

Putting into Practice the Principles of Effective Climate Change Communication

Scott Hershberger

Forestry Communications Specialist

University of Wisconsin-Madison Extension Forestry & Wildlife Program

M.S. in science communication

Midwest Climate Resilience Conference, Milwaukee, WI

October 20, 2025



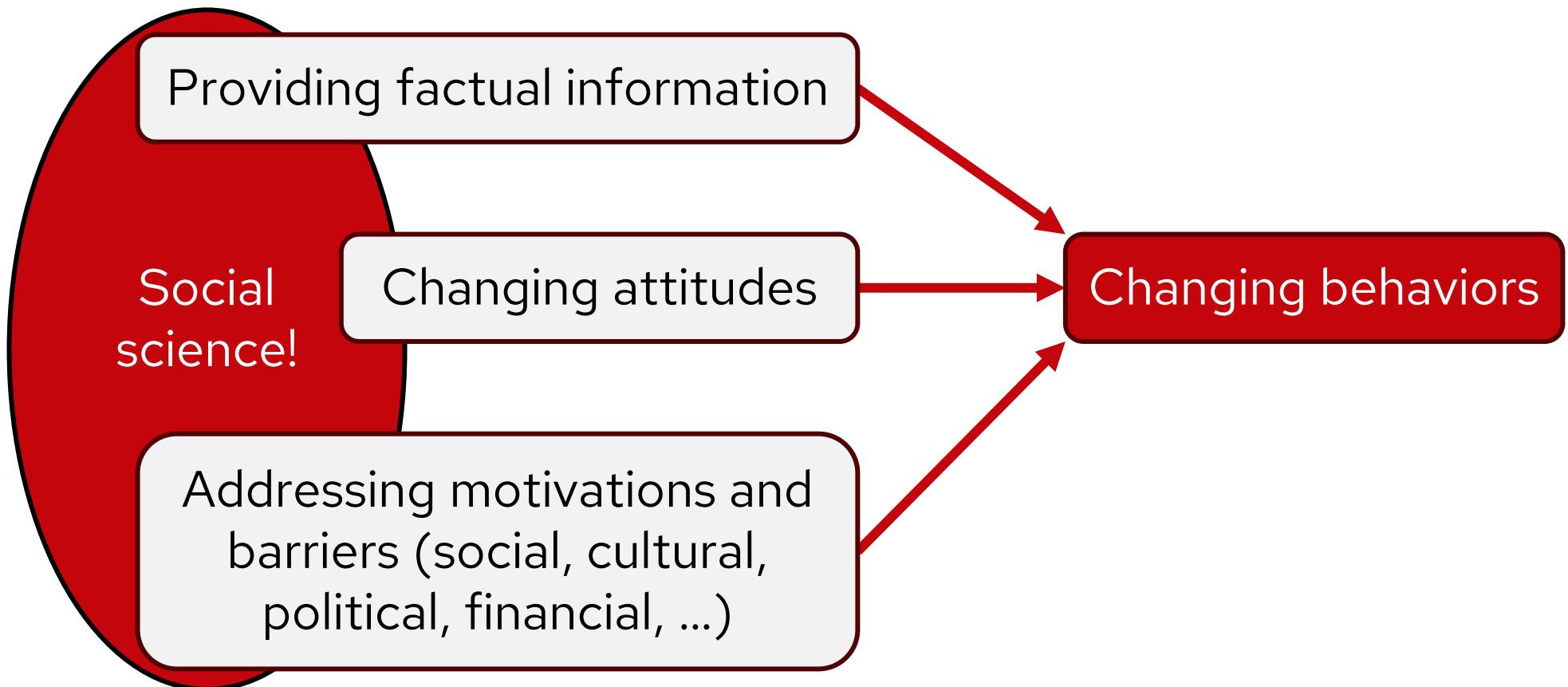
What are your communication goals?

Providing factual information

Changing attitudes

Changing behaviors

What are your communication goals?



OUTLINE

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation and disinformation

Putting the pieces together

KEEP IN THE BACK OF YOUR MIND

Who is the right messenger?

What communication channels will you use?

Audience Segmentation

The “general public” does not exist

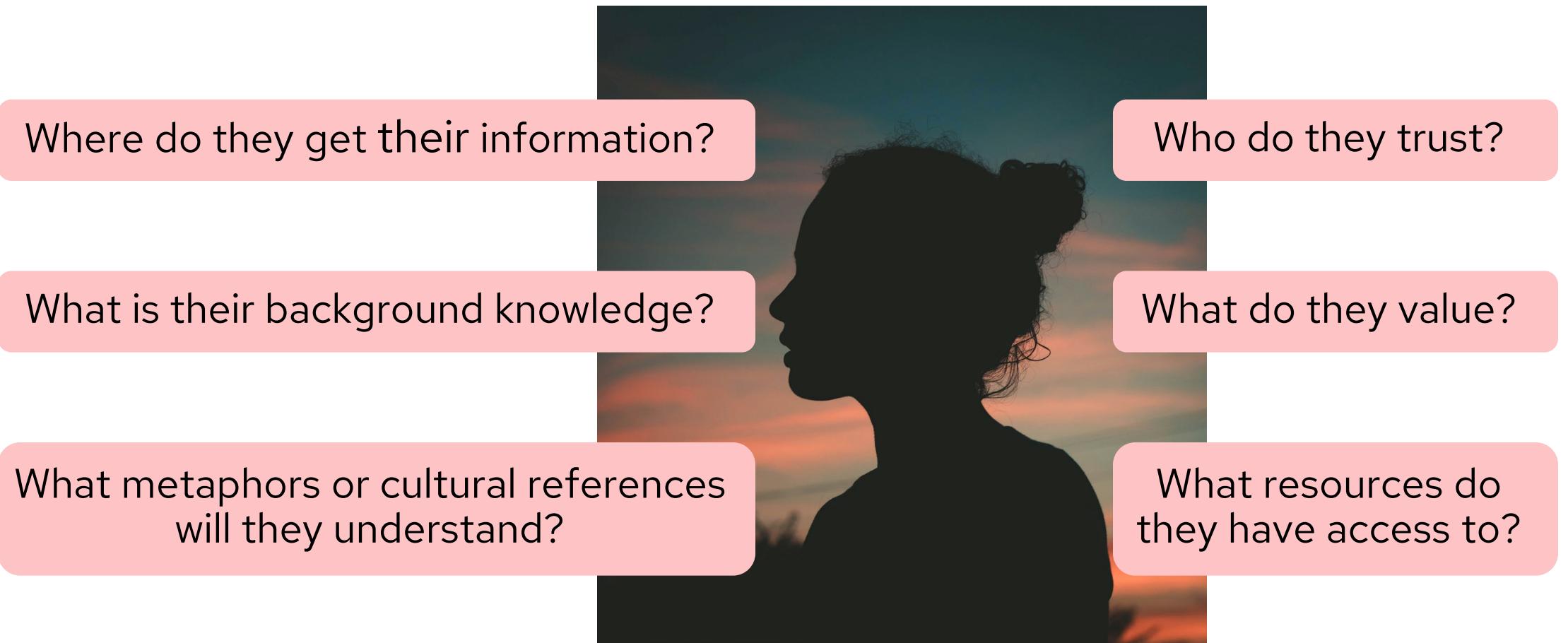
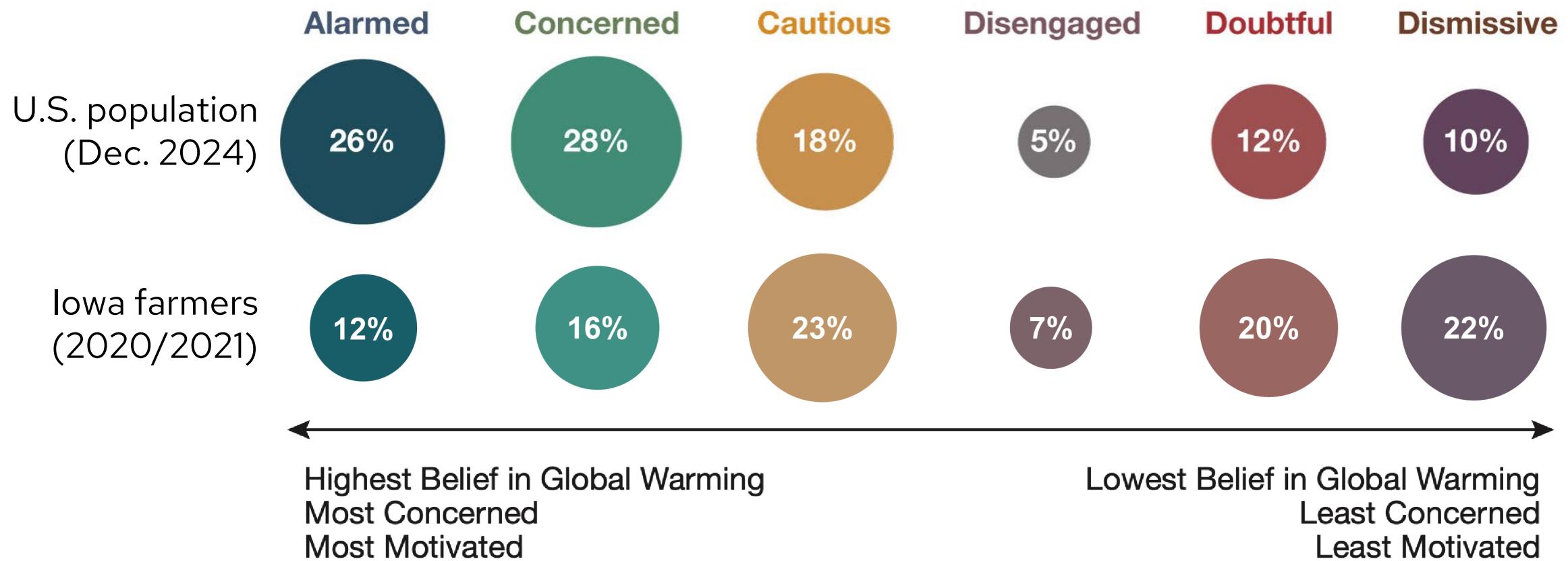


Image: mododeolhar

Global Warming's Six Americas



Leiserowitz et al., 2025; Nowatzke & Arbuckle, 2024

Audience segmentation

One size does not fit all

- Three basic audience categories:

Actively want
to address
climate change

Hershberger & Newman, in press

One size does not fit all

- Three basic audience categories:

Actively want
to address
climate change

Acknowledge climate
change but don't
prioritize it

Hershberger & Newman, in press

One size does not fit all

- Three basic audience categories:

Actively want
to address
climate change

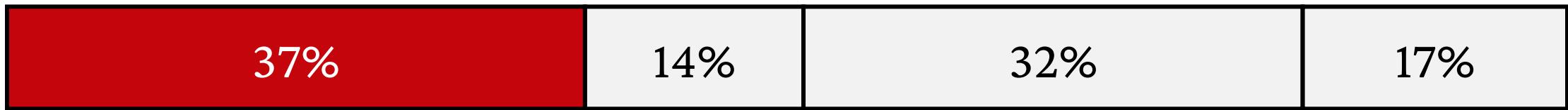
Acknowledge climate
change but don't
prioritize it

Are opposed to
the phrase
"climate change"

Hershberger & Newman, in press

Woodland owner segmentation (WI)

Woodland retreat



- Beauty, lifestyle, recreation
- Environmental benefits (e.g., wildlife)
- Spiritual and emotional satisfaction



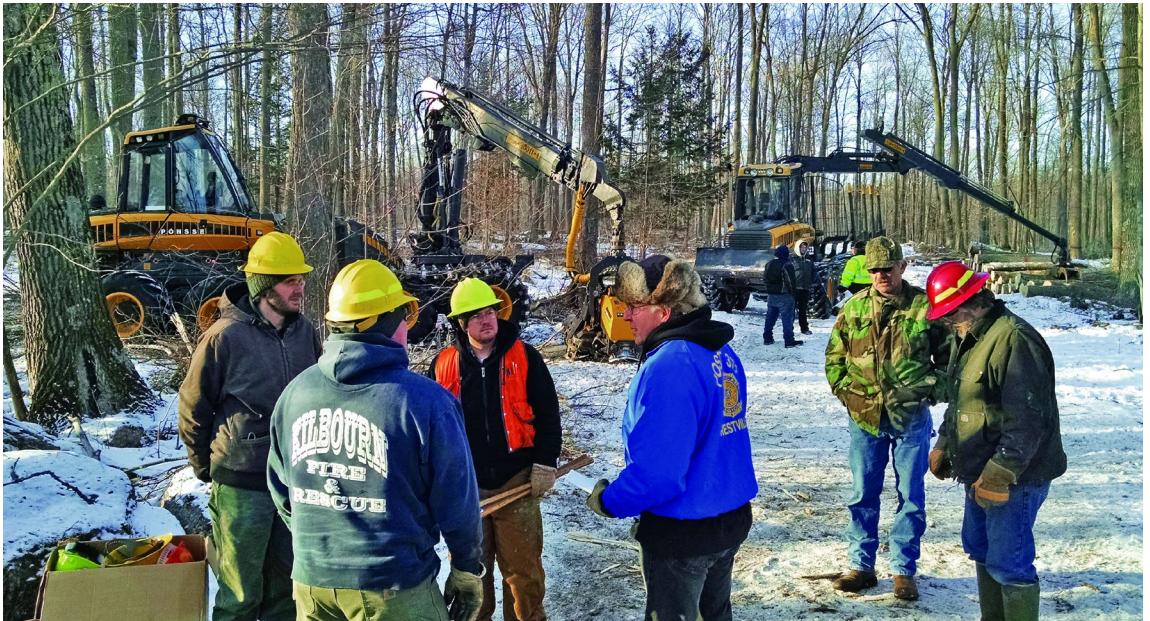
Tools for Engaging Landowners Effectively, 2018

Woodland owner segmentation (WI)

Supplemental income

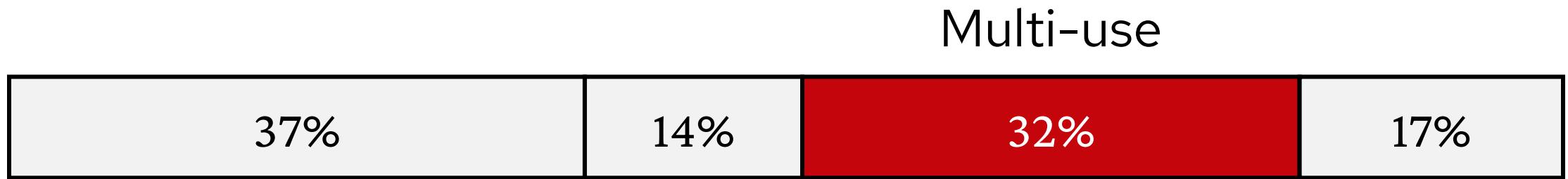


- Financial asset
- Legacy for heirs
- More likely to harvest timber



Tools for Engaging Landowners Effectively, 2018

Woodland owner segmentation (WI)

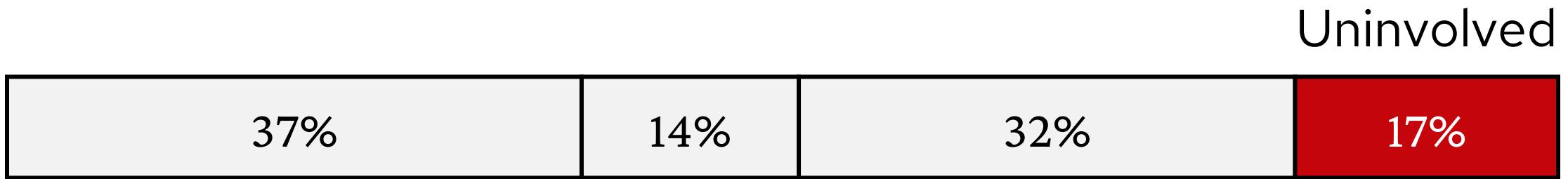


- Balancing amenities and finances
- Strong emotional connection
- Often knowledgeable and confident

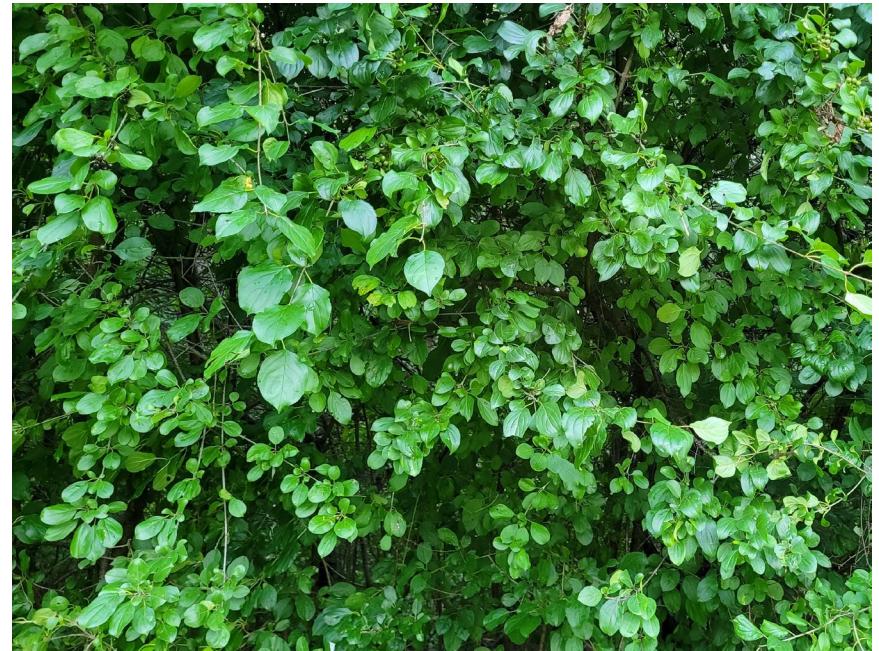


Tools for Engaging Landowners Effectively, 2018

Woodland owner segmentation (WI)



- Not motivated by nature nor finances
- Lack of emotional connection
- Lack of time or desire to act



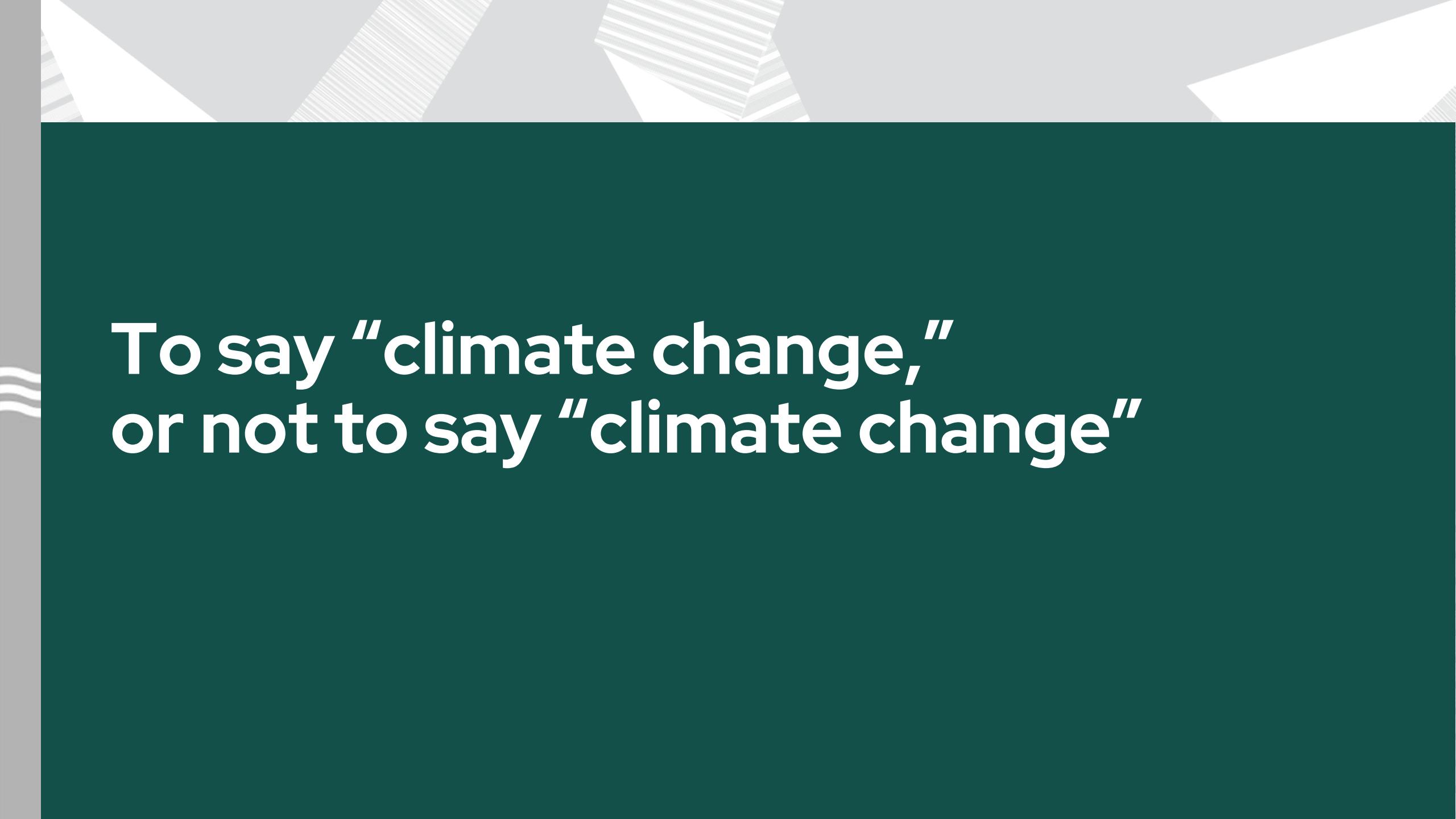
Tools for Engaging Landowners Effectively, 2018

Choose your scope strategically

| | Audience size | Usefulness to audience |
|--------------|---------------|------------------------|
| Broad scope | Large | Low |
| Narrow scope | Small | High |

YOUR TURN

Pick your specific **audience segment**
and desired **behavioral outcome**



To say “climate change,”
or not to say “climate change”

The elephant and donkey in the room

- Political ideology is the strongest demographic predictor of climate change attitudes
- People engage in *motivated reasoning*—facts are not enough!
- BUT be careful to not stereotype or overgeneralize

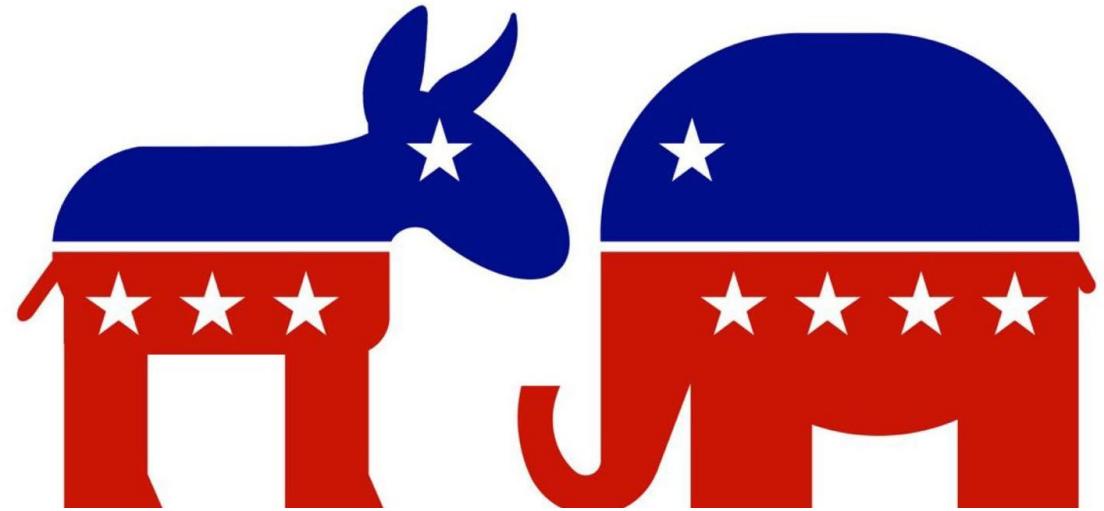


Image: CNN
Hornsey et al., 2016; Kahan et al., 2012

Overcoming polarization

“Climate change” 

“The words are what they object to, not necessarily to the activities that are being done under those words.”

—UW-Madison Extension Community Economic Development educator

“Changing weather patterns” 

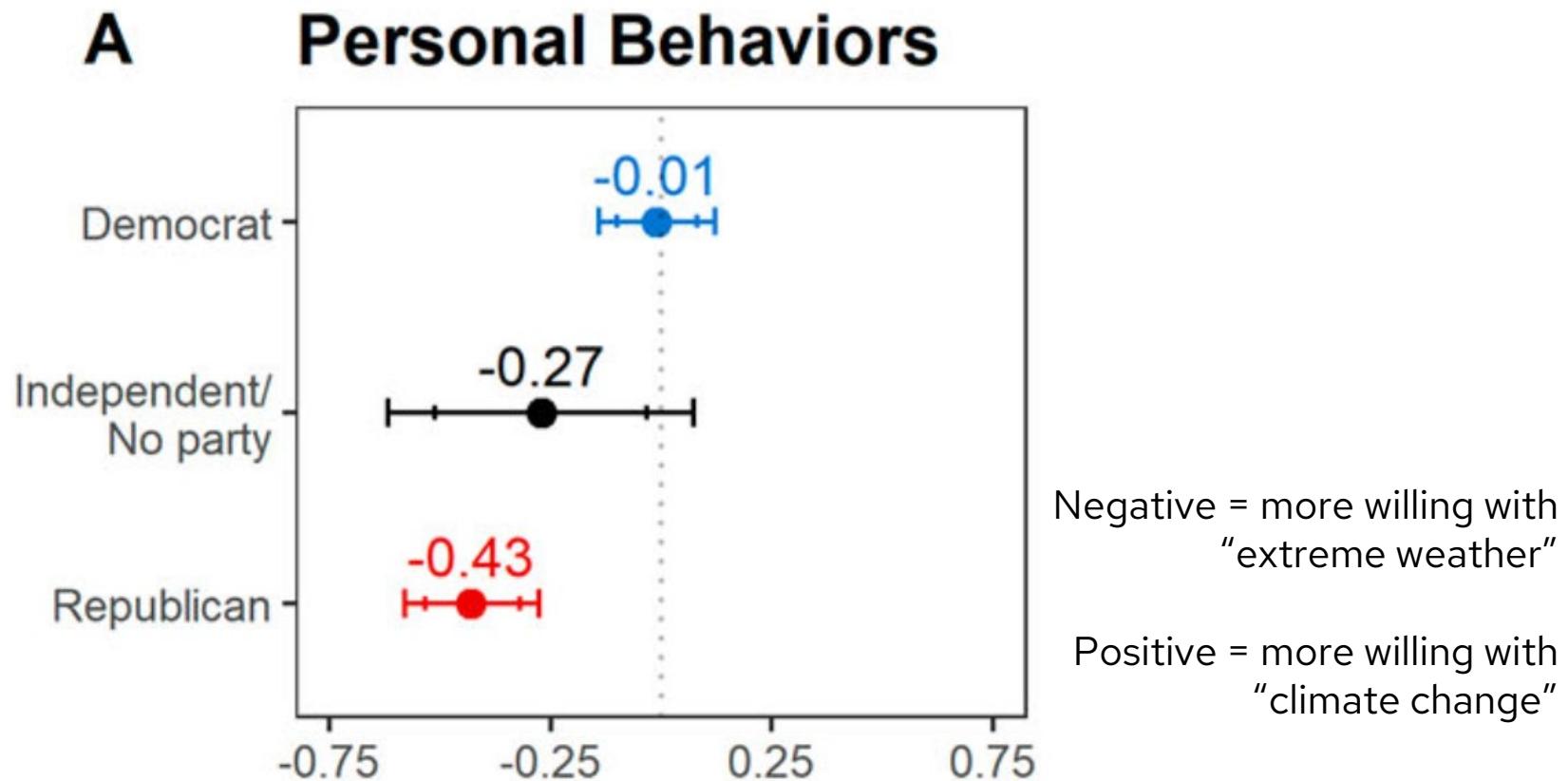
“Changing climate” 

“Climate variability” 

“Extreme weather” 

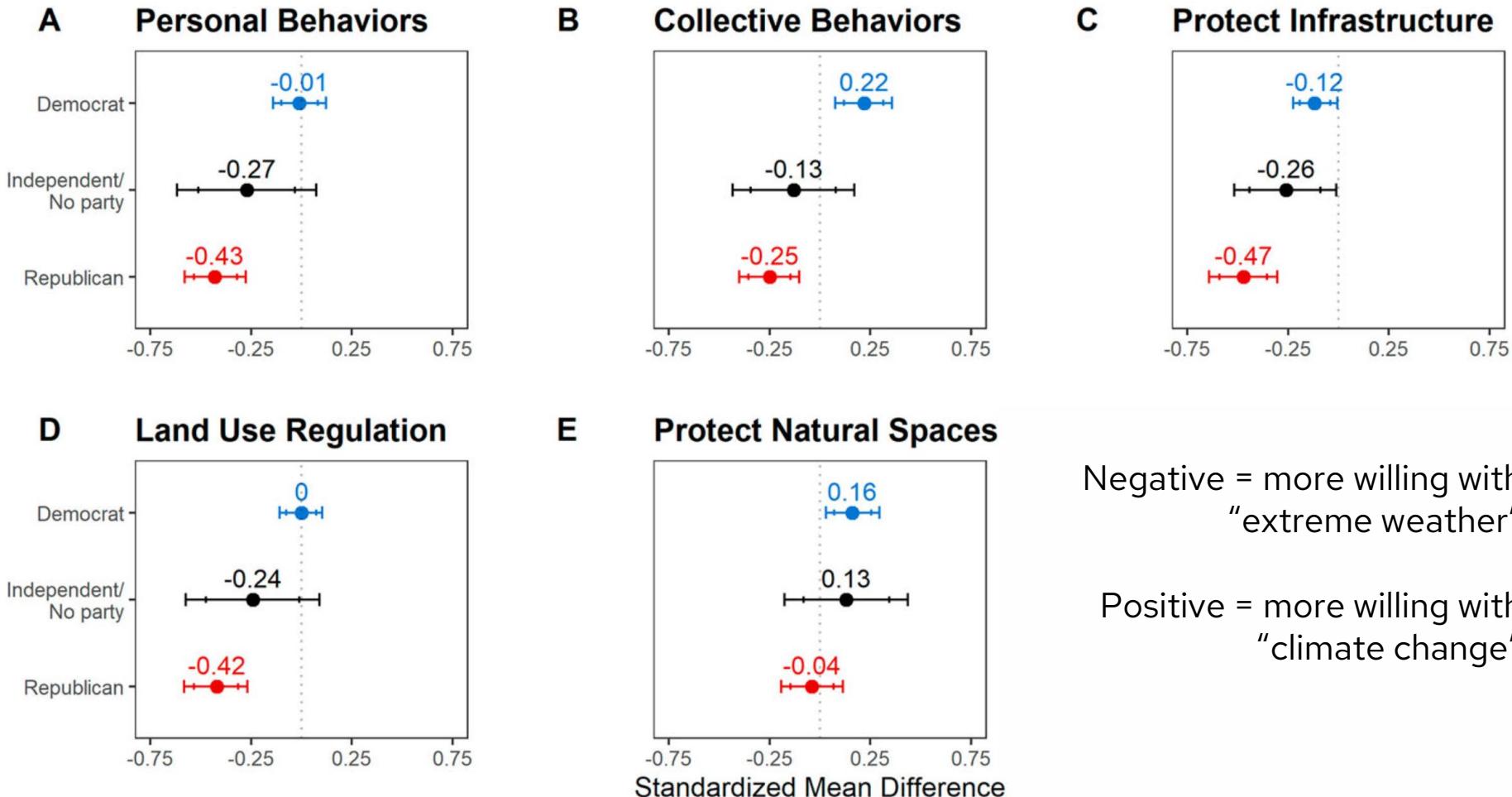
Hershberger & Newman, in press

“Climate change” vs “extreme weather”



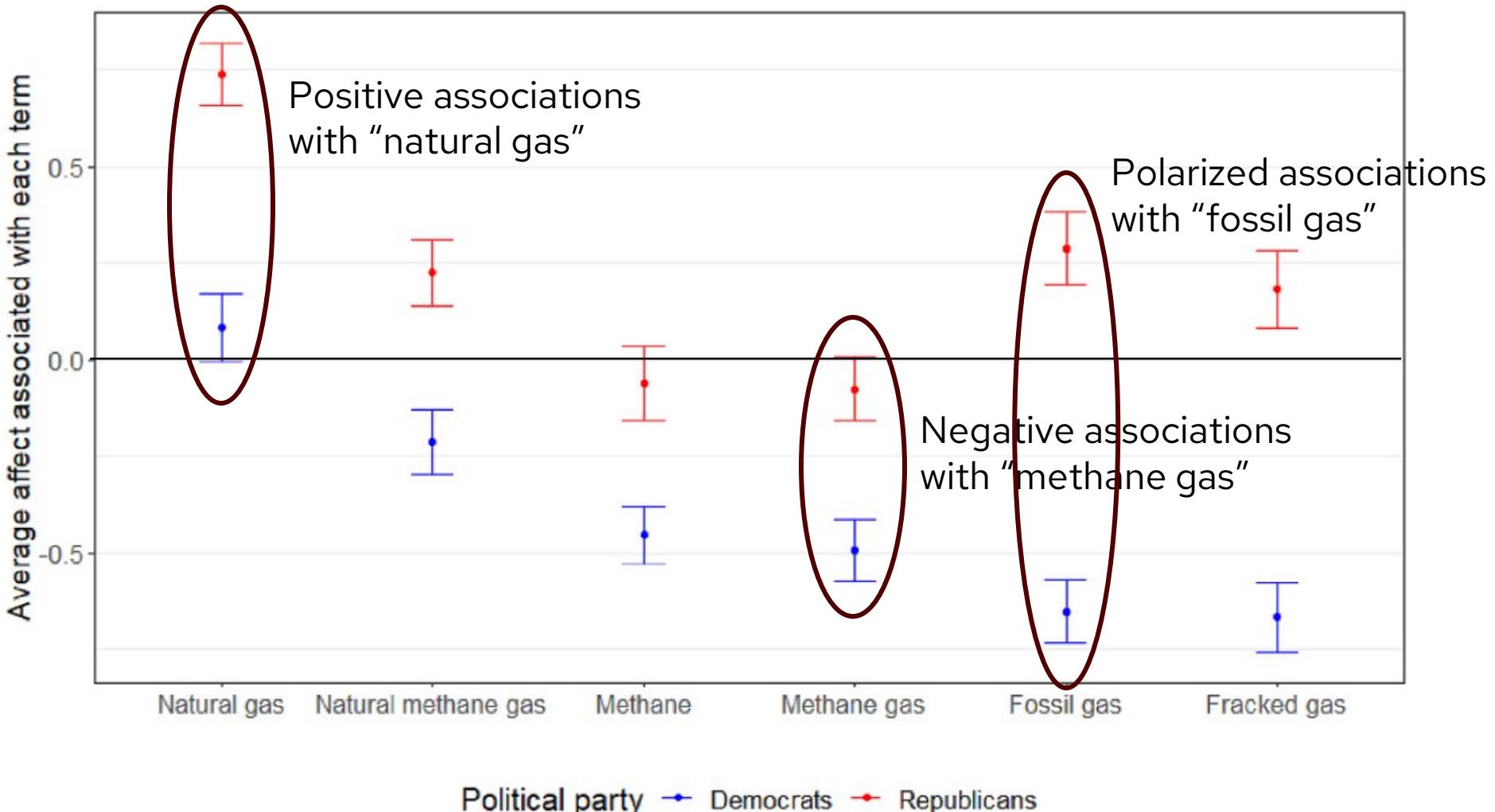
Carman et al., 2022

“Climate change” vs “extreme weather”



Carman et al., 2022

“Natural gas” vs “methane gas”



Lacroix et al., 2021

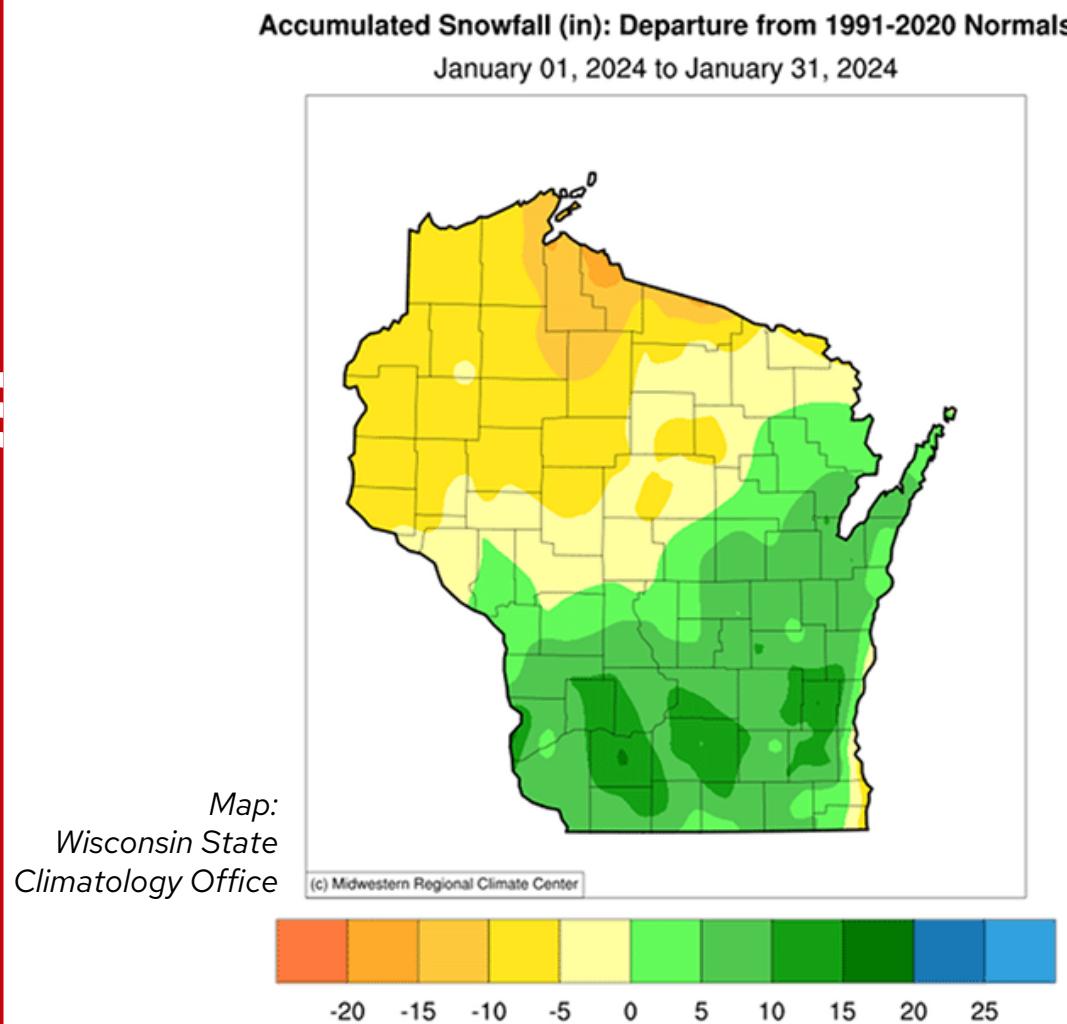
What if my audience is mixed?

- **DON'T** unnecessarily activate partisan identities
- **DO** activate shared identities
- Emphasize specific, local, & relatable aspects of climate change



Image: clmcdk fejcn

Be specific, local, and relatable



Climate change

Very little snowfall in northern Wisconsin

Cultural impact

Poor season for snowmobiling and skiing

Economic impact

Less income for seasonal workers

Actionable solution

Long-term financial planning

Hershberger & Newman, in press

Be specific, local, and relatable

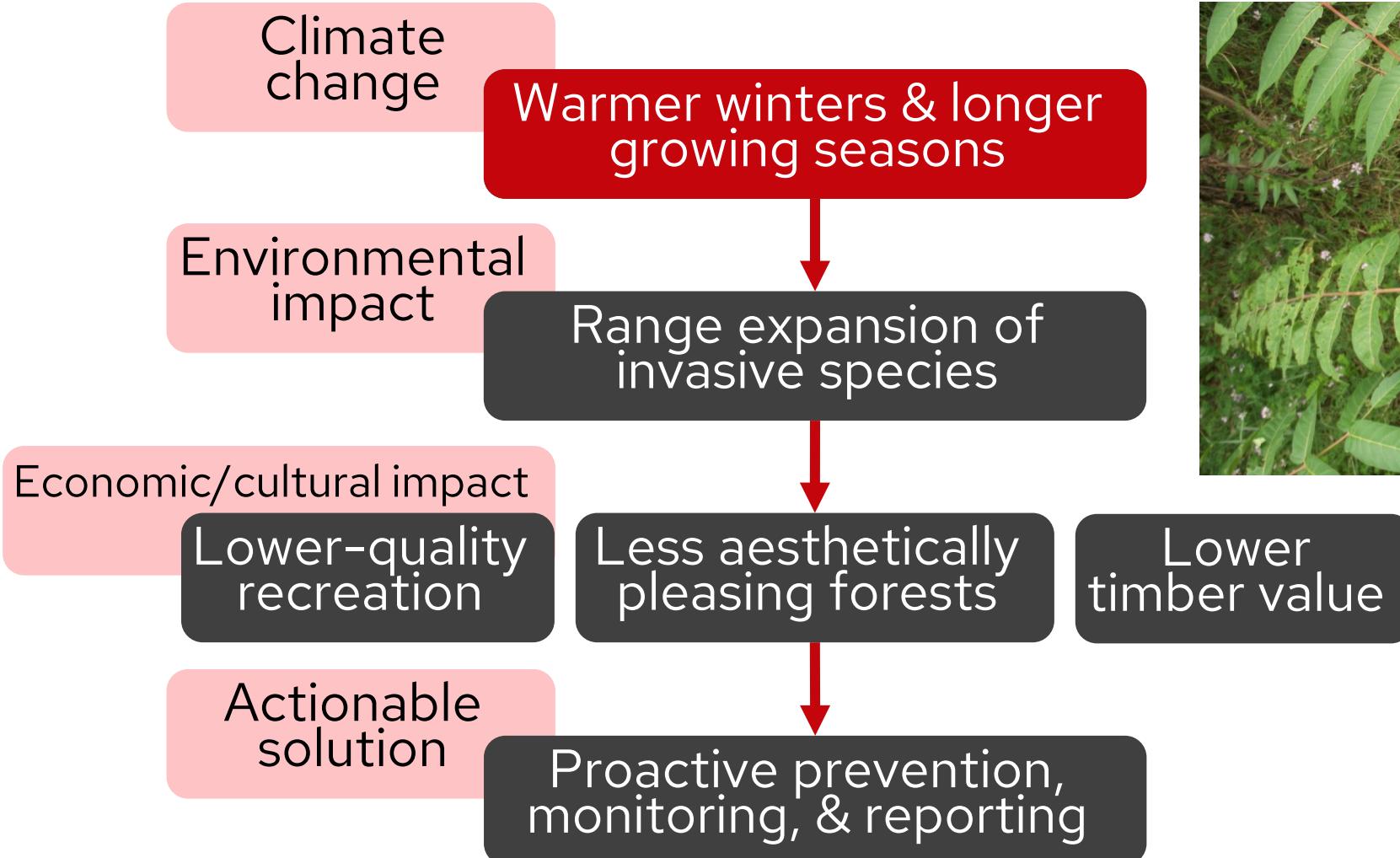


Image: Richard Gardner, Bugwood.org

YOUR TURN

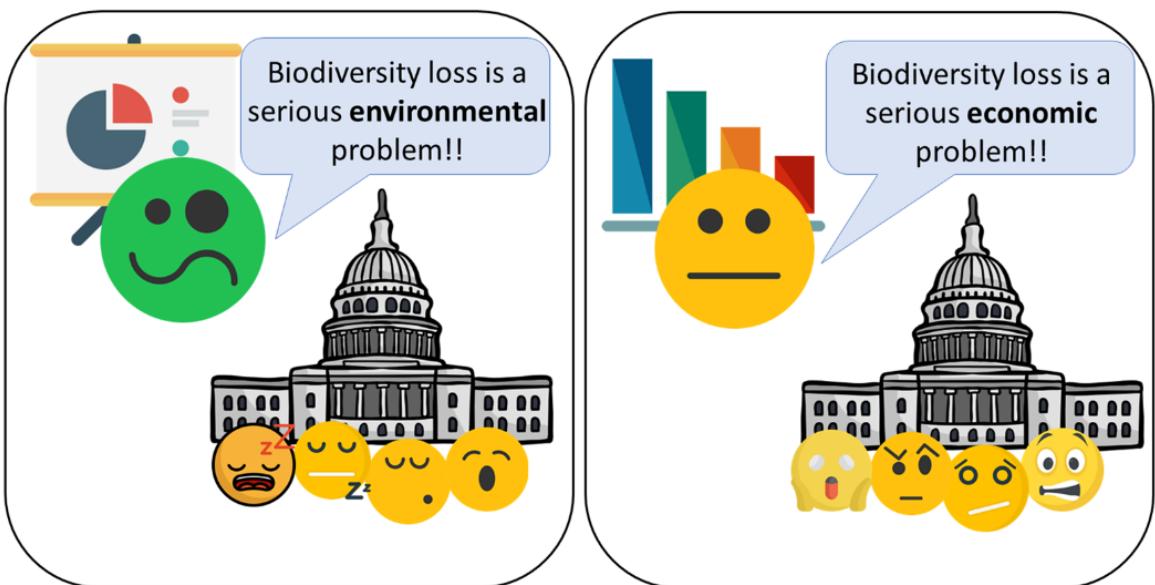
How will you refer to the concept of climate change?



**Value-focused messaging and
cultivating a sense of agency**

Message framing

- *Emphasis framing*: draws attention to one aspect of a topic while deemphasizing other aspects
- Both text and visuals matter



Guenther et al., 2023
Images: USDA; Kusmanoff et al., 2020

Going in the back door

“ It's not necessarily saying, 'Well, this would be the best way we should go because it's good for the climate.'

Oftentimes, it's 'This is the best way to go because it would be beneficial to your particular interests, your particular costs. And it helps the environment too.'

—UW-Madison Extension Community Economic Development educator

Hart & Feldman, 2018; Hershberger & Newman, in press

Example: “New Climate Voices” ads

- One-month online video ad campaign in Missouri-02 and Georgia-07



is completely consistent
with our values as Christians.



We need to protect ourselves
from these risks.

<https://www.newclimatevoices.org/>

Goldberg et al., 2021

Example: Rotary Club Four-Way Test



Rotary **THE FOUR-WAY TEST**
Of the things we think, say or do:

- first** Is it the **TRUTH**?
- second** Is it **FAIR** to all concerned?
- third** Will it build **GOODWILL** and **BETTER FRIENDSHIPS**?
- fourth** Will it be **BENEFICIAL** to all concerned?

“ I never thought too much of this whole global warming thing, but it passed the Four-Way Test. ”

– Texas businessman

Hayhoe, 2021

Efficacy: an active form of hope

"Here's the big problem the *world* faces."



"Here's the big problem *you* face, and **here's what you can do about it.**"



Images: Pixabay; Anastasia Shuraeva
Coleman et al., 2024; Lamm et al., 2022

Types of efficacy

- *Self-efficacy*
“I can take action”
- *Response efficacy*
“If I take action, it will have the desired effect”
- *Collective efficacy*
“If we all take action, our collective action will make a difference”



Jugert et al., 2016; Sinclair et al., 2025

Example: invasive stiltgrass outreach campaign

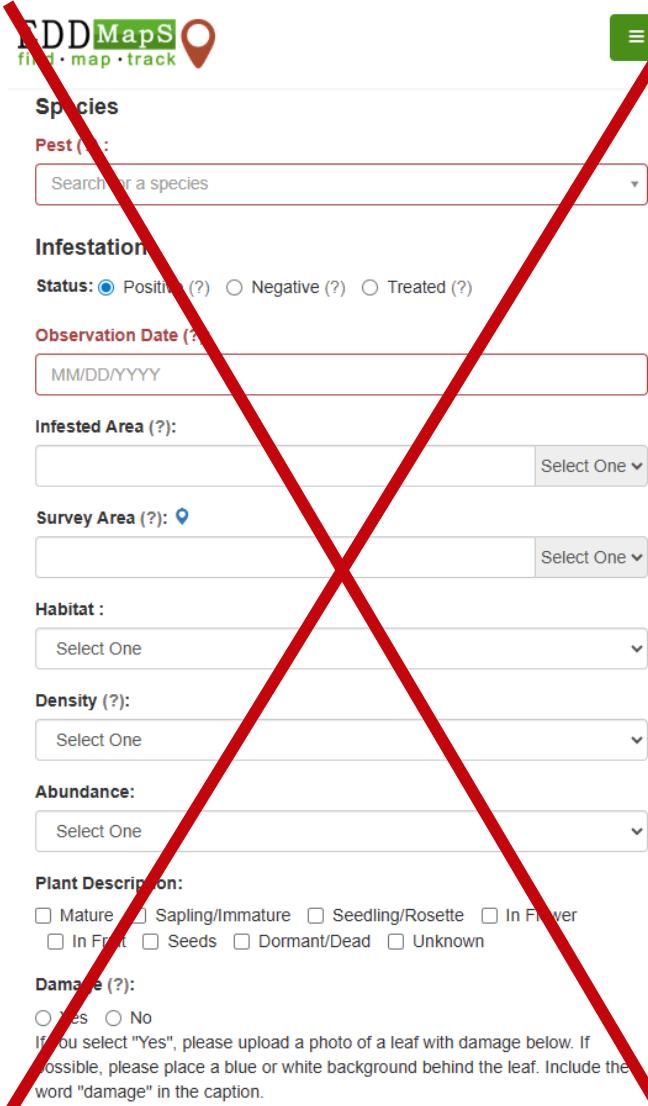


Stiltgrass: building efficacy

- Provide factual information
 - How to identify stiltgrass
- Change attitudes
 - Why stiltgrass and other invasive plants are a problem
- Address barriers
 - How to report findings



Stiltgrass: building efficacy



EDDMaps
find • map • track

Species

Pest ():

Search for a species

Infestation

Status: Positive (?) Negative (?) Treated (?)

Observation Date ():
MM/DD/YYYY

Infested Area ():
Select One

Survey Area ():
Select One

Habitat :

Select One

Density ():
Select One

Abundance:
Select One

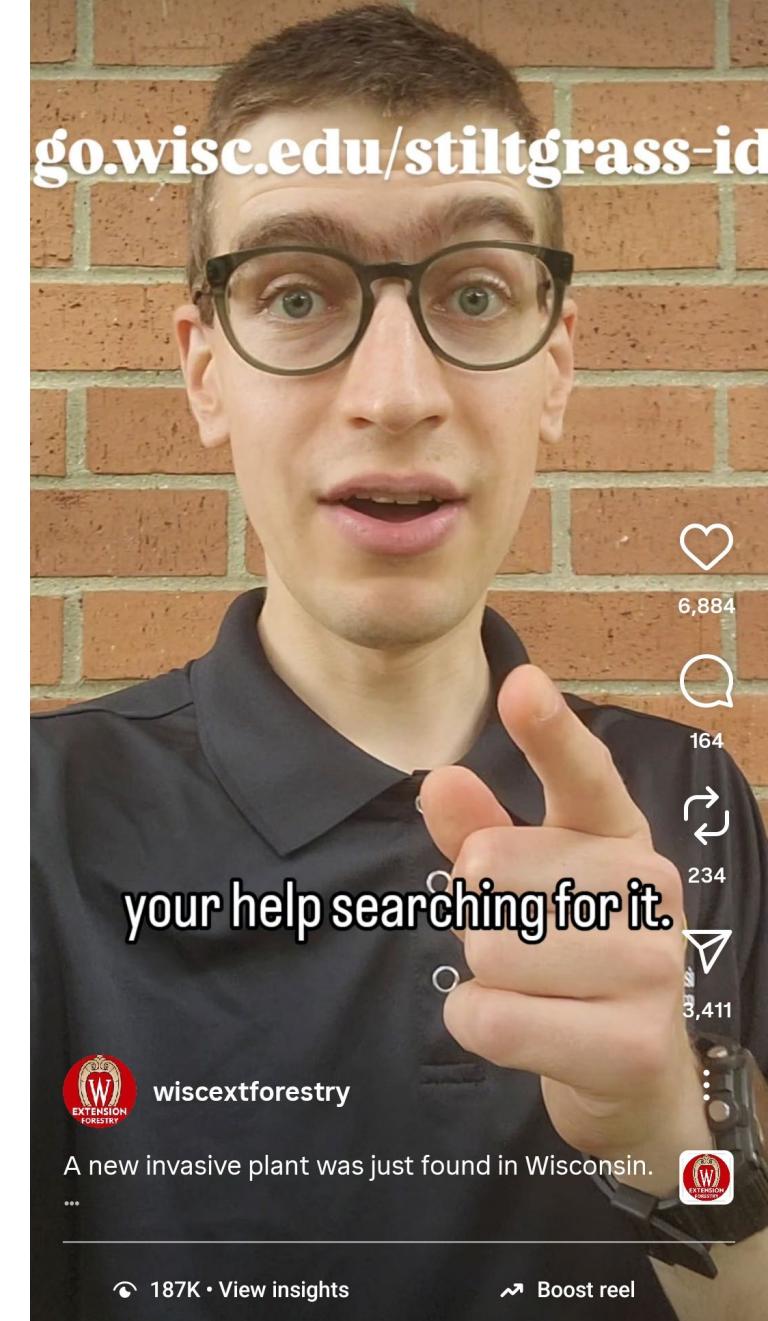
Plant Description:

Mature Sapling/Immature Seedling/Rosette In Flower
 In Fruit Seeds Dormant/Dead Unknown

Damage ():
 Yes No

If you select "Yes", please upload a photo of a leaf with damage below. If possible, please place a blue or white background behind the leaf. Include the word "damage" in the caption.

"Take photos and send them to
forestry@extension.wisc.edu or
Invasive.Species@Wisconsin.gov"



Stiltgrass: building efficacy

 **jrkojen** 2w
What does it look like when it's flowering??

1

[Reply](#) [Hide](#)

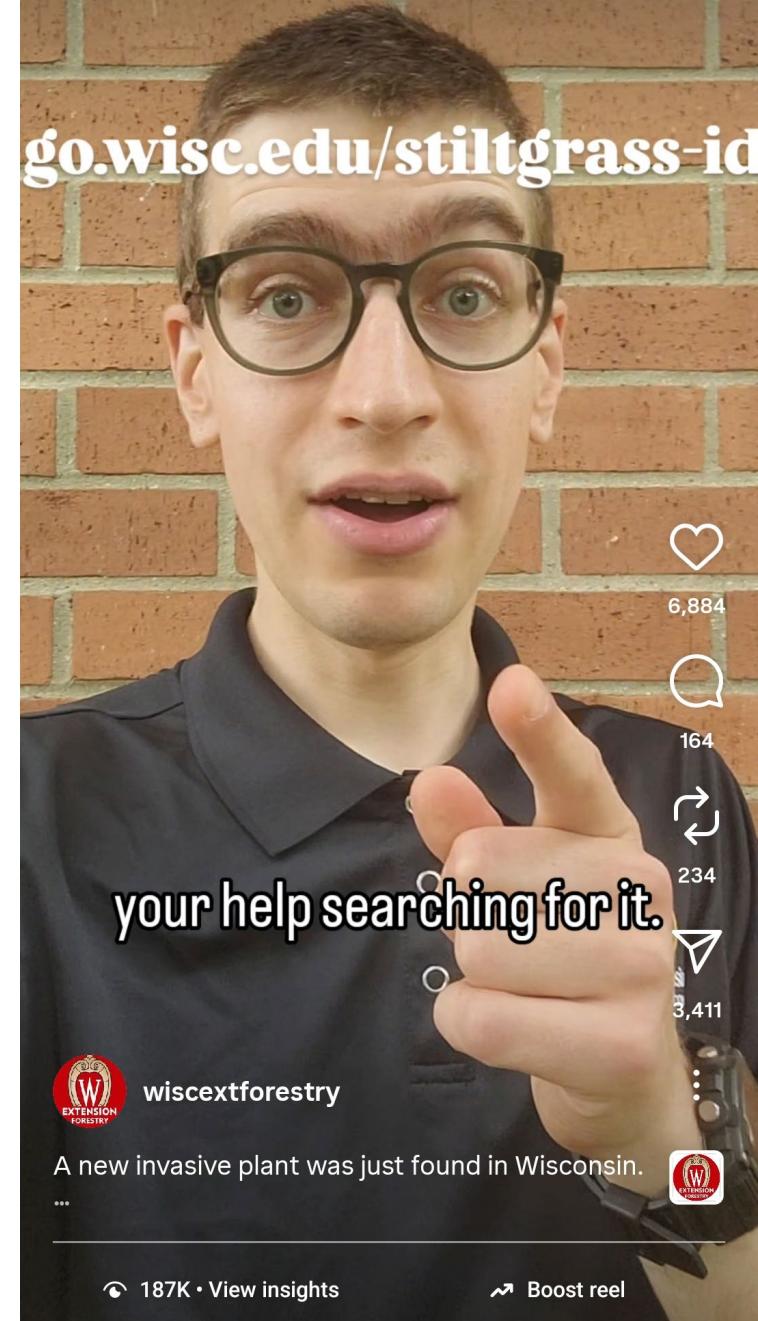
 **hehujaro** 2w
Why wouldn't you show pics of its flowering ears/seeds? That would make it a lot easier for people to recognize. Especially since you say flowering season is now for this plant.

9

[Reply](#) [Hide](#)

 **sammuldoon** 3d
Just show a photo of the flowers already! Everyone is asking for it - FYI social media 101: make it easy on people to do what you want. Asking us to go to the website is just another step. More importantly, when I go to the website, the photos of the flowers doesn't show up on a mobile application. 😳

[Reply](#) [Message](#) [Hide](#)



Stiltgrass: real-world outcomes

- 3 more infestations found within 3 weeks
 - 2 are small and likely to be eliminated!

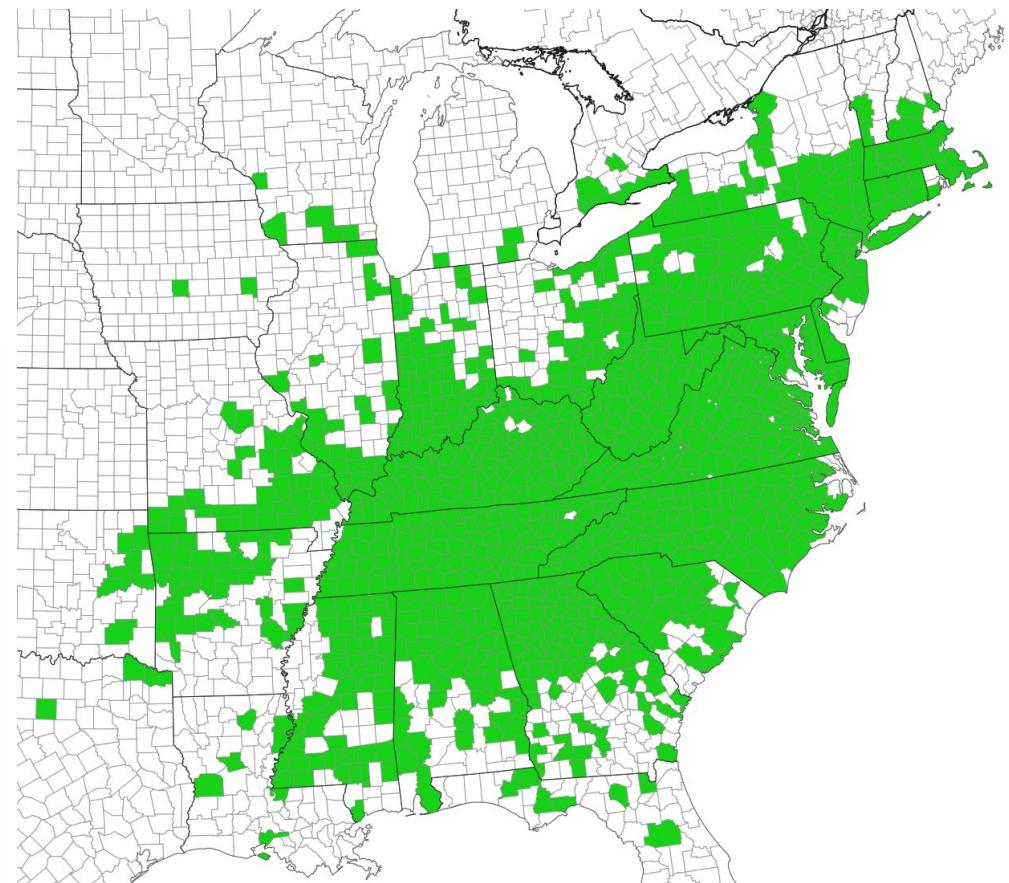


Donna Witt Laughlin · 2d

I'm so glad I posted when I saw this information . Someone found it and had it confirmed because of my post and another was thinking they also found some. Sharing definitely makes a difference.

Reply

5



Map: EDDMapS reported stiltgrass locations as of September 2025

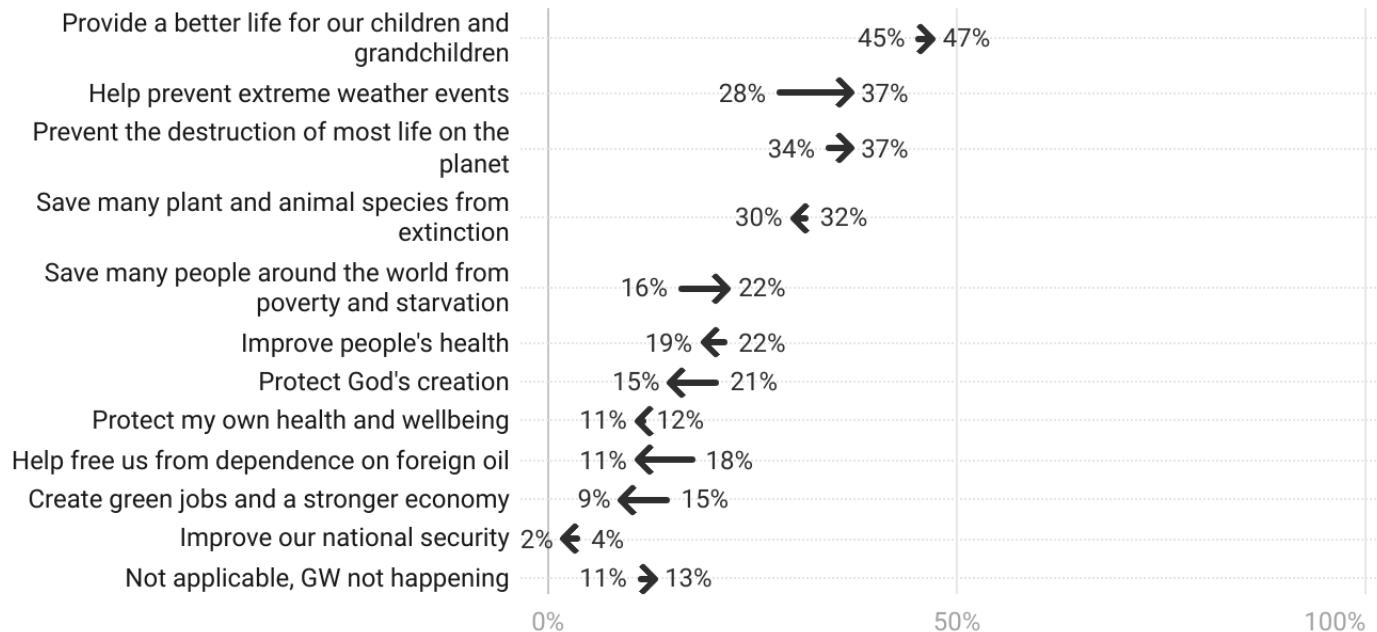
What if my audience is mixed?

- Emphasize the value of providing a better life for future generations



Changes in U.S. registered voters' views of the most important reasons to reduce global warming, 2017 → 2024

% selecting as a top 3 "most important" reason



Which of the following reasons to reduce global warming, if any, are most important to you? Please select up to three reasons.

May 2017 - April 2024.

Base: U.S. registered voters in May 2017 (n = 1070) and April 2024 (n = 896).

Image: Pixabay

Carman et al., 2024; Syropoulos et al., 2023; Syropoulos & Markowitz, 2024

YOUR TURN

What does your audience **value**?
How can you increase **efficacy**?



Leveraging social norms to spur behavior change

Two types of social norms

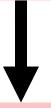
Descriptive

- What do other people do?
- “Together we logged 9,354 car-free and car-light trips.”

Injunctive

- What do other people think is the right thing to do?
- “Most Madisonians think highly of their friends who bike to work.”

Close reference group



More powerful norms

Constantino et al., 2022; Miller & Prentice, 2016

Perceptions might not match reality

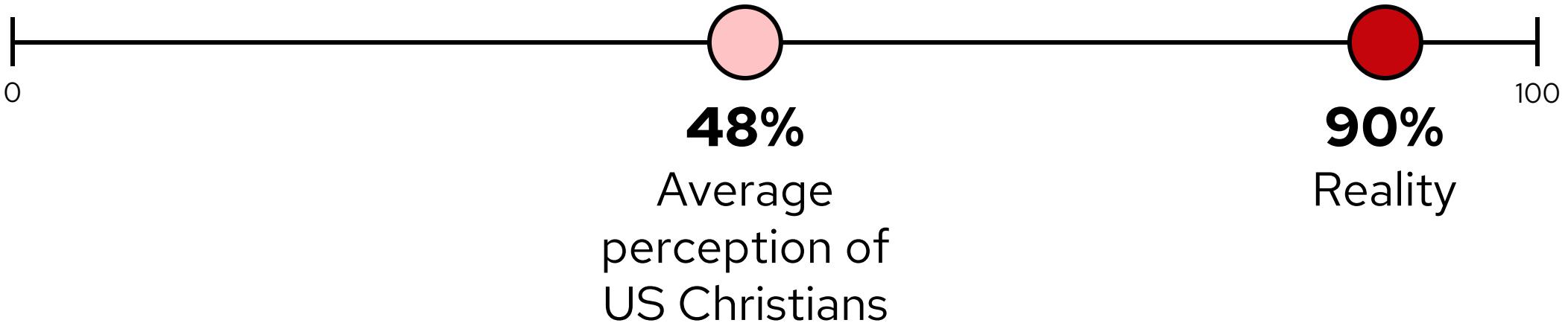
- Across many reference groups, people systematically underestimate how many people:
 - **Accept** that human-caused climate change is happening
 - **Are concerned** about climate change
 - Support individual pro-climate **behaviors**
 - Support pro-climate **policies**



Images: Edward Kimmel, CC BY-SA 2.0; Fibonacci Blue, CC BY 2.0

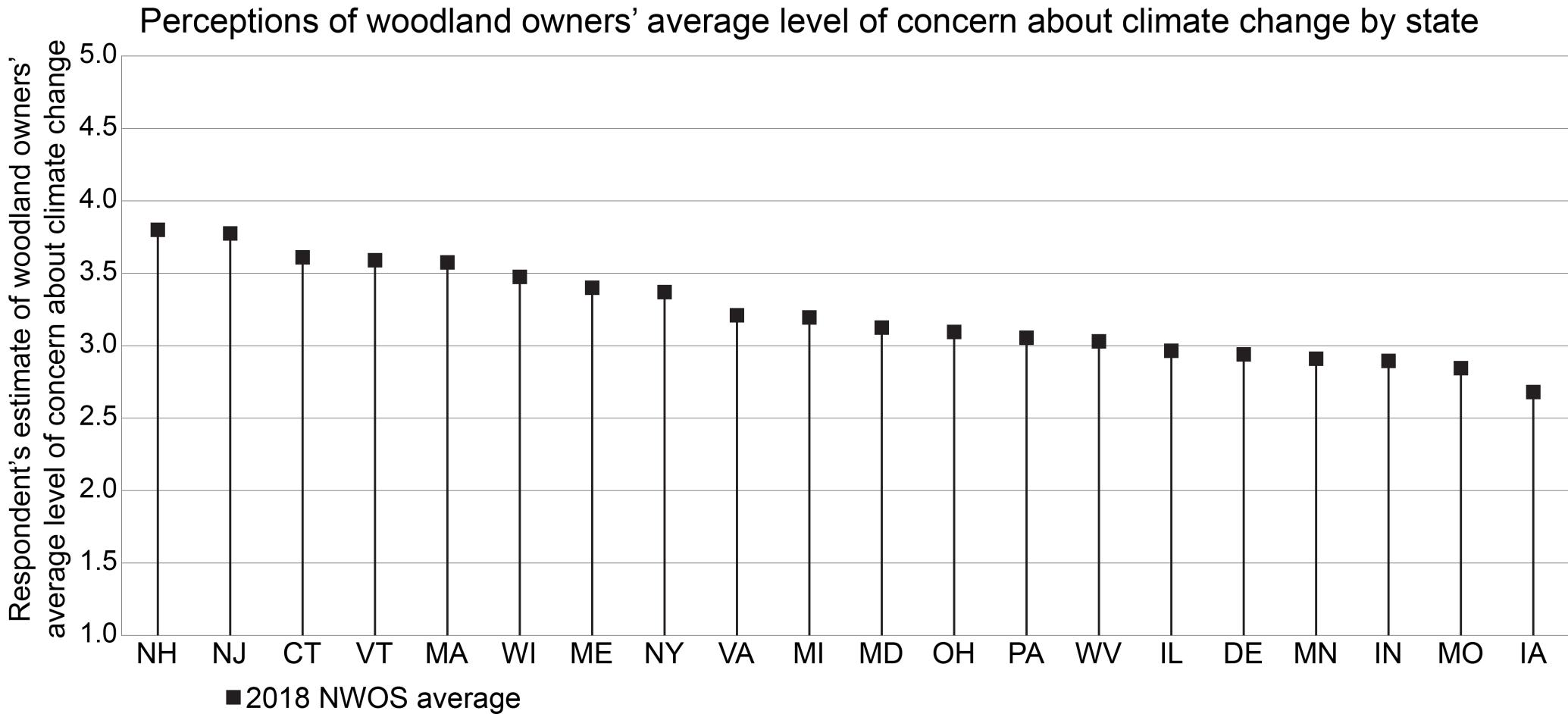
Pluralistic ignorance: acceptance

Proportion of US Christian religious leaders who accept that human-caused climate change is happening



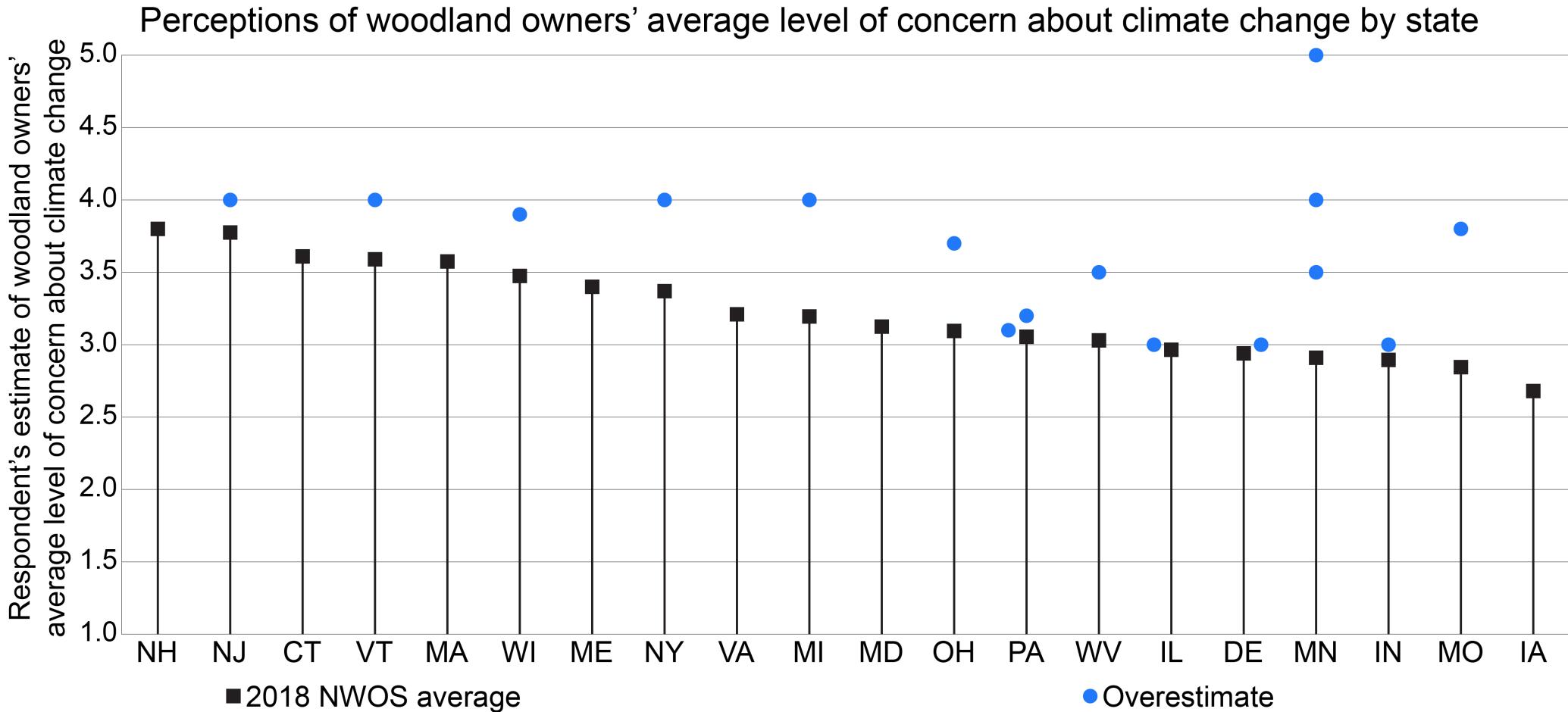
Syropoulos & Sparkman, 2025

Pluralistic ignorance: concern



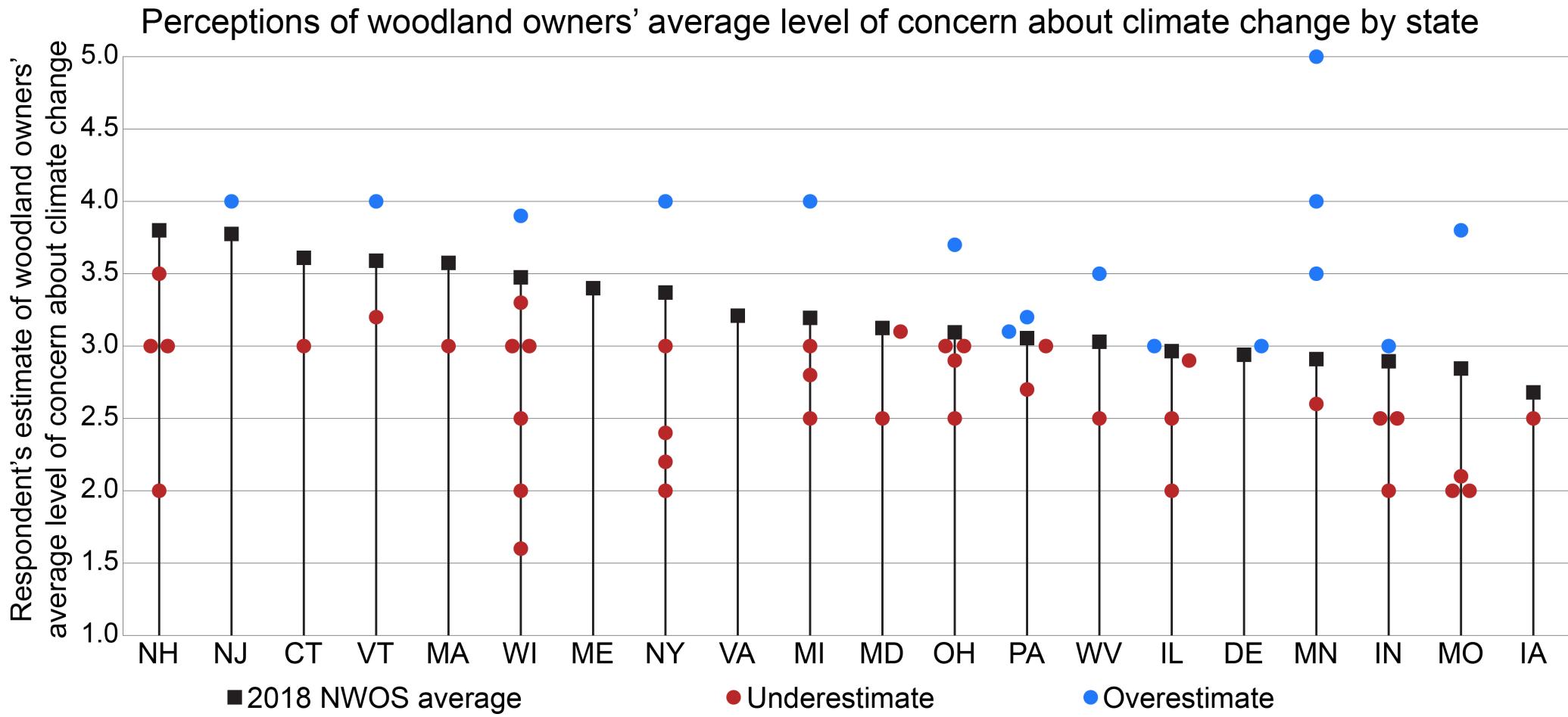
Desprez et al., 2025

Pluralistic ignorance: concern



Desprez et al., 2025

Pluralistic ignorance: concern



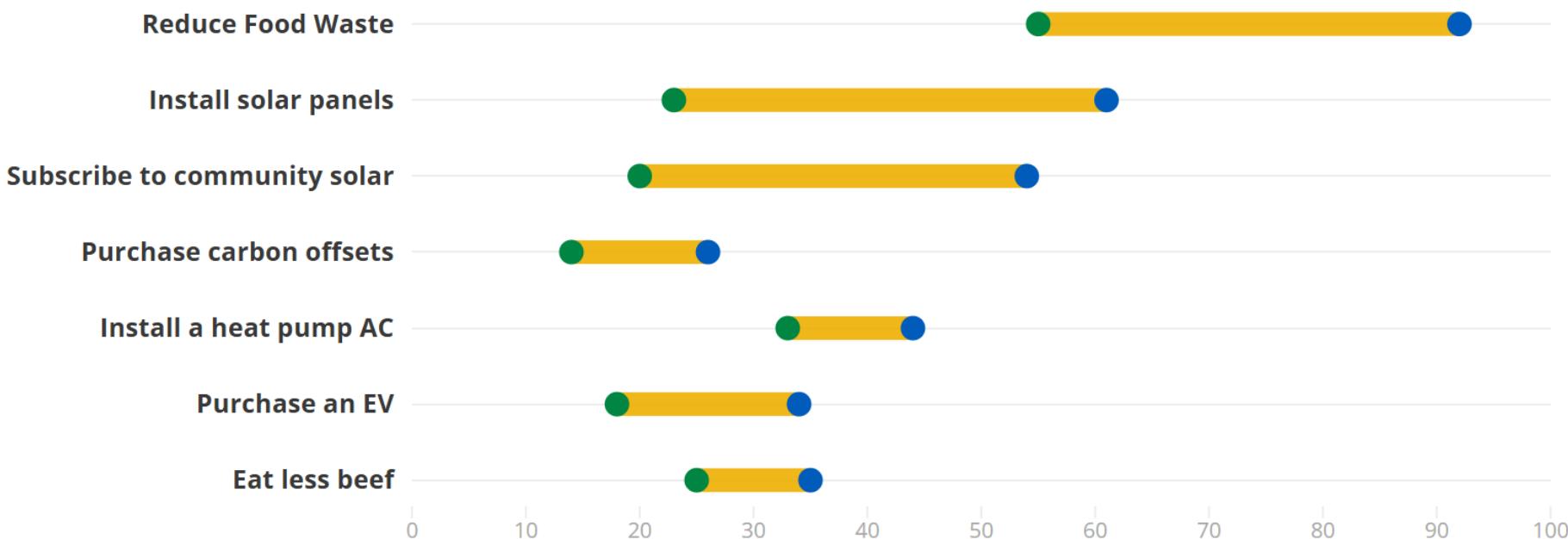
Desprez et al., 2025

Pluralistic ignorance: individual behaviors

There is a sizable gap when people are asked if they support adoption of behaviors vs their impression if others also support adoption

Across all the behaviors, there is a "normative bubble" around behavior adoption waiting to be popped: Americans support adoption of these behaviors, but they don't realize others believe the same

● Do you support adoption? ● Do you think others support adoption?



Source: [Rare "Climate Culture Index 2024"](#)

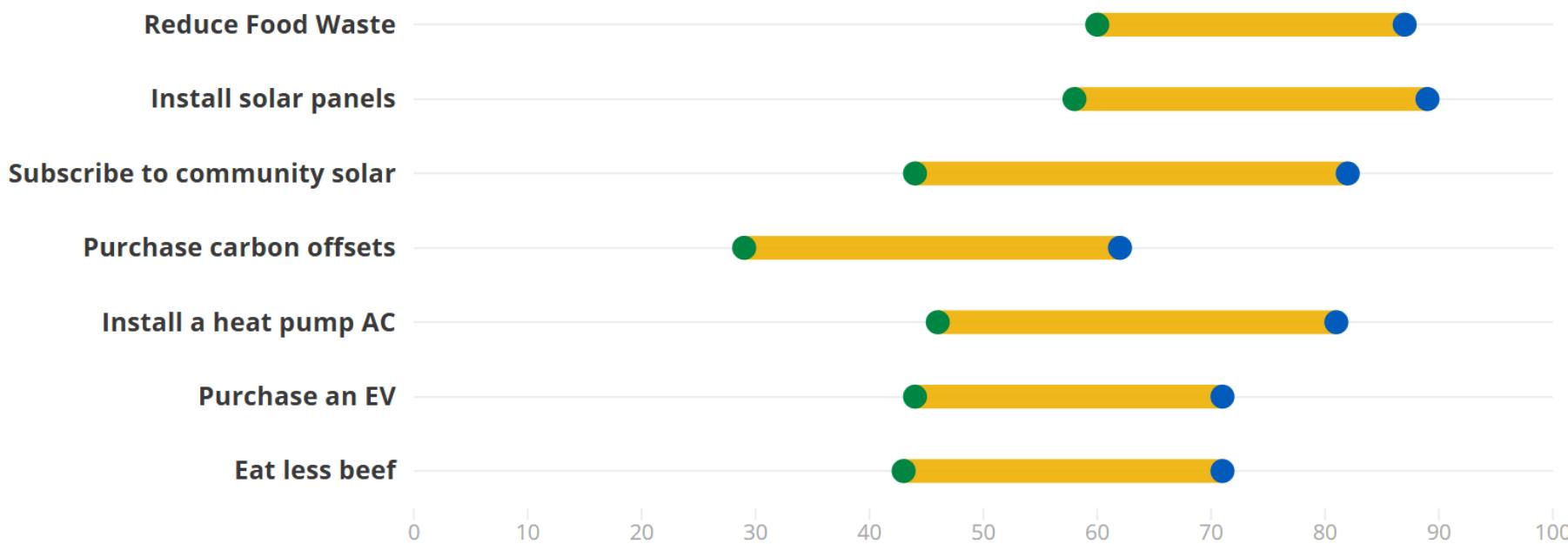
Rare, 2024

Pluralistic ignorance: policy support

There is a sizable gap when people are asked if they support policies vs their impression if others also support such policies.

Across all the behaviors, there is a "normative bubble" around policy support waiting to be popped: Americans support potential policies, but they don't realize others believe the same

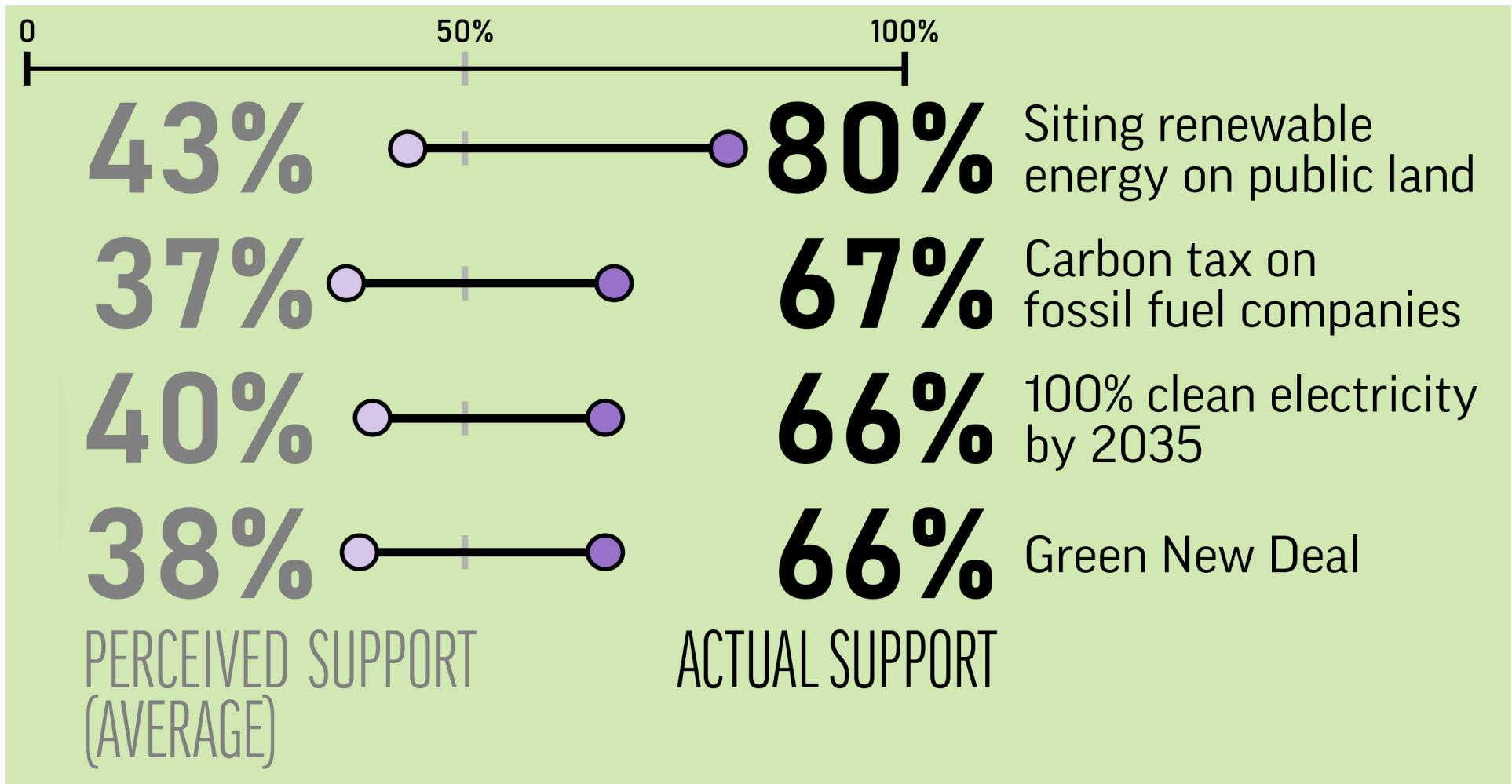
● Do you support policies? ● Do you think others support policies?



Source: [Rare "Climate Culture Index 2024"](#)

Rare, 2024

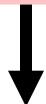
Pluralistic ignorance: policy support



Infographic: Scott Hershberger
Data: Sparkman et al., 2022

Perceived social norms matter

Learning the true norms



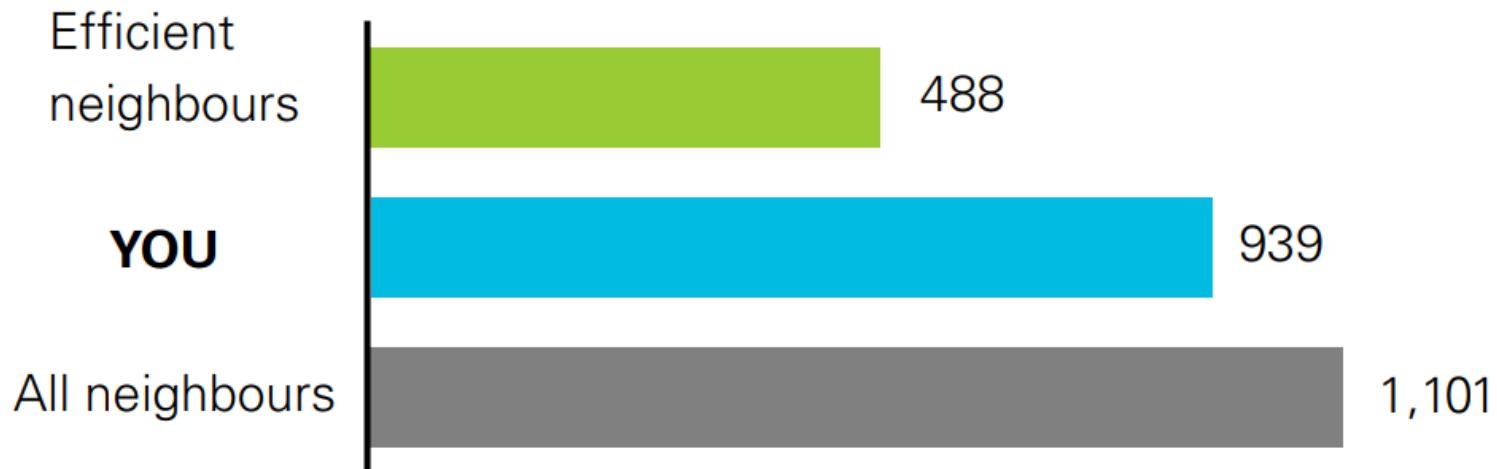
Stronger

- Acceptance of climate change
- Worry about climate change
- Support for pro-climate policies

Goldberg et al., 2020; Mildenberger & Tingley, 2019; Sparkman et al., 2022; Syropoulos & Sparkman, 2025

Example: home energy conservation

Last month neighbour comparison



How you're doing:



- Customers typically save 1.5%-2.5% on energy bills in first 2 years
- Since 2007: \$2 billion in customer savings

Allcott, 2011; Rare, 2020

Make invisible norms visible



Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Make invisible norms visible



Don't highlight an undesirable norm

“Many producers prefer the clean, open aesthetic of tilled fields.” 

“No-till creates a rugged, natural aesthetic.” 

“Only 17% of Wisconsin woodland owners have a forest management plan.” 

“Since 2018, more than 21,000 Wisconsin woodland owners have received a property visit from a DNR forester.” 

Dynamic norm

Butler et al., 2021; Constantino et al., 2022; Kawa, 2021; Sparkman & Walton, 2017

YOUR TURN

What **social norms** can you highlight?
If you don't know the true norms, how
can you find out?

How to handle misinformation and disinformation

Definitions

Disinformation

False and misleading information

Spread intentionally

Misinformation

False and misleading information

Spread unintentionally



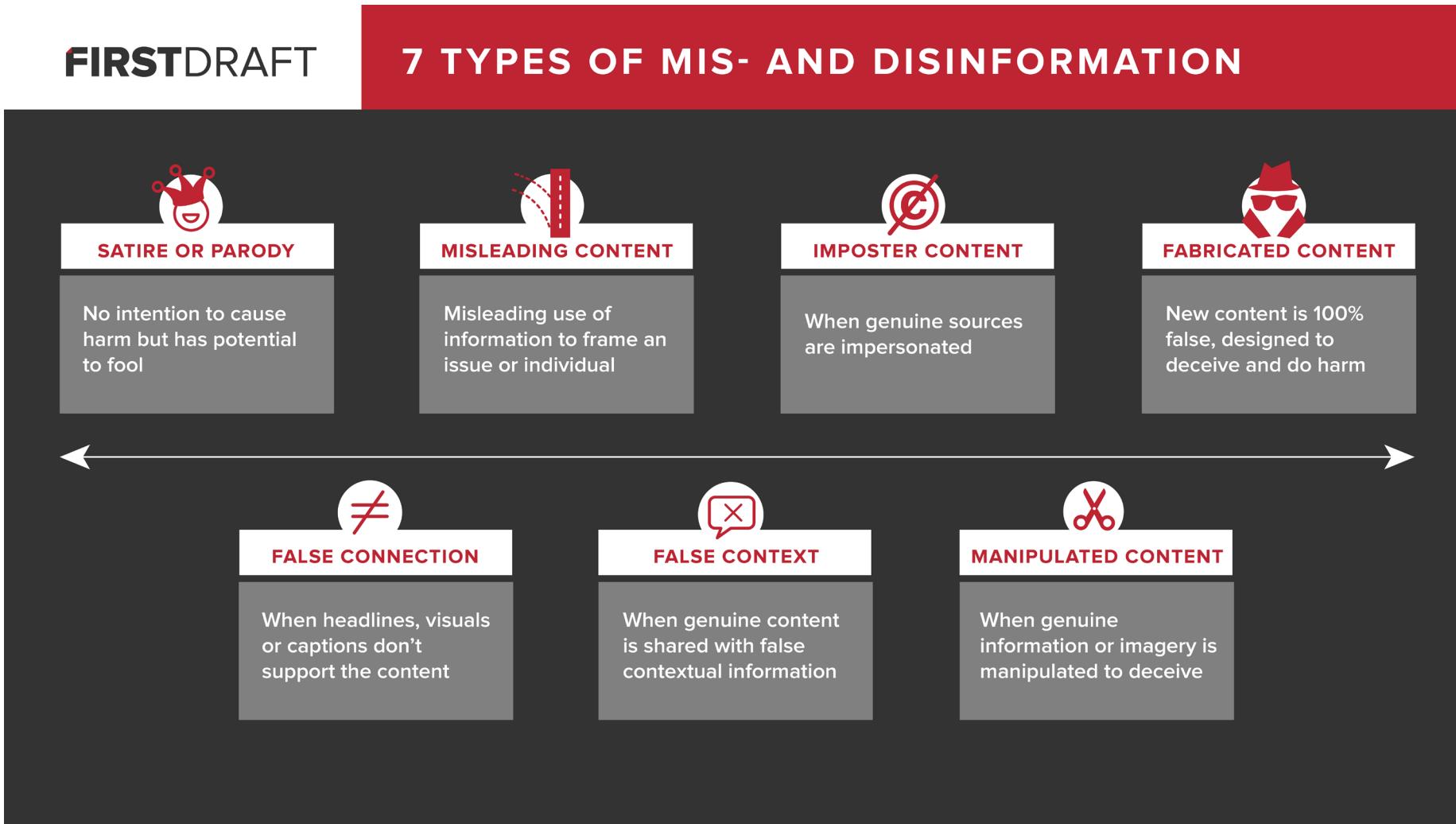
Altay et al., 2023
Image: iStock

Definitions



Altay et al., 2023

Types of misinformation



Wardle, 2017

Where climate misinformation comes from

Most climate change misinformation originates as

DISINFORMATION

funded by the fossil fuel industry (or allies)

TOP-DOWN,

often trying to appear grassroots

Dunlap & McCright, 2011; Williams et al., 2022

Where climate misinformation comes from

Funded by 7+ pipeline & utility companies
\$10 million budget

 **Natural Allies for a Clean Energy Future**
Sponsored • Paid for by Natural Allies, Inc.

Investments in natural gas and its infrastructure is the best way to cut emissions, reach climate goals and provide reliable, clean and affordable energy to meet today's energy demands.



NATURALALLIESFORCLEANEENERGY.ORG
Transitioning to a clean energy future
Natural Allies for Clean Energy

Learn more

Funded by the American Gas Association and American Public Gas Association



mayandtravel • Follow ...

mayandtravel There is nothing better during the holidays than getting snuggled in our house and filling up on our favorite holiday dishes. My favorite holiday dish is seafood noodle and I love cooking with gas because it helps cook food faster and gives me more control over the temperature when cooking. What's your favorite holiday dish? #cookingwithgas #sponsored @aga_natgas
72w

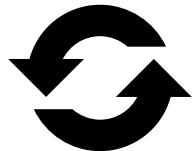
 _smallthings_inlife_ I love these orange tones!

7,188 likes DECEMBER 14, 2018

Add a comment... Post

Brown, 2022; King, 2023; Leber, 2020

Why do people believe misinformation?



Familiarity → increased belief (illusory truth effect)



Easy-to-follow narratives



Aligns with preexisting identities or worldviews



Triggers strong emotions

Ecker et al., 2022; Udry & Barber, 2024

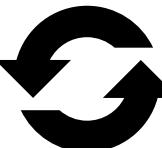
Before exposure: inoculation

- Convey the threat of misinformation
- Explain the truth and the fallacy
 - False facts and/or flawed arguments



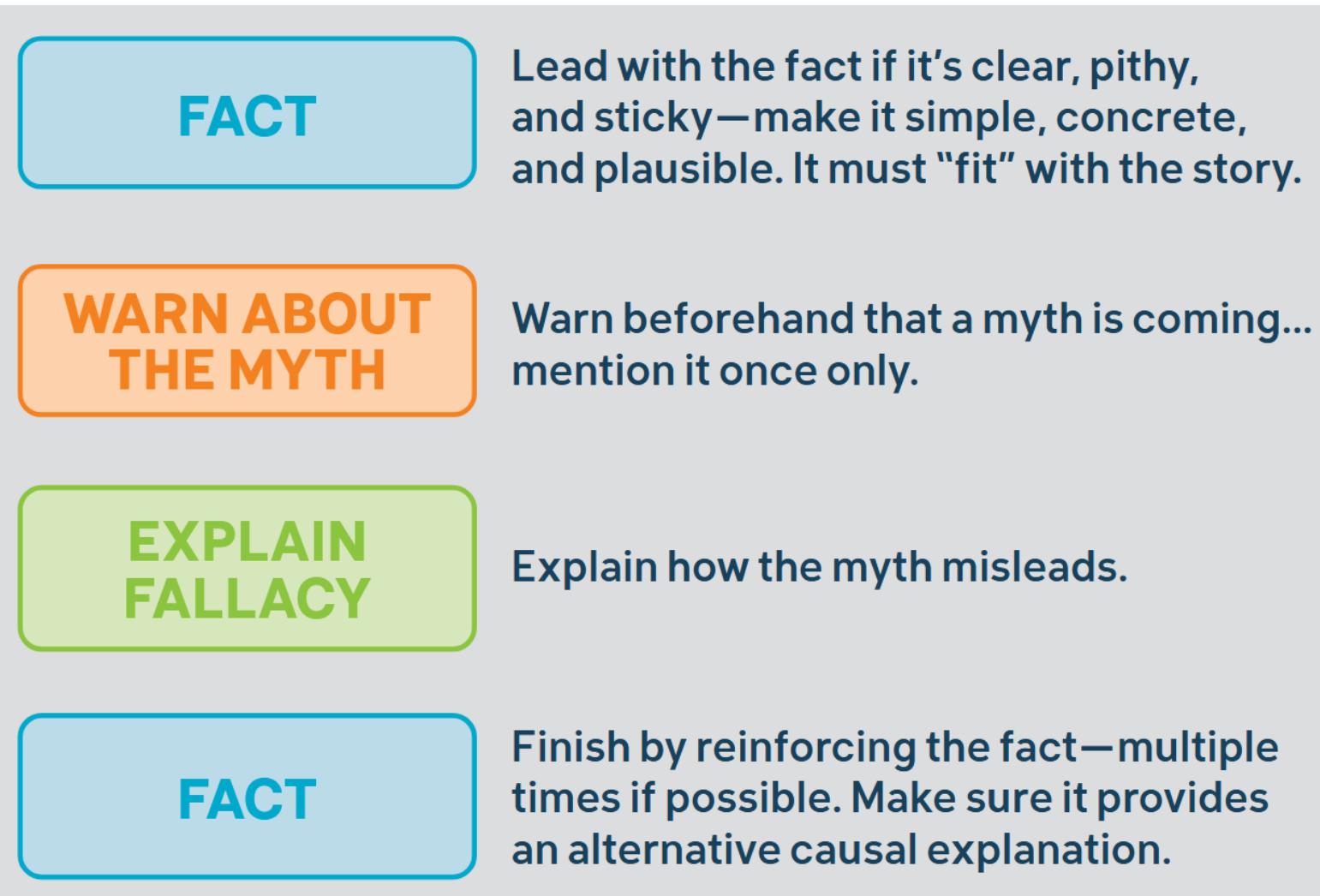
Cook, 2020; Ecker et al., 2022; Traberg et al., 2022

After exposure: effective correction

-  Use a source the audience trusts
-  Validate their underlying concern
-  Convey empathy and do not condescend
-  Provide an alternative (true) explanation
-  Repeat the correction over time

Ecker et al., 2022; Prike & Ecker, 2023; McRaney, 2022

One template: “fact sandwich”



Lewandowsky et al., 2020

Example: timber harvests

FACT

To make our forests more resilient to stresses like droughts and extreme rainfall, we need to actively steward them by conducting sustainable timber harvests.

**WARN ABOUT
THE MYTH**

Contrary to what you might assume, “letting nature run its course” is not the best approach for most forests today.

**EXPLAIN
FALLACY**

Your woodland was already dramatically changed by humans during the cutover. Now, most of the trees are the same age, and the next generation of oaks is struggling to grow.

FACT

Thinning your woods will allow more light to reach the ground so that new oaks will thrive and the ecosystem will become healthier.

Lewandowsky et al., 2020

Example: timber harvests



Use a source the audience trusts

Peer woodland owner



Validate their underlying concern

Timber harvests CAN be done unsustainably



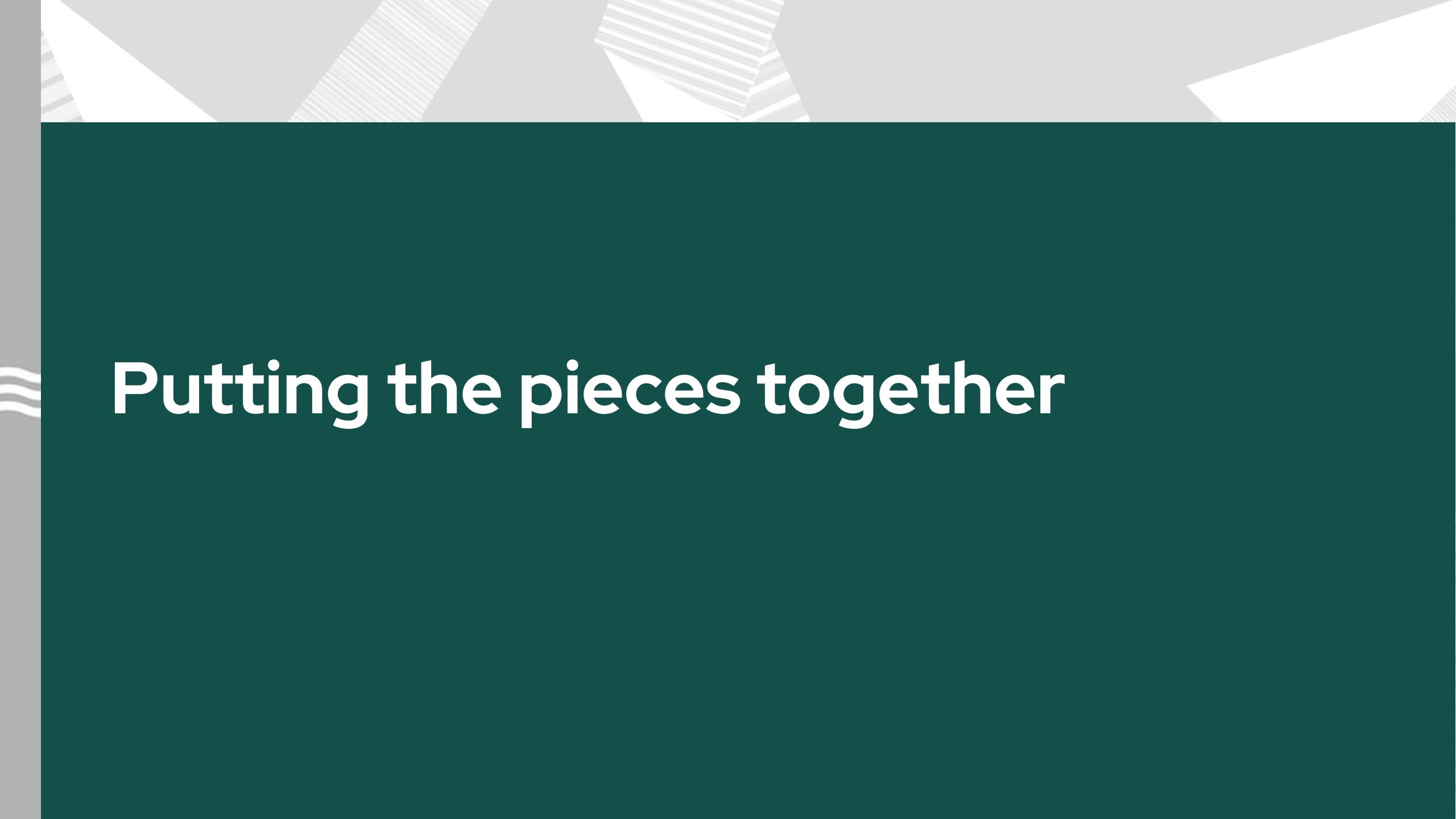
Convey empathy and do not condescend

It's understandable to not want your woods to change

Ecker et al., 2022; Pike & Ecker, 2024; McRaney, 2024

YOUR TURN

What **mis/disinformation** is your audience exposed to? How will you address it?



Putting the pieces together

Adapting to Changes in Your Sugarbush

Going in the
back door



Social norms

Maple syrup producers across the Midwest have noticed changes in their sugarbushes in recent years, such as earlier tapping seasons and the arrival of new invasive and competing plant species and forest pests. We expect these and other changes to continue in the coming decades. By being flexible and adaptable, you can be a good steward of the land, ensuring that your sugarbush thrives for many years into the future.

Long-term
trend

Audience's
values

<https://maple.extension.wisc.edu/adaptation-menu/>

Resilience

Specific & relatable

Problem

Solutions & efficacy

Lower Sap Sugar Content



Summers now tend to be hotter than in the past. After a particularly hot summer, the sugar content of the following season's sap may be lower than usual.

What you can do:

- Take an [energy self-assessment](#) to determine how you can make your operation more energy-efficient, which will lessen the financial impact of lower sap sugar content on your operation.
- Use reverse osmosis to increase the sugar concentration of your sap before boiling it.
- Use a pre-heater or a more energy-efficient evaporator to save on fuel costs and boiling time.
- [Contact your local USDA Natural Resources Conservation Service](#) office to learn about their [Environmental Quality Incentives Program On-Farm Energy Initiative](#), which might provide you financial assistance to purchase reverse osmosis or upgrade your equipment.
- In consultation with a forester, [thin your stand](#) to give your trees space to grow deep, wide crowns. Trees with more vigorous crowns and wider trunks typically yield a higher sap sugar content and sap volume, though you will still see variability from tree to tree and even from day to day.
- Practice [good sanitation habits](#) to get a higher yield. Use new, sterile spouts each year (or use sterilizable stainless steel spouts).
- If you use gravity tubing, upgrade to a vacuum tubing system, which can double your sap yield.
- Tap more trees to [increase your overall yield of syrup](#).
- [Tap red maples](#) in addition to sugar maples. Red maples with deep, wide crowns can be just as good for sugarmaking as sugar maples. This is true even though red maples sometimes bud out earlier in the spring than sugar maples.
- Make [value-added products](#) like maple cream or maple candy in addition to syrup. [Product diversification](#) allows you to make more income per unit of sap, which will help your finances in low-yield years.

Trusted messenger

Stories from Wisconsin maple syrup producers



YOUR TURN

Who is your messenger?
Which communication channels will
you use?
**Jot down an outline of your
message.**

Role-playing activity

Role-playing activity

- Partner 1: describe your audience segment and scenario
- Partner 2: pretend to be a member of that audience segment
- Partner 1: facilitate a conversation with partner 2 that covers your talking points and responds to partner 2's concerns
- Partner 2: give feedback
- Switch!

Open discussion

Let's stay in touch!

-  scott.hershberger@wisc.edu
-  scott-hershberger.com
-  [scott-hershberger-scicomm](https://www.linkedin.com/in/scott-hershberger-scicomm)
-  go.wisc.edu/forestry



Scan for sources & these slides



go.wisc.edu/mcrc-climate-comm

The University of Wisconsin-Madison Division of Extension provides equal opportunities in employment and programming in compliance with state and federal law.