

HIGHLIGHTS

The US Department of the Interior (DOI) is responsible for protecting and preserving our public land and serves as trustee for our nation's Indigenous peoples. The Union of Concerned Scientists (UCS) has compiled actions the CDC should take to make improvements to the scientific integrity of the agency, including:

- *Ensuring there is sufficient scientific expertise to carry out the science-based mission of the DOI.*
- *Ensuring that DOI decisions are informed by the best available science to protect the nation's cultural and natural resources as well as public health and safety.*
- *Combating self-censorship and ensuring that scientists at the DOI are explicitly aware of their communication rights.*
- *Preventing violations of scientific integrity from occurring.*

Strengthening Scientific Integrity at the Department of the Interior

Recommendations for 2021 and Beyond

The US Department of the Interior (DOI) manages a huge swath of the nation's mountains, oceans, and forests, as well as countless natural and cultural treasures. The department is responsible for preserving our parks, wildlife, and public lands and serves as the trustee for Indigenous peoples (DOI n.d.a). DOI decisions affect the future of all these treasured resources, as well as public health, public safety, and the country's response to climate change.

DOI decisions rely heavily on scientific evidence and the many scientists the agency employs to conduct activities that yield such evidence. Science-informed decisions have benefited the public in many ways, including ensuring the survival of endangered species; protecting the health of communities living near mining operations and other toxic industrial sites; and continuing research on effective response to earthquakes, floods, and other natural disasters (Center for Biological Diversity n.d.; DOI 2017; USGS n.d.).

When science is sidelined from DOI decisions, it threatens the benefits and protections the agency provides to the public (Carter et al. 2018). A rise in such cases has become more common in recent years, paralleling shortcomings in the content and implementation of the formal scientific integrity (SI) policies of the department and its many offices and bureaus. In recent years, particularly since 2017, there has been a spike in cases where science has been marginalized or politicized, often in direct violation of agency policy (Carter et al. 2018). Scientists have been censored from communicating their work to the public, scientific memos and publications have been undermined or ignored, and scientific reports have been stymied (UCS 2018; UCS 2020; UCS 2019a).



In addition to preserving and protecting our public lands and parks, the DOI is responsible as a trustee for the nation's Indigenous peoples. It is imperative that the agency take steps to improve scientific integrity in order protect federal and Indigenous lands from pollution and industry. Here, DOI officials and Indigenous leaders celebrate the designation of the Mojave Trails National Monument in New Mexico, in February 2016.

These violations of scientific integrity underline a need for stronger science-based decisionmaking processes to ensure that the DOI can fulfill its mission of protecting the nation's cultural and natural resources and provide the public with accurate scientific information. Given this important mission, the DOI should consider the recommendations that follow.

Since 2017, there has been a spike in cases where science has been marginalized or politicized, often in direct violation of agency policy.

Promoting Science-Based Decisionmaking

The DOI depends on the work of scientists inside and outside the agency to produce scientific evidence to inform decisions. However, political officials have brushed aside many scientific studies without adequate reason. In 2017, the DOI halted two studies being conducted by the National Academies of Science, Engineering, and Medicine (UCS 2017a). In 2019, political officials failed to recognize multiple memos from scientists about proposed oil and gas exploration activities in the Arctic National Wildlife Refuge and their connection to an environmental assessment (UCS 2019b). Moreover, in a 2018 survey of federal scientists conducted by the Union of Concerned Scientists (UCS) and Iowa State University, DOI scientists reported limited staff capacity as a barrier to fulfilling the agency's science-based mission (Goldman et al. 2020).

The DOI should consider the following actions to promote science-based decisionmaking in several key areas.

To ensure there is sufficient scientific expertise to carry out the science-based mission of the DOI, the department should increase the agency's scientific capacity:

- Lift hiring freezes on career-level scientific positions and work with the Office of Personnel Management as well as Human Resources to fast-track the hiring process for scientific new hires.
- Increase the number of pathways and opportunities for science, technology, engineering, and mathematics (STEM) graduates to pursue careers in federal science:
 - Increase the number of fellowship positions in STEM across the agency.

- Investigate and implement programs that would allow students near graduation to work with federal scientists, thus encouraging young scientists to enter careers related to science policy.
- Evaluate qualifications criteria for scientific positions to ensure qualified hires. The agency should provide a certificate of qualification for HR staff who demonstrate they understand the elements of a qualified person applying for a scientific position.
- Ensure that managers who oversee scientists receive science-literacy training to ensure an understanding of the role and methods of agency scientists and the importance of scientific integrity.

To promote transparency and accountability in science-based decisionmaking processes, DOI leadership should develop a policy on differing scientific opinions that details a conflict-resolution process:

- The policy should encourage individuals to voice their professional opinions on issues, decisions, or policies relevant to their work, even when they differ from the views of other staff, disagree with management, or diverge from proposed or established practices and positions. The application of a formal differing-opinions policy should be reserved for individuals who are or have been substantively engaged in scientific or technical work that informs specific agency decisions, actions, or policies with which the individuals disagree.
- Outline clear steps for individuals to formally voice differing scientific opinions regarding issues, decisions, or policies on which they have been substantively engaged. These steps should include guidance on when such actions are necessary, when and how employees should take such actions, and to whom employees should submit differing scientific opinions.

To ensure that DOI decisions are informed by the best available science to protect the nation's cultural and natural resources as well as public health and safety, the agency should reinstate or rescind the following policies:

- Reinstate Director's Order #100, "Resource Stewardship for the 21st Century" (NPS 2016). This order promoted science-based decisionmaking to preserve national parks.
- Reinstate the 2015 rule, "Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands (80 FR 16127)."¹¹ This rule relied on the best available science to mitigate the health and environmental risks from hydraulic fracking.



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Then-DOI-Secretary Zinke on his “listening tour” of Bears Ears National Monument with Utah Governor Gary Herbert in May 2017. The DOI is charged with preserving our public lands, but Zinke ultimately persuaded President Trump to shrink Bears Ears by 85 percent, the largest reduction of public land protection in US history.

- Rescind revisions to the 2016 blowout preventer system and well-control rule (84 FR 21908).² The revised rule fails to consider the best available science for worker safety on offshore oil rigs.
- Rescind revisions to processes in implementing the Endangered Species Act, sections 4 and 7 (84 FR 45020, 84 FR 44753, and 84 FR 44976).³ These alterations are inconsistent with the act’s legal obligation to base listing decisions solely on the best available science.
- Rescind the “Rescinding Authorities Inconsistent with Secretary’s Order 3349, ‘American Energy Independence’” Secretarial Order 3360 (Bernhardt 2017a). The order rescinded many science-based policies aimed at enhancing conservation and thwarting climate change.
- Rescind the “Promoting Open Science” Secretarial Order 3369 (Bernhardt 2017b). The order restricts many scientific studies from informing DOI decisions.
- Rescind an agency memo allowing the use of neonicotinoid pesticides (Green 2018). The memo failed to recognize scientific evidence that such pesticides lead to high mortality rates in bees and other species.

- Rescind an agency memo requiring scientists to seek permission from supervisors to submit interagency comments. This memo restricts scientists from communicating their work and weakens interagency collaboration.

To ensure that independent science continues to inform decisionmaking, the DOI should continue seeking input from scientists outside the department and restore research on two studies begun by the National Academies of Science, Engineering, and Medicine:

- A study investigating the public health effects of mountaintop-removal coal mining (UCS 2017b).
- A study investigating the safety of workers on offshore oil rigs (UCS 2017c).

DOI scientists reported limited staff capacity as a barrier to fulfilling the agency’s mission.

Ensuring Unimpeded Communication of Science

Explicit in the DOI's mission statement is the communication of scientific information to the public. However, political officials at the DOI have censored or altered its scientists' communications in many cases. For example, in 2017 the United States Geological Survey (USGS) released a memo regarding a climate change study, but the agency asked scientists to delete a crucial sentence linking climate change to sea level rise (UCS 2017d).

The DOI should take the following actions to protect scientists' ability to effectively communicate their work with the public.

Political officials at the DOI have censored or altered its scientists' communications.

To combat self-censorship and ensure that DOI scientists are explicitly aware of their communication rights:

- The DOI's SI officials should reinforce, in their public communications with department scientists (such as in memos and talks), the importance of the department's SI and communication policies and the right of DOI scientists to speak to the news media or the public about their official work on behalf of the DOI.
 - The SI officials should develop and implement training for scientists and public affairs staff about their rights and responsibilities regarding scientific communications.
 - The SI officials should consistently check in with scientific staff to ensure they understand their rights of communication.
 - The SI officials should reinforce that scientists are responsible for informing and notifying their supervisors and public affairs personnel regarding significant actions that have the potential to generate public interest or media attention, and that they are encouraged but not required to do so.
- Political officials should reaffirm, in their public communications with department scientists (e.g., in memos and talks), the importance of the SI and communications

policies and explicitly reinforce that public affairs employees will:

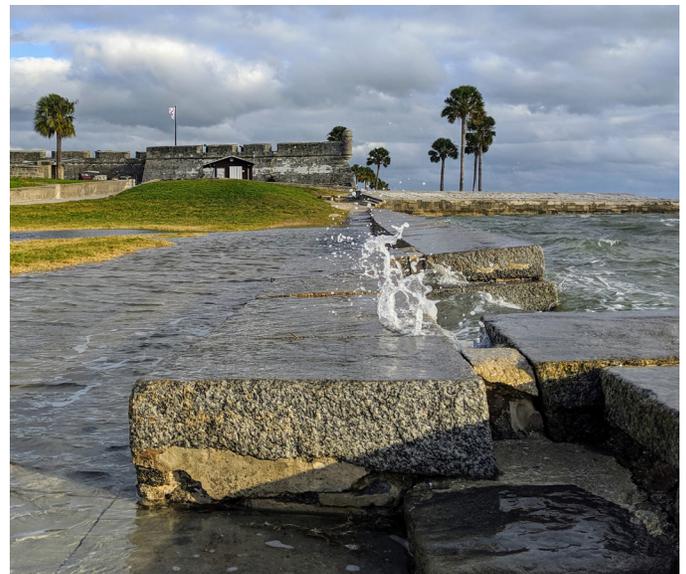
- Not alter the substance of scientific, scholarly or technical information.
- Provide news releases for review by subject matter experts prior to issuing them.
- Never ask or direct federal scientists to alter their scientific findings.

Strengthening the Scientific Integrity Policy

The DOI has a strong SI policy overseen by SI officials, but the policy leaves room for improvement. For example, it is missing key provisions that would ensure that scientific information is not suppressed or delayed due to political reasons, give scientists the last right of review on public communication of their work, and establish a process to resolve differing scientific opinions.

To prevent violations of scientific integrity from occurring, the DOI should amend its SI policy to include these provisions:

- Guarantee scientists the right of last review and their ability to approve and comment publicly on the final version of any scientific document that relies on their research or identifies them as a contributor.
- Detail the protections for and rights of whistleblowers.



Science shows that sea level rise, shown here at Castillo de San Marcos National Monument, is caused by climate change. In 2017, the DOI censored scientists' communications about a climate change study, asking them to delete a crucial sentence about sea level rise.

- Disseminate scientific information, reports, and publications in a timely fashion. The policy should stipulate that political interference resulting in suppression or an inappropriate delay of scientific work is a violation of scientific integrity.
- Ensure the objectivity of the DOI's scientific federal advisory committees. The SI policy should include information regarding the governance of the department's scientific federal advisory committees.
- Create anonymous and informal pathways to ensure that scientists can raise SI concerns with SI officials while minimizing risks of retaliation.

Addressing Conflicts of Interests

The use of science to inform decisions affecting the public should be as unbiased as possible: the science should be independent (i.e., free of political, ideological, or financial influence) and should speak for itself. When decisionmakers' biases align with policy choices unsupported by science, it puts the safety and health of people and the environment at risk. Such conflicts of interests have occasionally seeped into the DOI's policymaking fabric; in recent years, they have become the norm. Most DOI political appointees since the beginning of 2017 have been former lobbyists for oil and gas companies, an industry that the department oversees and regulates (Williams and Smith 2017).

To ensure that science-based decisions can rely on independent science, DOI leadership should take the following actions:

- The secretary should issue a directive requiring that scientific leadership positions are filled by individuals with specialized training or significant experience relevant to the positions for which they are nominated, such as the requirements specified in US Code Title 7 for the Department of Agriculture's chief scientist.⁴ The agency should seek to have the directive codified to ensure that scientific leadership positions continue to be filled by qualified experts.
- Require and have the inspector general enforce decisionmakers to recuse themselves from scientific discussions for which they have a direct conflict of interest.
- Publicly disclose conflicts of interests and recusal statements of all political officials in a timely manner as required by the DOI's Departmental Ethics Office.
- Clarify criteria for appointing advisory committee members as individuals or as organizational

representatives and ensure the proper level of scrutiny for conflicts of interest.

- To ensure that the agency has an effective and independent system of peer review, the Office of Chief Information Officer should work to incorporate the following provisions in the DOI's *Peer Review Handbook* (DOI n.d.b):
 - Require that everyone involved in peer review—including reviewers, government contractors, and agency staff administering the peer review process—disclose financial ties to institutions potentially affected by the review.
 - Require that scientists involved in peer reviews of DOI scientific documents be technically qualified and that agencies use at least one external peer reviewer whenever possible.
 - Require that peer reviewers' substantive comments on scientific documents and agencies' responses to those comments be made publicly available, while protecting the anonymity of reviewers.

Conclusion

The DOI protects and manages our natural resources on behalf of the public, and through its stewardship of parks and historic sites, our cultural heritage. It also provides scientific information about those resources and fulfills commitments made by the US government to Indigenous peoples—duties that are explicitly stated in the department's mission statement. The DOI oversees around 500 million acres of public land and more than 1.5 billion acres of submerged land. It manages these lands and waters for the benefit and enjoyment of everyone, making them available for recreation, wildlife conservation, and scientific study, among other uses. The department's actions have long improved the health, safety, and well-being of people in the United States.

The science-informed policies that DOI enacts help provide people with these benefits. However, as science has been sidelined at the DOI, damage is mounting in the form of harm to public lands, public health and safety, and the country's wildlife and habitats. Left unchecked, the effects will take decades to repair, and yet the consequences of climate change are already upon us. We have no time to lose—the DOI must act now to ensure that science remains a critical part of its decision-making processes.

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ENDNOTES

- 1 Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands. *Federal Register*, 80 FR 16127. <https://www.govinfo.gov/app/details/FR-2015-03-26/2015-06658>
- 2 Oil and Gas and Sulfur Operations in the Outer Continental Shelf-Blowout Preventer Systems and Well Control Revisions. *Federal Register*, 80 FR 21908. <https://www.govinfo.gov/app/details/FR-2019-05-15/2019-09362>
- 3 “Endangered and Threatened Wildlife and Plants; Regulations for Listing Species and Designating Critical Habitat.” *Federal Register*, FR 45020. <https://www.federalregister.gov/documents/2019/08/27/2019-17518/endangered-and-threatened-wildlife-and-plants-regulations-for-listing-species-and-designating>; “Endangered and Threatened Wildlife and Plants; Regulations for Prohibitions to Threatened Wildlife and Plants.” *Federal Register*, FR 44753. <https://www.federalregister.gov/documents/2019/08/27/2019-17519/endangered-and-threatened-wildlife-and-plants-regulations-for-prohibitions-to-threatened-wildlife>; “Endangered and Threatened Wildlife and Plants; Regulations for Interagency Cooperation.” *Federal Register*, DR 44976. <https://www.federalregister.gov/documents/2019/08/27/2019-17517/endangered-and-threatened-wildlife-and-plants-regulations-for-interagency-cooperation>
- 4 7 U.S. Code Title 7— AGRICULTURE. <https://www.law.cornell.edu/uscode/text/7>

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