AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

BIOLOGICAL SCIENCES CONGRESSIONAL DISTRICT VISITS

Advocating Science:
Learn to Communicate Effectively with Lawmakers

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EVENT OVERVIEW

- 14th annual event
- Hybrid since 2021: virtual and in-person
- Meetings and tours with federal and state lawmakers
- ~100 participants from 20 states, DC and PR
- Compliments meetings in DC

EVENT SPONSORS

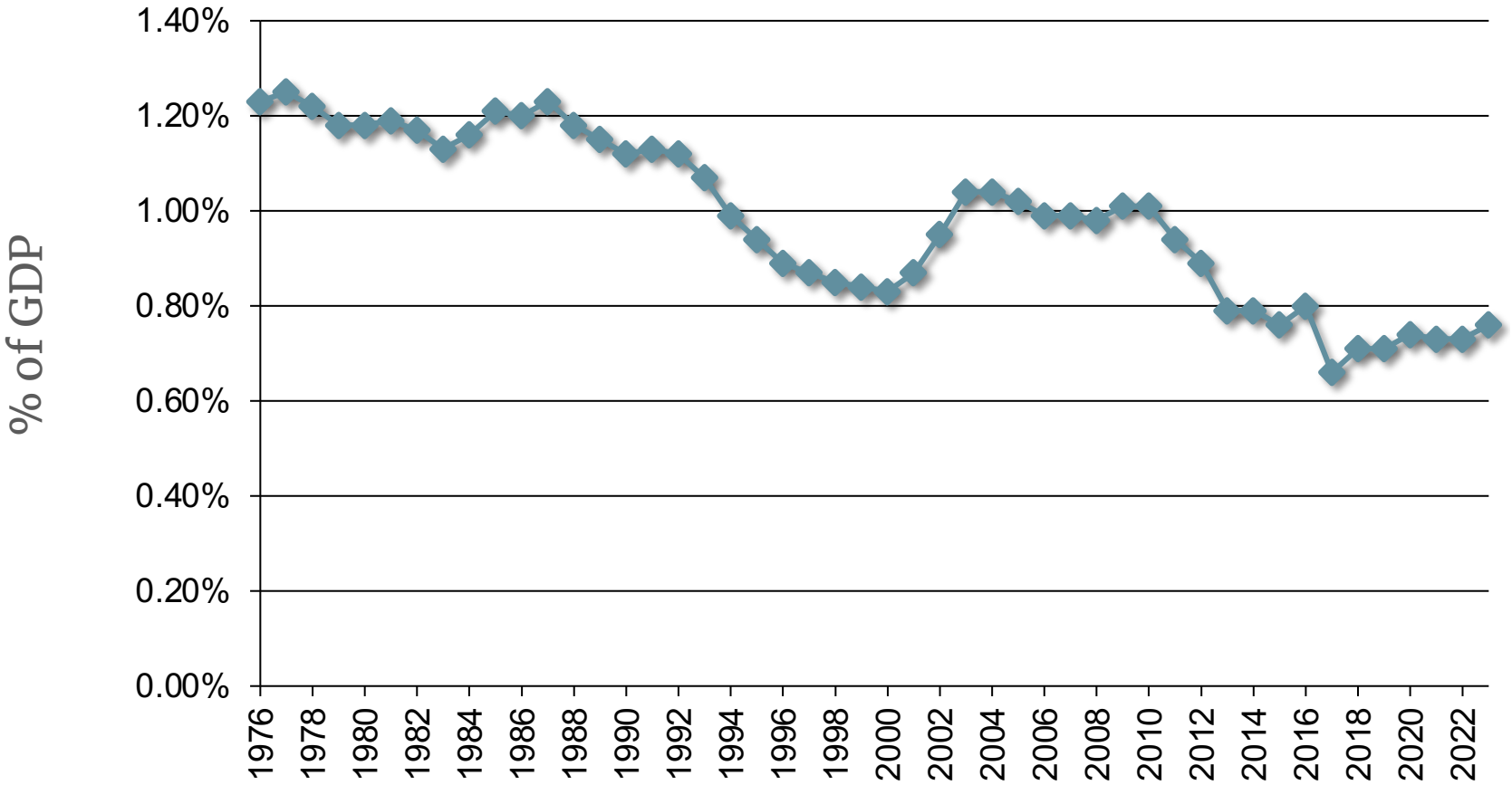
WHY WE ORGANIZE THIS EVENT

- Educate lawmakers about science
- Promote investments in science
- Support advocates for science
- Meetings/tours personalize science

ROLE OF GOVERNMENT IN SCIENCE

- How many grants get funded?
  - Roughly 1 in 5 biological research grants funded
- What disciplines/subdisciplines are prioritized?
- What stages of scientific pipeline are support?
  - More established researchers get more funding
- How much time do researchers spend on paperwork?
- What is taught in science classrooms?

FEDERAL R&D AS SHARE OF GDP



Data provided by AAAS

Federal Funding for Biological Research and Education

YOUR TAX DOLLAR

PRESSURES FROM MANDATORY SPENDING

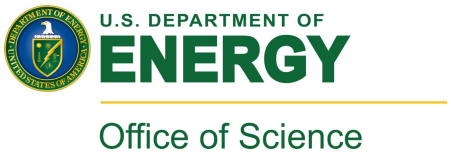
- Mandatory spending
  - Required by law
  - Social Security, Medicare, unemployment insurance, food stamps, salaries for Congress and the President
  - Makes up two-thirds of the entire budget
- Discretionary spending
  - Decided by Congress annually
  - Military, highways, government salaries, foreign aid, National Parks, education, R&D
  - Defense and non-defense

FUNDING BASICS

- Congress controls the purse
- President's budget request is a request

FUNDING BASICS

- No central fund for R&D – myriad of agencies and programs



PRESIDENT'S FY 2024 REQUEST

- Biden released request on March 9
- $1.7 trillion discretionary spending in FY 2024
  - Non-defense: $809 billion (+6 percent)
  - Defense: $886 billion (+3 percent)
  - Proposes significant increases for several federal science agencies and programs

(% relative to FY 2023)

Agency/Program	FY2023 Enacted	President's Request
NSF	$9.9 billion	+15%
DOE Office of Science	$8.1 billion	+9%
EPA Science	$802 million	+21%
NOAA	$6.4 billion	+7%
NIH	$47.7 billion	+2%

Detailed analysis of President's FY 2024 budget request for biological sciences available at: aibs.org/policy/resources

CONGRESSIONAL ACTION

- Debt limit agreement caps on nondefense spending for next two years
- Congress has begun work on appropriations bills for FY 2024
  - House Appropriations Committee has approved 8 of 12 spending bills; Senate panel has approved 5
  - Many science agencies & programs slated for cuts or flat funding
  - Funding levels in legislative proposals are below budget request
- Both chambers need to pass final bills by Sept. 30 (or pass a stopgap funding bill)

FY 2024 BUDGET NUMBERS
(RELATIVE TO FY 2023)

Agency/Program	President's Request	House Bill	Senate Bill
NSF	+15%	-2.5%	-3.8%
NSF- Research and Related Activities	+15%	+0.5%	-2.8%
USGS	+19%	-10%	-
USGS - Ecosystems	+29%	-	-
DOE Office of Science	+9%	flat	-
DOE Science BER	+2.5%	-10%	-
EPA Science and Technology	+21%	-30%	-
NOAA	+7%	-15%	+2%
NIH	+2%	-6%	-
USDA ARS	+9%	-3%	+3.5%
USDA AFRI	+21%	+1%	flat

FUNDING ASKS

FY 2024 Asks for Federal Agencies and Programs:

Agency/Office/Program	Our Ask	President's FY 2024 Request	FY 2023 Enacted
DOE Science	$9.5 billion	$8.8 billion	$8.1 billion
EPA Science & Tech	$968 million	$968 million	$802 million
IMLS	$350 million	$295 million	$295 million
IMLS OMS	$65.5 million	$55.5 million	$55.5 million
NIH	$51 billion	$48.6 billion	$47.5 billion
NOAA	$7.2 billion	$6.8 billion	$6.4 billion
NSF	$11.9 billion	$11.3 billion	$9.9 billion
USDA-AFRI	$500 million	$550 million	$455 million
USDA-ARS	$1.95 billion	$1.9 billion	$1.8 billion
USGS	$1.85 billion	$1.79 billion	$1.5 billion

Available at aibs.org/policy/resources

CHIPS & SCIENCE ACT

- NSF Authorizations
  - Would double NSF authorized budget to $18.9 billion in 5 years
    - FY23: $11.9 billion
    - FY24: $15.7 billion
    - FY25: $16.7 billion
    - FY25: $17.8 billion
    - FY27: $18.9 billion
  - Authorizes new Technology, Innovation, and Partnerships Directorate
  - GRFP funding would grow by 50% over 5 years ($380 M -> $568 M)
- Other notable provisions
  - DOE Science: 5-yr authorization of $50 billion; $10.8 billion in FY27
  - NIST: 5-yr authorization of $10 billion; $2.3 billion in FY27
  - Create a fed. initiative on bioeconomy to advance engineering bio research
  - Expand research on causes & consequences of sexual harassment in STEM

BENEFITS OF IN-DISTRICT MEETINGS

- Legislators can put a face to a name of a facility
- Opportunity for policymakers to see direct benefits for their constituents and district

Scientists meets with Rep. Jody Hice (R-GA)

UNDERSTAND YOUR AUDIENCE

KNOW YOUR AUDIENCE

- Who are they?
- What is their knowledge level?
- What are their interests?
- What are their beliefs?
- Why should they care about what you have to say?
- Do they know they should care?

WHO ARE POLICYMAKERS?

Public Service/Politics

Education

Business

Law

Science and Engineering

CONGRESSIONAL STAFF

- Intelligent, educated
  - College graduates
  - Many have graduate or law degrees
  - Not scientists, unless fellows or on detail from agency
- Age
  - 20's and 30's
- Experience
  - Average time in job is ~ 2 years in Senate, < 1 year in House

DO YOUR HOMEWORK

- Sponsored or co-sponsored legislation
- Op-eds
- Press releases
- Their website
- Search the news (i.e. Google News)
- Hobbies
- Education or professional background
- Family interests

MOTIVATIONS

HEAD

Thoughtful consideration of an issue

HEART

Emotional, personal appeals

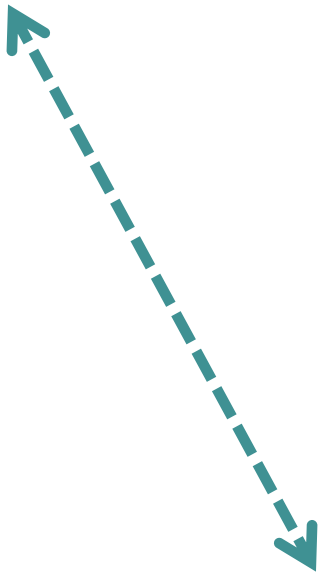
HEALTH

(Political) Health: need to win re-election

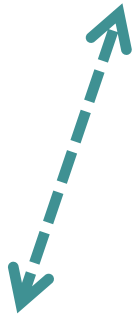
Herd mentality: don't want to be the first one to stick their neck out or the one left holding the bag

WHY SHOULD THEY CARE?

Their current knowledge



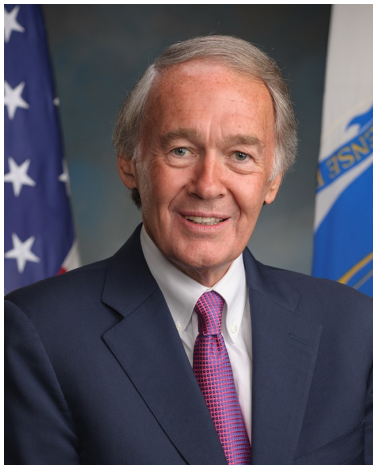
Their perceptions



What you want to share

TAILOR YOUR MESSAGE

...based on the views of your audience.

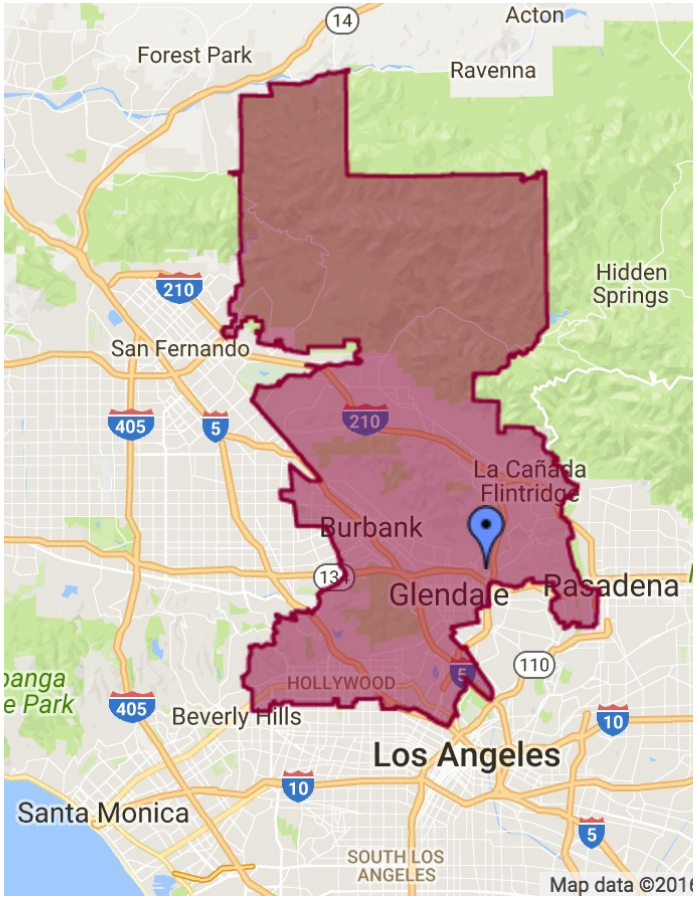


Senator Edward Markey (D-MA)
Favors action on climate change

Senator Tommy Tuberville (R-AL)
Questions climate science
"God changes the climate"

REMEMBER

- All politics are local.



PREPARE MEMORABLE CONTENT

Facts do not necessarily change minds

A NEW COMMUNICATIONS PARADIGM

- Scientists tend to focus on "how"
  - "I use fluorescent labeling and confocal microscopy to study the formation of lignin in plant cell walls."
- We should focus on "why"
  - "I study how plants make their cell walls to improve the efficiency and lower the costs of producing biofuels."
- To put it another way: Think about the big picture and broader implications of your work

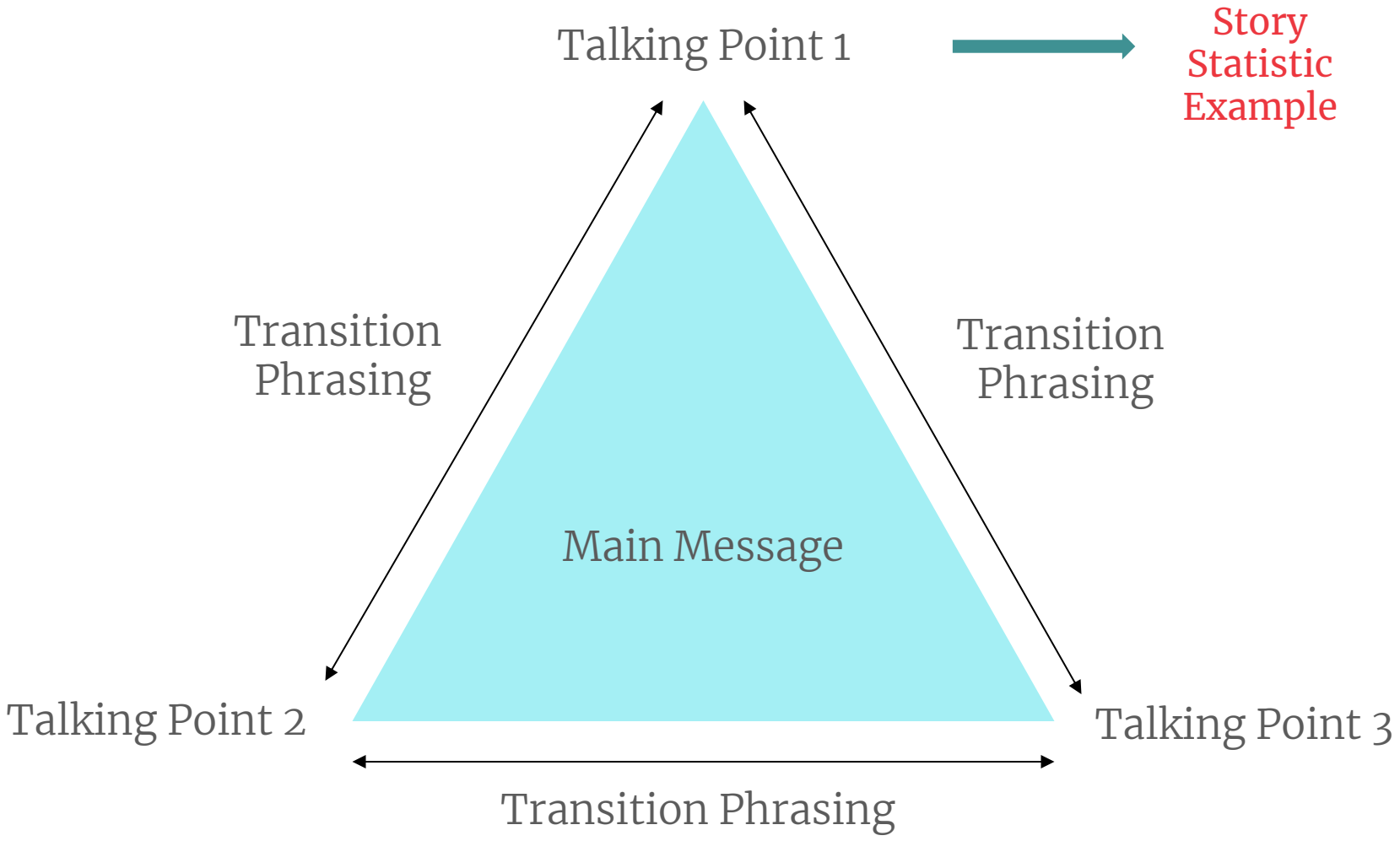
FRAMING YOUR MESSAGE: THE BIG PICTURE

- Economic growth and jobs
- Education
- Environmental sustainability
- Food security
- Human health
- Innovation
- Local connection

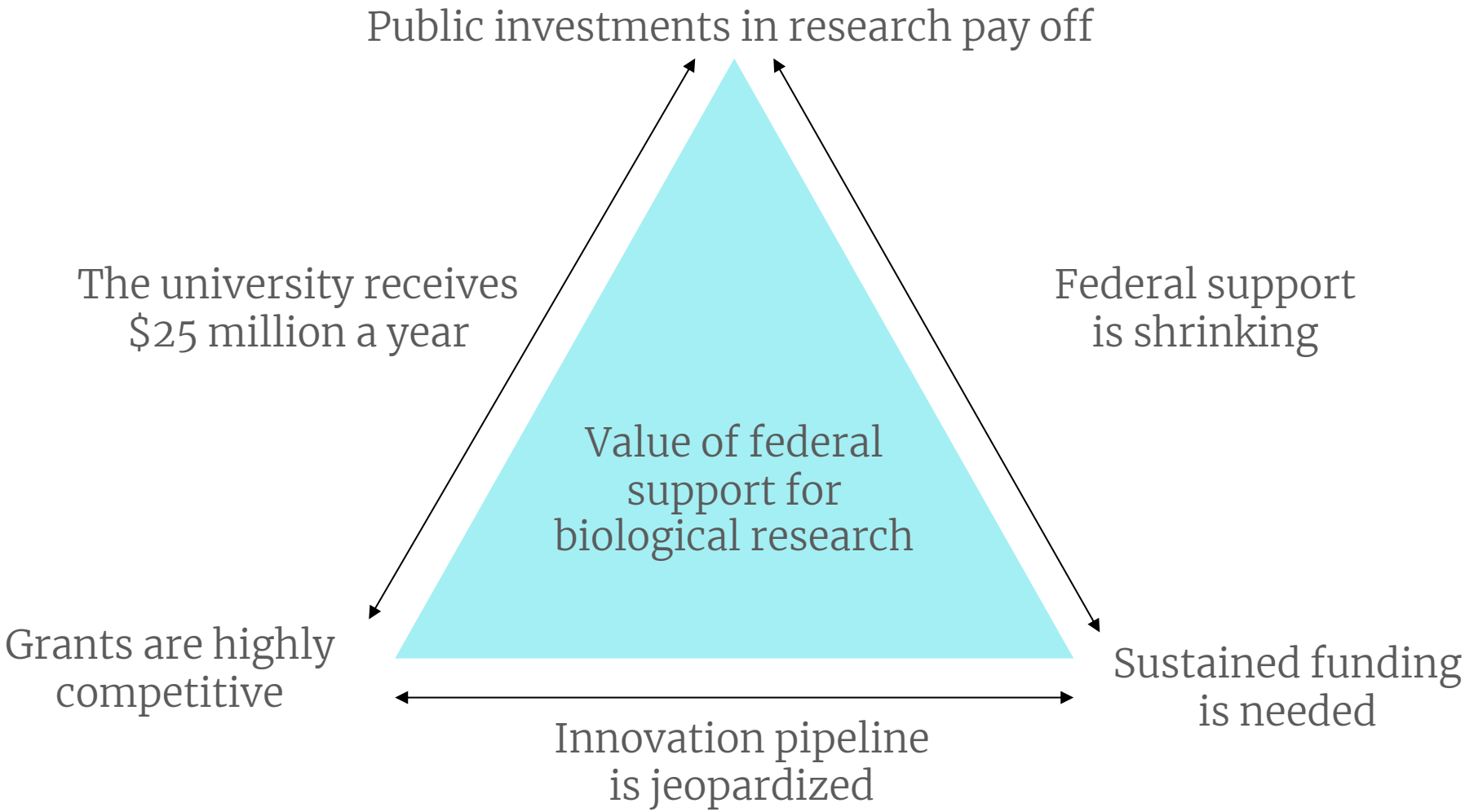
FRAME OF REFERENCE

- Lawmakers are chiefly concerned with how an issue will impact their district and how voters in their district feel about the issue.
- Lawmakers increasingly view issues through an ideological lens.

CRAFTING YOUR MESSAGE

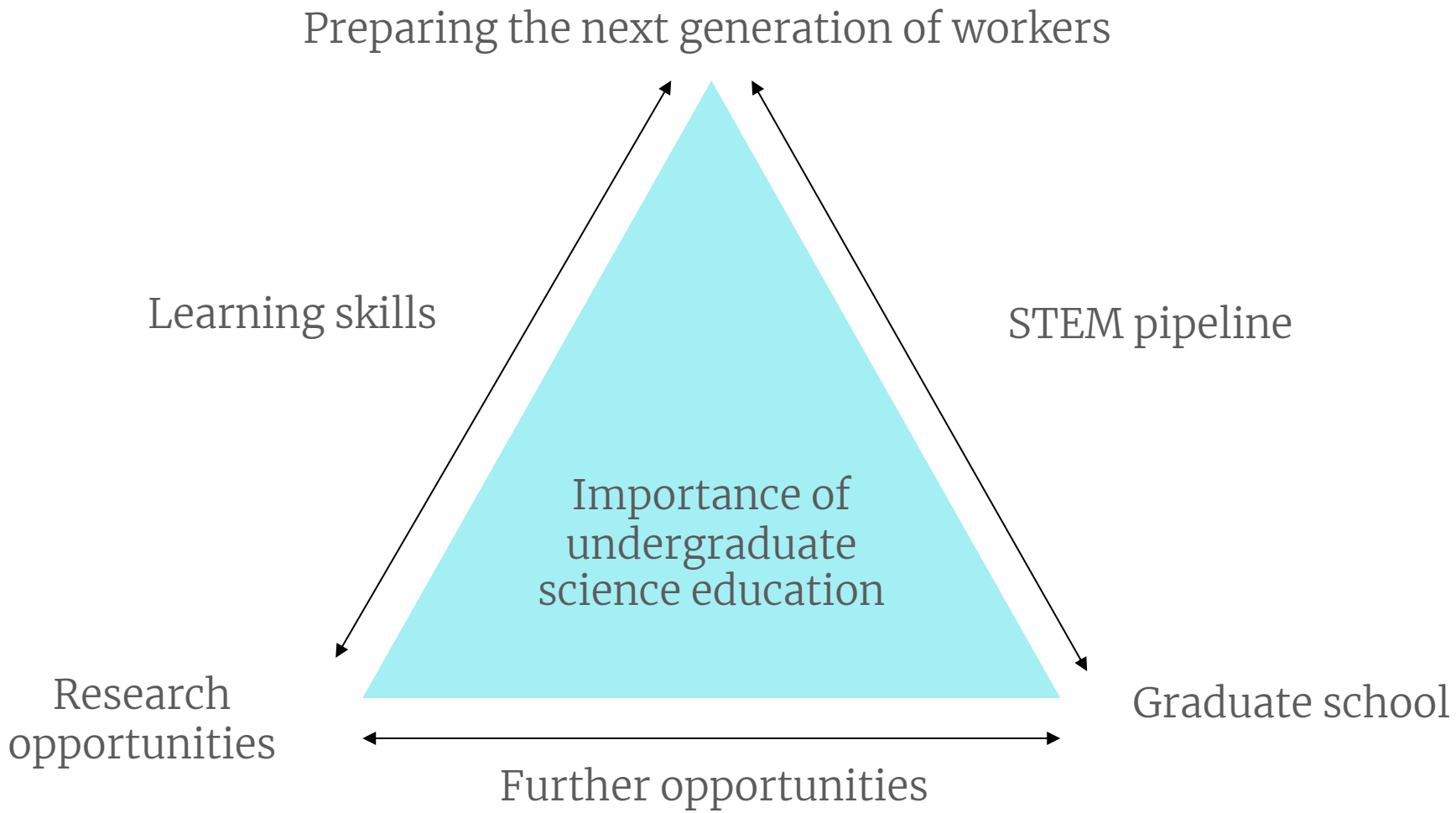


MESSAGE FOR FEDERAL OFFICIAL



 Sample talking points are online

MESSAGE FOR STATE OFFICIAL



MESSAGE CONTENT

- Customize based on your research and interests
- Examples:
  - Funding for NSF Biological Sciences Directorate drives innovation
  - Funding for USDA competitive research grants addresses food security and environmental sustainability
  - Undergraduate research opportunities train the next generation of scientifically skilled workers

OFFICE MEETING STRUCTURE

- Short: 15-30 minutes
- Introduce yourself and members of your group
  - Exchange business cards
- Start with a ‘thank you’
- Communicate your message
- Provide handout(s)
- Allow for dialogue and questions
- Offer to be of service in the future
- Thank them again

USE YOUR HANDOUTS

Available at aibs.org/policy/resources

AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES

WWW.AIBS.ORG
+1.703.674.2500

BIOLOGICAL SCIENCES:

AN INVESTMENT IN AMERICA'S FUTURE

Government investment in scientific research and development fuels innovation, creates jobs, and grows the economy.

BIOLOGICAL RESEARCH IS ESSENTIAL

Biological research funded by the National Science Foundation (NSF) and other federal agencies promotes national security and public well-being by solving pressing challenges, such as improving food security, combating new diseases, and wisely managing natural resources. This federal support helps the U.S. attract and educate the next generation of scientists. Students learn research skills that prepare them for the jobs of today and tomorrow.

NSF's Biological Sciences Directorate provides about 66% of federal grant support for non-medical, fundamental biological research conducted at our universities and nonprofit research centers.

MEETING SOCIETY'S NEEDS

Research increases our understanding of the living world and provides solutions to societal problems.

- Improving human health and combating emerging diseases.
- Increasing food security by developing crops that grow in changing environments.
- Developing new tools and mobilizing big data to spur the development of new research fields.
- Predicting, mitigating, and preparing for the impacts of environmental changes.
- Sustaining biodiversity and healthy ecosystems that underpin the livelihoods of communities.
- Fueling the economy by improving the sustainability of domestic energy sources.

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PLACE-BASED BIOLOGICAL RESEARCH

Every day, biological and environmental research and education programs take place at more than 1,100 sites around the nation. Whether at a field station, a natural science collection, or a zoo, aquarium, or botanic garden, place-based science provides insights into our nation's most pressing issues.

TYPES OF INSTITUTIONS

FIELD STATIONS

Research stations across the country further our understanding of local living and non-living resources, monitor long-term environmental changes, and develop remediation and restoration techniques for degraded ecosystems. Although many field stations are affiliated with universities, some are partnered with federal programs, such as the National Science Foundation's (NSF) Long-Term Ecological Research Network.

NATURAL HISTORY MUSEUMS

Natural science collections, consisting of plants, animals, rocks, soil, and tissue and cell cultures, are libraries of Earth's history. These irreplaceable resources inform our understanding of past and present life on earth and our response to important problems, such as conserving biological diversity, combating the spread of invasive species, and informing public health responses to emerging diseases.

ZOOS, AQUARIA, AND BOTANIC GARDENS

These institutions expose the public to the diversity of our natural world and, in many cases, conduct genetics and biological conservation research. Each year, education programs at zoos, aquaria, and botanic gardens educate over 50 million students and train thousands of teachers.

OUR NATION BENEFITS FROM PLACE-BASED SCIENCE

Place-based research instiutions benefit local communities, states, and the nation. Research conducted at these facilities informs policymakers, creates jobs, and helps educate students and the public at large. The limited federal support for these institutions is spread across the budgets of many agencies, including NSF, the Departments of Agriculture, Energy, and Interior, the Institute of Museum and Library Services, and the National Institutes of Health.

OFFICE MEETING STRUCTURE

- Short: 15-30 minutes
- Introduce yourself and members of your group
  - Exchange business cards
- Start with a ‘thank you’
- Communicate your message
- Provide handout(s)
- Allow for dialogue and questions
- Offer to be of service in the future
- Thank them again

VIRTUAL MEETINGS

- Join or start the call 5-10 minutes early, but expect to wait
  - Send a meeting reminder
- Each meeting will typically last about 15-30 minutes
- Introduce yourself and members of your group
- Start with a thank you & get to the point quickly
- Coordinate talking points if meeting as a group
- No PPTs! But you can share an infographic/image*
- One-page leave behind can be shared by email
- Allow for dialogue and questions
- Offer to be of service in the future
- Thank them again

*Sample infographic available at aibs.org/policy/resources

LEARN FROM THE CONVERSATION

- Where the policymaker is on the issue?
- What are their concerns?
- Who else are they hearing from?
- Who do they need to hear from to be supportive?

RELATIONSHIP BUILDING

EXAMPLE MEETING

- Watch online at aibs.org/policy/resources
- Or go to www.aibs.org > Policy > Resources

TOUR OF RESEARCH FACILITY

- Coordinate appropriate length tour
- Appropriate meeting place
- Decide route/stops in advance
- Coordinate talking points and timing among speakers
- Get government relations involved

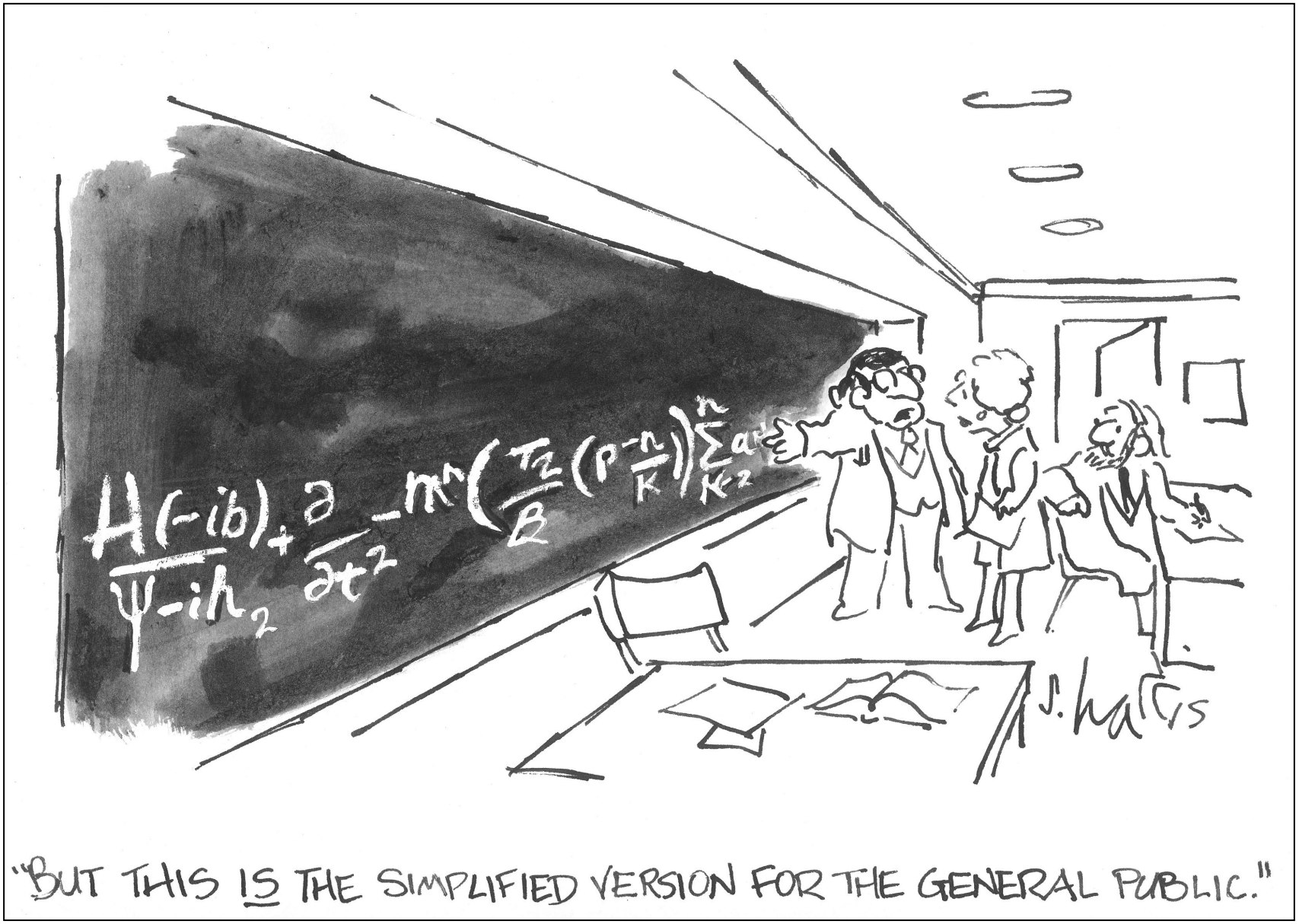
See more tips for a tour on our handout

PREPARATION

- Learn about your legislator
- Research economic and societal benefits
  - Our state receives $80 million a year in NSF grants
  - The department trains 15 graduate students each year
  - Use a personal example
- Anticipate questions on the policy implications of your research
- Anticipate arguments of opponents
  - Cost of implementation
  - Fundamental doubts about the science

TIPS FOR EFFECTIVE COMMUNICATION

- Be prepared and succinct
- Stay on message
  - Repetition is the key to being heard
  - Answer questions and bring focus back to main points
- Be conversational
  - Offer short anecdotes and facts that illustrate your key points
  - Avoid scientific jargon and acronyms
  - Explain things as you would to an undergraduate
- Be respectful, positive, and attentive
  - Don't monopolize, patronize, or complain


"BUT THIS IS THE SIMPLIFIED VERSION FOR THE GENERAL PUBLIC."

PITFALLS TO AVOID

- Avoid partisanship
  - If a question is outside your area of expertise, offer to contact an appropriate expert
- Clarify your opinion versus those of your organization
- Don't:
  - Overload with information and papers
  - Make unrealistic demands
  - Suggest a program to cut to increase funding for yours
- Staff are important: they advise the lawmaker

DRESS APPROPRIATELY

Photo credits: Julie Palakovich Carr and and JP Lawrence

DRESS APPROPRIATELY

Photo credits: Ben Delp and Teresa Mayfield

MEETING SCHEDULING

- Expect an email from me within two weeks. Sooner if you want to meet in August.
- Please respond to my email in a timely manner.
- I will submit the initial meeting request.
- Lawmaker's office will contact you directly to set the date/time.
- If you don't hear anything, I will follow up.

POST MEETING

- Write a thank you note or email
- Follow up with any requests for information
- Let me know how your meeting went
  - Share pictures
  - jpandey@aibs.org
  - Twitter: Tag us @AIBSbiology (#BSCDV2023)

STAY ENGAGED

- Join the AIBS Legislative Action Center
  - Online tool to communicate with your elected officials, track science legislation, and more
  - aibs.org/policy/action
- Sign up for the AIBS Public Policy Report
  - Bi-weekly science policy news and analysis
  - aibs.org/policy/

THANK YOU!

ASP

ASPT

Botanical Society Of America

Natural
Science
Collections
Alliance

Paleontological
SOCIETY

OBFS

SPNHC

QUESTIONS?

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Event page: IO.AIBS.ORG/CDV

Resources: aibs.org/policy/resources