

# The State of Science in the Trump Era

*Damage Done, Lessons Learned,  
and a Path to Progress*





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January 2019

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The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet's most pressing problems. Joining with citizens across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

The Center for Science and Democracy at UCS works to strengthen American democracy by advancing the essential role of science, evidence-based decision making, and constructive debate as a means to improve the health, security, and prosperity of all people.

More information about UCS and the Center for Science and Democracy is available on the UCS website: [www.ucsusa.org](http://www.ucsusa.org)

This report is available online (in PDF format) at [www.ucsusa.org/ScienceUnderTrump](http://www.ucsusa.org/ScienceUnderTrump)

Designed by: Tyler Kemp-Benedict  
Cover photo: Audrey Eyring/UCS  
Printed on recycled paper

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## [ ACKNOWLEDGMENTS ]

This report was made possible by the support of the Bauman Foundation, the Broad Reach Fund, Common Sense Fund, the Nathan Cummings Foundation, the Doris Duke Charitable Foundation, the Bernard F. and Alva B. Gimbel Foundation, the John D. and Catherine T. MacArthur Foundation, the David and Lucile Packard Foundation, the Rauch Foundation, the Rockefeller Foundation, the Walton Family Foundation, Wilburforce Foundation, and UCS members.

The authors would like to thank the many individuals who provided input and context for this report. We would like to thank the many UCS staff members who contributed to this report: Rachel Cleetus, Dave Cooke, Cynthia DeRocco, Audrey Eyring, Danielle Fox, Michael Halpern, Matt Heid, Yogin Kothari, Seth Michaels, Brian Middleton, Joanna Nadeau, Kathleen Rest, Andrew Rosenberg, Erika Spanger-Siegfried, Karen Perry Stillerman, and Bryan Wadsworth. Finally, we would like to thank Marc Miller for his editing and Tyler Kemp-Benedict for their design. Organization affiliations are listed for identification purposes only.

The opinions expressed herein do not necessarily reflect those of the organizations that funded the work or the individuals who reviewed it. The Union of Concerned Scientists bears sole responsibility for the report's content.



## Introduction

Throughout its first two years, the Trump administration has sidelined science in its handling of critical public health and environmental decisionmaking, a record the Union of Concerned Scientists (UCS) first documented six months after President Donald Trump's inauguration (Carter et al. 2017). However, UCS also has found that the level of political interference in science varies by agency and issue, and both the courts and sustained pressure from scientists and their allies have prevented or restrained some of the worst abuses to date (Carter et al. 2017).

The administration has compromised our nation's ability to meet current and future public health and environmental challenges, and it continues to erode science across the federal landscape. Administration officials are undermining the use of science in making policies designed to protect the public health and our environment. They are excluding scientists from decisionmaking processes, compromising or disbanding science advisory committees, leaving scientific political-appointee positions vacant, and reducing the voice and effectiveness of agency professional staff. Further, the administration is radically weakening processes that guide the use of science in policymaking: it is limiting what scientific evidence policymakers can and cannot use, politicizing the scientific grant-review process, reducing data collection, and weakening enforcement of science-based public health and environmental laws. Leading these efforts are individuals with limited scientific credentials and significant conflicts of interest, including direct ties to the industries that agencies are supposed to regulate.

Even where science-based policies remain in place, the administration often refuses to enforce them. For example, in November 2018, the Environmental Data and

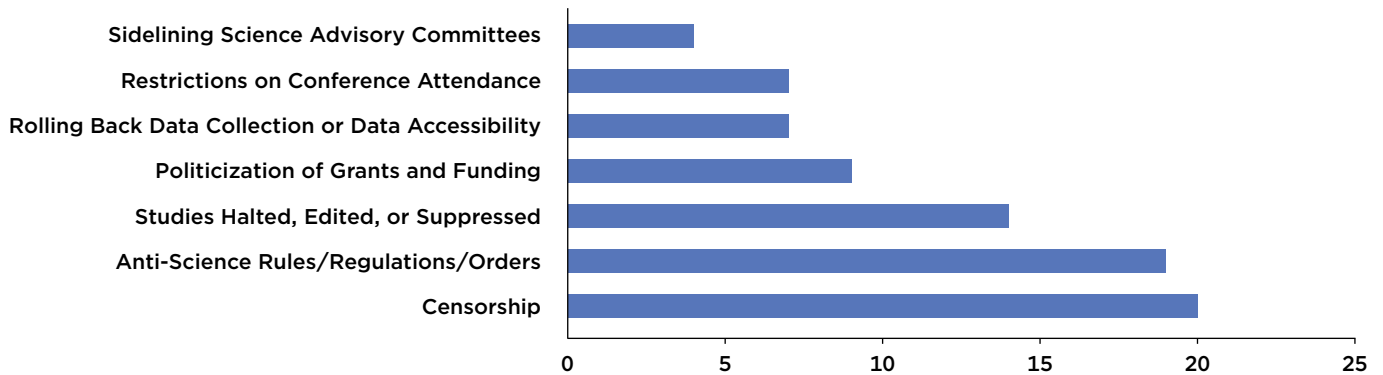
***The administration has compromised our nation's ability to meet current and future public health and environmental challenges.***

Governance Initiative reported that civil enforcement by the Environmental Protection Agency (EPA) is at its lowest point in the past 10 years (Fredrickson et al. 2018).

Multiple public interest and science advocates are tracking the administration's treatment of science and the results are alarming. UCS has logged a depressing 80 attacks on science to date (Figure 1, p. 2). A 2018 report written and endorsed by a broad swath of environmental, public health, and good-government organizations documented dozens of examples of the sidelining of science (Climate Science Legal Defense Fund et al. 2018). And the Silencing Science Tracker, maintained jointly since the 2016 election by the Columbia Law School's Sabin Center for Climate Change Law and the Climate Science Legal Defense Fund, lists hundreds of "government attempts to restrict or prohibit scientific research, education or discussion, or the publication or use of scientific information" (Columbia Law School 2018).

Analysis of political pressures on science over multiple administrations demonstrates that the scale and scope of attacks on science is unprecedented (Berman and Carter 2018). The Trump administration's anti-science actions impact

FIGURE 1. Attacks on Science in the First Two Years of the Trump Administration



The Union of Concerned Scientists has documented 80 attacks on science during the first two years of the Trump administration, including censorship of scientific language, a lack of consideration of science in the proposal or rollback of regulations, and the suppression, cancellation, and alteration of scientific studies. For a full list of the attacks, see the appendix at [www.ucsusa.org/ScienceUnderTrump](http://www.ucsusa.org/ScienceUnderTrump).

the health and safety of people on a daily basis, and the damage will persist for years to come. For example, the failure to consider the science of sea level rise and extreme precipitation in the rollback of Executive Order 13690, even as record-breaking hurricanes and tropical storms pummel the US coastline, is especially short-sighted and has the potential to increase the costs and harms from future storms and extreme flooding events (Obama 2015; Cleetus 2017; and Dahl 2017). Reduced scientific input into implementation of the Clean Air Act will erode air quality protections and increase pollution, which will be particularly detrimental to the millions of people in this country already suffering from heart and lung ailments and could put many more at risk of developing them. The administration also has actively fought the incorporation of long-established climate change science in government decisions, and has sought to undermine the latest dire warnings in the *Intergovernmental Panel on Climate Change’s Special Report on Global Warming of 1.5°C* issued in October 2018 (Miller and Croft 2018) and the Trump administration’s own *Fourth National Climate Assessment*, released a month later.

**Even where science-based policies remain in place, the administration often refuses to enforce them.**

However, scientists and science advocates have not been silent. They have blunted numerous attacks on science, pushing back through Congress and the courts and taking their case directly to the American people. On multiple occasions, the scientific community and its allies have defeated the appointment of federal agency officials with conflicts of interest, defended critical science-based public protections, and prevented the administration from reducing important data-collection efforts.

Now, beginning in January 2019, the 116th Congress can add an urgently needed check on administration actions. Congress has power to investigate attacks on science, defend the vital role of science in federal decisionmaking, and mandate increased protections for federal scientists. They have the power of the purse and must ensure that federal science and research remains well-funded, despite



The 116th Congress represents a new opportunity to push for oversight of the Trump administration’s attacks on science.

repeated attempts by the administration to cut budgets and staffing related to science. They should also demand that those nominated to lead federal agencies acknowledge and act upon the latest science.

Oversight by Congress, as well as by the public interest community, can have an impact on the conduct of agency leaders. As a 2018 UCS survey of federal scientists found, their actions directly affect the use of science in decisionmaking (Carter, Goldman, and Johnson 2018). Scientists reported lower levels of political interference at the Centers for Disease Control and Prevention (CDC), the National Oceanic and Atmospheric Administration (NOAA), and the Food and Drug Administration (FDA), where agency leaders have been relatively respectful of science compared with their colleagues in other agencies.

Even the alarmingly large number of vacancies in science leadership positions in the federal government creates an opening for change. This administration can appoint, and the Senate can confirm, leaders who commit to retaining and strengthening the role of science in policy decisions.

### **The Risks of Political Interference in Science**

Government scientists have a long-standing record of advancing the nation's health, safety, and prosperity. Every day, they work to protect the public from harm, preserve our critical environmental resources, ensure that our children and grandchildren will experience the beauty of the American landscape, and both address and anticipate crucial public health and environmental threats and challenges. Government scientists have improved the accuracy of weather predictions, giving the public and emergency responders more warning than ever before of dangerous storms and other natural disasters. Research by federal scientists helps keep the food we eat free from contamination. And government scientists help identify the source and prevent the spread of infectious diseases, while also improving the response to future outbreaks.

Interference with the science used to inform policymaking processes puts people at risk, risks that are spread unevenly across the nation's population. Children, elders, and people with chronic illnesses are particularly vulnerable to environmental hazards. Often, it is the most disenfranchised people whose health and safety are affected most. For example, one in six African American children has asthma, and 68 percent of African Americans live within 30 miles of a coal-fired power plant—and its emissions (Yearwood 2015). It is expected that women will bear the brunt of the impacts of climate change, even though they are often excluded from decisionmaking processes on that issue (Nagel 2016).

The Trump administration exhibits little awareness of or interest in such disparities and injustices. To give just one example, this administration has lowered the priority of the Environmental Justice Office of the EPA as well as other key offices that address these very issues (Dennis 2017).

Federal science improves our everyday lives. Science-based safeguards mean we breathe cleaner air and drink cleaner water, use safer products, live longer and healthier lives due to vaccinations and public health interventions, and gain protection from many of the most harmful chemicals. Reaping such benefits is especially important given critical challenges confronting our society—toxic pollution, inequities in public health and safety, emerging and established diseases such as Zika and HIV, and climate change. These threats are urgent. We cannot afford to reverse scientific progress.

***Interference with the science used to inform policymaking processes puts people at risk, risks that are spread unevenly across the nation's population.***

### **Scientists and Their Supporters Push Back**

The Trump administration is not the first to undermine science when doing so suits its priorities. Dating at least back to President Dwight D. Eisenhower, every administration has attempted to sideline science to some extent (Berman and Carter 2018).

To counter anti-science beliefs and advance the role of science in policymaking, we need to recognize the tactics used to politicize science and understand the consequences for public health and safety. We also must assess what resources the scientific community has at its disposal and deploy them effectively. Many organizations, including UCS, provide critical information in a variety of ways, including documenting attacks on science, analyzing the impact of those attacks on communities and the nation, and providing resources to help scientists and their supporters push back against patterns of misusing and neglecting scientific expertise.



James Finch

*Though attacks on science have been rampant, scientists have not stayed silent, and are mobilizing to push back.*

Congress in particular has multiple tools at its disposal to hold a president and the executive branch of the federal government accountable for what they do and do not do, as well as for anti-science actions that stand to harm all of us, especially the most disenfranchised. Members of Congress have oversight power to investigate potential wrongdoings and monitor and indirectly supervise federal programs, agencies, and policies. These mechanisms include making formal inquiries and issuing subpoenas to agency leaders, holding hearings to question high-ranking agency leaders, and conducting

or requesting investigations by inspectors general, the Government Accountability Office (GAO), and the National Academies of Sciences, Engineering, and Medicine (NASEM).

Congress can join with scientists and their supporters to stop the Trump administration's anti-science actions. Today's attacks on science can and will have substantial consequences for public health and the environment for decades to follow. We must continue to push back when science is sidelined. The current and future health and safety of our families, our communities, and our nation depend on it.

***Congress can join with scientists and their supporters to stop the Trump administration's anti-science actions.***

## Sidelining Expertise and Independent Science Advice

Scientists have long advised policymakers when good decisions depend on scientific evidence. Such advice has come from professional staff in federal agencies, experts appointed to leadership positions, and nongovernmental scientists serving on federal advisory committees. The Trump administration is excluding all three types of expertise from the processes of informing agency decisions and educating the public.

Excluding economic expertise provides a prime example. In October 2018, President Trump stated, “We are going to be putting in and are studying very deeply right now, around the clock a major tax cut for middle-income people” (Min Kim 2018). Will the administration deliver on the promise of deep study, let alone a tax cut for middle-income Americans?

There is reason for skepticism. In 2017, Treasury Secretary Steven Mnuchin had made a similar promise when he vowed comprehensive studies of the economic impact of the proposed Tax Cuts and Jobs Act. As the act came up for a Senate vote, Mnuchin said that over 100 people “working around the clock on running scenarios” would provide evidence that the proposed \$1.5 trillion tax plan would pay for itself through economic growth (Rappeport 2017). Not only did no comprehensive analysis of the plan ever emerge, but Treasury economists stated they were barred from conducting comprehensive analyses and that the analyses Secretary Mnuchin described did not exist (Manchester 2017).

The Senate had asked for analyses of the proposed plan in light of many studies saying that it would not pay for itself

***Scientists have long advised policymakers when good decisions depend on scientific evidence.***

through economic growth. The nonpartisan Joint Committee on Taxation, the Penn Wharton Budget Model, and a Tax Foundation analysis all showed that the proposed tax reform would not grow the economy enough to meet the plan’s costs (Patel and Parlapiano 2017). In a University of Chicago survey, 41 of 42 economists disagreed when asked if the tax plan would lead to a surge in economic growth, and all economists surveyed agreed that the plan would increase the federal deficit (Klein 2017). In commenting on the survey’s question about whether the plan would increase economic growth, Austin Goolsbee, chief economist under President Obama, wrote: “Of course not.” He asked, “Does anyone care about actual evidence anymore?”

On December 11, 2017, the Treasury Department, in a one-page analysis, did suggest the Senate version of the tax plan would pay for itself through stimulating economic growth (Rappeport and Tankersley 2017). Even so, the Treasury Department conceded that it based its analysis on optimistic models, while many economists criticized the

*“Does anyone care about actual evidence anymore?”*

— Austin Goolsbee, chief economist under President Obama

analysis and charged the Trump administration with misleading the American people (Rappeport and Tankersley 2017).

The act, with far-reaching consequences, became law in December 2017. Already, it is clear that the nation's economists and their analyses of its impact on the deficit were correct. The legislation, which went into effect for the final three quarters of the 2018 fiscal year, immediately added an estimated \$164 billion to the federal deficit (CBO 2018).

The Trump administration had many opportunities to listen to its own economists, economists from well-respected nonpartisan organizations, Nobel Prize-winning economists, White House veterans, and past presidents of the American Economic Association, but it shut out their voices. The administration sidelined experts and their advice, and now millions of Americans' take-home income will likely decrease in the future, with low- and middle-income Americans hit hardest (Beckwith 2017).

## Circumventing Guidance from Scientific Experts

A strategy frequently used by the administration to sideline science is simply to rid the decisionmaking process of scientific experts. Excluding expertise lessens accountability for political decisions that the evidence cannot justify. For two years, this strategy has been on display at many federal agencies, bureaus, and offices.

### SHUTTING OUT SCIENTIFIC EXPERTS

One way to shut out experts is to create a firewall between them and senior decisionmakers. In the Trump administration, this often takes place under the guise of staff reorganizations advertised as streamlining the decisionmaking process.

In September 2018, the EPA announced its intention to disband its Office of the Science Advisor (Bravender and Bogardus 2018). The office and the science advisor help the EPA administrator keep abreast of the development of public protections and ways to respond to crises, including hurricanes, chemical disasters, and oil spills (National Research Council Committee on Research and Peer Review in EPA 2000). Staff members work to standardize scientific practices across EPA departments. They also investigate allegations of political interference in science and provide space to address contentious scientific issues.

The responsibilities of the Office of the Science Advisor require its staff to have both direct access to the EPA administrator *and* the authority and stature to influence other parts of the EPA. The Trump EPA plans to place the science advisor and staff in its Office of Research and Development

***The administration sidelined experts and their advice, and now millions of Americans will suffer, with low- and middle-income Americans hit hardest.***

(Davenport 2018). That reorganization would add bureaucratic layers between top EPA leaders and the science advisor. This could be particularly problematic during times of crisis. The shuffle also means that the science advisor may not be present in critical interagency discussions of scientific matters.

Substantial reorganizations at the Department of the Interior (DOI) have the potential to significantly diminish the expertise available. In June 2017, then Secretary of the Interior Ryan Zinke reassigned 35 senior executive service employees. While political appointees like Secretary Zinke have authority to reorganize such employees after being in office for six months, former DOI staff members could not recall ever seeing such a massive reorganization. "Anything at this scale is unprecedented," said Dan Ashe, who began his federal career under Ronald Reagan in 1981 and led the US Fish and Wildlife Service (FWS) under President Obama (Eilperin and Rein 2017). Joel Clement, former head of the DOI's Office of Policy Analysis, charged in a *Washington Post* op-ed that the reassignments targeted certain experts in order to make them resign (Clement 2017). In response, eight senators called for an investigation by the DOI Office of Inspector General, but that office reported that it could not determine Zinke's motives for the reassignments; the agency had not documented its decisionmaking process properly. Clement and two other reassigned senior executive service employees resigned from the DOI.

### LEAVING SCIENCE POSITIONS VACANT

The executive branch has long welcomed advice from several independent scientific experts and committees, including the President's Council of Advisors on Science and Technology, the White House Office of Science and Technology Policy (OSTP), the science advisor to the president, and hundreds of agency-level science advisory committees. Many of the president's top science advisory posts are now vacant or understaffed (Figure 2). As of mid-January 2019, President Trump had filled only 40 of the 83 government posts that the National Academies of Sciences, Engineering, and



In October 2018, the EPA disbanded a panel of scientific experts that advised the agency about the effects of air pollution on human health and welfare.

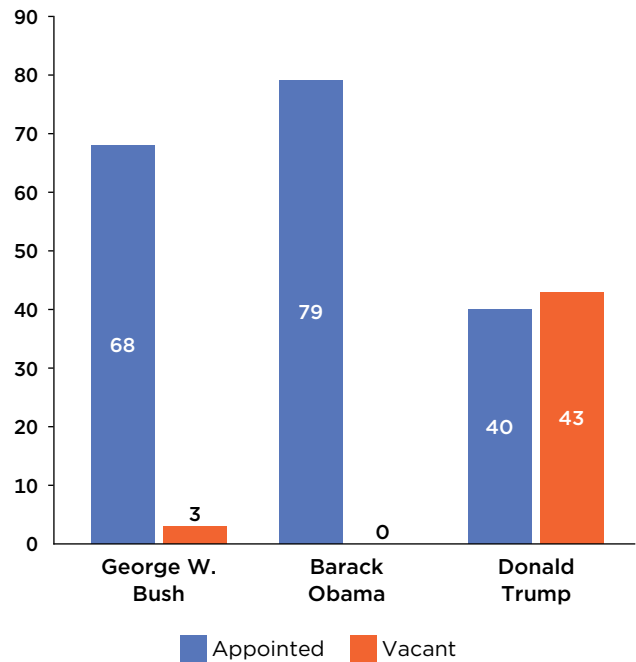
Mathematics (NASEM) designate as “scientist appointees” (Partnership for Public Service and *Washington Post* 2017). It took 19 months for the president to nominate a science advisor, Kelvin Droegemeier, whose appointment was finally confirmed in January 2019.

**DISBANDING OR COMPROMISING SCIENCE ADVISORY COMMITTEES**

The Trump administration has disbanded several agency-level science advisory committees and panels. For example, in October 2018, the EPA disbanded a panel of 20 scientific experts that had advised the agency’s leadership about such topics as the effects of particulate-matter air pollution on human health. The panel typically serves as a “check that the EPA is following the requirements of the Clean Air Act,” says Barbara Turpin, a University of North Carolina at Chapel Hill scientist who has served on it (Reilly 2018).

In announcing the change, the agency itself noted the seriousness of particulate-matter air pollution, saying that particulate matter “contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems” (EPA 2018a). Studies have linked it to increases in heart attacks, exacerbation of asthma, and premature death in people with lung or heart disease (Anenberg et al. 2010; Brook et al. 2010; Gavett, and Koren 2001). Disbanding the panel, which diminishes scientific expertise and analysis, will likely make it more difficult for the EPA to carry out its mandate, under the Clean Air Act, to protect public health using the best available

**FIGURE 2. Vacancies in Scientific Leadership Positions during Three Administrations**



*In the first two years of their administrations, Presidents Barack Obama and George W. Bush filled nearly every scientific leadership position. President Trump failed to appoint anyone to over half of these positions before his two-year mark.*

Note: Scientific leadership positions are those that require scientific expertise, according to the National Academies of Sciences, Engineering, and Medicine.

science (Figure 3). The EPA also has failed to constitute a similar panel on ozone pollution (Reilly 2018).

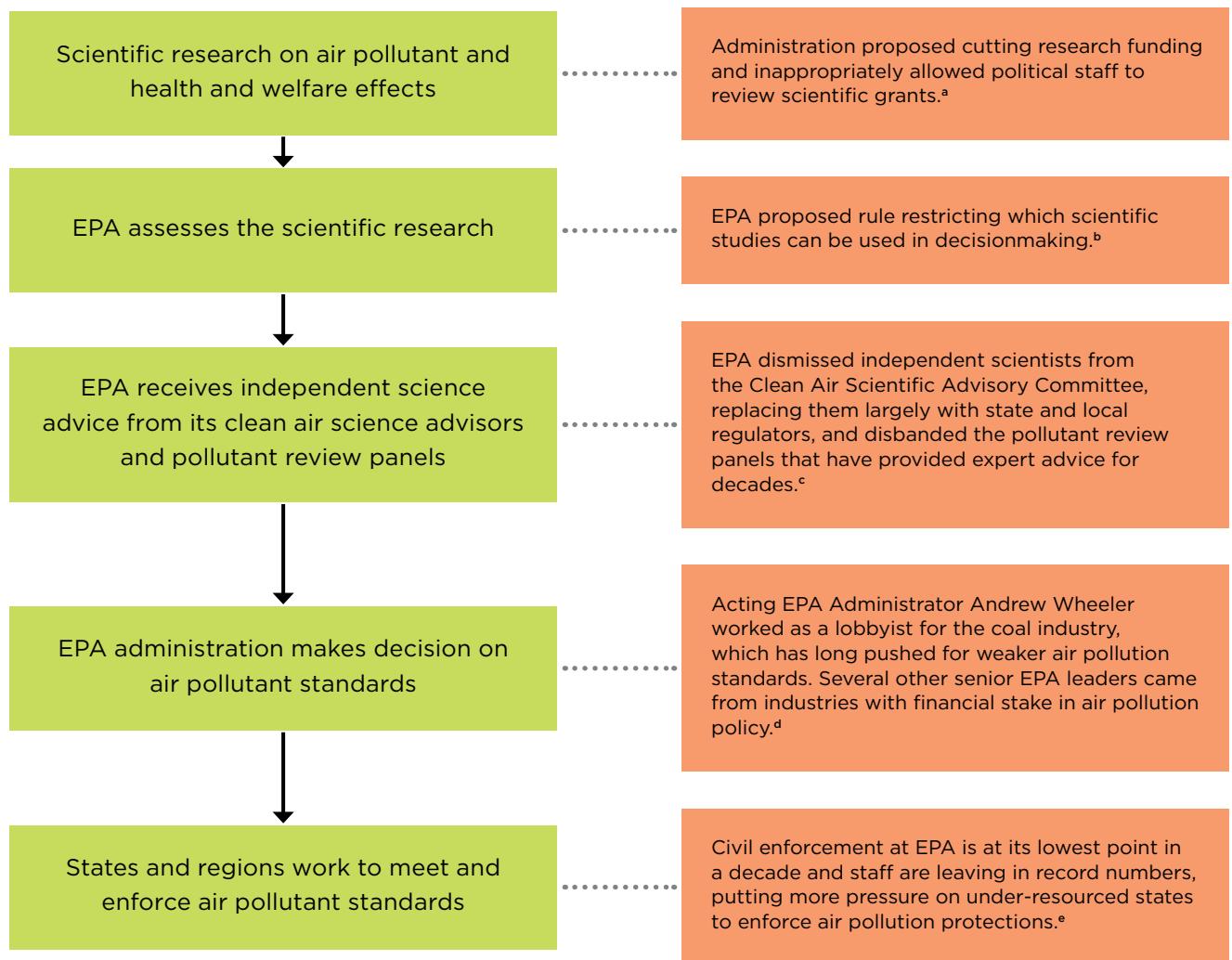
In October 2017, then EPA Administrator Scott Pruitt announced that scientists with current grants from the agency could not serve on *any* EPA advisory committee (EPA 2017a; Thulin 2017). Pruitt suggested that scientists receiving EPA grants would have a conflict of interest as advisory committee

members—an assertion widely rejected by ethics and scientific experts. In fact, Pruitt exempted tribal, local, state, and even industry representatives receiving EPA grants from this new policy, apparently seeing no similar conflicts among these groups. No credible scientific organization has supported the ban, while the American Association for the Advancement of Science and many others have denounced it (Cama 2017a).

FIGURE 3. How the Trump Administration Is Undermining Ambient Air Pollution Policy

### The Clean Air Act Ambient Air Pollutant Policy Development Process

### How the Trump Administration Has Undermined the Process



*Under the Clean Air Act, the EPA must set ambient air pollutant standards based on what protects public health. But under the Trump administration, this science-based process is being undermined at several steps, making it more difficult for the EPA to set health-based ambient air pollutant standards for pollutants like ozone and particulate matter.*

SOURCES: GREEN 2018, EILPERIN 2017 (a); MEYER 2018 (b); REILLY 2018 (c); MUFSON 2018 (d); FREDRICKSON ET AL. 2018 (e).



Breaking with tradition, the EPA failed to renew the terms of six individuals who were fully vetted and qualified to serve on the agency’s Science Advisory Board. The EPA also failed to renew nine members of the executive committee of the Board of Scientific Counselors (BOSC) and 38 of 49 BOSC subcommittee members (Reilly 2017). These decisions have shut out many qualified experts from providing the agency with science advice on critical public health matters such as chemical safety, air pollution, and fracking (Thulin 2017). At the same time, the EPA’s actions have made room for individuals closely aligned with the very industries it regulates (Reed et al. 2018).

The EPA is not the only agency sidelining science advice. The Department of Energy (DOE) has limited the oversight capability of the Defense Nuclear Facilities Safety Board. In May 2018, the agency issued an order making it difficult for board members to access data on worker exposure to radiation and preventing them from attending fact-finding meetings that occur after emergencies at nuclear facilities (DOE 2018; Moss 2018). The order essentially blocks the board from gaining access to safety data at nuclear facilities, including documents on what the board’s technical director termed a “nuclear explosive safety” issue at the Pantex Plant in Texas. Nor could the board get information regarding a redefinition of what constitutes a highly explosive reaction at the Los Alamos National Laboratory in New Mexico (Malone 2018). Limiting the ability of these experts to provide oversight and advice on such critical matters places the safety and health of nuclear workers at risk, as it does for those living near the facilities.

***Limiting the ability of experts to provide oversight and advice on critical matters places the safety and health of nuclear workers at risk.***

The DOI has also diminished the role of its science advisory committees. In May 2017, the agency announced a formal review of the “charter and charge” of the department’s advisory committees and postponed all scheduled meetings through fall 2017 (Eilperin and Dennis 2017). That edict resulted in the fewest number of committee meetings since recordkeeping began in 1997 (GSA 2017). At the end of the review process, the DOI terminated the Advisory Committee on Climate Change and Natural Resource Science

and dismissed its members. Created in 2013, the committee had advised the secretary of the interior on managing natural resources in the face of climate change (Doyle and Patterson 2017). Overall during 2017, 67 percent of DOI science advisory committees failed to meet as frequently as their charters dictated (Reed et al. 2018). In 2018, the agency saw some improvement: in the first 10 months of the year, only 25 percent of such DOI science advisory committees failed to meet as frequently as their charters dictated.

**SIDELINING INDEPENDENT EXPERTISE**

In addition to sidelining science advice from their own experts and from those who serve pro bono on agency advisory committees, the Trump administration has also interfered with scientific input it has solicited from outside experts. In September 2018, the FWS rushed a scientific assessment on the endangered American burying beetle (*Nicrophorus americanus*) in Nebraska. Two of the biologists contracted to conduct the assessment, Wyatt Hoback and Douglas Leasure, said that the FWS pushed them to complete their report on an extremely constrained timeline (Grandoni 2018a).

Hoback and Leasure are experts on the endangered American burying beetle, specifically in Nebraska (Leasure and Hoback 2017). In 2017, their paper mapping the species’ distribution in the state prompted the FWS to ask for their help in assessing the beetle’s status under the Endangered Species Act, legislation that requires the agency to list (or delist) a species as endangered “solely on the basis of the best scientific and commercial data” (US Congress 1973).



*By burying its carrion, the endangered American burying beetle returns critical nutrients back to our soil, making it an important component of our ecosystem. However, by rushing scientific assessments, the Trump administration is prioritizing agribusiness over protection for this species.*

Wayne National Forest/Creative Commons (Flick)

The FWS wanted the scientists to overlay their 2017 map of the beetle's distribution with another map projecting future farmland to identify where agriculture might pose a threat to the species. However, the scientists told FWS officials that the overlay would not yield accurate results. When the FWS pushed for using the maps together anyway, Hoback and Leasure left the project, asking the FWS to keep their names off any resulting reports or publications and to not use their data (Grandoni 2018a).

## Suppressing Scientific Studies

Another way the administration sidelines science is by suppressing or halting studies that may demonstrate the lack of evidence to support a policy decision. In several cases, the administration intentionally excluded scientific evidence that undercut its political agenda.

In 2017, President Trump and Stephen Miller, his senior policy advisor, suppressed a Department of Health and Human Services (HHS) study showing that refugees brought in tens of billions of dollars more in government revenue than they cost (Swanson 2017). Those findings ran counter to the

president's claim that refugees are an economic burden to low-income Americans (Swanson 2017). The administration touted this claim as a primary reason for lowering the cap on refugees allowed into the United States in a given year.

The move to suppress the study and its findings came in the lead-up to October 1, the date on which the Refugee Act of 1980 requires the president to set the number of refugees who the United States will allow to enter the country during the coming fiscal year. Under the Obama administration, the refugee cap averaged 67,000 a year, rising to 110,000 in fiscal year 2017 to allow for the large number of Syrians fleeing their nation's civil war (Blitzer 2017). The cap dropped to 45,000 in the first year of the Trump administration. In September 2018, the White House announced plans to limit the number of refugees allowed in the country to 30,000 by 2019—the lowest ceiling placed on the refugee program since its inception (Davis 2018).

According to two White House officials, Miller told people at the HHS, "The President believes refugees cost more, and the results of this study shouldn't embarrass the President" (Blitzer 2017). Miller maneuvered around the Department of State (DOS), the Department of Defense (DOD), the Joint Chiefs of Staff, the Office of the Vice



*After a years-long effort led by five Native American tribes, the rich cultural landscape of Bears Ears was designated a national monument in 2016, protecting countless Native artifacts and antiquities. The next year, in December 2017, then DOI Secretary Zinke persuaded President Trump to slash the monument by 85 percent in an effort to open the land up to drilling and mining.*

Bob Wick/BLM



A West Virginian surveys the dust and destruction of the mountaintop removal project at Kayford Mountain in 2010. In 2017, the DOI suspended a study assessing the health effects of the toxic dust released by mountaintop removal mining, which is already known to contribute to cardiovascular and respiratory diseases, as well as birth defects and cancer.

***President Trump suppressed a government study demonstrating that refugees brought in tens of billions of dollars more in government revenue than they cost.***

President, and the Office of Management and Budget to push the cuts through, suppressing contrary evidence as needed. As one DOS official said regarding the refugee cap, “We’d gone from a hundred and ten thousand to around forty thousand, with no evidence to support the decision. It was purely political. The process has never been this corrupt” (Blitzer 2017).

In a further example, DOI emails obtained under the Freedom of Information Act (FOIA) clearly demonstrated that the agency suppressed evidence as it decided to shrink national monuments and other protected lands (Eilperin 2018a). Analysis of the emails showed that the DOI concealed from the public the benefits of national monuments—increased tourism, decreased vandalism, and archaeological value. Instead, the administration exaggerated the benefits of logging, drilling, and mining on public lands. DOI officials also refused to consider millions of public comments on the proposal (Spivak 2018). The documents suggest that DOI officials had their minds made up, with one senior official writing, “Barring a surprise, there

is no new information that’s going to be submitted” through the public comment process.

Similar action at the Department of Labor (DOL) excluded evidence that did not support a proposed rule on tip income. In December 2017, the DOL proposed allowing employers to control and distribute their employees’ tips (DOL 2017). An analysis of the proposal by DOL economists predicted that employees would lose billions of dollars (Penn 2018). Unhappy with that analysis, the department issued the proposed rule without considering it. Fortunately, an amendment in a March 2018 spending bill blocked the rule (Campbell 2018).

The administration also cancelled or halted studies it had commissioned from the prestigious National Academies of Sciences, Engineering, and Medicine (NASEM). In an unprecedented move, the DOI canceled two studies that the agency had commissioned to study the impact of the mining, oil, and gas industries on public health and safety.

In August 2017, the DOI ordered NASEM to cease all work on a study examining potential health risks to people living near surface coal mining in the Appalachian Mountains. Scientific evidence shows a causal link between mountaintop coal mining and heightened rates of birth defects, cancer, and

***“The President believes refugees cost more, and the results of this study shouldn’t embarrass the President.”***

— Senior policy advisor Stephen Miller, on a Department of Health and Human Services study on the fiscal costs of accepting refugees

cardiovascular and respiratory diseases in nearby communities. Without the NASEM study, the DOI is less equipped to rule on mining permits that may affect the health of people living nearby.

In December 2017, the DOI cancelled a NASEM study to investigate how the Bureau of Safety and Environmental Enforcement (BSEE) could improve its inspections of offshore oil and gas development (Kearney 2017). A 2016 report from the Government Accountability Office (GAO) had sharply criticized BSEE for conducting inspections based on standards set before the 2010 Deepwater Horizon disaster, the largest marine oil spill in the history of the

petroleum industry (GAO 2016). The report said, “The use of outdated investigative policies and procedures is a long-standing deficiency.” In response, BSEE asked NASEM to determine the best inspection practices that would help avoid another Deepwater Horizon. But BSEE terminated the study, requested in 2016, a year later (Hutchins 2017).

The administration also has added an unnecessary review to scientific studies conducted by three National Institutes of Health labs that use human fetal tissue for studies. As part of the review, these labs are temporarily banned from acquiring new human fetal tissue to conduct their research (Wadman 2018). One of the labs was investigating

BOX 1.

## Scientists Push Back

### *Rallying Against Nominees with Conflicts of Interest*

In July 2017, President Trump nominated Michael Dourson to be assistant administrator of the Office of Chemical Safety and Pollution Prevention at the EPA (Trump 2017). Dourson had previously served as a professor and toxicologist at the University of Cincinnati and worked at the EPA from 1980 to 1994 (Dennis and Eilperin 2017). Through a consulting group he founded, he had a close relationship with the chemical industry. His research, paid for by Dow AgroSciences, the American Chemistry Council, and DuPont, among others, consistently found little to no health risks from chemicals that other scientists had linked with adverse health outcomes (Kaplan and Lipton 2017a). Internal DuPont emails characterized Dourson as a scientist who was in “the business of blessing” industry’s proposed criteria for chemical evaluation (Lerner 2017a). Dourson had argued for weakened chemical standards and, in multiple occasions, failed to adequately address his conflicts of interest (Denison 2018, Reed 2017).

Thousands of scientists, activists, environmental groups, and public health advocates protested Dourson’s nomination. UCS applied pressure, organizing coalitions and mobilizing science supporters to reach out to their senators via calls, letters, and newspaper editorials (Bartlett 2017; Johnson 2017a). A group of Maine scientists leveraged their power as constituents of Senators Collins and King. The group generated extensive media coverage by coordinating and hand-delivering a letter, signed by 85 local experts and science supporters, asking the senators to vote against the Dourson nomination: “The EPA cannot protect our land, air, and water if it is led by officials who oppose those goals” (Adragna 2017).

While advocates worked hard in their districts, national opposition mounted as well. Numerous pro-science organizations mobilized their supporters, and over 100 mostly

environmental, pro-democracy, and public health organizations representing millions of Americans signed a letter opposing Dourson’s nomination (Center for Environmental Health 2017). Families affected by cancer or other health outcomes linked to industrial chemicals, accompanied by scientists and members of Congress, held a press conference in front of the Capitol Building (Udall 2017). Greenpeace provided the *New York Times* with emails, obtained under a FOIA request, that documented Dourson’s close relationship with the American Chemistry Council and companies that had products scheduled for priority review by the EPA (Kaplan and Lipton 2017b).

Dourson withdrew his name from consideration on December 13, 2017 after key Democrat and Republican senators refused to support his confirmation. (Kaplan and Lipton 2017b; Kimmel 2017).



*When President Trump nominated Michael Dourson to hold a position responsible for regulating the chemical industry, scientists pushed back, exposing Dourson’s ties to the chemical industry and his inability to be impartial in the role.*

BanksPhotos/Stock

how the virus that causes AIDS initially colonizes human tissue—research that could potentially help medical professionals battle the virus. One scientist said that even if the review were lifted now and he were to continue his research, “It would probably take us a year to get back in the position we were in when the ban was put in place” (Wadman 2018).

### Inserting Politics into Scientific Grants

The Trump administration sidelines expert advice by hampering scientists’ ability to conduct research on politically contentious topics. At the EPA and the DOI, new policies require political appointees to review grants and contracts to ensure that proposed research fits the administration’s political agenda. Previous agency leaders, Republican and Democratic, have warned that this kind of review can politicize the grant-approval process (Eilperin 2017).

Scientists often undertake research to address an important gap in our knowledge, and that gap can dictate the questions a study asks, the materials and methods used to answer the questions, and the hypotheses and findings that emerge. A decree that research must align with specific political priorities undercuts the scientific process, diminishes the intellectual merit of an investigation, and deters progress of the wider scientific enterprise.

In October 2017, the *Washington Post* reported that John Konkus, a top political appointee in the EPA’s public affairs office, was reviewing grant solicitations and proposals on the lookout for the words “climate change” (Eilperin 2017). According to records disclosed in June 2018, political appointees had reviewed and made funding decisions on multiple grants whose total value was in the billions of dollars (Bogardus and Reilly 2018). The disclosed records also showed that Konkus targeted grant proposals submitted by researchers seen as Obama administration allies and that



Russ Munn/AgStock Images

*The science is settled: climate change is real, it's caused by human activities, and it's affecting us right now. But the Trump administration continues to deny this reality.*

addressed Obama administration priorities, providing further evidence that politics, not science, improperly guided Trump administration funding decisions.

In January 2018, the DOI initiated a similar process of grant review. The DOI directed political appointees to begin reviewing discretionary grants to make sure they aligned with administration priorities (Eilperin 2018a, DOI 2017). The policy appears to target climate change researchers, many of whom reported that their DOI grant proposals had been delayed so long that they had difficulty retaining the graduate students in their labs (Pickett 2018).

In addition to politicizing grant reviews, the Trump administration has pulled grants without any scientifically sound reason. For example, in July 2017, the HHS cut \$213.6 million in funding from teen pregnancy programs and research at 80 institutions across the country (Kay 2017). It ended many of the grants midway in a five-year cycle. Internal notes and emails released to NBC News showed that three HHS political appointees with abstinence-only beliefs, not science, drove the decision (Przybyla 2018). Litigation restored the fourth year of funding for the grants (Hellmann 2018). The fifth year may require another legal battle.

***The Trump administration sidelines expert advice by hampering scientists' ability to conduct research on politically contentious topics.***

## Sidelining Science Compromises Public Protections

In the past two years, attacks on science within the federal government have overwhelmingly benefitted the few at the expense of the many. Our nation's landmark public health and environmental laws require the use of science to set standards that protect people and preserve our natural resources, yet the Trump administration has ignored or sidestepped many of the processes required by science-based legislation. That has made it easier to dismantle public health and safety protections in service of the very entities that created the need for these laws.

### Eliminating Climate Change from Policy Development

Given the long-standing scientific consensus on climate change and the latest scientific assessment of its current and future impacts on the nation (USGCRP 2018), it is critical that scientists be able to freely conduct and communicate their work on this existential threat. Instead, the Trump administration has repeatedly ignored, dismissed, or suppressed the science of climate change, limiting the ability of federal scientists to speak about, report on, or even study it. The administration has also removed, revoked, and suppressed mentions of climate change in agency documents and pointed instead to elements of uncertainty about the magnitude of impacts and the human causes of climate change rather than the overwhelming US and international consensus on its very significant risks and the unequivocal evidence that recent warming is primarily caused by human activities (Melillo 2014).

The administration also has downplayed—even rejected—climate change research that its own scientists have conducted. In November 2018, when asked about the 2018

***Our nation's landmark environmental and public health laws require the use of science to set standards that protect people and preserve our natural resources.***

National Climate Assessment produced by 13 federal agencies and more than 300 leading climate scientists, President Trump responded, “I don’t believe it” (Cama 2018). Senior administration officials, including former EPA Administrator Pruitt, his replacement Andrew Wheeler, and then DOI Secretary Zinke cast doubt on the study’s findings even though EPA and DOI scientists were among the authors.

#### DEPARTMENT OF THE INTERIOR

Scientific evidence shows that climate change will have severely detrimental impacts to US national parks, which the DOI oversees. For example, a 2018 study found that average temperatures in our 417 national parks (most of which are in Alaska and the arid Southwest), are increasing twice as fast as average temperatures across the land area of the US as a whole (Gonzalez et al. 2018). That study also cites other research showing that climate change could bring some small mammal and plant species to the brink of extinction.



Lisa McKeon/USGS

*Our national parks and public lands are bearing the brunt of climate change, and it's up to the DOI to protect them, such as these USGS scientists are doing here by studying ice mass loss at Glacier National Park in 2013. Under President Trump however, government scientists are being prevented from incorporating climate change science into public land management plans.*

As former Deputy Secretary of Interior David Hayes has said, “It would be irresponsible as land managers not to take into account these risks, such as drought, fire, invasive species, potential sea level rise, storm surge impacts, wildlife impacts—all of which already are being felt” (Shogren 2018a).

Yet the DOI has not considered the science of climate change even when federal law—particularly the National Environmental Policy Act (NEPA)—obligates it to do so. A prominent example is Secretarial Order 3360, signed by Deputy Secretary David Bernhardt, which rescinded several of the DOI’s climate, mitigation, and conservation policies (Shogren 2018a). Issued a few days before Christmas 2017, the order prevents the use of practices—informed by the best available science and compiled by the department over the years—to mitigate environmental impacts from climate change on our public lands.

Bernhardt’s order revoked DOI departmental manual chapters on climate change and mitigation policy for the kinds of projects the Bureau of Land Management (BLM)

authorizes, as well as a BLM manual section and an entire BLM handbook, both on mitigation (Shogren 2018a). The order also required reassessment of a draft mitigation strategy for the National Petroleum Reserve in Alaska and directed the BLM to reissue a separate guidance from the George W. Bush administration on offsite mitigation (BLM 2008). Bernhardt argued that the policies rescinded under Secretarial Order 3360 burdened the development or utilization of domestically produced energy resources, although the order did not mention how the rescinded policies interfered with energy development (Bernhardt 2017).

The rescinded policies had called for “the best available science to increase understanding of climate change impacts” (DOI 2012). They also had provided “guidance to bureaus and offices to best implement mitigation measures” (DOI 2015). Secretarial Order 3360 is at odds with the NEPA, which requires that federal agencies mitigate the harmful effects of development and consider climate change (Shogren 2018a).



## THE ENVIRONMENTAL PROTECTION AGENCY

Climate science is similarly absent or has been removed from critical science-based policies at the EPA. Just as at the DOI, the result is that decisions are less informed by the best available scientific knowledge, endangering public

health. For example, an EPA draft rule on the heat-trapping chemicals hydrofluorocarbons contained language discussing how children can be more vulnerable to the effects of climate change (Joselow 2018), but this was deleted by the White House. The White House also nixed climate change language during a 2018 interagency review of the EPA's draft proposal

BOX 2.

## Scientists Push Back

### *Stopping Polluting Trucks from Getting on the Road*

In July 2018, on Scott Pruitt's last day as EPA administrator, he issued a "no action assurance" for glider trucks, which are new truck bodies containing older and more polluting engines (Lipton 2018a; Lipton 2018b). Even though the EPA's own estimates show that these glider trucks cause rampant air pollution associated with ill health by emitting more than 40 times the nitrogen oxide (NO<sub>x</sub>) and particulate matter (soot) of regular trucks (EPA National Vehicle and Fuel Emissions Laboratory 2017), this action would exempt them from penalties under the Clean Air Act for two years. By one estimate, allowing just one year of glider truck sales would result in 13 times more NO<sub>x</sub> pollution than the entire lifecycle of all the US Volkswagen diesel cars sold with fraudulent emissions controls (Muncrief and Miller 2017).

Fitzgerald Glider Kits, a Tennessee-based company that stood to benefit from the loophole, had mounted an aggressive lobbying campaign aimed not only at politicians like Pruitt and Senator Diane Black of Tennessee but also at the scientific community (Lipton 2018c). The company sponsored a flawed Tennessee Technological University study to prove that gliders do not pollute excessively and afterwards offered to build

a new research center for the university on company-owned land (Lipton 2018c). Tennessee Tech's president, bowing to protests from students and faculty members, wrote to Pruitt disavowing the industry-funded study (Eilperin and Dennis 2018a).

An unusual coalition opposed the loophole. It included public health groups like the American Lung Association, science advocacy groups like UCS, environmental groups like the Environmental Defense Fund, congressional Democrats, and states. But major industry representatives joined the opposition as well, including United Parcel Service, the largest truck fleet owner, and the Volvo Group, one of the largest truck manufacturers (Berry 2018; Bruce 2018; Lipton 2018c; American Lung Association 2017; Cooke 2017; EDF 2017). UCS was instrumental in these advocacy efforts, testifying at EPA hearings, coordinating a social media campaign using the hashtag #ZombieTrucks, and inspiring supporters to submit 26,118 comments against the loophole (Raskin 2017).

Opposition continued when Andrew Wheeler became the EPA's acting administrator. Senator Tom Carper of Delaware, ranking minority member of the Environment and Public Works Committee, which oversees the EPA, urged Wheeler to repeal the loophole (Carper 2018). Several environmental groups filed a request for an emergency stay of the exemption, which the US Court of Appeals, D.C. Circuit Court granted (Wheeler 2018a). UCS science supporters sent 14,000 comments to Wheeler urging him to close the loophole (Hamilton 2018). Several scientists used local media in Maine and Tennessee to raise the issue with their senators.

After three weeks as acting administrator, Wheeler, in an official memo, closed the glider truck loophole (Wheeler 2018b; Eilperin and Dennis 2018b). He cited the importance of a particular coalition in his decision: three environmental groups (the Environmental Defense Fund, the Center for Biological Diversity, and the Sierra Club) and the 17 states—plus the District of Columbia—that had filed separate administrative requests (Wheeler 2018b). The fact that Wheeler did this so soon after becoming acting administrator speaks to the power of the coalition.



Jeremy Rempel / Creative Commons (Flickr)

*Glider trucks are new vehicles that have older engines in them—engines originally manufactured under weaker pollution standards. When the Trump administration's EPA pushed to reopen a loophole allowing these dangerous trucks as a gift to the industry, scientists and environmental groups pushed back, eventually securing a close to the loophole, and protecting our health and safety.*

on the Affordable Clean Energy Rule, a replacement for the Clean Power Plan aimed at cutting carbon dioxide emissions from the power sector. The Office of Management and Budget scrubbed about 500 words on the overwhelming scientific consensus that heat-trapping emissions are worsening climate change and endangering public health (Colman and Joselow 2018).

Eliminating language on climate change does not eliminate its effects, but it does sow confusion and doubt on the subject and hinders strategies to mitigate and prepare for its effects.

### **RESTRICTING SCIENTISTS FROM PRESENTING CLIMATE RESEARCH**

Federal agencies have prevented government scientists from sharing their climate-related work with colleagues at major conferences. In October 2017, three EPA scientists prepared to present research at a conference on the effects of climate change on Rhode Island’s Narragansett Estuary Bay (UCS 2017a). However, EPA officials told the scientists not to speak on the topic although they had contributed substantially to a report produced by the EPA-funded Narragansett Estuary Bay Program (Friedman 2017a). An EPA spokesperson said, “EPA scientists are attending, they simply are not presenting, it is not an EPA conference” (UCS 2017a).

New England members of Congress demanded that then EPA Administrator Scott Pruitt answer why the agency had silenced the scientists (Whitehouse 2017a). In response, Pruitt assured them that “[p]rocedures have been put in place to prevent such an occurrence in the future” (Whitehouse 2017b).

In this case, congressional oversight was effective, but there have been other instances of restricting scientists’ attendance and presentations at conferences, for example many USGS scientists were not allowed to attend the American Geophysical Union conference in 2017 (Kaplan 2017). Allowing federal scientists to present their research at scientific conferences continues to be a challenge, including conferences related to climate change (UCS n.d. a; UCS 2017b). Oversight will continue to be needed on this issue.

## **Undermining Protections from Hazards at Work and Home**

Government science plays a vital role when it informs policies designed to protect people from environmental hazards—such as chemicals in consumer products—using the best available science. Without scientific input guiding agency decisions, the health and safety of the public are vulnerable to interference by those who would gain financially from

weaker protections. The Trump administration has undercut the very decisionmaking processes that help agencies protect us from such hazards.

### **WEAKENING THE TOXIC SUBSTANCES CONTROL ACT**

In 2016, the Frank R. Lautenberg Chemical Safety Act, enacted with bipartisan support, heralded a step forward in protecting the nation from harmful chemicals in consumer products (EPA 2018b). The act amended the 1976 Toxic Substances Control Act (TSCA) and provided a scientific basis for evaluating chemicals and the risks they may pose to human health.

Tasked with implementing the amendment, the EPA restricted what scientific evidence could be used in a chemical’s risk assessment. Political appointee Nancy Beck, the top deputy in the EPA’s Office of Chemical Safety and Pollution Prevention, took the lead in the changes (Lipton 2017). Beck, previously an executive of the American Chemistry Council,



*Since President Trump took office, the EPA has weakened its implementation of the Toxic Substances Control Act, an act that guides the agency in how to evaluate the potential health risks of chemicals. This has resulted in halting an Obama-era ban on two chemicals that can lead to reproductive issues, cancer, and even death.*

weakened the EPA's implementation of TSCA by adopting language suggested by the chemical industry—in some cases, word for word (Benesh 2017; Goldman, Carlson, and Zhang 2015).

The EPA also appears to be weakening TSCA by severely delaying proposed regulations. At the end of the Obama administration, in December 2016 and January 2017, the EPA proposed to institute the first chemical bans under TSCA in 25 years. The EPA proposed to ban two chemicals found in paint strippers (methylene chloride and N-methylpyrrolidone) and one found in degreasers (trichloroethylene) due to their reproductive toxicity and the risks they pose of cancer and sudden death. Instead, the Trump administration EPA set the chemicals for “long-term action” status, essentially halting the proposed bans for months or even years (EWG 2017; EPA/OCSPP 2017a; EPA/OCSPP 2017b).

The TSCA amendment requires the EPA to review the hazards of ten common and dangerous chemicals found in products like dry-cleaning solvents, paint strippers, shampoos, and cosmetics. Yet the agency appears to have decided to evaluate only exposures that occur through direct contact, whether in the workplace or elsewhere (Lipton 2018a). This approach ignores chemicals and byproducts in everyday consumer products, and exposures that occur through air emissions or in drinking water and hazardous waste. As a result, the decision on banning or restricting these chemicals will ignore some of the most pivotal ways that people are exposed to them.

One of the ten high-priority substances is asbestos, which has a well-established history of increasing the risk of lung cancer, mesothelioma, and asbestosis (EPA n.d. a). In June 2018, over objections by EPA scientists, top EPA officials quietly proposed a rule that could allow the use of asbestos in some cases without prior government assessment of the risks (Friedman 2018). The proposed rule states that consumer products containing asbestos can only be considered for a risk assessment if the exposure comes from one of 15 specific uses of the substance. But asbestos in any form and use can be deadly and dangerous. There is no scientific basis to limit the evaluation to only 15 uses (Friedman 2018).

#### **SUPPRESSING THE FORMALDEHYDE ASSESSMENT**

EPA officials are suppressing a scientific report detailing the potential cancer risks associated with formaldehyde, hiding valuable public health information from scientists, lawmakers, and citizens and censoring federal scientists who would want to speak up on chemical hazards. Formaldehyde is a common chemical found in homes and a wide range of industrial processes and products (UCS 2018a). It is not clear when the report was finalized—probably between January and fall 2017—but there is no doubt that an interagency review

is taking far longer than the typical 60 to 90 days (Markey, Whitehouse, and Carper 2018; Snider 2018a).

Former Administrator Pruitt and current Acting Administrator Wheeler have given Congress commitments that the EPA will release the formaldehyde report (Markey, Whitehouse, and Carper 2018; Wheeler 2018a). However, anonymous sources at the EPA assert that political officials are blocking the release (Snider 2018b). As of January 2019, the agency had not released it despite a consistent push from Congress (Franklin 2018).

*The EPA is suppressing a scientific report detailing the potential cancer risks associated with formaldehyde.*

#### **ELIMINATING SCIENCE-INFORMED RULES ON AIR POLLUTION**

In May 2018, EPA Assistant Administrator William Wehrum eliminated a Clean Air Act policy known as “once in, always in,” a 23-year-old, science-informed policy designed to reduce hazardous air pollution across the nation (Declat-Barreto 2018; Wehrum 2018). Under “once in, always in,” major industrial air polluters that had, at any time, exceeded threshold standards for 187 pollutants had to reduce emissions using what is known as Maximum Achievable Control Technology (MACT). Strong scientific evidence indicates that many of the 187 pollutants cause cancer, respiratory disease, and other health problems (UCS n.d. b). The air-polluting industries include, among others, mining, smelting, and petrochemical manufacturing.

“Once in, always in” was effective. It reduced airborne toxics to well below federal thresholds at 70 percent of the major sources of proscribed chemicals (UCS n.d. b). According to EPA estimates, the policy reduced industrial toxic pollutants by 1.5 million tons each year beginning in 1990 (EPA n.d. b). However, its elimination essentially downgrades major polluters to a less stringent category. The rollback increases the risk of increased air pollution in at least 21 states, with residents of cities like New York, Chicago, Houston, and Philadelphia particularly vulnerable (UCS n.d. b). Communities with low-income people or people of color will likely bear the brunt of the increased health hazards (Goldman 2018a).

BOX 3.

## Scientists Push Back

### *Securing Disclosure of Information about a Toxic Chemical*

Early in 2018, Trump administration officials blocked the Agency for Toxic Substances and Disease Registry (ATSDR) from publishing a draft toxicology report on a class of potentially hazardous chemicals commonly found in drinking water and groundwater. The chemicals—per- and polyfluoralkyl substances (PFAS)—are a group of synthetic chemicals used in products ranging from firefighting foam to nonstick cookware. These chemicals have been linked to diseases including liver damage, kidney cancer, and ulcerative colitis.

Under a FOIA request, UCS obtained emails showing that the White House blocked the report's release owing to concern about a "potential public relations nightmare" (Snider 2018b). The ATSDR report analyzed the relevant peer-reviewed scientific data about 14 of the most common PFAS variants—including two of the oldest, PFOA (once used in Teflon) and PFOS (once used in Scotchgard)—and found that the risk levels for PFAS were seven to ten times lower than the standards the EPA said were safe. After *Politico* broke the story, UCS and other nonprofits organized their supporters to pressure the administration to release the report. UCS delivered 18,000 messages from experts and science supporters to their representatives in Congress and put a public spotlight on the issue through social media, blogs, and news coverage. In Congress, senators and representatives from both parties expressed concerns on their websites and spoke to the media. A bipartisan group of senators proposed an amendment to a Pentagon spending bill that would have required the publication of the ATSDR report within seven days of the bill's passage. During a public hearing, EPA Administrator Pruitt was questioned about the issue and about his senior advisors' attempts to suppress the report.

Due to this pressure, the ATSDR released the report in June 2018. The report suggested a much more stringent standard for PFAS exposure, citing health concerns for even low



Ken Wright/USAP

*PFAS are a group of chemicals that pose significant threats to human health, including pregnancy complications and cancer. They can be found in many water supplies, but have recently been found in alarming amounts at US military bases, due in part to the military's heavy use of PFAS-containing firefighting foam.*

levels of exposure to the chemicals. Several environmental organizations, including the Environmental Working Group and the Natural Resources Defense Council, expressed support for the report and its robust methodology (EWG 2018; NRDC 2018). UCS used the ATSDR standards to develop a risk map of PFAS exposure at military sites across the nation (Reed et al. 2018). A bipartisan group of lawmakers wrote to Wheeler in July asking the EPA to "act immediately to adjust the health advisory levels for PFOS and PFOA" based on the thresholds set by the ATSDR (Ellison 2018). The EPA is expected to release a management plan for the chemical in January 2019.

#### **LIMITING PUBLIC ACCESS TO SCIENTIFIC INFORMATION ON FRACKING**

DOI officials sidelined science in January 2018 when the BLM rescinded a 2015 rule that had required hydraulic fracturing (i.e., fracking) companies to adhere to standards for well construction and wastewater management and to disclose the chemicals used when drilling on public lands (Goldman 2018b; UCS 2018b). Rescinding the rule means that communities near drilling areas will lack information about their potential exposure to chemicals known to damage human health.

The 2015 rule was an important step in addressing risks of groundwater contamination. The chemical disclosure requirement gave communities a window into the composition of fracking fluid and other chemicals used at fracking sites, which have deteriorated drinking-water sources and in some cases caused large-scale contamination of drinking water (Goldman 2018b; Goldman 2015). The rule gave the public, workers, first responders, and medical professionals better access to knowledge about potential chemical exposures. Its absence leaves unconventional oil and gas development largely unchecked at the federal level.

## PREVENTING THE COLLECTION OF DATA ON WORKPLACE INJURIES

The Trump administration is attempting to roll back the collection of data on severe on-the-job injuries (OSHA 2018a, b). Since 2015, the Occupational Safety and Health Administration (OSHA) has required employers with 250 or more employees to report every severe injury electronically

within 24 hours. OSHA defines severe injuries as those requiring amputation, in-patient hospitalization, or resulting in the loss of eye. OSHA instituted the rule as a way to obtain timely information on severe injuries, while encouraging employers to evaluate their own processes and equipment. According to OSHA's program evaluation, "Most employers who experienced a severe injury to a worker were eager to

BOX 4.

### Scientists Push Back *Protecting an Endangered Bumblebee*

On January 11, 2017, the US Fish and Wildlife Service (FWS) finalized a listing of the rusty patched bumblebee (*Bombus affinis*) as an endangered species, with the rule set to take effect on February 10 (FWS 2017). The FWS based the rule on a 2013 petition by the Xerces Society for Invertebrate Conservation, a science-based nonprofit that had worked with prominent bumblebee biologists to ask the agency to take this action (Jepsen et al. 2013). However, one day before the federal protections would have taken effect, the FWS froze the listing with no prior notice or opportunity for public comment (National Resources Defense Council 2017a).

The rusty patched bumblebee was an exceedingly common sight just 20 years ago in 28 states, the District of Columbia, and two Canadian provinces. Since then, its population has plummeted by 87 percent. It is now likely to be found in a mere 0.1 percent of its historical range and is "balancing precariously on the brink of extinction," according to the FWS website (FWS

2017). Previously, the FWS had seen "no evident prospect of a natural reversal" to the severe population decline (NRDC 2017a). Without intervention, the bee would be extinct everywhere except in two ecological regions within ten years and completely extinct within 30 years. The likely causes of the bee's decline are habitat loss and degradation, intensive farming, disease, pesticides, and global climate change (FWS 2018a).

Bumblebees, including the rusty patched bumblebee, are keystone species in most ecosystems, aiding native wildflower reproduction and the creation of seeds and fruits that feed songbirds, grizzly bears, and a wide variety of other species. Bumblebees have the unique ability to "buzz pollinate" (dislodging pollen from flowers using vibrations), which can make them more effective pollinators for some crops than honey bees. Bumblebees are one of the most important pollinators of blueberries, cranberries, and clover and almost the only insect pollinators of tomatoes (FWS 2018a).

The freeze resulted from a January 20th White House memo requiring a postponement and review of all Obama-era regulations that had yet to take effect (Priebus 2017). Days after the freeze began, the Natural Resources Defense Council and the Xerces Society sued the FWS, arguing that the delay in the bumblebee rule was illegal (Hatfield 2017; NRDC 2017b). A Xerces Society biologist spoke about the enthusiastic support for adding the bee to the endangered species list, as exemplified by the vast majority of the 100,000 comments received by the FWS and the 128,000 people who signed a Xerces petition (Hatfield 2017). However, industry groups, including the American Petroleum Institute, the National Association of Home Builders, and the National Cotton Council of America, petitioned the agency to delay the listing by one year (Fears 2017).

The FWS implemented the bumblebee's endangered species listing on March 21, 2017. This represents the first time a bumblebee has been added to the endangered species list and the first time any bee in the contiguous 48 states has been declared endangered (FWS 2018b).



Viv Lynch/Creative Commons (Flickr)

*The rusty patched bumblebee is one of our most important and effective pollinators, and also one of our most threatened. The population of the species has dropped 87 percent in the last 20 years due to factors such as climate change and habitat loss.*

cooperate with OSHA inspectors to prevent anything similar or worse from happening again. In fact, many went above and beyond what was required by OSHA to protect their employees” (Michaels 2016).

In July 2018, OSHA proposed to scale back this data-collection requirement sharply (OSHA 2018b). Instead of reporting each injury and illness in detail, the proposed new rule would require employers to report group tallies of injuries, illnesses, and missed workdays (Khim 2018). The administration said the change would protect identifiable worker information from FOIA requests. However, a former OSHA official who worked on the original rule pointed out that federal agencies often redact sensitive information in responding to such requests (Khim 2018). If the rollback succeeds, it will reduce the accuracy and thoroughness of data gathering on severe injuries and hamper consideration of prevention strategies.

## Endangering the Environment

The people of the United States value our national parks, wilderness areas, wildlife refuges, and national monuments, as well as the wildlife that depends on these public lands. However, the Trump administration is ignoring science and the public when it comes to protecting our natural environment. These actions can have devastating consequences, from long-lasting scars on the landscape and pollution in communities near public lands to the demise of endangered and threatened species.

***The Trump administration is ignoring science and the public when it comes to protecting our natural environment.***

### PUSHING SCIENCE OUT OF ENVIRONMENTAL PROTECTION

To protect the nation’s environment, federal scientists look to a deep record of evidence on how US ecosystems function. For example, science has long been vital for pursuing the National Park Service’s (NPS) mission (Robbins 2016). Between 2000 and 2016 alone, the NPS conducted over 28,000 studies investigating climate change, ecological restoration, best practices for park management, and other issues. On that foundation, in December 2016, the NPS issued

Director’s Order 100, a science-based framework for managing national parks (UCS 2018c; Jarvis 2016). The framework bases decisionmaking on three factors: the best available science; adherence to the law; and the public’s long-term interest. It resulted from pleas by scientists on the NPS Advisory Board to include scientific evidence in plans to protect and manage America’s parks and monuments (Shogren 2018b).

In August 2017, then NPS Deputy Director Michael Reynolds rescinded the science-based framework, even though he was one of its key architects. Documents obtained through FOIA requests show that DOI officials, pursuing “direction from [DOI] Secretary Zinke,” ordered Reynolds to rescind the order in no uncertain terms (Shogren 2018b).

Jonathan Jarvis, President Obama’s NPS director, suspected that the Trump administration objected to the framework’s use of the “precautionary principle,” which promotes science-based decisionmaking in the face of likely harm to park resources or human health. Jarvis also suspected that the administration objected to the framework’s incorporation of climate change into decisionmaking processes (Shogren 2018b). In the words of an anonymous NPS scientist responding to a UCS survey in 2018, “For the NPS specifically, the immediate reversal of Director’s Order 100 was a clear message that science in general, and the use of science in decisionmaking was not a priority for the new administration” (Carter, Goldman, and Johnson 2018).

Further examples of pushing science to the side involve the administration’s plans for a wall on the US-Mexico border. In preparing to build a section of the border wall in New Mexico, the Department of Homeland Security has waived 25 federal laws, many of them informed by science (UCS 2018a). Each of the suspended laws plays a role in protecting the nation’s public health, environment, or cultural and historical heritage. The waiver applies to a 20-mile section that includes the Chihuahuan Desert, North America’s largest desert and home to over 500 of the world’s 1,500 species of cactus (World Wildlife Fund n.d.).

To build the border wall in Cameron County, Texas, Homeland Security has used its power to suspend 28 federal laws concerning the environment, natural resources, and land management. This section of the wall would be adjacent to several national wildlife refuges and create a 6,500-acre “no man’s land” that would likely trap wildlife whenever the Rio Grande floods (Crunden 2018). Over 2,500 scientists from 43 countries—including over 1,470 US scientists and 610 Mexican scientists—signed onto an article in the peer-reviewed journal *BioScience*, a journal of the American Institute of Biological Sciences, urging the US government to consider the ramifications of suspending these science-based laws (Peters et al. 2018).



*The Trump administration has taken many steps to advance mining and extraction efforts at the expense of the cultural and ecological riches of our public lands. In just one example, the administration cancelled an investigation of the environmental impacts of mining near Minnesota's Boundary Waters Canoe Area Wilderness, leaving the iconic area vulnerable to contamination from mining activity.*

### RESTRICTING SCIENCE ON ENVIRONMENTAL IMPACTS

The Trump administration is preventing scientists from studying the potential environmental impact of resource extraction. For example, US Department of Agriculture (USDA) Secretary Sonny Perdue first abbreviated and then canceled in January 2018 an investigation of the environmental impacts of establishing sulfide-ore copper mines near Minnesota's Boundary Waters Canoe Area Wilderness (Kraker 2018; Krebs 2018; UCS 2018d). The wilderness, one of the state's most iconic natural areas, is home to hundreds of migratory bird species, renowned for its paddling and other recreational opportunities, and central to the region's economy and environment.

The construction of sulfur-ore mines near Boundary Waters, opposed by 59 percent of Minnesota voters, will cost the state an estimated \$288 million every year due to decreased tourism (Fabrizio, Ward, and Lee 2017; Phillips and Alkire 2017). An estimated 92 percent of sulfide-ore copper

mines have experienced failures affecting water quality, and evidence suggests that toxic waste from a single mine in the region's watershed area could pollute Boundary Waters for hundreds of years (McCollum 2017; Moe 2018).

In December 2016, the Obama administration proposed a thorough environmental review of mining operations near Boundary Waters, to be conducted by the USDA. In May 2017, USDA Secretary Sonny Purdue told a congressional hearing that he would be "absolutely allowing that [environmental review] to proceed" (McCollum 2017). That sentiment proved to be temporary. In January 2018, the USDA sharply scaled back the review. In September 2018, it canceled the less stringent assessment, framing the action as the removal of "a major obstacle to mineral leasing in Minnesota" (USDA Forest Service 2018).

The Trump administration also conducted far fewer environmental reviews compared with prior administrations. In its first two years, the Trump administration prepared

237 environmental impact statements. That is the fewest conducted dating back to the George H.W. Bush administration, which conducted 311 reviews in its first two years (Figure 4).

Conducting fewer environmental reviews with scientific and technical rigor will mean more pollution affecting waterways, forests, and homes. It also signals that the current administration will not consider alternatives that might mitigate the impact of constructing a new government building, opening an area to mining, or undertaking any number of other proposed actions. In addition, fewer reviews means less public input into assessments of the environmental impact of proposed actions because environmental impact statements require a 45-day period for public comment.

#### SCIENCE LEFT BEHIND ENDANGERS IMPERILED SPECIES

Recent Trump administration actions have undermined the scientific basis for protecting wildlife emblematic of our country. Once a species is gone, we cannot bring it back. Yet Trump officials have attacked the scientific foundation of the Endangered Species Act, a landmark law protecting endangered species and the critical habitats on which they depend. For example, the Fish and Wildlife Service, jointly with the National Marine Fisheries Service (NMFS), has proposed changes that would undercut the act's scientific basis by not considering foreseeable impacts—including those from climate change—in decisions about listing species as endangered or threatened (Doyle 2018).

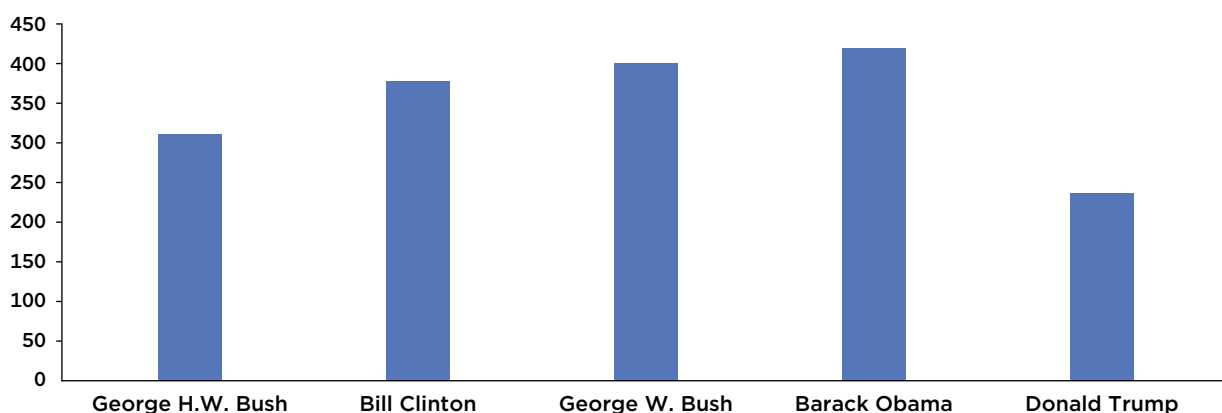


Kent Kanouse/Creative Commons (Flickr)

*By attacking the scientific foundation of the Endangered Species Act, the Trump administration is leaving many species vulnerable to decline, including pollinators critical to agriculture and iconic species such as the mallard duck.*

FWS leaders have also sidelined science important for protecting specific species. In August 2018, FWS Principle Deputy Director Gregory Sheehan approved the use of neonicotinoid pesticides in national wildlife refuges, even though scientists consider this class of pesticides a major culprit in the disappearance of bee populations around the world (Main et al. 2018; Woodcock et al. 2017; Woodcock et al. 2016; Cresswell 2011). A review of over 800 studies found that the pesticides are killing important pollinators like bees, hoverflies, and butterflies; creatures that live in the soils like bacteria, amoeba, earthworms, and insects; and other wildlife

FIGURE 4. Environmental Impact Statements Published by Five Administrations in their First Two Years in Office



*Environmental impact statements are critical to protecting our lands from the negative effects of drilling, mining, and other invasive activities. So far, the Trump administration has filed far fewer statements than recent past administrations.*

Note: The EPA makes these data available as part of its responsibility under the National Environmental Policy Act to serve as the repository for all environmental impact studies prepared by federal agencies and to provide notice of their availability in the Federal Register.

SOURCE: ENVIRONMENTAL IMPACT STATEMENT DATABASE N.D.



like lizards, birds, crabs, and shellfish (International Union for Conservation of Nature 2014).

Four years earlier, the FWS had banned the use of neonicotinoid pesticides in national wildlife refuges, stating that they were “not consistent with [US Fish and Wildlife] Service policy (Kurth 2014).” In 2018, however, the agency justified rolling back the ban by saying that planting crop seeds, even if treated with neonicotinoid pesticides, would ensure that migratory bird species have access to seeds they need to survive (Sheehan 2018). Science does not support that view (UCS 2018e). In one study, migratory white crowned sparrows that ate 12 pesticide-laden seeds over three days lost 17 percent of their body weight and the ability to orient themselves during flight (Eng, Stutchbury, and Morrissey 2017). Detailed EPA risk assessments show acute and chronic toxicity for other bird species, including the mallard duck, a symbol of FWS conservation efforts (EPA 2017b; FWS 2018c).

Secretary of Commerce Wilbur Ross sidelined science in June 2017 when he issued a directive to extend the recreational fishing season for the Gulf red snapper (Ross 2018; UCS 2018f; Ross 2017). This directive gave recreational

fishers 39 additional days after a three-day fishing season closed, undermining the science-based quotas in place for the red snapper. In 1990, the Gulf red snapper had been overfished to the point where its ability to spawn and replace its numbers was severely compromised (NOAA n.d.). Dedicated efforts by the NMFS increased the red snapper population, with lowered recreational and commercial catch limits driving this success. Secretary Ross’s directive will delay the red snapper’s full recovery by as much as six years according to one estimate (Binns 2017).

In August 2018, Secretary Ross issued another directive for the NMFS, this time to “facilitate access to the water needed to fight the ongoing wildfires affecting the State of California.” Californian officials and firefighters said they had more than enough water to fight the fires (Hiltzik 2018); the unnecessary order potentially diverted water used to protect endangered fish, including the Delta smelt, the endangered and iconic Chinook salmon, and endangered species of Pacific salmon (Ross 2018; UCS 2018g). Environmentalists and commercial fishers argued that the water should remain in rivers to preserve fish species (Calfas 2018). The directive lacks scientific support.

***FWS leaders are sidelining scientific advice on how to protect specific species, including pollinators critical to our agriculture.***

## Reducing Public Access to Government Science and Scientists

Open communication is critical to both the scientific process and an informed public. Preventing government scientists from presenting and discussing the results of their research hampers the advancement of science and impedes the government's ability to develop and utilize the best available science to protect our health and safety. Additionally, restricting the ability of agency scientists to communicate with the media prevents policymakers and the public from learning about scientific developments relevant to personal and societal decisions.

While some control over sensitive or classified information is appropriate, there is generally no reason for the government to impede the open communication of science. Unnecessary political constraints on the ability of scientists to share their expertise with the public and the press have increased over several administrations. In the past two years, the Trump administration has continued and accelerated this trend toward restricting the public's access to government science and scientists.

### Restricting Scientists' Communications

Soon after President Trump took office, his administration targeted the communications of scientists at specific agencies. Actions ranged from pausing the EPA's Twitter account to preventing DOE climate scientists from mentioning "climate change," "emissions reductions," or "Paris Agreement" in their communications (Wolff 2017). Since those first few months, the administration has continued to censor scientists, with notable examples at the Centers for Disease Control and Prevention (CDC) and the USGS.

***Open communication is critical to both the scientific process and an informed public.***

In December 2017, news broke of a CDC ban on the use in budget-preparation documents of seven terms: vulnerable, entitlement, diversity, transgender, fetus, evidence-based, and science-based. A former federal official later said the move was "stupid and Orwellian" but that it was "not about censoring what CDC can say to the American public. It's about a budget strategy to get funded" (Kaplan and McNeil, Jr. 2017).

The implications may be broader than budget strategies. A CDC scientist told UCS in its 2018 survey that "banning certain words, even if only for budgetary reasons, is a slippery slope and has resulted in scientists with integrity self-censoring their work." Another CDC scientist added, "It is currently virtually impossible for a scientist to openly communicate their work with the media or the public" (Carter, Goldman, and Johnson 2018).

In June 2018, the *Los Angeles Times* reported a new USGS policy that requires scientists to get permission before speaking to reporters. A spokesperson for the DOI, which oversees the USGS, said the policy merely implemented Obama-era media guidelines. However, the 2012 instructions the spokesperson referred to only note that employees must notify the communications office of potentially significant interviews, not that they need to receive advance clearance (Lin 2018). After reporters began to cover the controversy

surrounding the new requirement, the DOI buried the policy notice deeply on the department’s website (Halpern 2018). The policy is still in effect.

At the National Oceanic and Atmospheric Administration (NOAA), a July 2017 news release announced that the Annual Greenhouse Gas Index had increased by 40 percent since 1990. However, the release failed to link greenhouse gas emissions to the role humans played in that increase (NOAA 2017). This stands in stark contrast to NOAA news releases during the Obama years, when the agency explicitly linked human activity and climate change (Friedman 2017b).

Some NOAA scientists report concerns with how the agency handles communications about climate change. One National Weather Service (NWS) scientist told UCS, “There is an understood command that NWS meteorologists not discuss their personal feelings on climate change. It is followed for the most part, but a bit frustrating that we were discouraged from sharing our personal opinion (if asked) by a reporter” (Carter, Goldman, and Johnson 2018).

## Creating a Chilling Environment

In two short years, the Trump administration has created a culture of fear among scientists at several federal agencies. Such a culture leads to self-censorship among scientists and otherwise impedes their ability to work effectively or speak on important scientific issues.

UCS’s survey of federal scientists found significant self-censorship (Carter, Goldman, and Johnson 2018). At the NPS, 55 respondents agreed with a statement saying they had avoided working on climate change or mentioning climate change even though they had not been explicitly told to avoid the term. At the USGS, 169 respondents agreed with the same statement. One NOAA scientist noted “much self-censoring among peers regarding climate, which hinders free communication about research, prediction, and adaptation/mitigation.” A USGS scientist “witnessed quite a bit of self-censoring by scientists and management in order to stay out of the crosshairs of the administration,” particularly with regard to climate change. That scientist added that a “culture of fear

has been created and staff are limiting their own potential in efforts to stay away from controversy and try to preserve their jobs.” Several FWS scientists reported that self-censorship was a concern at the agency.

*“It is currently virtually impossible for a scientist to openly communicate their work with the media or the public.”*

— Anonymous CDC scientist

Pure politics appears to be behind the EPA’s December 2017 decision to hand a no-bid contract to Definers Public Affairs, a public relations firm that specializes in opposition research; is presided over by a former Republican National Committee research director; and is closely linked with the political action committee America Rising, an organization known to harass climate activists (McKibben 2016). The contract’s articulated scope of work was to monitor press coverage of the EPA, a task that a less partisan firm has previously handled. Definers was handed this contract despite having previously targeted specific EPA employees. The *New York Times* found that an employee shared by Definers and America Rising had filed at least 20 FOIA requests targeting EPA employees who were either union leaders or publicly critical of agency management under Pruitt (Lipton and Friedman 2017). After public and congressional uproar, Definers withdrew from the contract.

Also in December, then Interior Secretary Zinke summoned David Smith, superintendent of Joshua Tree National Park, to Washington, DC, to reprimand him in person for allowing the park’s Twitter account to post a thread on climate change. The 15 tweets, entirely based in science, ranged from a discussion of climate impacts on Joshua tree habitat to why beetle attacks may be more devastating to trees as droughts become more severe (Joshua Tree NPS 2017a, b, c, d). One source told *The Hill* that Smith “got a trip to the woodshed” in a “highly unusual” meeting; another said that “Zinke made it clear to Smith that the administration doesn’t want national parks to put out official communications on climate change” (Cama 2017b).

The Trump administration similarly chilled the environment at the Department of Energy (DOE), manipulating science and criticizing officials who were less inclined to buy into administration numbers, according to emails obtained through a FOIA request. In August 2018, the DOE analyzed electricity supplied by various energy sources during the “bomb cyclone” that had buried the Northeast in snow in

***In two short years, the Trump administration has created a culture of fear among scientists at several federal agencies.***

late December 2017 and early January 2018. The resulting report, created by the DOE's National Energy Technology Laboratory, used erroneous calculations to justify the need for coal power plants during severe winter conditions (Richardson 2018). The emails between the study authors and DOE officials showed that the officials influenced both the language of the report and the study design to emphasize the positive aspects of coal power.

***DOE officials influenced both the language of the report and the study design to emphasize the positive aspects of coal power.***

### **Restricting Federal Science at Scientific Conferences**

Science works best when data, not political agendas, dictate research and lead to conclusions. In Congress, a bipartisan group has recognized that more harm than good comes from restrictions on the ability of scientists to participate in scientific conferences. Yet the Trump administration has further restricted attendance at such gatherings, which provide opportunities for scientists to present their own research, hear from their peers, and otherwise keep abreast of scientific developments and funding opportunities. The administration has not only outright prevented scientists from attending conferences but also required some of them to justify how

their research adheres to administration priorities before receiving approval to attend.

Over the past year, restrictions on scientists have been most prevalent at the DOI. In December 2017, the DOI limited the number of USGS employees who could attend a major American Geophysical Union conference. The department's announcement of an attendance cap of 199 USGS employees and an expenditure cap of \$399,000 came only weeks before the event. As a result, USGS attendance at the conference plummeted from its average of around 450 employees in prior years to just 178. Thirty employees who had prepared sessions and posters for the event had to withdraw their work because they could no longer attend (Kaplan 2017).

Six months later, news broke that USGS employees seeking to attend the next conferences of the American Geophysical Union or the Geological Society of American would have to fill out an "attendee justification" form identifying how their research related to ten priorities set by then Secretary Zinke. Chip Groat, who led the USGS under Presidents Bill Clinton and George W. Bush, called the new guidelines inappropriate, while Marcia McNutt, who led the USGS under President Obama, attested that previous political appointees had not been involved in prioritizing who would attend major meetings. A DOI spokesperson denied the agency would impose a rigid cap on conference attendance in 2018, yet the use of the attendee-justification form continues to inject politics into the process for determining who attends conferences (Kaplan 2018).

Such actions interfere with the pursuit of the USGS's mission, and they hamper the professional development of its scientific staff. In UCS's 2018 survey of federal scientists, a majority of USGS respondents disagreed when asked if the agency provided them with enough time and resources to pursue professional development, including attending conferences. A USGS respondent stated, "Our ability to attend



Attending scientific conferences is a critical way for scientists to present their research and learn from their peers.

conferences has been reduced, limiting our ability to share work and collaborate.” Another noted that the conference restriction policy “doesn’t make sense, one of our mission[s] is to provide the public and fellow scientists with our findings, conferences are an important part of that mission” (Carter, Goldman, and Johnson 2018).

In May 2018, the Bureau of Land Management (BLM) prevented at least 14 archaeologists and other specialists from attending the annual meeting of the Society for American Archeology. Pulling the BLM employees from the conference led to the cancellation of a symposium on “Tough Issues in Land Management Archeology.” A BLM official later cited the “potential travel and other costs” as the reason for approving travel for only three of the 17 (or more) BLM

employees initially scheduled to present at the meeting. One BLM employee told the *Washington Post* that budget was a concern under the Obama administration as well, but under Trump, “individual events themselves and topics to be covered got more scrutiny” (Grandoni 2018b).

In April 2017, the Department of Energy prevented more than two dozen scientists from attending an International Atomic Energy Agency conference, a key meeting on nuclear reactors. The absence of these scientists from the meeting—held in Russia, after recent turns in Paris and Kyoto—led to the cancellation of at least one panel. DOE management gave the scientists vague reasons why they would be “unable to travel to Russia.” One DOE scientist later said, “I know very little about the decision” to cancel the trips. Another noted,

BOX 5.

## Scientists Push Back

### *Ensuring Data Collection for Those Who Need It Most*

In March 2017, the Administration for Community Living (ACL), an agency of the Department of Health and Human Services (HHS), removed a question about sexual orientation from the annual “National Survey of Older Americans Act Participants” (Turner 2017). The survey is designed to identify service gaps, support improvements, and obtain performance metrics for programs serving older Americans. The ACL attempted to hide the deletion by announcing that the 2017 survey had “no changes” in it (ACL 2017a).

Kathy Greenlee, the ACL’s administrator and assistant secretary for aging from 2009 to 2016, opposed the removal of the sexual orientation question (Morabia 2017a). According to Greenlee, the ACL originally implemented it, after careful testing, to remediate the dearth of data available on LGBTQ seniors. Without such data, Greenlee said, the administration could not “accurately and meaningfully” improve the lives and health of LGBTQ seniors.

As required, the HHS and the ACL posted notice in the *Federal Register* about the proposed rule change; they received over 13,900 comments from the public, most of which supported the retention of demographic questions on sexual orientation and gender identity (ACL 2017b). The Human Rights Campaign partnered with SAGE, a national advocacy and service organization for LGBT elders, in a concentrated campaign to send comments to the *Federal Register* (Maril 2017). About 4,800 comments came from Human Rights Campaign members and supporters, with the vast majority in favor of retaining the question.

Members of Congress and the scientific community also advocated for inclusion of the question. Nineteen senators

wrote to the HHS objecting to its removal and 50 House members wrote a similar letter. The chief editor of the *American Journal of Public Health*, which published a series of articles on the issue, declared, “[T]here is no obvious, compelling scientific reason” to remove the question (Morabia 2017a, b).

The journal was in the middle of publishing a dossier on the topic when the HHS relented in June 2017, although the agency nixed a follow-up question on gender identity (Johnson 2017b).

Scientists, the public, and members of Congress were instrumental in reinstating the sexual orientation question. An ACL spokesperson later confirmed that the public comments were a major reason the agency relented.



*In March 2017, the HHS removed questions about LGBTQ individuals in surveys designed to help the department respond to the needs of persons with disabilities and of advanced age.*

williams7/stock

“They didn’t give a reason. I don’t know what their rationale is. Other US government agencies are sending their people to Russia” (Negin 2017).

## Changing Data Use and Availability

Reducing access to data undermines scientists’ ability to inform decisions on critical topics. The Trump administration has repeatedly limited such access by failing to collect data, removing information from easily accessed websites, and even restricting the ability of its own scientists to use important data when crafting regulations.

On July 18, 2018, the Department of Health and Human Services (HHS) ceased the operations of the National Guideline Clearinghouse, a federal database that compiled the best medical guidelines and made them easily searchable by doctors. For years, some members of Congress have targeted the HHS’s Agency for Healthcare Research and Quality, which ran the clearinghouse, saying that the agency’s research is not effective and therefore wastes taxpayer dollars. However, as the *New York Times* has noted, the \$1.2 million cost of running the site each year is roughly what Tom Price, former HHS secretary in the Trump administration, spent on travel in his seven months in office (*New York Times* 2018). The loss of a free, respected federal database that helped medical practitioners differentiate between high-quality and weakly supported research will diminish the quality of health care.

The Trump administration has not just restricted the ability of non-governmental entities to use and access the best available information. It has also restricted the ability of its own scientists to use data critical to protecting public health. In April 2018, the EPA proposed a rule entitled “Strengthening Transparency in Regulatory Science.” This rule would take the content of the failed Honest and Open New EPA Science Treatment (HONEST) Act of 2017 (which had also failed in the 113th and 114th Congress under the title Secret Science Reform Act) and turn it into agency policy. Both the bills and the current proposed rule would force the EPA to rely only on studies for which the public had access to the raw data and models. This idea repeats a 1990s-era tobacco-industry proposal “to construct explicit procedural hurdles” against second-hand smoke controls (Lerner 2017b). Many of the same tobacco industry lobbyists and lawyers are involved in the current EPA effort (Lerner 2017b).

The main issue with the proposal is that many public health studies rely on medical data in which participants’ private information cannot be made public. For example, under this proposed rule, EPA decisionmakers could not use the landmark Harvard School of Public Health “Six Cities”

study, which demonstrated the link between chronic air pollution exposure and risk of early death, to inform science-based air pollution policy (Meyer 2018). Scientists have publicly rejected the EPA proposal, with 69 scientific and medical organizations, including UCS, signing a statement of opposition (Academy of Integrative Health Medicine et al. 2018). Rush Holt, CEO of the American Association for the Advancement of Science since 2015, stated, “To put it bluntly, the initiative you consider today is not about sound science. It is about reducing regulations. The effect of the rule would be a significant reduction in good, relevant science that could be used by the Environmental Protection Agency and the change would likely result in harm to people and their environment” (Hoy 2018).

The EPA excluded top agency scientists from the rule-writing process, according to documents released to UCS through a FOIA request (Mufson and Mooney 2018). Instead, political appointees, at the behest of HONEST Act sponsor Representative Lamar Smith, created the rule (Waldman and Heikkinen 2018). And the White House added another layer of politics. The Office of Management and Budget’s Office of Information and Regulatory Affairs (OIRA) rushed through its review of the rule in just a few days, far too quickly for such a complex, far-reaching measure. Moreover, OIRA staff appeared to change the rule’s scientific basis, which is outside the scope of OIRA’s mandate (Reed 2018).

The DOI has followed the EPA’s lead with regard to purported transparency measures. In September 2018, Deputy Secretary Bernhardt issued an order, “Promoting Open Science,” that implements similar restrictions to those in the EPA’s proposed rule. The order instructs the department to use publicly available data “to the extent possible” and requires agencies to “include an explanation of why such science is the best available information” when using studies with data that cannot be made public (Bernhardt 2018). Seemingly less strict than the EPA’s proposed rule, the order still requires scientists to jump through unnecessary hoops and impedes the agency’s ability to utilize the best available science when crafting policies.

“The effect of the rule would be a significant reduction in good, relevant science that could be used by the EPA and the change would likely result in harm to people and their environment.”

— Rush Holt, CEO of the American Association for the Advancement of Science

## A Roadmap for the 116th Congress: Opportunities to Move Forward

The Trump administration has significantly undermined the role of science in government decisionmaking by cutting scientists and scientific assessment out of decisionmaking processes, preventing the development and communication of vital scientific evidence, and changing the rules by which science informs policymaking. As a result, public health and safety and the environment have suffered, and our democracy has been eroded.<sup>1</sup> The public interest of our nation is at stake; we must reverse this harmful and pervasive pattern of hostility to science and find a better way forward.

Using the range of oversight tactics at its disposal—including hearings, letters, deposition authority, and subpoena power—Congress can be a powerful ally for scientists and science advocates. Wielding its power to hold the administration accountable for attempts to sideline science, Congress can restore scientific integrity to federal decisionmaking, strengthen the role of science, and improve the functioning of democracy in three key areas:

- promoting public health and safety;
- fighting the corruption of science-based decisionmaking; and
- protecting science and scientists at federal agencies.

### Promoting Public Health and Safety

From reducing pollution to improving the safety of consumer products and protecting workers, scientific input makes

government decisionmaking more effective at protecting and advancing health and safety throughout the United States.

- To better advance the public interest, Congress should investigate the harms that recent anti-science actions have caused to the public's health and safety and to the environment. These harms include:
  - threats to clean air caused by changes in implementing the Clean Air Act, including changes to the National Ambient Air Quality Standards for ozone and particulate matter, and weakening MACT for toxic pollutants;
  - adverse impacts on community health, including stopping a NASEM report on the health and environmental impacts of surface mining and the revocation of the stream protection rule;
  - unsafe chemicals such as PFAS, formaldehyde, and other cancer-causing agents in our homes, workplaces, communities, and environment due to the suppression of information, lack of regulatory action, and an unscientific approach to implementing the Frank R. Lautenberg Chemical Safety for the 21st Century Act;
  - the public health impacts of the EPA's declining enforcement of federal laws on air quality, water quality, and solid waste;
  - the public safety impacts due to the rollback of the federal flood risk management standard;

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<sup>1</sup> *The Trump administration's damaging actions include those mentioned in this report as well as those analyzed in previous UCS publications, particularly Sideline Science Since Day One (Carter et al. 2017).*

- the DOI’s violations of the public trust—including actions based on faulty, misrepresented, or sidelined analyses—that expand oil and gas extraction on public land, shrink national monuments, and cancel scientific studies of the public health and environmental impacts of oil, gas, coal, and mineral extraction;
  - political interference in reproductive health science and policy, such as the justification for removing the birth control mandate from implementation of the Affordable Care Act and the installation of HHS officials who do not accept basic reproductive science; and
  - the addition of a citizenship question to the 2020 US Census and other census challenges that may alter the agency’s ability to get accurate census information.
- In response to Trump administration efforts to defund and shift resources away from politically contentious topics, Congress should demonstrate the public value of science-based programs and policies, such as:
    - the EPA’s Integrated Risk Information System;
    - the EPA’s use of scientific data and studies in its regulatory processes;
    - scientific integrity policies and infrastructure across agencies; and
    - climate change research, resilience, and preparedness programs across federal agencies.
  - To push back against the Trump administration’s elimination of the EPA’s particulate matter and ozone review panels, Congress should strengthen the Clean Air Act by codifying the use of pollutant review panels in updates to the National Ambient Air Quality Standards.
  - To ensure that federal agencies can benefit from their own experts, Congress should codify agency deference



Gary Peoples/USFWS

*Congress must take action to provide oversight of the Trump administration and ensure that our public health and safety are protected by policies built upon sound science.*



on implementing science-based laws as laid out in *Chevron USA v. Natural Resources Defense Council, Inc.*

- Congress should enact legislation similar to the Environmental Justice Act of 2017 to counter the disproportionate impact of Trump administration actions, address long-standing inequities in agency actions and permitting decisions, and strengthen protections for communities of color, low-income communities, and indigenous communities.
- Congress should repeal the Congressional Review Act in response to unprecedented misuse of the act during the first four months of the administration. The act has enabled elected officials to overrule the expertise of scientists about science-based public protections.
- Congress should conduct rigorous oversight of the USDA to ensure full and effective implementation of all aspects of the newly-enacted 2018 farm bill.
- Congress should inquire into progress on gun violence research at the CDC and National Institutes of Health, following language in the FY2018 federal budget clarifying that the agencies can conduct such research.

## Fighting Corruption of Science-based Decisionmaking

It is essential that Congress address the rampant ethics concerns surrounding Trump administration officials at government agencies that rely on science. Conflicts of interest, wasteful spending, and undue influence from industries that stand to be affected by government actions have all plagued science-related agencies, and other agencies, since 2017. Congress must act to clean up the unprecedented level of corruption that prevents science from informing federal decisions and to protect democracy more broadly.

- Congress should use the range of oversight tactics at its disposal to investigate inappropriate corporate influence on scientific decisionmaking, including:
  - the rollback of the Clean Car standards;
  - the repeal of the Clean Power Plan and substitution with the weak Affordable Clean Energy (ACE) rule;
  - the rollback of methane standards for the oil and gas industry;
  - the EPA's "no action" memo on the enforcement of glider truck rules;
  - the EPA's suppression of a report on the health risks of formaldehyde;

- the EPA's rollback of chemical protections, including its attempt to stop a ban on the pesticide chlorpyrifos;
  - the USDA's cancellation of an environmental impact statement on sulfide-ore mining;
  - NOAA's disregard of the quota for catching Gulf red snapper and its push to extend the catching season;
  - the DOI's decisions about expanding oil and gas leasing;
  - the effects on workers of OSHA attempts to weaken the beryllium and silica protections and similar retreats on worker safety standards;
  - attempts to cut back regulation of coal mine dust and gut funding for ailing coal miners, even as research reveals a surge in black lung illnesses and deaths;
  - proposals from the DOE to bail out the coal industry; and
  - attempts to subvert the independence of the Federal Energy Regulatory Commission (FERC), including installing inappropriate nominees.
- Congress should bolster the use of science advice by reestablishing its Office of Technology Assessment, as in the Anti-Corruption and Public Integrity Act, proposed by Senator Elizabeth Warren.
  - Congress should explore ways to strengthen the use and quality of independent science advice it receives through structures such as the Congressional Research Service and the GAO.
  - In response to the growth in undisclosed money spent in elections following the *Citizens United v. Federal Election Commission* Supreme Court decision, Congress should increase transparency in campaign finance by implementing reforms proposed in the Democracy Is Strengthened by Casting Light On Spending in Elections (DISCLOSE) Act of 2018. Such reforms include the repeal of riders that prevent the Securities and Exchange Commission from requiring public companies to disclose their political spending to shareholders and a requirement that organizations such as super PACS swiftly disclose donors that have given more than \$10,000 during an election cycle.
  - Congress should require agencies to make visitor logs publicly accessible in a timely manner to address the lack of transparency in federal decisionmaking and shine a light on the close ties to regulated industries characteristic of Trump administration officials at science agencies.

- Congress should reject a repeat of 2015, when—at the tail end of the Dietary Guidelines for Americans (DGA) update process—heavily lobbied members of Congress sneaked industry-friendly provisions into law that eroded the integrity of the guidelines and precluded what could have been groundbreaking efforts to improve food safety, security, and sustainability.
- Congress should make it clear that proposed rules that would undermine the USDA’s Supplemental Nutrition Assistance Program (SNAP) will not be tolerated.
- Congress should continue to champion smaller nutrition programs, such as the Gus Schumacher Nutrition Incentive program (formerly known as the Food Insecurity Nutrition Incentive program) that work alongside SNAP to help families purchase more healthy foods.
- Congress should address conflicts of interest among science agency leaders by requiring exiting senior agency employees to sign binding revolving-door exit agreements that clarify which projects these former employees cannot lobby on; these agreements should be posted promptly on agency websites. Congress should clarify that former senior employees must wait two years before taking a job with a firm with which they had contact on agency business in their final year of government employ and require that these employees disclose previous titles and responsibilities when contacting their former agency (Hempowicz 2017).
- Congress should address conflict-of-interest issues further by curtailing the authority of agencies under the Safe Drinking Water Act to hire staff without the same ethics requirements that apply to other appointees (Climate Science Legal Defense Fund et al. 2018).
- Congress should address conflict-of-interest issues further by making the Office of Government Ethics (OGE) a central repository for ethics records, with the duty of making public all financial disclosure reports, conflicts of interest, and ethics records deemed public information by the director or by law. This provision is contained in the proposed Executive Branch Comprehensive Ethics Enforcement Act, which also contains provisions ensuring that the director can only be removed for cause, authorizing the OGE to order corrective actions for a federal employee who fails to comply with ethics rules, and extending the OGE’s scope to include White House personnel.
- Congress should enact legislation, such as the Political Appointee Burrowing Prevention Act proposed by Representatives Ken Buck and Ted Lieu, that would limit

the conversion of political appointees to career civil servants (Climate Science Legal Defense Fund et al. 2018).

- Congress should reject attempts to politicize science through funding cuts or other policies that harm the scientific process or impede the use of science in decisionmaking.
- Congress should eliminate loopholes in FOIA by stating that agencies cannot withhold final reports, memos, or interpretations of laws under FOIA exemptions and by clarifying that members of Congress cannot be denied information regardless of applicable FOIA exemptions (Hempowicz 2017).

***Conflicts of interest, wasteful spending, and undue influence from industries that stand to be affected by government actions have all plagued science-related agencies since 2017.***

- Congress should address the administration’s sidelining of independent science advice from science advisory committees by adding the following provisions to the 1972 Federal Advisory Committee Act (FACA):
  - Extend FACA rules to advisory committees organized by federal contractors.
  - Require that nonvoting advisory committee members and representatives who regularly attend meetings provide information on affiliations and any conflicts of interest.
  - Add provisions to ensure that party affiliations, political opinions, and other inappropriate criteria are not part of the process for selecting members of scientific committees.
  - Require the publication of criteria for soliciting nominations and selecting committee members and prohibit giving current committee members veto power over new candidates for membership.
  - Require agencies to make public the roster from the first round of candidates for advisory committee

- membership and to request comments on the candidates' potential conflicts of interest or other disqualifying information before finalizing committee membership.
- Codify the process used for committee formation, including how agencies screen members and how they assess committees for balance.
  - Require statements in appointment letters clarifying that committee members speak in their personal capacity as experts and not as representatives of their employer or organization and that they act as special government employees.
  - Make easily available on a public online portal (*integrity.gov*, for example) basic information on committee membership, including each member's qualifications and background, current and recent employers, funding sources for the previous five years, and any conflict-of-interest waivers granted.
  - Require public reporting of individual committee members' votes on recommendations when the committee does not come to a consensus.
  - Clarify that scientists who exercise their rights as private citizens and take public positions on issues or receive government funding for scientific work should not be excluded from advisory committees because of concerns about bias.
- Whistleblowers play a key role in ensuring that agencies adhere to their missions. Congress should further protect the rights of federal employees to speak out about waste, fraud, and abuse by expanding the 2017 Whistleblower Protection Enhancement Act (WPEA)<sup>2</sup> with the following provisions:
    - Add protection for federal employees against retaliatory investigations.
    - Grant access to district court and jury trials for whistleblowers who report scientific integrity violations in the civil service system.
    - Suspend sensitive job classifications until due process rights are restored for employees in such positions to curb the chilling effect on whistleblowers resulting from the sweeping use of such designations (Devine 2013).
    - Expand the protections in Section 110 of the WPEA—which relates to evidence of censorship—to scientists in the intelligence community, military service, and government-contractor workforces (Devine 2016; McCullough 2016).
  - Provide explicit protections for federal employees who blow the whistle on censorship and the suppression of science (Climate Science Legal Defense Fund et al. 2018).
  - Eliminate loopholes that enable managers to conduct egregious forms of reprisal levied against whistleblowers, such as retaliatory criminal investigations, prosecutorial referrals, and prosecutions (Climate Science Legal Defense Fund et al. 2018).
  - Provide realistic legal tests preventing retaliation against whistleblowers until their case is resolved (Climate Science Legal Defense Fund et al. 2018).
- OIRA has occasionally delayed, obstructed, or edited science-based safeguards, both in the Trump administration and in prior administrations. Congress should create greater transparency in OIRA's review of agency rules:
    - Make public all changes to draft agency rules and require the disclosure of whether the changes were requested by the White House, another agency, or a member of Congress, as contained in the proposed Anti-Corruption and Public Integrity Act.
    - Place and enforce time limits on reviews of agency rules, such as the 45-day time limit proposed in the Anti-Corruption and Public Integrity Act.
    - Allow agencies and OIRA to consider non-quantifiable benefits in cost-benefit analyses and adopt regulations that prioritize benefits to the public, as proposed in the Anti-Corruption and Public Integrity Act.
    - Require that only economically significant rules trigger an OIRA review to reduce regulatory delay and encourage the agency to focus on the costliest rules. OIRA review should not interfere with an agency's scientific analyses or risk assessments and focus solely on matters of economic methodology and overlap with other agencies' rules (Driesen 2016).
  - Congress should prohibit the government from making a financial award (grant, contract, or loan) to any entity that repeatedly fails to comply with federal regulations or has repeatedly been found guilty of violating regulations (Climate Science Legal Defense Fund et al. 2018).

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2 The Whistleblower Protection Act became law in 1989. The Whistleblower Protection Enhancement Act became law in 2012; it was strengthened in 2017.

- To help ensure that the federal government places a high priority on science-based public health and safety protections, Congress should improve the nation's elections by reducing barriers to voting, making voting more convenient, and establishing nonpartisan election districts (Latner 2018):
  - Enact automatic voter registration or same-day registration.
  - Expand voter preregistration for 16- and 17-year-olds, as well as expand civics curricula in high schools.
  - Expand early and weekend in-person voting and create convenient voting centers at which voters can drop off early ballots.
  - Pass the proposed Voting Rights Amendment Act and Voting Rights Advancement Act.
  - Pass the Fair Representation Act, which would combat gerrymandering by allowing for multi-seat congressional districts and more proportional electoral formulas to be used in congressional elections.
- politically motivated budget cuts in science programs and the shifting of resources away from politically contentious work;
- censorship and intimidation of scientists engaged in climate change-related work, especially at the DOI;
- regulatory “reform” efforts, including Executive Order 13771, which requires agencies to repeal two rules for each new rule proposed, and Executive Order 13777, which requires agencies to establish regulatory reform task forces;
- the USDA's abrupt decision to relocate two of its four science agencies outside the national capital area and to remove one of the relocated agencies—the Economic Research Service—from the purview of the USDA's chief scientist and place it instead within the USDA secretary's office;
- the EPA's proposal to restrict the science that agency decisionmaking can use;
- the EPA's efforts to undermine regulatory cost-benefit analysis and prevent accurate accounting of the health benefits of co-pollutant reductions;
- undercutting the social costs of carbon and methane used in regulatory processes; and
- shifting resources away from support of federal scientists through such means as restricting their professional development and engagement with colleagues in the scientific community and withholding funds from politically contentious research topics.

## Protecting Science and Scientists at Federal Agencies

The science produced within federal agencies is integral to their missions in service of the public interest. Federal scientists monitor and respond to disease outbreaks and environmental disasters, craft and enforce air pollution laws, keep our food safe, and protect endangered species. Congress must address the hollowing out of science agencies, low morale among government scientists, and political interference with their work, all with the goal of ensuring that government scientists can do their best work for the country.

- Congress should use the range of oversight tactics at its disposal to investigate threats to federal scientists and to the process and functioning of federal agencies. Such threats include:
  - hollowing out staff capacity at science agencies—particularly the EPA—through buyouts, early retirements, hiring freezes, and adverse working conditions that undermine agencies' abilities to meet their missions;
  - dwindling agency science advice through changes to science advisory committees, including the dismissal of independent committee members, freezes and delays in committee activity, and the dismantling of committees and panels;
- To curb attacks on scientific integrity, Congress should use confirmation hearings for agencies' political leaders as well as budget hearings as opportunities to obtain commitments to strong standards of scientific integrity and transparency from nominees and political appointees to federal agencies, including OIRA and administrator positions.
- To address political interference in decisions about scientific grants, Congress should enact legislation declaring that political appointees may express opinions on grant solicitations but only qualified career staff may review and decide on the scientific merit of grant proposals.
- Congress should prohibit the obstruction of reports already underway at NASEM.
- Congress should request that NASEM conduct a study of scientific integrity in government decisionmaking, with agency-specific recommendations for its advancement.

- Congress should request a GAO report on the effectiveness of agency scientific integrity policies, along with the GAO's recommendations for enhancing or strengthening policies and practices.
- Congress should ask the GAO to assess how resource constraints and reduced or eliminated funding for monitoring and enforcement within agencies undermine science-based decisionmaking. The report should address agency reliance on states and private-sector entities for data and other resource and capacity constraints that limit enforcement of agency mandates and rules.
- To address political interference in science-based decisionmaking under the Trump administration and to promote a culture that deters future interference, Congress should strengthen scientific integrity at federal agencies, such as through the Scientific Integrity Act proposed in 2017. Legislation should include the following provisions:
  - Declare scientists' right to review and ensure the accuracy of public materials that rely on their work or use their name, such as reports, press releases, and factsheets.
  - Evaluate and address instances in which political or financial considerations undermine the scientific process.
  - Designate scientific integrity officials to oversee compliance with scientific integrity policies.
  - Declare scientists' right to publicly express personal views without seeking permission, provided they make clear they are speaking in a personal capacity and inform their public affairs offices as soon as possible about interactions with the media.
  - Prohibit political appointees and communications staff from editing the scientific content of official documents.
  - Prohibit retaliation against those who raise scientific integrity concerns or hold differing scientific opinions.
  - Develop clear, detailed policies and procedures for addressing differing scientific opinions within agencies.
  - Develop clear, detailed policies and procedures for addressing alleged scientific integrity violations:
    - Provide protections for scientists who allege a scientific integrity violation, such as the right to a hearing and an explicit right to appeal to a federal court.
    - Publicly report allegations and their resolutions, while protecting confidentiality of those involved. Publication would include an explanation of how this resolution fulfills the letter and the spirit of the scientific integrity policy, including citing applicable provisions and any other relevant sources (which may involve references to previous scientific integrity violations and official determinations regarding other scientific integrity complaints).
    - Develop more specific enforcement procedures.
- Declare that employees who leave federal service do not have to sign nondisclosure agreements regarding government information, provided the information is not classified, proprietary, or a confidential personal matter.
- Declare that scientific work that employees do on their personal time and without using nonpublic government data does not require agency internal review. This policy should hold even if employees identify their employers for professional purposes, provided the work includes a disclaimer that it represents personal views.
- Develop clear, consistent, transparent, and predictable clearance procedures that establish reasonable time limits for review and clearance of scientific publications, presentations, and participation in scientific conferences. Supervisors and other reviewing officials should provide authors with written clearance and make specified changes no later than 30 days after submission. If reviewers do not meet this deadline, authors can submit articles for publication or presentation with an appropriate disclaimer stating that they do not represent agency views or policies.
- Set clear expertise requirements for heads of science agencies, such as the language in the 2014 farm bill that articulates the expertise needed for the USDA chief scientist role.

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# The State of Science in the Trump Era

*Damage Done, Lessons Learned, and a Path to Progress*

***Congress can join with scientists and their supporters to stop the Trump administration's anti-science actions.***

Throughout its first two years, the Trump administration has sidelined science in its handling of critical public health and environmental decisionmaking. The administration has compromised our nation's ability to meet current and future public health and environmental challenges, and it continues to unravel science across the federal landscape. Administration officials are undermining the use of science in making policies designed to protect the public health and our environment. They are excluding scientists from decision-making processes, compromising or disbanding science advisory committees, leaving scientific political-appointee positions vacant, and reducing the voice and effectiveness of agency professional

staff. These attacks on science-based decisionmaking in our government will severely worsen the nation's health and safety, with the greatest impact on the nation's most vulnerable populations.

Now, the 116th Congress can add an urgently needed check on administration actions. Congress can join with scientists and their supporters to stop the Trump administration's anti-science actions. Today's attacks on science can and will have substantial consequences for public health and the environment for decades to follow. We must continue to push back when science is sidelined. The current and future health and safety of our families, our communities, and our nation depend on it.

**Union of  
Concerned Scientists**

FIND THIS DOCUMENT AND APPENDIX ONLINE: [www.ucsusa.org/ScienceUnderTrump](http://www.ucsusa.org/ScienceUnderTrump)

*The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet's most pressing problems. Joining with people across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.*

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