Co-Producing Science with Communities of Practice to Overcome the Research to Implementation Gap

Road to Recovery Breakout Session

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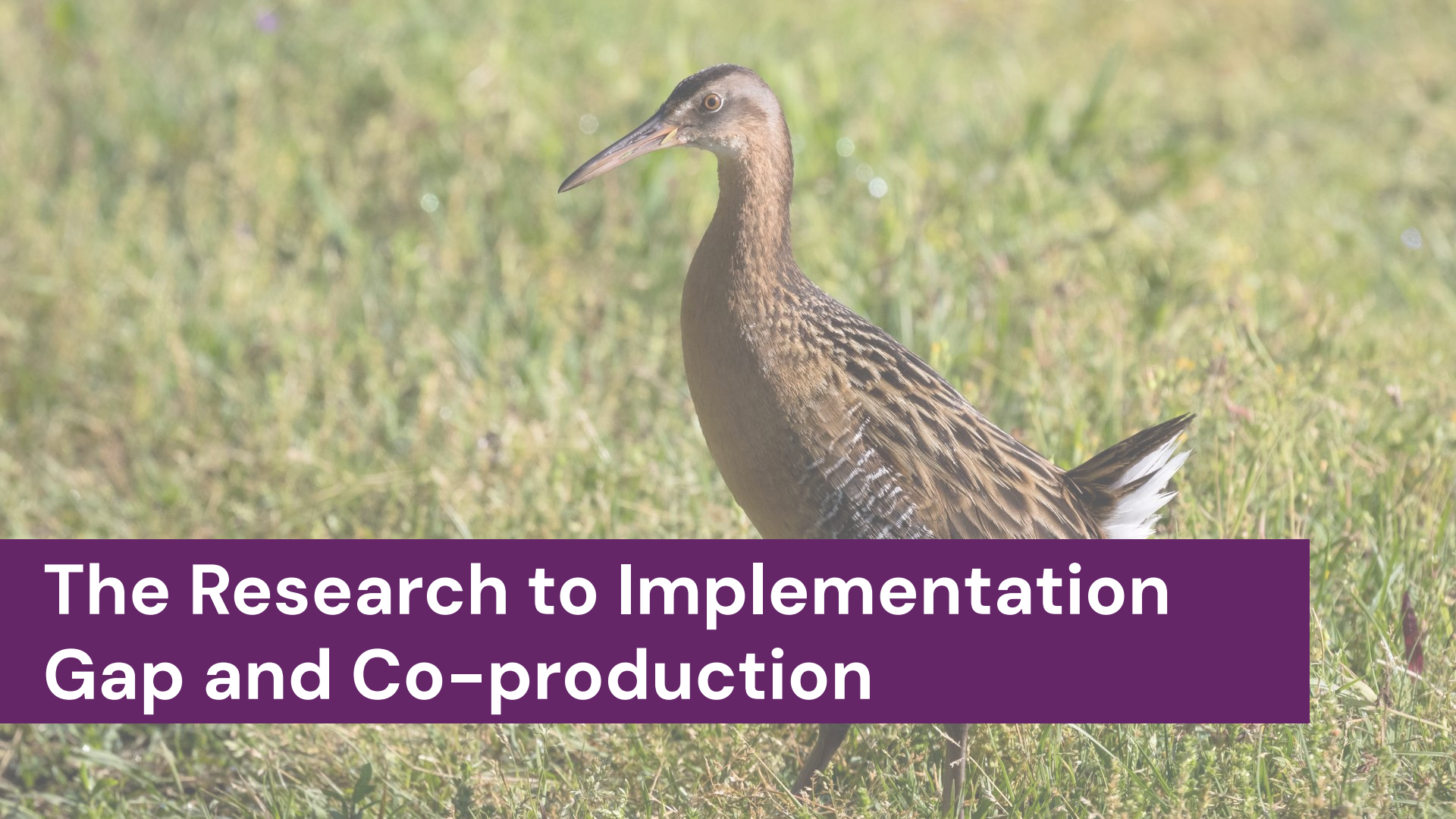
ASSOCIATION of FISH & WILDLIFE AGENCIES

WILDLIFE & SPORT FISH RESTORATION

FISH AND WILDLIFE CONSERVATION VIRGINIA TECH

Today's presentation

1. Review the research to implementation gap and co-production
2. Learn about communities of practice
   a. Case Study 1: Atlantic Flyway
   b. Case Study 2: Wildlife Viewing
3. Design your own community of practice



The Research to Implementation Gap and Co-production

Research to implementation gap

"Knowing but not doing"

Knight et al, 2007

"Science failing to inform conservation"

Sunderland et al, 2009

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DIVISION OF NATURAL RESOURCES

The Nature Conservancy

Research

Implementation

Research to implementation gap

- Inaccessibility of scientific information
- Poor communication
- Lack of resources and funding
- Lack of capacity
- Research findings not aligning with practical management applications

Research

Implementation

Co-production is often offered as a means of facilitating research to action

"collaboration among managers, scientists, & other stakeholders, who, after identifying specific decisions to be informed by science, jointly define the scope and context of the problem, research questions, methods, and outputs, make scientific inferences, and develop strategies for the appropriate use of science."

Beier et al. 2017

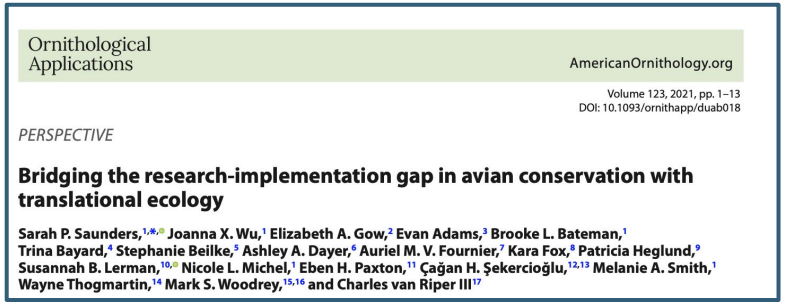
Let's talk about!

1. To **what extent** is your species working group **engaged in co-production**?

2. **How** can **co-production benefit** your species working group?

Need for Empirical Evidence about Co-Production

Despite there being a lot of best-practices and recommendations available, **there are limited empirical descriptions demonstrating the co-production** process and actually how to implement it.



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PERSPECTIVE

Bridging the research-implementation gap in avian conservation with translational ecology

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Conservation Letters — Open Access

A journal of the Society for Conservation Biology

REVIEW

A How-to Guide for Coproduction of Actionable Science

Paul Beier[1], Lara J. Hansen[2], Lynn Helbrecht[3], & David Behar[4]

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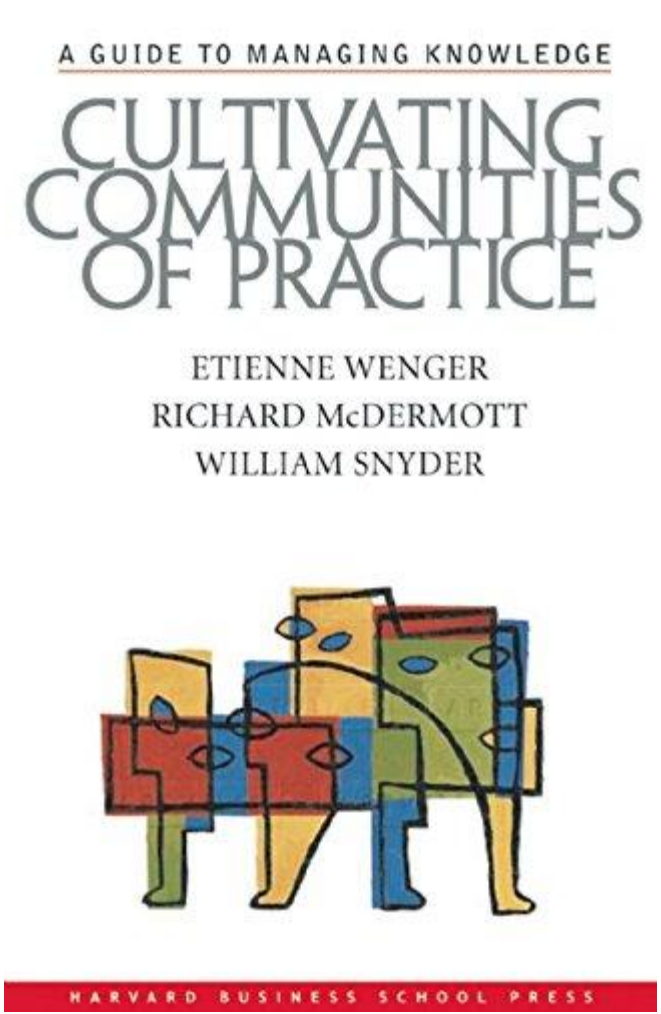
Professional Biologist

Coproducing Science to Inform Working Lands: The Next Frontier in Nature Conservation

DAVID E. NAUGLE, BRADY W. ALLRED, MATTHEW O. JONES, DIRAC TWIDWELL, AND JEREMY D. MAESTAS

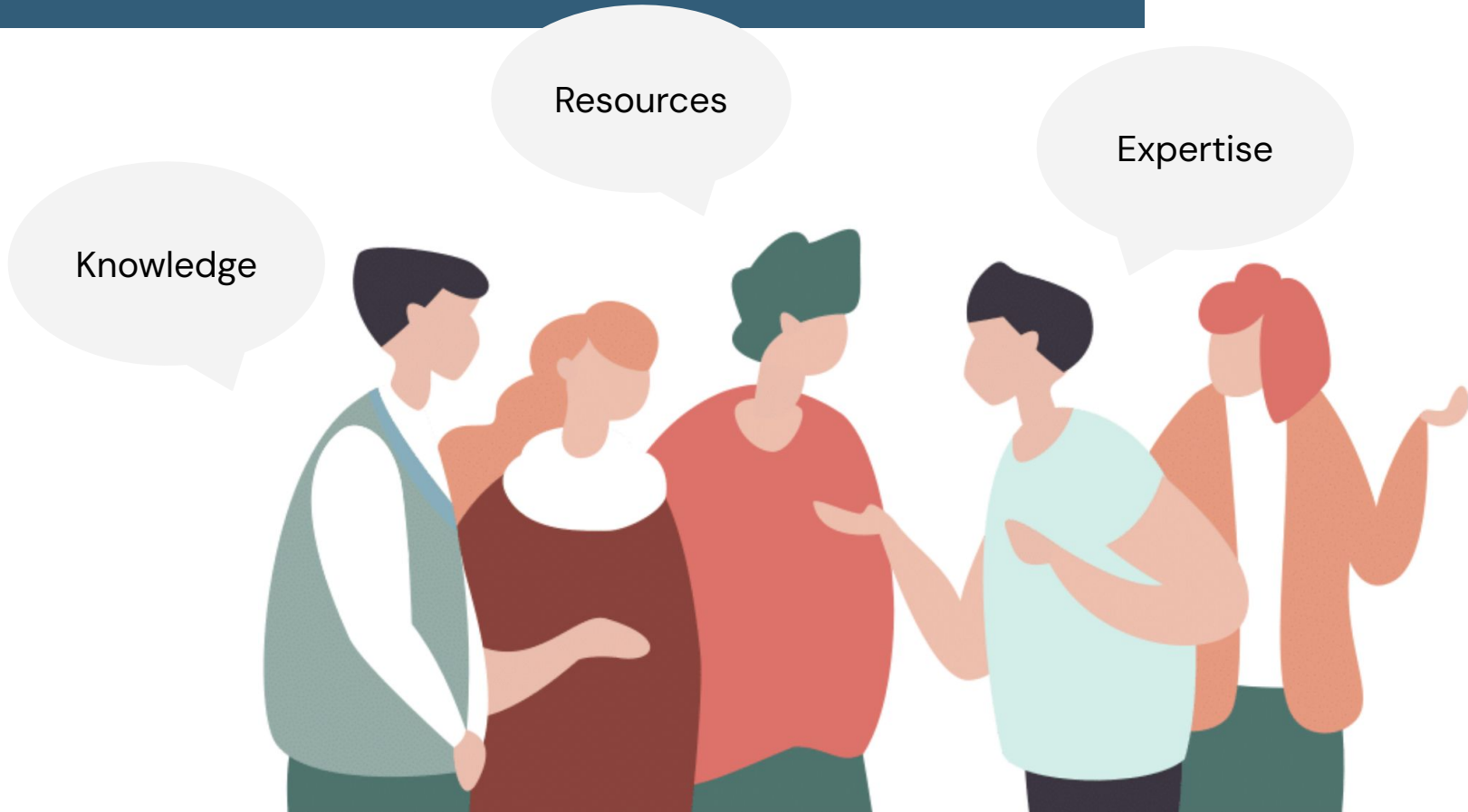
Communities of Practice



"A group of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise by interacting on an ongoing basis"

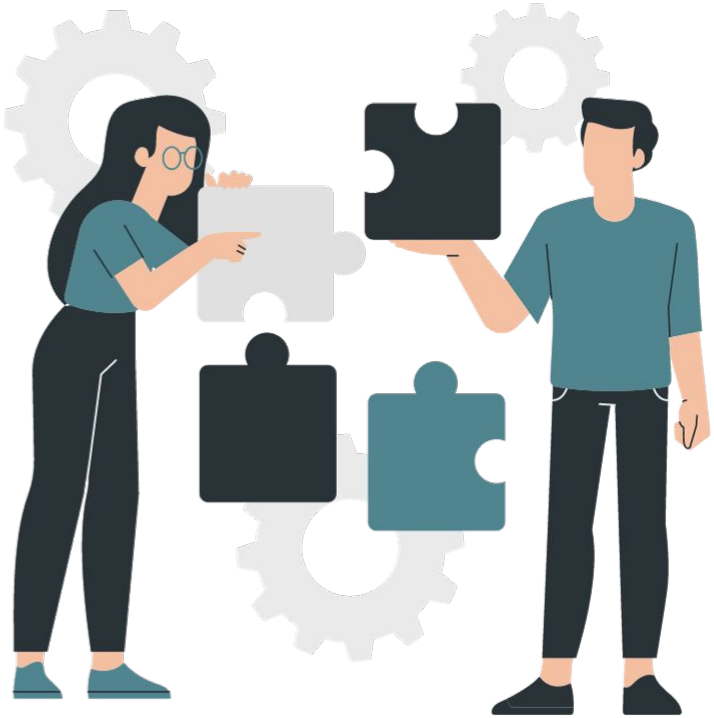
(Wenger, McDermott, Snyder, 2002)

What is a Community of Practice?



(Wenger et al., 2002)

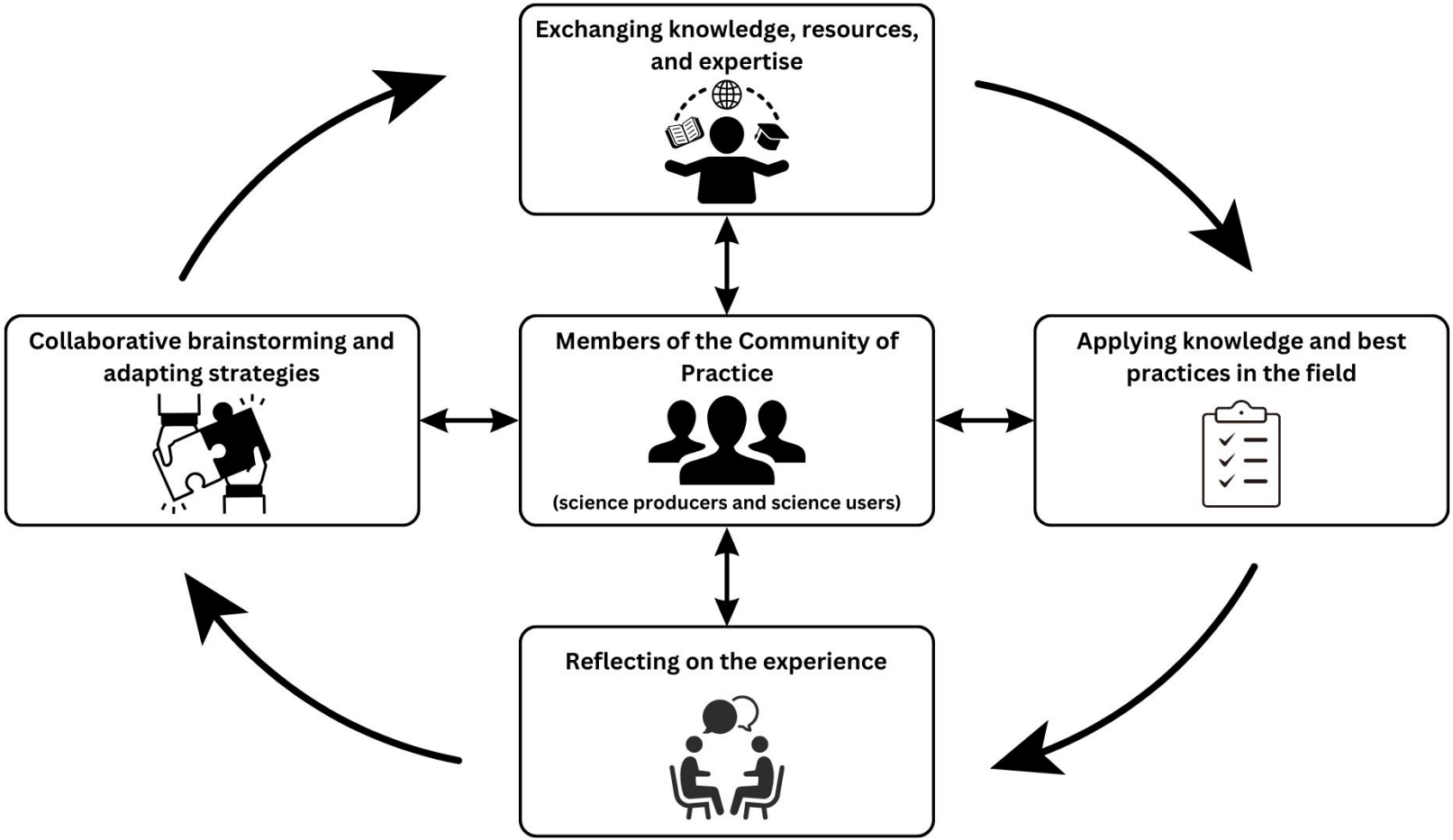
Communities of practice can be used to **support project implementation** or problem-solving across diverse groups.



A promising approach to facilitating co-production in conservation is leveraging Communities of Practice

- Foster collective responsibility and power
- Facilitate relationship building
- Promote active and regular participation
- Center around shared learning

CoPs have the capacity to enhance the implementation of science and best practices by placing researchers and practitioners together at the core of implementation initiatives…helping to reduce the barriers that impede actionable science

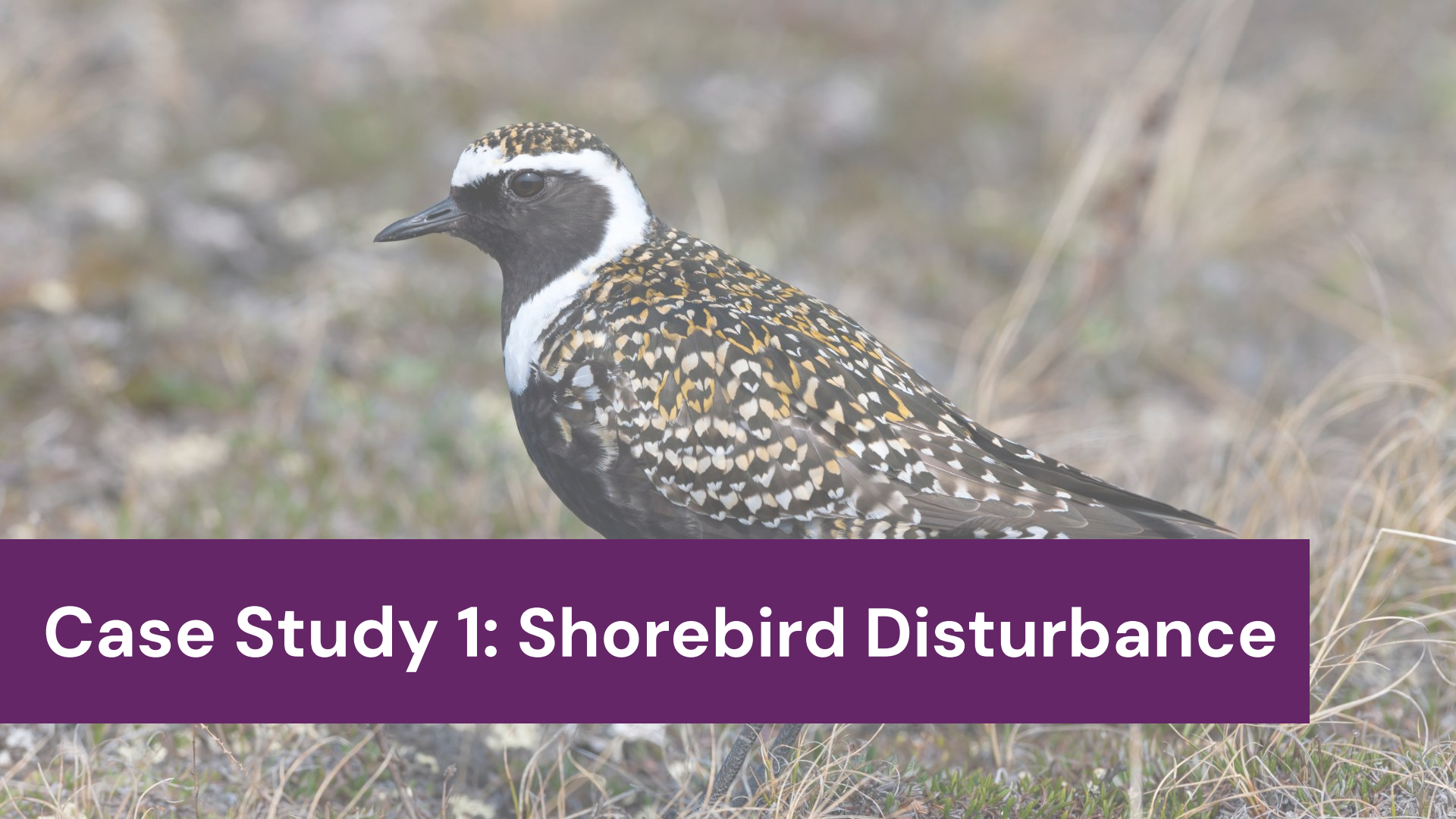


(Livingston et al., in prep)

Using CoPs to facilitate co-production

1. Prioritize collaboration and resource sharing
2. Create an accessible space to facilitate networking and relationship building
3. Feedback to inform research that meets practitioner needs

Species working groups could adapt a CoP approach to achieve conservation goals.



Case Study 1: Shorebird Disturbance

Using Communities of Practice to improve implementation of social science management strategies to address human disturbance to shorebirds

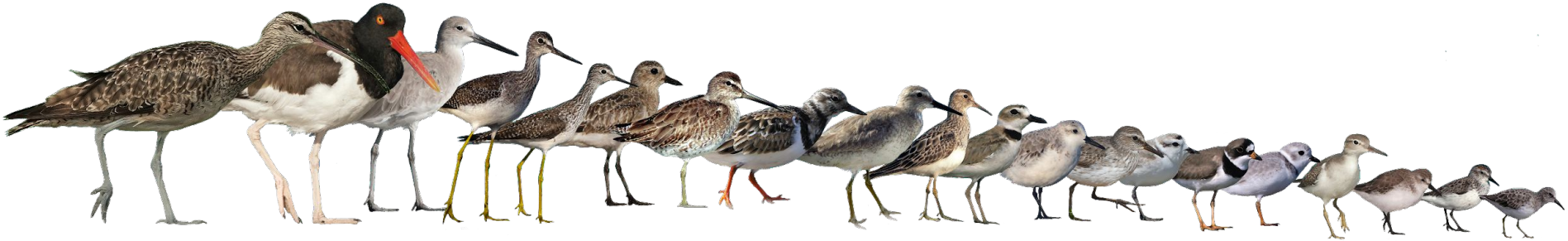
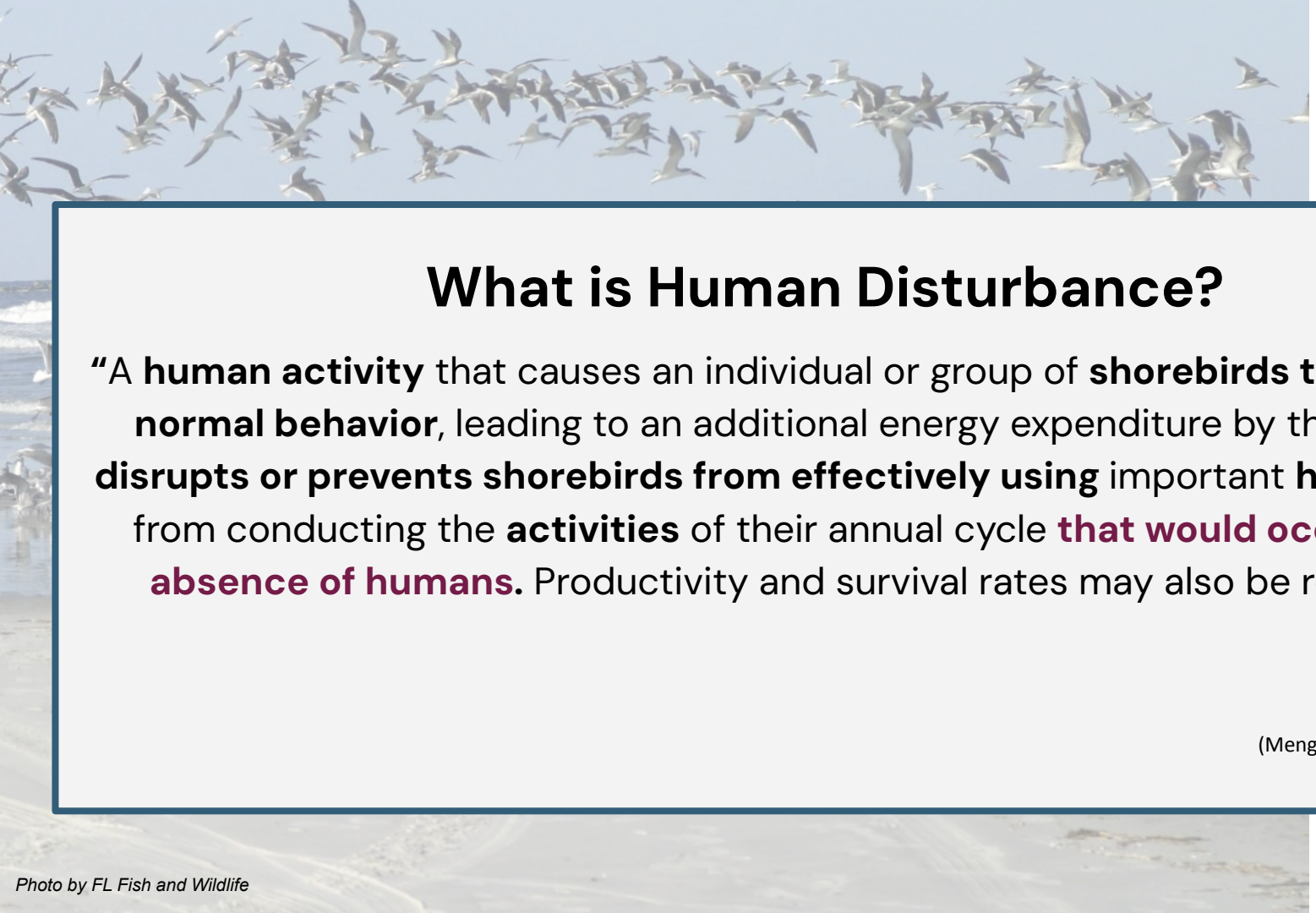


Image by Birds Caribbean



What is Human Disturbance?

“A **human activity** that causes an individual or group of **shorebirds to alter their normal behavior**, leading to an additional energy expenditure by the birds. **It disrupts or prevents shorebirds from effectively using** important **habitats** and from conducting the **activities** of their annual cycle **that would occur in the absence of humans.** Productivity and survival rates may also be reduced.**”**

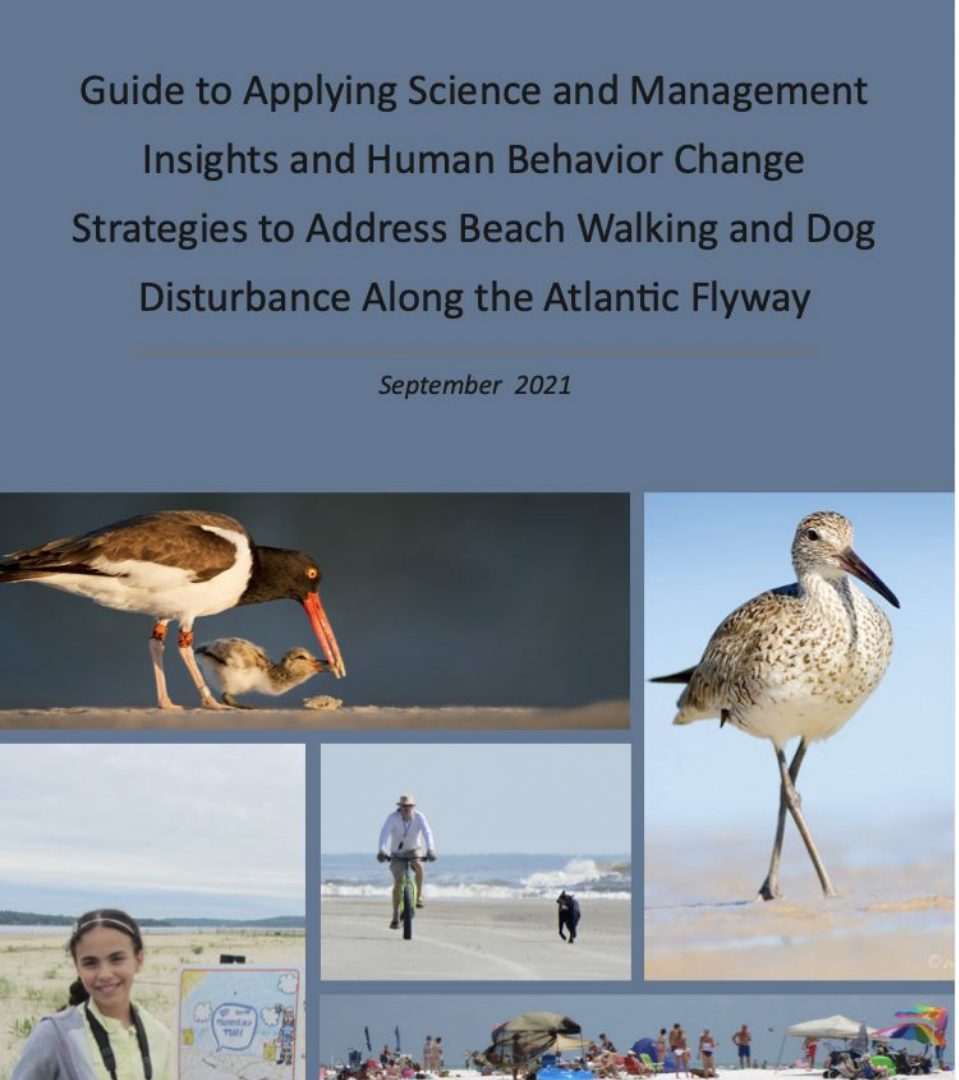
(Mengak & Dayer, 2020)

Photo by FL Fish and Wildlife

Shorebirds are at risk along the Atlantic Flyway

Atlantic coast shorebird land managers rated human disturbance as one of the leading threats to shorebirds.

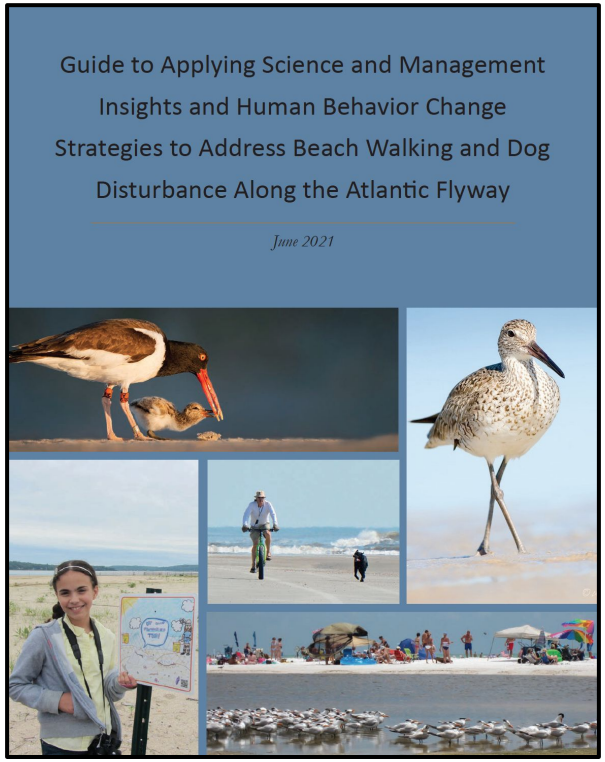
(Comber and Dayer, 2019)



Preventing Human Disturbance of Atlantic Flyway Shorebirds

- 7 year endeavor
- Building off of phases 1 and 2
  - Biological and social science research
- Creation of a best practices guide for CBSM campaigns

Using the Guidance Document



Phase III:
Pilot Implementation

COMMUNITY BASED SOCIAL MARKETING

STEP 1
Select a behavior to promote

STEP 2
Identify the barriers and benefits surrounding the selected behavior

STEP 3
Develop a strategy for promoting behavior

STEP 4
Pilot strategy

STEP 5
Evaluate and implement broadly

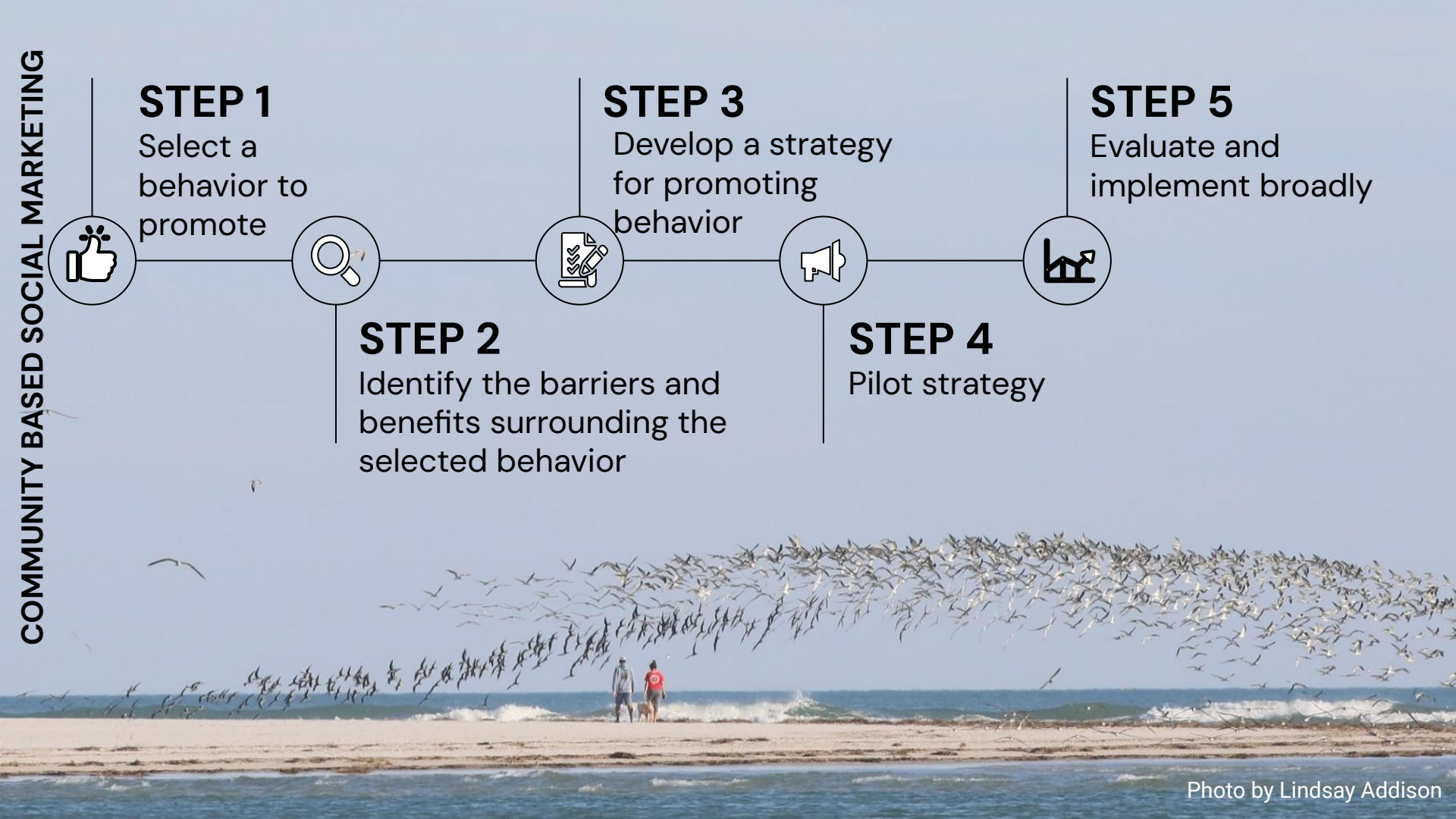
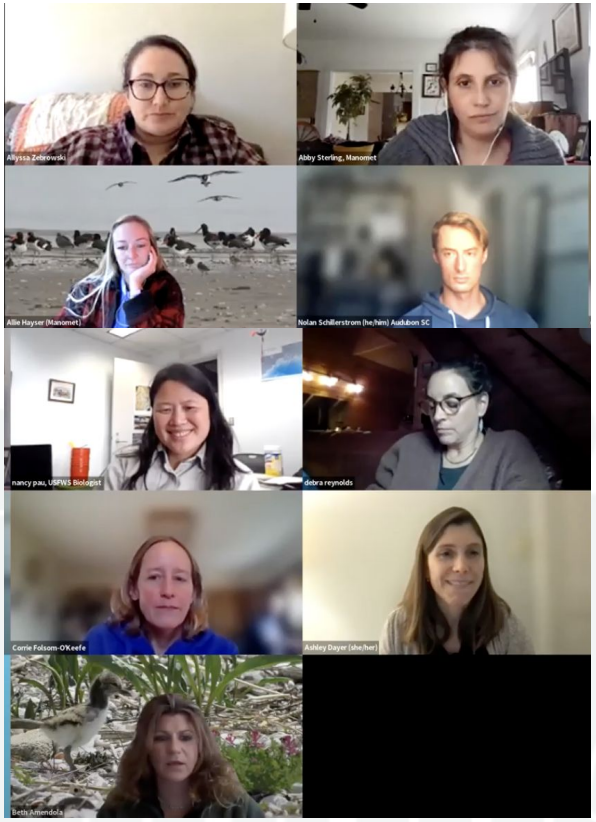


Photo by Lindsay Addison

Supporting Implementers Via a Community of Practice

Community of Practice Activities

- **Biweekly meetings** for campaign design - coaching on using best practices.
- **Monthly meetings** with campaign-specific updates and insights during piloting implementation.
- Fostering **discussion-oriented atmosphere** for **co-produced** resources, evaluation metrics, and more.
- **Peer & researcher insights** for implementation, evaluation, and more.
- Sharing challenges & lessons learned through period **group reflections.**



Incentivizing participation

- **Hands-on training** in using CBSM to address disturbance challenges
- Individualized **feedback** on campaign development & implementation challenges
- Support in **adapting templates** (e.g., signs, brochures, letters to local government for permissions, training modules) for sites
- Create a **campaign webpage** for each pilot site
- **Track website hits** to site's web page from individualized web link and/or QR code we provide
- **Highlighting sites** in national and international **presentations** about this project
- [New sites also **receive $500** to assist with campaign outreach]

Evaluation

How did the CoP support the professionals implementing CBSM campaigns and overcoming the research-implementation gap?

(Livingston et al., in prep)

Benefit 1:

Resource sharing and dividing labor

“...in the beginning we had an idea like ‘oh, we'd have a web page and it’d do this’... I don't think if we had to do that individually it would have happened... So, having [another member’s] help with that was huge.”

(Interviewee 04)

Benefit 2:

Relationship building

“The next time I see these folks that have been on the CoP calls at a conference, or in future meetings, or future projects…it’s going to be helpful because we’ve already worked on a project together. It’ll make things go smoother in the future. I can feel pretty confident about that.”

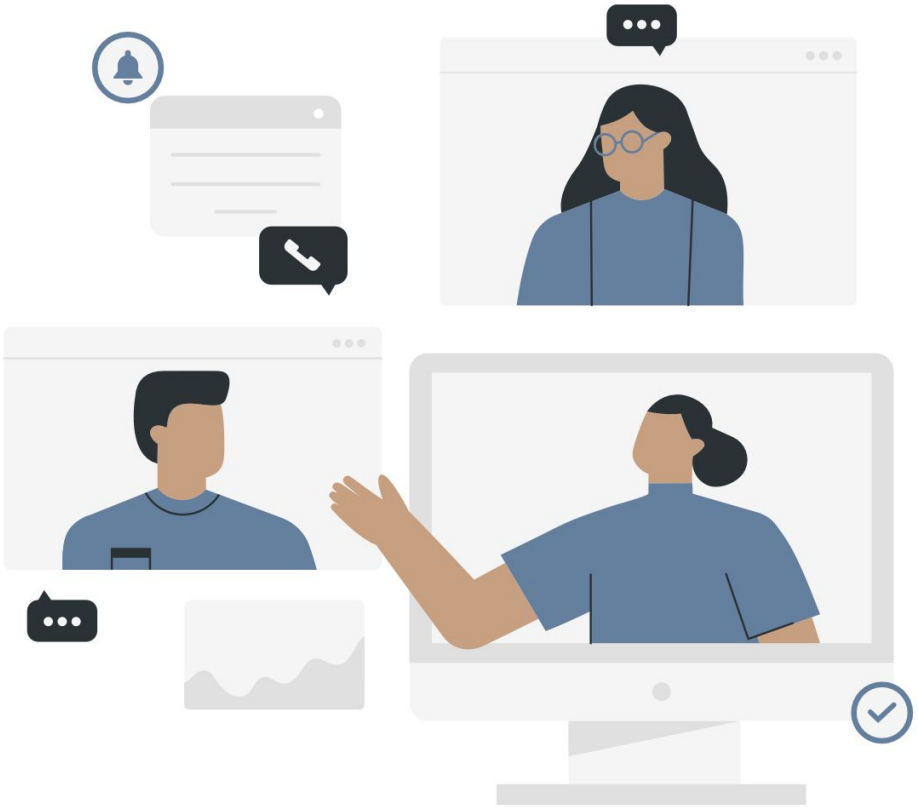
(Interviewee 03)

Benefit 3:

Learning and knowledge exchange between researchers and practitioners within the group of practitioners

"I always look forward to seeing what's going on in other states and how we handle issues that might arise…After getting introduced and everybody putting themselves out there, being open, and actually listening to each other and their individual problems…I feel like I could be like, '…I'm starting to get this problem that I remember in the CoP. Let me go address it with someone who I know has been fighting through that for a long time."

(Interviewee 06)



Community Insight

"...We all go out to our different sites, but **knowing that you've got a whole COP behind you that is really excited to hear about how each step goes**. It does a lot for the for the mindset when you're in the field."

Over 1,050 acres under improved management

9 campaigns

Over 6,100 people reached through campaign outreach

26 news outlets reporting on this project

Several new graphics, signs, templates, and more for YOUR use!

16 new sites

2 new grants to continue this work

Thanks to continued support from
National Fish & Wildlife Foundation…

Expansion Sites

Island Nature Trust (Prince Edward Island) | Birds Canada (Nova Scotia) | Maine Audubon (Higgins Beach) | USFWS (Monomoy NWR) | Audubon NY (Sunken Meadow State Park) | National Park Service (Fort Tilden) | NYC Parks | The Nature Conservancy (VA Barrier Islands) | Florida Department of Environmental Protection (Fort Pierce) | Aquasis (Banco dos Cajuais)

Collaborators in Implementation

Together, bridging the gap!

The Nature Conservancy

Virginia Tech

U.S. Fish & Wildlife Service

Atlantic Flyway Shorebird Initiative

Maine Audubon

AQUASIS
Associação de Pesquisa e Preservação de Ecossistemas Aquáticos

manomet

Florida Department of Environmental Protection

Florida Fish and Wildlife Conservation Commission

National Park Service

NYC Parks

Island Nature Trust

U.S. Fish & Wildlife Service National Wildlife Refuge System

NYC Plover Project

Birds Canada / Oiseaux Canada

Audubon South Carolina

Audubon Connecticut

Audubon New York

Audubon North Carolina

Case Study 2: Wildlife Viewing

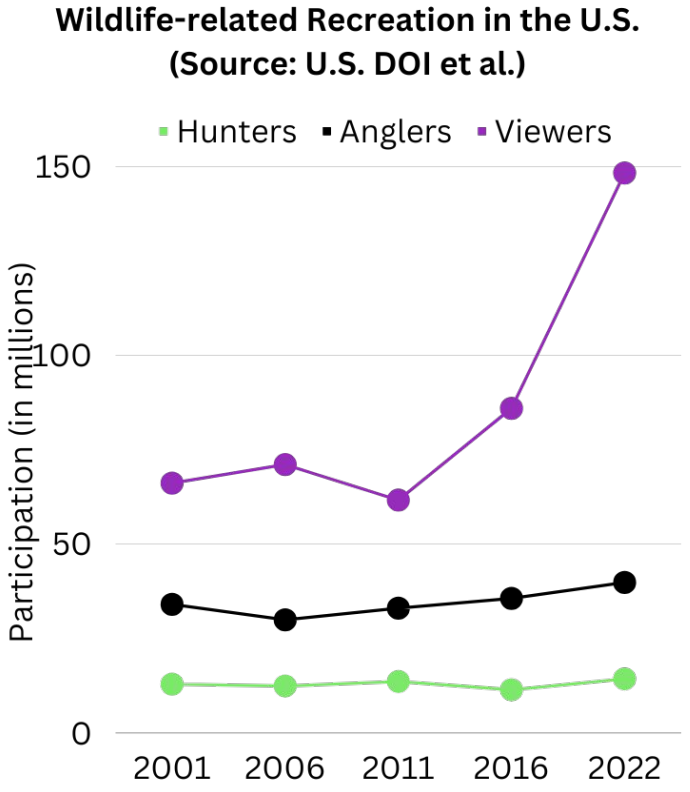
What is Wildlife Viewing?

“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)

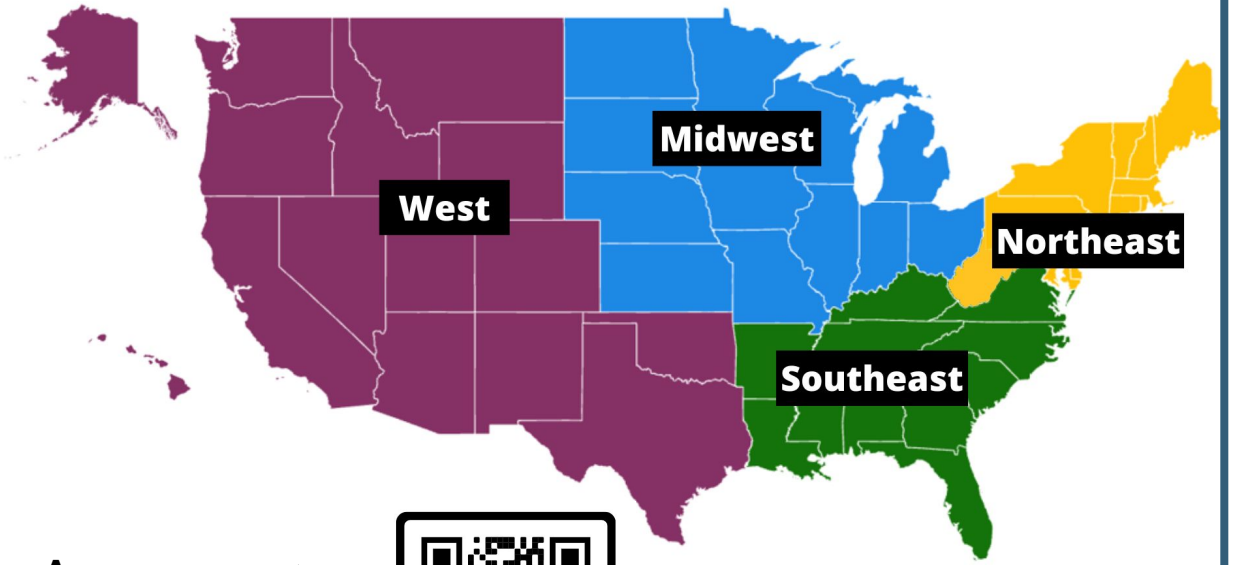
Why should we manage for wildlife viewing?

- More than **1/2 of the adult population** views wildlife
- In recent years, **hunting rates declined** or remained stable
- Wildlife viewers are **conservationists**
- Opportunity to expand **relevancy** and **funds for conservation**

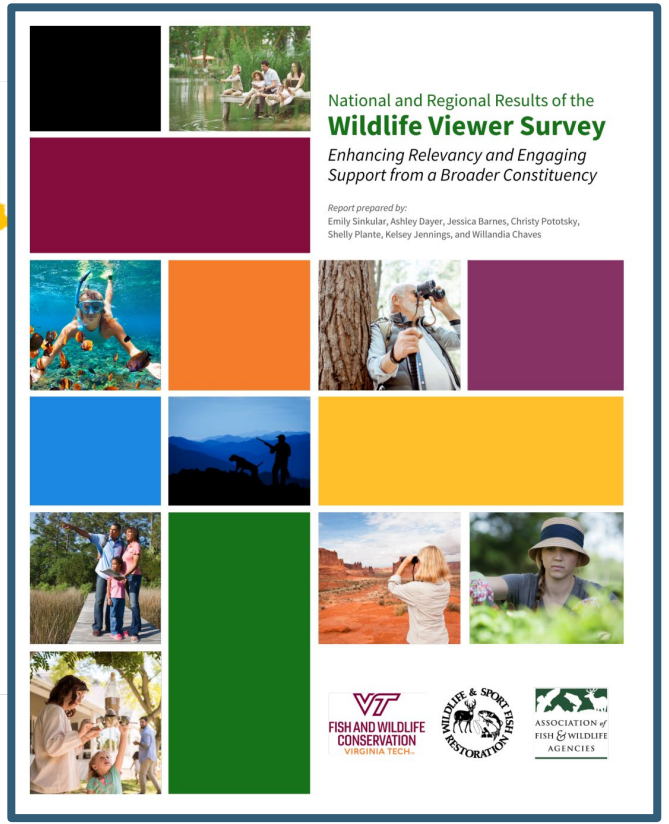


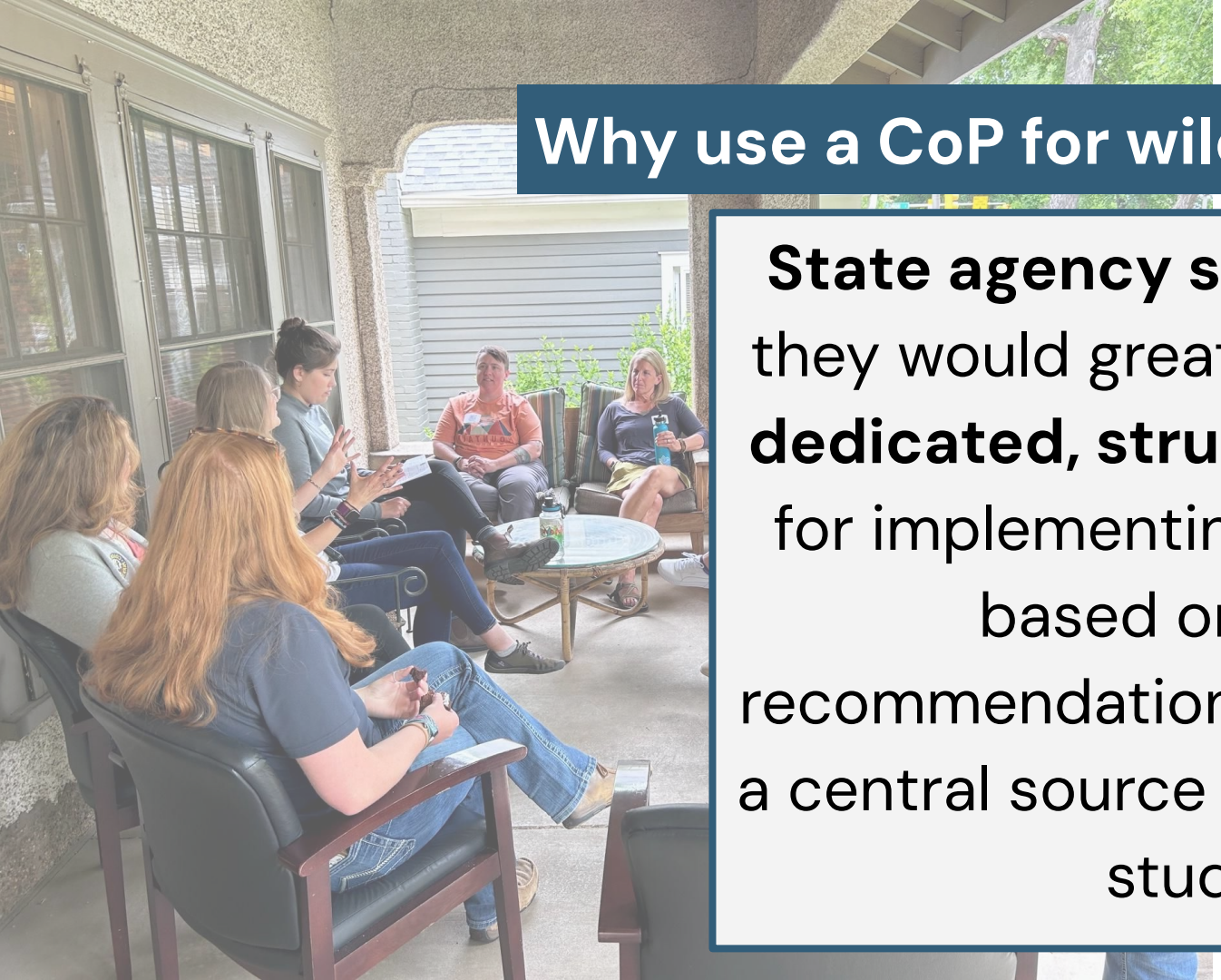
(AFWA & WMI, 2019; Cordell et al. 2008; Bowker et al. 2012; US FWSI et al. 2023)

Research: Nationwide survey of wildlife viewers



Access a copy of the report here!





Why use a CoP for wildlife viewing?

State agency staff stated that they would greatly **benefit from dedicated, structured support** for implementing new projects based on survey recommendations and access to a central source of inspiring case studies.

SOUTH DAKOTA
Game, Fish & Parks
NORTH CAROLINA
Wildlife
RESOURCES COMMISSION
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CONSERVE. CONNECT. PROTECT.
DEPARTMENT OF NATURAL RESOURCES
NONGAME WILDLIFE
FISH AND WILDLIFE CONSERVATION
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NEVADA
DEPARTMENT OF WILDLIFE
Washington
Department of
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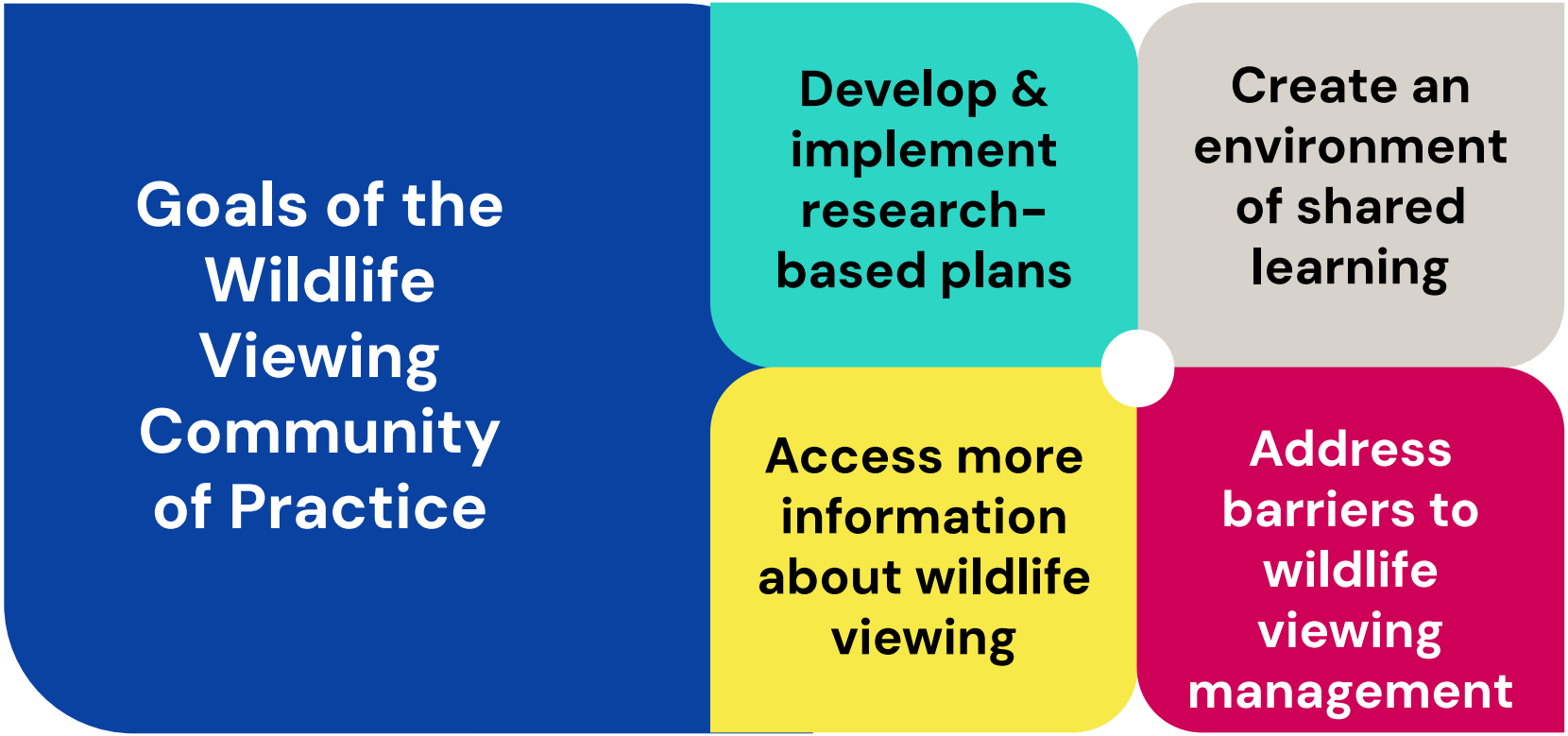
OREGON
Fish & Wildlife
DNR
Indiana Department
of Natural Resources
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
Yukon


Goals of the Wildlife Viewing Community of Practice
Develop & implement research-based plans
Create an environment of shared learning
Access more information about wildlife viewing
Address barriers to wildlife viewing management

Community of Practice activities

- **Monthly meetings** with project-specific breakout groups
- One in-person **planning workshop**
- Developing **wildlife viewing plans** from template, based on survey of wildlife viewers
- Peer & researcher insights for plan implementation and evaluation
- Sharing challenges & **lessons learned**

Learning new ways to approach wildlife viewing

- Using human dimensions **data**
- Strategic program **planning**
- **Line of logic models**
- Evaluation metrics

Incentivizing participation

- Participants were offered **reimbursements** for traveling to in-person workshop
- **No cost** to participants to join
- Some participants had **previously collaborated** with Virginia Tech
- Participants received **trainings**, **coaching**, and peer support
- Highlighting achievements in **website**

Case Study: Texas Parks and Wildlife Department

- Develop online storefront
- Increase recognition and awareness of wildlife viewing programs available in Texas
- Connect wildlife viewers with TPWD in new and meaningful ways
- Raise funds for nature tourism and wildlife viewing programs and interns and contractors

Case Study: Nebraska Game and Parks Commission

- Hosted statewide Birding Bowl with 270 participants and generated 5,100 new visits to website
- Educated public about e-Bird
- Raised $2,800 of conservation donations through t-shirt purchases

Case Study: Arizona Game & Fish Department

- Organized and distributed materials and templates related to wildlife viewing to help other agencies implement their own wildlife viewing projects
- Collaborated with 10 agencies to organize materials

Activity

Your turn!

How can a research – implementation community of practice benefit your working group? Sit with your working group and brainstorm the following questions:

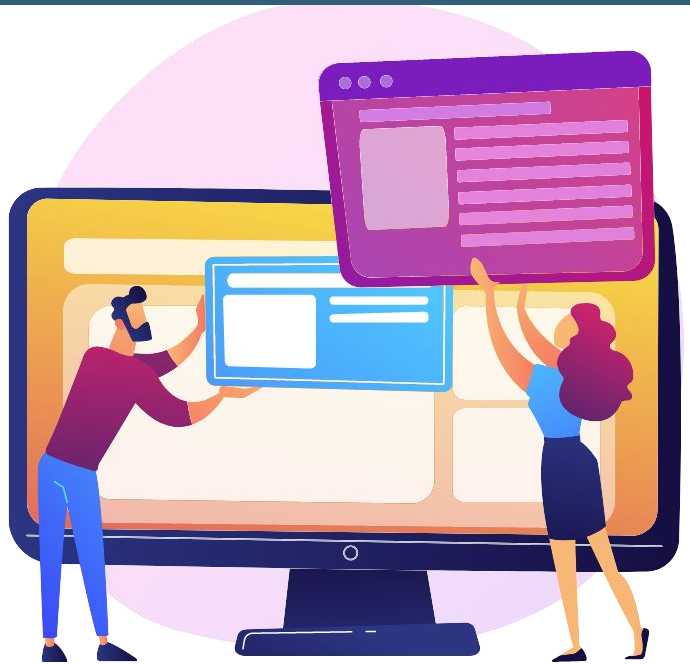
1. What plan or guidance document might be the foundation for your CoP?
2. Who should you involve? (Hint: implementers & researchers)
3. How would your meetings be focused?
4. How can you incentivize participation in the CoP?
5. What sources would you look to for funding?

Debrief

What did you discuss in your working groups?

Next steps

- Save Our Shores Disturbance Toolkit Website Launched
  - Atlantic Flyway CoP expanding in 2024
- Wildlife Viewing Community of Practice Toolkit Website coming February 2024
- Developing guidance for using communities of practice coming in 2025



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!

Thank you

Funding

- National Fish and Wildlife Foundation
- U.S. Fish and Wildlife Service
- 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

Other Contributors

- Atlantic Flyway Shorebird Initiative
- VT Shorebird Program
- Workshop participants
- Survey and interview participants
- Wildlife Viewing and Nature Tourism Working Group

Collaborators

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