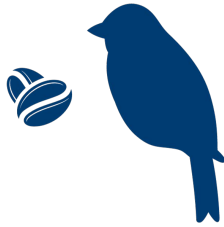


# Wildlife viewers likelihood to participate in conservation behaviors

How likely would you be to participate in each of the following conservation activities in the next 5 years, if you had the opportunity to do so?

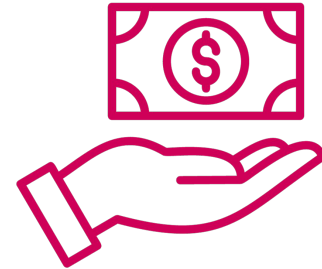


# How likely are wildlife viewers to contribute financially to conservation?



**62%**

Purchasing products that benefit wildlife or whose proceeds support conservation.



**56%**

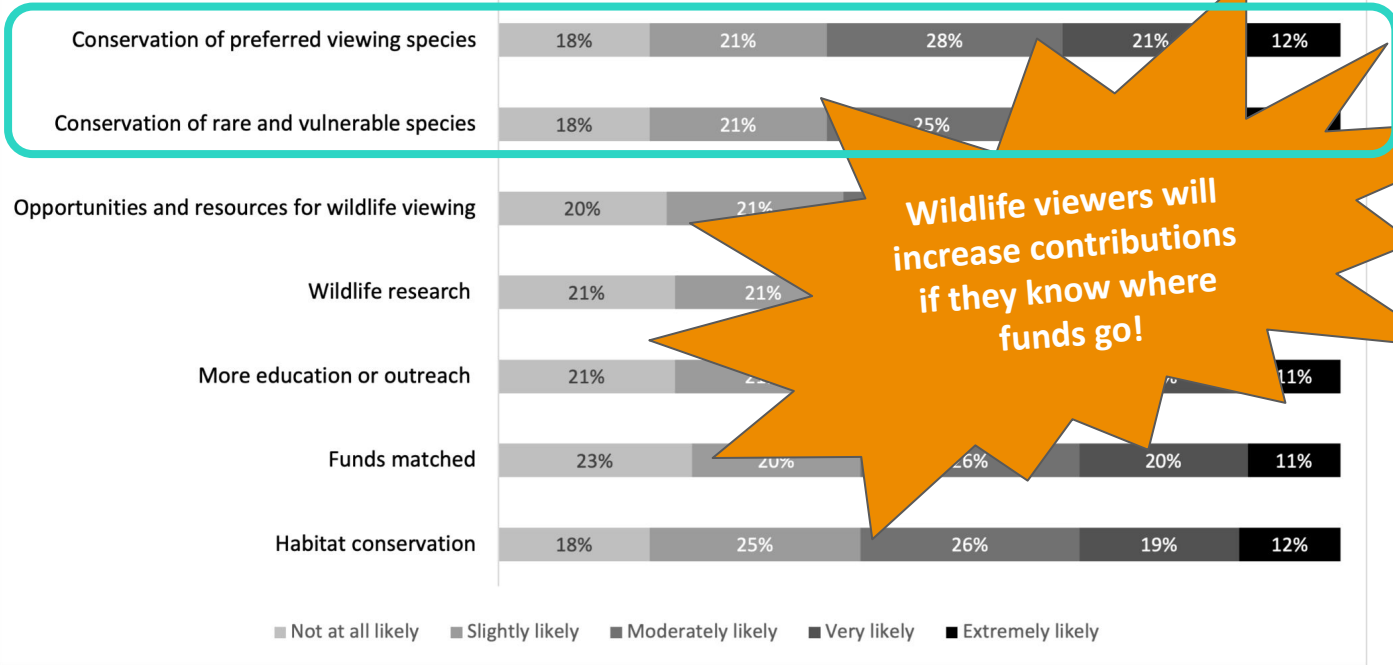
Donating money to support wildlife conservation



# What would increase contributions?

Related to  
R2R  
objectives!

How likely would you be to provide more financial support than you currently do to your state agency, if your contributions were used in the following ways?



# Case study: Missouri Department of Conservation

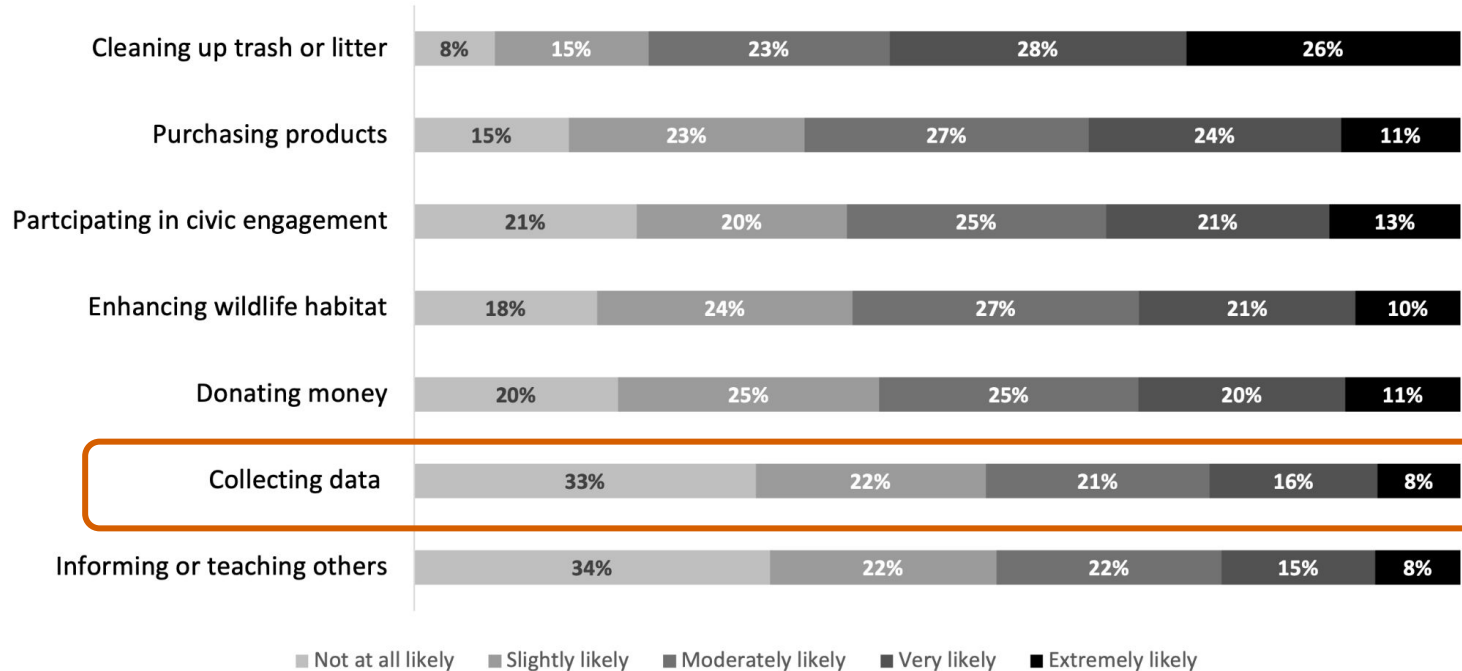
- Crowd source funding to address overwinter survival
  - Missouri Birding Society & Audubon chapters contributed to help pay for monitoring equipment
- Funds from wildlife viewers enabled the establishment and sustainability of the project
- Wildlife viewers are a potential source for **research and conservation funding**



Cerulean Warbler  
Species Working Group

# Wildlife viewers likelihood to participate in conservation behaviors

How likely would you be to participate in each of the following conservation activities in the next 5 years, if you had the opportunity to do so?

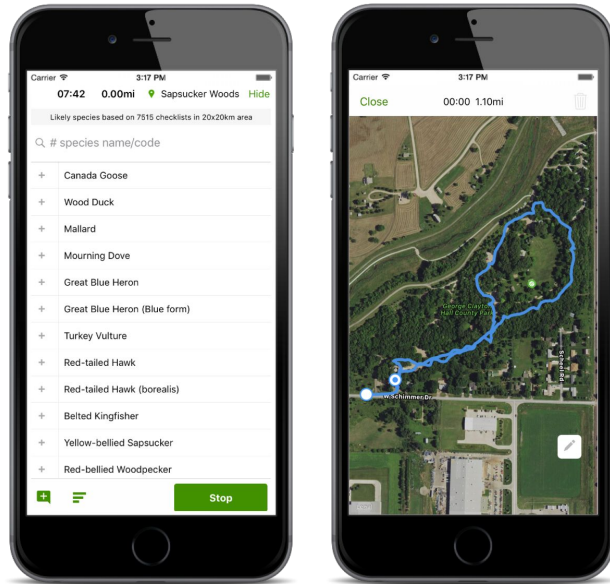


A person wearing a light-colored straw hat and a blue jacket is shown in profile, looking through binoculars. The background is a soft-focus natural setting with green foliage and trees. A white rectangular box with a dark blue border is overlaid on the right side of the image, containing the text.

**What do we know about wildlife viewers and participatory science?**

# What is participatory science?

Active participation of the general public in scientific research, often data collection.



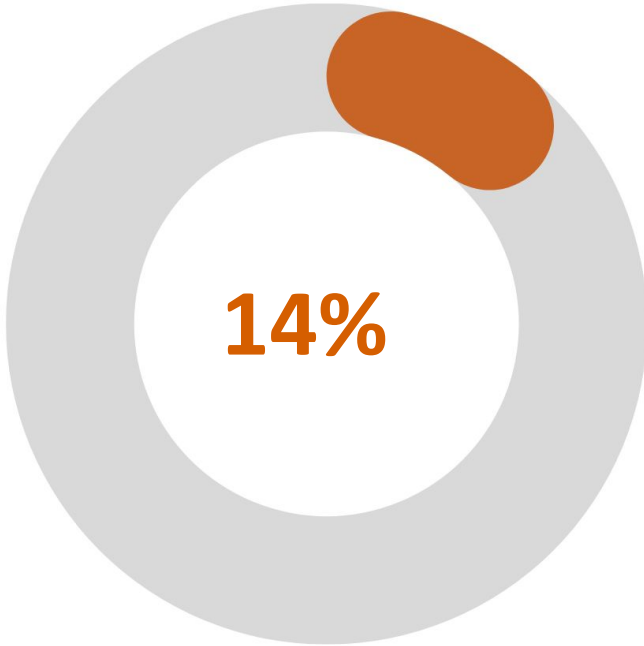
(Phillips et al., 2021; Illustration by Holly Grant/Project FeederWatch)

# What is the significance of participatory science?

- Larger **workforce at lower cost**, more data w/ greater spatio-temporal coverage and resolution
- Many applications and **benefits to participants**
- Recognize the **power of the public** and the limitations of scientists
- Allow the **public to contribute** to science + conservation
- Increase access to outdoor recreation, nature, and social interaction
- Create informed, **action-oriented advocates**



## What did we find?

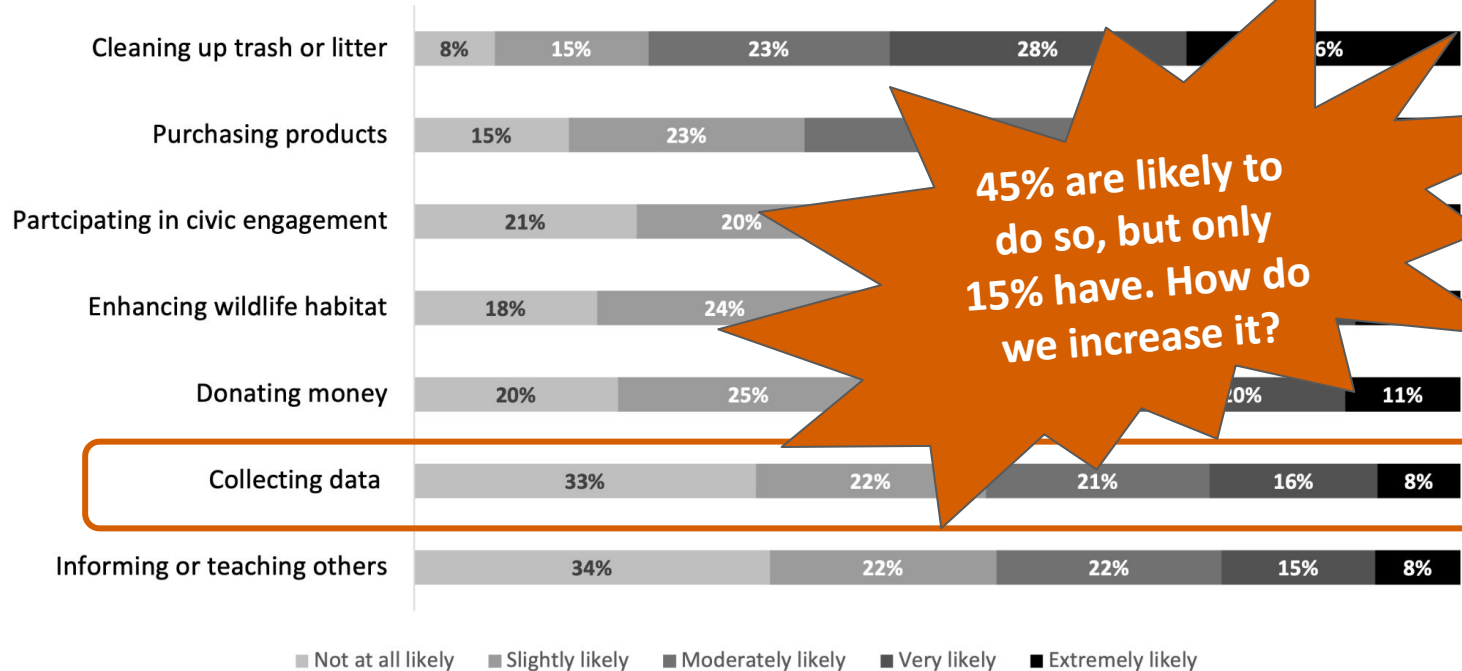


of wildlife viewers have engaged in state fish and wildlife agency **volunteer research or data collection opportunities** in the past 5 years.



# Wildlife viewers likelihood to participate in conservation behaviors

How likely would you be to participate in each of the following conservation activities in the next 5 years, if you had the opportunity to do so?

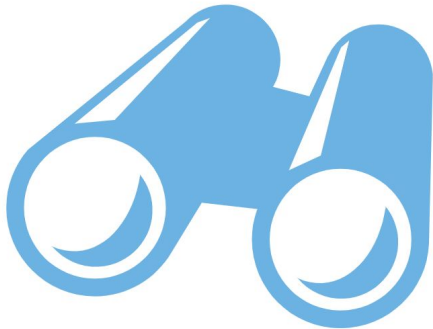




## Color guide

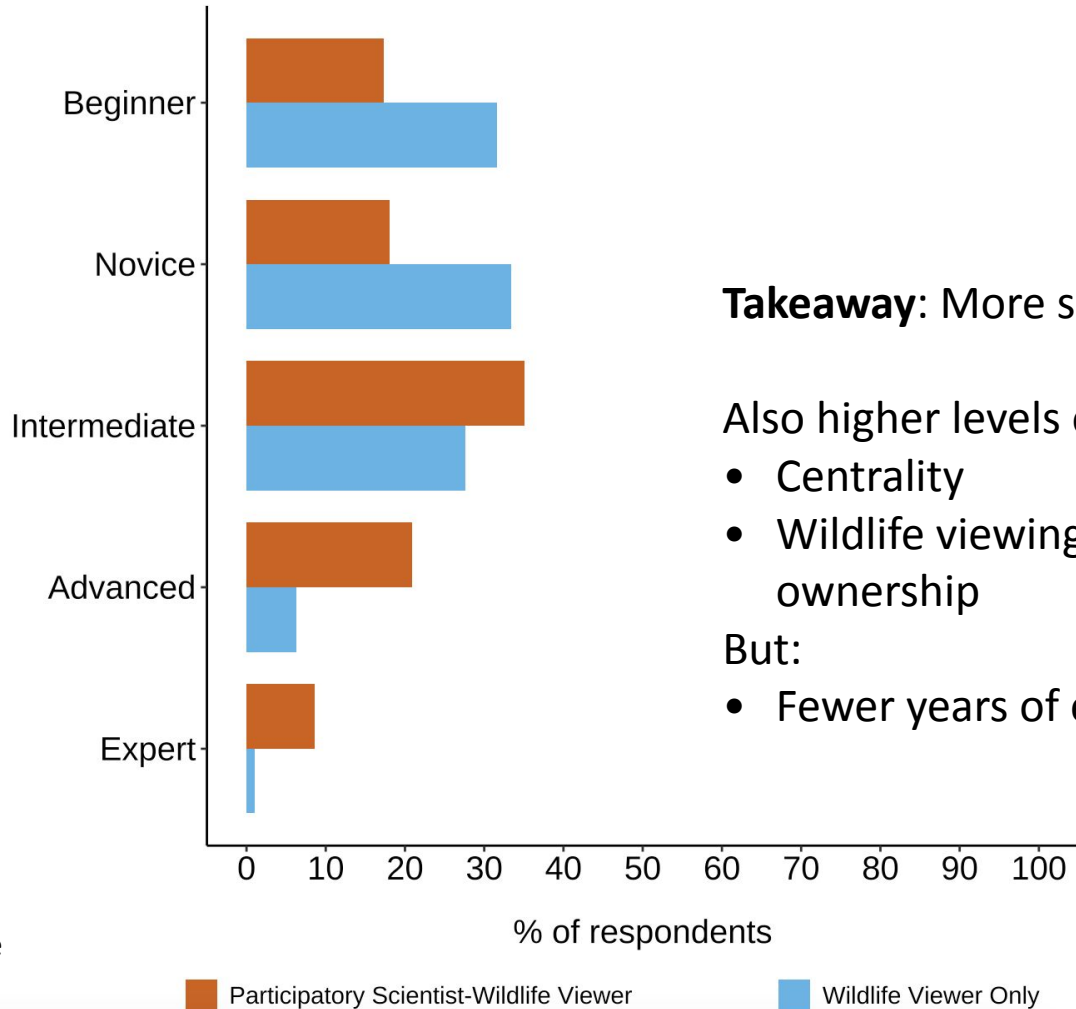


**have engaged** in state fish and wildlife agency **volunteer research or data collection opportunities** in the past 5 years.



**have NOT engaged** in state fish and wildlife agency volunteer research or data collection opportunities in the past 5 years.

## How would you rate your skill level in wildlife viewing?



**Takeaway:** More specialized!

Also higher levels of:

- Centrality
- Wildlife viewing equipment ownership

But:

- Fewer years of experience

Statistically significant difference

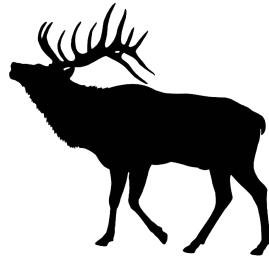
\*\*\*  $p < .001$

# Wildlife viewing behaviors: Top types of wildlife of interest

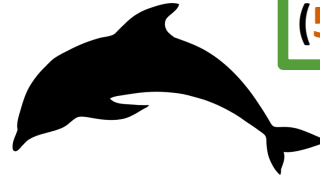
Birds (76%, 80% \*)



Land mammals  
(68%, 68%)



Marine mammals  
(56%, 38% \*\*\*)



Statistically significant differences

\*  $p = .01 - .05$

\*\*  $p = .001 - .01$

\*\*\*  $p < .001$



have engaged volunteer research or data collection opportunities in the past 5 years.



have not engaged in volunteer research or data collection opportunities in the past 5 years.

# Top 3 forms of wildlife viewing



**69%** \*\*\* Photographing or taking pictures

**57%** Feeding wild birds



**63%** \*\*\* Visiting parks or natural areas

**49%** \*\*\* Visiting parks or natural areas



**62%** \*\*\* Closely observing wildlife or trying to identify unfamiliar types of wildlife

**47%** \*\*\* Photographing or taking pictures



All statistically significant differences at \*\*\*  $p <$



have engaged volunteer research or data collection opportunities in the past 5 years.



have not engaged in volunteer research or data collection opportunities in the past 5 years.

# Future likelihood of conservation behaviors with agencies



**92% \*\*\*** Cleaning up trash/litter

**72% \*\*\*** Cleaning up trash/litter

Greatest discrepancy: teaching others about wildlife conservation (**82%**, **37% \*\*\***)



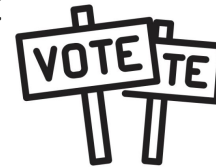
**86% \*\*\*** Purchasing products that benefit wildlife

**55% \*\*\*** Purchasing products that benefit wildlife



**86% \*\*\*** Collecting data on wildlife/habitat to contribute to science/management

**54% \*\*\*** Civic engagement related to wildlife conservation



*moderately, very, or extremely likely to engage in with state agency*

All statistically significant differences at \*\*\*  
 $p < .001$



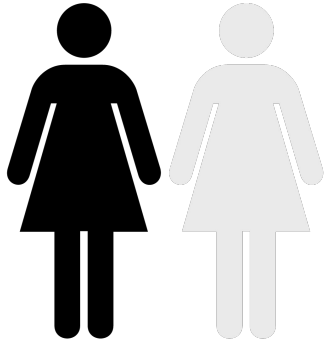
have engaged volunteer research or data collection opportunities in the past 5 years.



have not engaged in volunteer research or data collection opportunities in the past 5 years.

# Implications

We recommend these approaches to considering impacts of wildlife viewers in R2R working groups...



More than **1 in 2** of all Americans are **wildlife viewers**



Wildlife viewers are most interested in **viewing wild birds**



Wildlife viewers are likely to participate in **conservation behaviors**

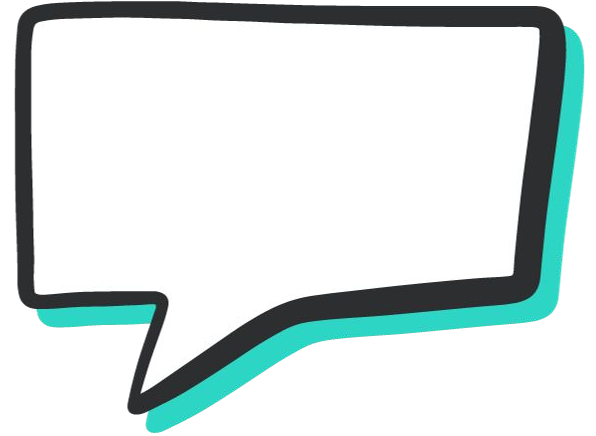


Wildlife viewers will **increase \$\$** if they **know where their funds are going**



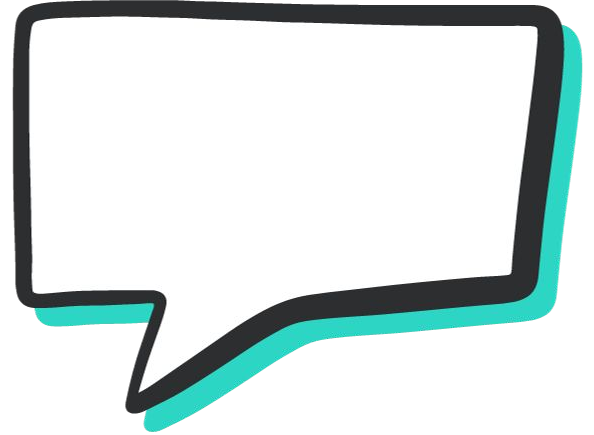
Potential for **intermediate wildlife viewers** to support participatory science

**Let's talk about it!**



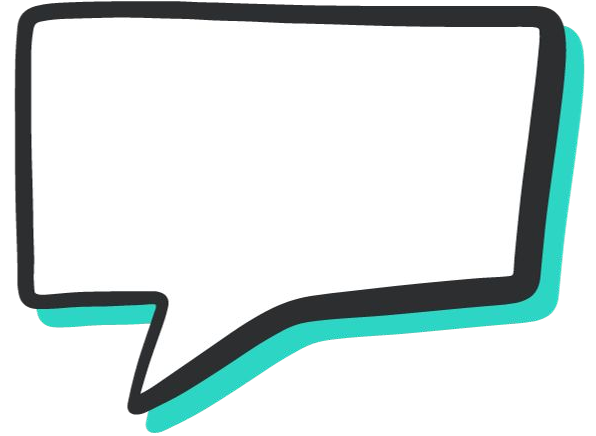
## In your working groups, discuss...

- 1) How is your working group currently connecting with wildlife viewers?
- 2) How can your working group better connect with wildlife viewers?
- 3) How can you apply these findings to guide the approach in your working group?





**Let's debrief!**



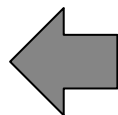
**We wish you good luck  
connecting with wildlife  
viewers in future work!**



## Opportunity to Support Research on Diversity, Equity, and Inclusion in Ornithology

- Collaborative project between AOS, WOS, AFO, the University of Nebraska-Lincoln, and Virginia Tech
- Research study focused on diversity outcomes and experiences in ornithology
- Help by pilot testing our survey!





**Access a copy  
of the report  
here!**

# Thank you!



- Survey participants!
- Dr. Willa Chaves
- Dr. Jessica Barnes
- Shelly Plante
- Kelsey Jennings

## Questions?

[sinkular@vt.edu](mailto:sinkular@vt.edu)

[dayer@vt.edu](mailto:dayer@vt.edu)

Research funded by the U.S. Fish and Wildlife Service's Multistate Conservation Grant Program (grant # F21AP00617-00), which is jointly managed by the Association of Fish and Wildlife Agencies and the Service's Wildlife and Sport Fish Restoration Program.

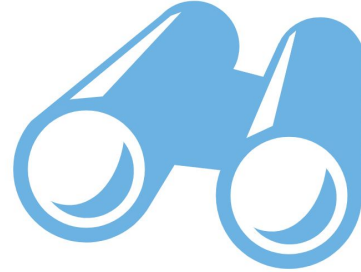
# Who are participatory scientist-wildlife viewers?



39 ± 13 years old

29% BIPOC

71% Man  
29% Woman  
(<1% nonbinary or  
self-described)



53 ± 18 years old \*\*\*

15% BIPOC \*\*\*

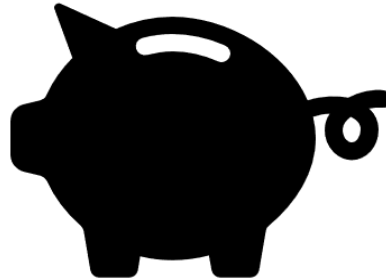
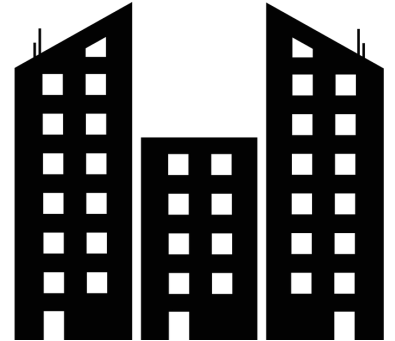
57% Man \*\*\*  
43% Woman  
(<1% nonbinary or  
self-described)

All statistically significant  
differences at \*\*\*  $p < .001$

# Who are participatory scientist-wildlife viewers?



More **participatory scientist-wildlife viewers** hold **bachelor's degrees**, have a household income of **>\$100,000**, and live in **urban areas**



**Takeaway:** Strong demographic differences!

All statistically significant differences at \*\*\*  $p < .001$

# Relationships with their state agencies



58%

of participatory scientist-wildlife viewers were ***very or extremely familiar with their state agency***, in comparison to **23% \*\*\***

In addition:

- **95%** have made past financial contributions, in comparison to **63%\*\*\***
- More likely to financially contribute to state agencies in the future through any listed mechanism (all \*\*\*)

# Takeaways and implications

- Overall low participation in wildlife viewers
- Participatory scientist-wildlife viewers were:
  - Demographically different (younger, more racially diverse, wealthier, more educated, more urban)
  - More specialized
  - Already connected to their state agencies
  - More likely to support through funding and conservation in the future
- Does state agency-led participatory science serve already engaged wildlife viewers or does it produce engaged wildlife viewers?
- Targeted research needed to answer that question, but our associations suggest some potential approaches to engaging new participatory scientist-wildlife viewers...